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Original article

Previous Pregnancies Among Young Women Having an Abortion in England and Wales

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A B S T R A C T

Purpose: The purpose of this study was to use national statistics on abortions carried out in England and Wales to more precisely estimate the proportion of young women aged <20 years obtaining an abortion who have had one or more previous pregnancies.
Methods: Secondary analysis of abortion data from the Office of National Statistic and the Department of Health by parity for women aged <20 years, ordinarily residing in England and Wales, from 1992 to 2013.
Results: Over the past 20 years, the proportion of teenagers in England and Wales having an abortion as a result of a subsequent pregnancy increased by 33% (from .172 in 1992 to .229 in 2013). Most of this increase occurred before 2004, and the proportion now appears to have stabilized. In 2013, 22.9% of the young women aged <20 years who underwent an abortion had had at least one previous pregnancy (either a birth or an abortion). Only a minority (<5% of young women who obtained an abortion) had had more than one previous pregnancy.
Conclusions: The findings show that nearly one in four teenagers presenting for an abortion have already been in contact with health services for a previous birth or abortion. Greater policy emphasis must be placed on the accurate identification of the proportion of teenage pregnancies that occur as a result of a subsequent pregnancy and developing more effective "secondary prevention" interventions to help the first-time pregnant and parenting teenagers manage their future reproductive lives and prevent further unplanned pregnancies.

IMPLICATIONS AND CONTRIBUTION

Nearly, one in four teenagers aged <20 years presenting for an abortion in England and Wales have already had previous pregnancies. This adds to evidence which indicates that teenagers who become pregnant are a high-risk group for further pregnancies and suggests that greater emphasis must be placed on developing more sophisticated and effective "secondary prevention" interventions.

The teenage conception rate in England and Wales has notably declined in recent years and is now at a record low. For 15- to 19-year-olds, the estimated conception rate for 2013 was 40.5 per 1,000, down by 44% from 61.6 per 1,000 in 1998 [1] (the baseline year for the former Labour government's *Teenage Pregnancy Strategy*, which sought to halve the under 18 conception rate over a 10-year period [2]). However, further reductions are still needed to bring the rate in line with other Western European countries [3]. As not all teenage conceptions are first-time conceptions, it is important to know the number of teenagers who become pregnant for the first time and the number who become pregnant for the second time or more. This information will help to guide more targeted interventions to maintain the downward trend in teenage pregnancy and to monitor the effectiveness of current sexual health priorities on reducing under 18 conceptions [4–6] and unwanted pregnancies among all women of fertile age, including unwanted pregnancies after a birth and after an abortion [4].

Conflicts of Interest: The authors have no conflicts of interest to declare.

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Previous research from the United Kingdom estimates that between 12.5% and 30% of teenage pregnancies are second- or higher-order pregnancies [7–12], indicating that subsequent pregnancies may be overrepresented in the under 20 conception rate. However, there are no routinely available data in the United Kingdom on the number of teenagers who have had more than one pregnancy, so establishing the prevalence is difficult. The reason for this is, at least in part, historic and cultural and represents demographic changes in marriage and motherhood. Under the Population (Statistics) Act 1938, birth registration data on the number of previous children were collected for married women only. Since 2013, legislative amendments to the Act to collect this information for all women regardless of marital status have made it possible to identify the proportion of teenage mothers having more than one child [13]. In the first year for which information on the number of previous live-born children was recorded, figures show that of the 29,054 live births to mothers aged <20 years, 25% had had at least one other live birth [14]. Nevertheless, these birth-related data fail to provide a full picture of the prevalence of teenagers who have more than one pregnancy, given that approximately half of all teenage conceptions in England and Wales end in abortion (in 2013, 61.8% of all conceptions under 16, 51.1% of all conceptions under 18, and 44.5% of all conceptions under 20) [15]. This is similar to the European average for countries with liberal abortion laws and where complete data are available [14].

Data on the number of previous births and abortions within the population of young women presenting for an abortion can be obtained from national abortion figures, published by the Department of Health (DH). The annual bulletin, *Abortion Statistics, England and Wales Series* (2002–2013) and associated data tables include information on the number of previous pregnancies to women by age and outcome. Previously these data were published by the Office of National Statistics (ONS) in the *Abortion Statistics Annual Reference Volume–Series AB* (1991–2001). Abortion statistics for 2013 show that 13.4% of abortions to teenagers aged <20 years were to teenagers who had one or more previous abortions and 12.2% were to teenagers who had one or more previous live or still births [9]. Using data published by the DH and ONS, Collier [16] reported that the proportion of abortions carried out subsequent to a previous live or still birth increased by 20% between 1992 and 2007 (from .096 to .115), whereas a 47% increase (from .091 to .134) was observed for those who had undergone a previous abortion. In recent years, this proportion has remained relatively stable. However, Collier could not report the overall rate of abortions after one or more previous pregnancies as published national data are limited to reporting previous abortions and previous births in separate subcategories. These categories are not mutually exclusive and individuals can belong to one *or* both subcategories, thus excluding the possibility of calculating a subsequent pregnancy rate by simply adding the previous birth numbers to the previous abortion numbers.

The aim of this article was to address the limitations of previous research and use the data held by the DH from abortion notification forms (HSA4) to identify the proportion of teenagers presenting for an abortion for whom previous pregnancies (ending in either an abortion or live or still birth) have also been recorded. This will provide an indication of the prevalence of subsequent teenage pregnancies in England and Wales. In doing so, this article will also demonstrate the need to maintain and publish national data to monitor trends, evaluate interventions, and support strengthening of public policies aimed at the prevention of further pregnancies among pregnant and parenting teenagers.

Methods

Data

This study used previously unpublished abortion data from abortion notification forms (HSA4 revised 1991, 2002, and 2006) routinely collected by the DH to determine the proportion of young women presenting for an abortion who have been pregnant at least once before (either resulting in a live or still birth or an abortion) and to assess the changes in these figures over time. This more detailed, population-level information was released on special request for research purposes.

For abortions performed in England and Wales, it is a legal requirement that official notification is supplied to the Chief Medical Officer under the Abortion Act 1967. The medical practitioner taking responsibility for the abortion must do this within 14 days of the procedure using an abortion notification form (HSA4). In the patient details section of the form under the heading "Parity" (Form HSA4 revised 2006, Section 3: F), the form provides space for the medical practitioner to include information on numbers of any previous pregnancies (resulting in live births and still births over 24 weeks; miscarriages and ectopic pregnancies; or abortions). This information is derived from hospital records and patient report. Data on spontaneous miscarriage and ectopic pregnancies were not incorporated into the analysis as these have only been available since 2003.

For this study, we requested data for women aged <20 years and ordinarily residents of England and Wales, from 1992 to 2013, in a cross-tabulated format to identify the number of abortions by the number of previous abortions and previous births by calendar year. These data were supplied as population-level summary data in an Excel spreadsheet. This permitted the identification of the number of young women who had experienced any combination of preceding pregnancy outcomes (none, only abortion, only birth, a combination of abortion, and birth). The data were cross-checked against published DH data on abortions, abortions after a previous abortion, and abortions after a previous birth for young women aged <20 years, which were extracted from the annual abortion statistics series published by the DH and ONS (1992–2013). Then, for each year, the number of abortions in this age group was divided by the midyear population estimates published by the ONS for women aged 15–19 years, to calculate rates per 1,000.

Ethical approval was not sought for this study as it was based on the secondary analysis of an existing, summarized anonymous data set presented at population level.

Analysis

The number of young women aged <20 years experiencing previous pregnancies was identified and used to calculate the proportion of abortions from first pregnancies and the proportion which were to second- or higher-order pregnancies (i.e., either after at least one previous birth or previous abortion). This was calculated for each year from 1992 to 2013, with 95% confidence intervals and is reported in Table 1 along with the proportion of previous abortions and previous births for 1992–2013 calculated using routinely published abortion data. This is

Table 1
Number and proportion of previous pregnancies among those aged <20 years having an abortion by year, 1992–2013

Year	Total number of abortions <20 years	Rate per 1,000 aged 15–19 years[a]	With previous pregnancy (birth and/or abortion)[b]		With previous abortion		With previous birth	
			Number	Proportion (95% CI)	Number	Proportion (95% CI)	Number	Proportion (95% CI)
1992	30,601	20.3	5,260	.172 (.168–.176)	2,784	.091 (.088–.094)	2,941	.096 (.093–.099)
1993	28,903	19.8	5,145	.178 (.174–.183)	2,634	.091 (.088–.095)	2,966	.103 (.099–.106)
1994	28,469	19.6	5,116	.180 (.175–.184)	2,694	.095 (.091–.098)	2,895	.102 (.098–.105)
1995	28,215	19.1	5,089	.180 (.176–.185)	2,784	.098 (.095–.102)	2,804	.099 (.096–.103)
1996	32,435	21.6	5,733	.177 (.173–.181)	3,183	.098 (.095–.101)	3,109	.096 (.093–.099)
1997	33,381	21.8	6,220	.186 (.182–.191)	3,461	.104 (.101–.107)	3,401	.102 (.099–.105)
1998	36,995	23.7	7,458	.202 (.198–.206)	4,132	.112 (.109–.115)	4,117	.111 (.108–.115)
1999	36,410	23.2	7,662	.210 (.204–.215)	4,216	.116 (.113–.119)	4,282	.118 (.114–.121)
2000	36,966	23.7	8,054	.218 (.214–.222)	4,452	.120 (.117–.124)	4,510	.122 (.119–.125)
2001	37,089	23.5	8,161	.220 (.216–.224)	4,671	.126 (.123–.129)	4,410	.119 (.116–.122)
2002	36,718	22.9	7,988	.218 (.213–.222)	4,736	.129 (.126–.129)	4,209	.115 (.111–.118)
2003	38,214	23.2	8,334	.218 (.214–.222)	4,922	.129 (.126–.132)	4,393	.115 (.112–.118)
2004	39,142	23.4	8,961	.229 (.225–.233)	5,181	.132 (.129–.136)	4,840	.124 (.120–.127)
2005	39,099	23.0	9,063	.232 (.228–.236)	5,423	.139 (.135–.138)	4,746	.121 (.118–.125)
2006	41,286	24.1	9,301	.225 (.221–.229)	5,542	.134 (.131–.138)	4,980	.121 (.118–.124)
2007	43,955	25.4	9,776	.222 (.219–.226)	5,897	.134 (.131–.137)	5,067	.115 (.112–.118)
2008	42,690	24.6	9,834	.230 (.226–.234)	5,958	.140 (.136–.143)	5,080	.119 (.119–.222)
2009	40,067	23.0	9,150	.228 (.224–.233)	5,485	.137 (.134–.140)	4,787	.120 (.116–.123)
2010	38,269	22.1	8,773	.229 (.225–.234)	5,307	.139 (.136–.142)	4,507	.118 (.115–.121)
2011	34,923	20.3	8,090	.232 (.227–.236)	4,865	.139 (.136–.143)	4,199	.120 (.117–.124)
2012	31,380	18.7	7,314	.233 (.228–.238)	4,411	.141 (.137–.145)	3,828	.122 (.118–.126)
2013	29,011	17.1	6,631	.229 (.224–.233)	3,872	.134 (.130–.137)	3,540	.122 (.118–.126)

Department of Health and Office for National Statistics
CI = confidence interval.
[a] Rates for women younger than 20 years are expressed per 1,000 women aged 15–19 years using midyear population estimates for the related year.
[b] The percentage of young women presenting for an abortion with a previous pregnancy is less than the combined total of those young women with a previous birth or abortion as some young women may have previously experienced both.

reported in the same format as a previous article reporting 1992–2007 data to facilitate comparison [16]. Abortion rates per 1,000 women aged 15–19 years using midyear population estimates for each year have also been calculated.

The percentage change was calculated as the proportion of abortions that were from second or subsequent pregnancies in the earliest year (*baseline year*) minus the proportion in the latest year (*change year*) divided by the proportion of abortions in the earliest year that were second or subsequent pregnancies, expressed as a percentage.

$$\frac{\text{baseline year} - \text{change year}}{\text{baseline year}} \times 100$$

The chi-square test for linear trend was used to assess the statistical significance of the trend.

Results

In 2013, 22.9% of pregnant women aged <20 years obtaining an abortion had been pregnant previously (either ending in abortion or birth). Disaggregating this data, 13.4% of those presenting for an abortion had previously had an abortion and 12.2% had previously given birth (Table 1). Some young women experienced two or more previous pregnancies which included both a previous birth and a previous abortion. Although only a minority of teenagers present for an abortion with two or more previous pregnancies, this almost doubled between 1992 (3.1%) and 2002 (5.0%) and has remained at this level since then (Table 2).

The percentage of abortions that were to women who had been previously pregnant increased by 33% between 1992 and 2013 (from 17.2% to 22.9%, 95% confidence interval), a percentage that has remained fairly stable from 2004 to 2013 (Figure 1). Mantel–Haenszel χ^2 tests for linear trend from 1992 to 2013 showed that the increase was statistically significant for subsequent pregnancy when following any preceding outcome ($\chi^2 = 1568.62$, $df = 1$, $p < .001$), after birth only ($\chi^2 = 367.66$, $df = 1$,

Table 2
Number and proportion of those aged <20 years presenting for an abortion with two or more previous pregnancies, 1992–2013

Year	Total number of abortions	Total number of previous pregnancies (birth and/or abortion)	Proportion of previous pregnancies >1 (95% confidence interval)
1992	30,601	937	.031 (.029–.033)
1993	28,903	892	.031 (.029–.034)
1994	28,469	905	.032 (.030–.034)
1995	28,215	924	.033 (.031–.035)
1996	32,435	1,015	.031 (.029–.033)
1997	33,381	1,171	.035 (.033–.037)
1998	36,995	1,397	.038 (.036–.040)
1999	36,410	1,506	.041 (.039–.044)
2000	36,966	1,621	.044 (.042–.046)
2001	37,089	1,653	.045 (.043–.047)
2002	36,718	1,823	.050 (.048–.052)
2003	38,214	1,900	.050 (.048–.052)
2004	39,142	1,956	.050 (.048–.052)
2005	39,099	2,029	.052 (.050–.054)
2006	41,286	2,093	.051 (.049–.053)
2007	43,955	2,077	.047 (.045–.049)
2008	42,690	2,109	.049 (.047–.052)
2009	40,067	2,004	.050 (.048–.052)
2010	38,269	1,862	.049 (.047–.051)
2011	34,923	1,702	.049 (.047–.051)
2012	31,380	1,630	.052 (.050–.055)
2013	29,011	1,419	.049 (.047–.052)

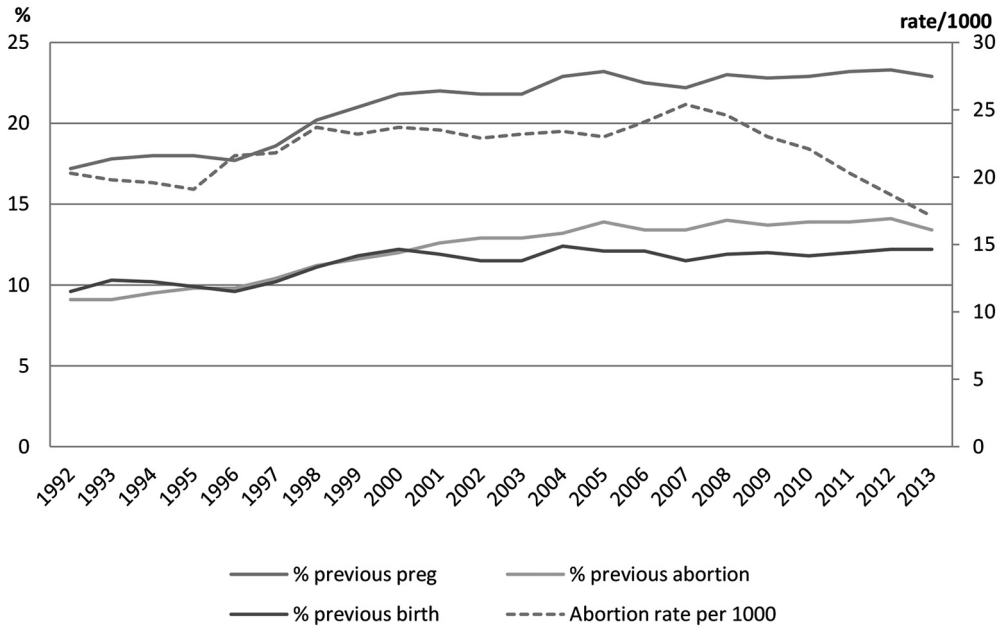

Figure 1. Abortion rate and the percentage of previous pregnancies, previous abortions, and previous births to those aged <20 years by year, 1992–2013.

$p < .001$), and after abortion only ($\chi^2 = 1750.54$, $df = 1$, $p < .001$). At the same time, it can be seen that the overall rate of abortions per 1,000 young women aged 15–19 years has been in decline since 2007 (Figure 1).

The data were not disaggregated further by age given that teenagers aged <16 years having an abortion who have had one or more previous pregnancies are very small in numbers. For example in 2013, 68 girls aged <16 years had had a previous abortion of all the 2,538 abortions carried out on women aged <16 years; more importantly, this means of the 3,872 subsequent teenage abortions, only 2% were to those aged <16 years [15]. Similarly, the UK Abortion Act 1967 covers England and Wales, and most available data are not separated by the DH for reporting purposes. The data available for our research were received for the two countries together, and therefore, our analysis and findings are for the two countries combined.

Discussion

Key findings

The data presented here provide further indication of the level of subsequent teenage pregnancies in England and Wales. The findings show that abortions to young women rose steadily from 1992 to a peak in 2007 and then declined to a level seen 10 years earlier. The proportion of those abortions to previously pregnant teenagers rose steadily from 17.2% in 1992 and has since plateaued, remaining at around 22%–23% since 2004.

Explaining these trends is challenging, given that there is little UK-based research exploring why some young women have further pregnancies when they do not want to be pregnant and which interventions are most effective. It is perhaps not surprising that both abortion and subsequent abortion rates increased over time after the legalization of abortions in the United Kingdom under certain conditions in 1967, and as demographers predicted at the time, they have continued to rise, albeit more gradually, over a number of decades before stabilizing [17,18]. Since the late 1990s, concerted efforts from national and local governments to reduce the teenage pregnancy rate have likely impacted on the proportion of teenagers who have a subsequent pregnancy that ends in abortion. A further explanation is potentially improved contraceptive use and use of more effective and less user-dependent methods. However, data for England show that long-acting reversible contraception (LARC) use, which includes the contraceptive injection (in England and Wales the contraceptive injection is classified in the National Institute for Health and Care Excellence clinical guideline 30 as LARC, it is not classified as such in the United States), contraceptive implant, intrauterine devices, and hormonal coil [19], markedly increased in 2007 among those aged <20 years [20], and yet, this was not reflected in a downturn in the proportion of young women seeking an abortion who had been pregnant previously. Indeed, research suggests that LARC methods are not always acceptable to young women for reasons such as irregular vaginal bleeding, pain, mood swings, and headaches [21,22], and some young women may not want to be pregnant now but do not want to remove the possibility of becoming pregnant in the near future.

The continuing high proportion of teenagers who have an abortion subsequent to one or more previous pregnancies highlights the complexity of these young women's lives. It must be recognized that the circumstances of each pregnancy may be very different, and it may be difficult to eliminate all further unwanted pregnancies taking into account the interrelationship between factors such as fertility, frequency of sexual activity, access to contraception, contraceptive failure, social attitudes, lifestyles, and aspirations. The data presented here clearly demonstrate that young women who become pregnant can be considered a high-risk group for subsequent unplanned, mistimed, or unwanted pregnancies, emphasizing the importance of

embedding preventative actions and behaviors among this group both before and after the resolution of the first pregnancy.

Strengths and limitations

A strength of this study is that it reports on data captured by the DH as part of a legal requirement placed on doctors taking responsibility for the abortion to notify the Chief Medical Officer. Previous studies that report on subsequent pregnancy rates relied on self-reported survey data [4–6] which do not provide the same completeness of coverage or validity checks. The DH guidance on checks made on the HSA4 form indicates that "For women of young ages with previous abortions a check is made that the previous abortion and age were also recorded correctly" (p.4) [23]. However, in common with most medical history data, the accuracy of reported information on previous pregnancies and abortions remains dependent on whether this information was disclosed in the first instance and correctly reported by the medical practitioner completing the form [24]. In some cases, this information will have been verified through hospital records, but if the previous pregnancy was managed at another hospital or by an independent provider (64% of abortions to those <20 years were carried out in the independent sector in 2013 [15]), then the medical practitioner completing the HSA4 form may not have access to this information. A further limitation of the study is that an individual may have experienced more than one pregnancy resulting in an abortion in the same calendar year, which will have resulted in both of these being counted if they also had a pregnancy before this year and therefore that individual being "double-counted." Additionally, this study excludes data on subsequent pregnancies resulting in a birth so cannot provide a fully comprehensive picture of subsequent teenage pregnancies in England and Wales. The findings are also unable to offer any insight in how best to address the issue.

It is recognized that this article solely focuses on national data and does not illustrate the potential geographic variations that may exist. Although local area data are not available on the proportion of teenagers having an abortion who have had a previous birth, there are data on the proportion of teenagers having had one or more previous abortions in those aged <19 and <25 years—the age categories for which this is reported. Clinical Commissioning Group data for 2013 show that the proportion of teenage having more than one abortion ranges from areas where the numbers were so low that data were suppressed for confidentiality reasons, to areas, for example North East Lincolnshire, where more than one-third of teenagers aged <19 years (36.2%) presenting for an abortion had had one or more previous abortions [25]. Whether this variation reflects different populations or differential service provision or access, or a combination of both, such differences emphasize the need not only for more comprehensive national data but also for routine reporting of more localized data on subsequent teenage pregnancies.

Implications of the study

The analysis of this national data on previous pregnancies among young women having an abortion confirms that subsequent pregnancy data cannot be calculated by simply summing together the proportion of pregnancies reported with a previous abortion and those reported with a previous birth. Based on the DH abortion data for the last decade, such a simple summation results in 2.7%–3.0% more than estimation of subsequent pregnancies, for example in 2013 summation would suggest 25.6% of abortions follow a repeat pregnancy, whereas the more accurate data analysis reveals that the correct rate is 22.9%.

The findings from this study demonstrate that a significant proportion of teenagers who conceive then go on to have further pregnancies in their teenage years. Previous research carried out with young women in London undergoing abortion and subsequent abortion suggested that there was often a contradiction between intention and behavior, with some young women continuing to have unprotected sex while being fully aware of the risks of pregnancy and not wanting to get pregnant. Other young women were said to have a poor understanding of their own fertility after abortion or struggled to use their preferred method of contraception [26].

There is emerging guidance on best practice in supporting teenagers to prevent subsequent pregnancies. The National Institute for Health and Care Excellence public health guidance 51 [27] on contraceptive services with a focus on young people up to the age of 25 years, includes specific recommendations on providing contraception after a birth or an abortion. These focus on ensuring that young women have an effective contraceptive method in place that best meets their needs and are aware of their fertility after pregnancy. There are also some local examples of best practice in the United Kingdom. In Hull, contraception outreach nurses were commissioned to work in partnership with the midwifery team to visit young mothers at home within four weeks postpartum [28]. After the introduction of this initiative, subsequent conceptions among those aged <18years fell from 17.7% in 2008 to 13.8% in 2011. In the London Borough of Hackney, between 2007 and 2008, the number of subsequent abortions reduced from 47 to 29 after the appointment of an assertive outreach nurse to help previously pregnant teenagers to choose effective contraception and to support them in the continued use of this [12]. In Wales, the "Empower to Choose Project" has been launched to reduce subsequent teenage conceptions by encouraging the uptake of LARC and auditing the contraceptive advice given to teenagers [29].

A forthcoming systematic review on interventions for preventing unintended subsequent teenage pregnancies among adolescents should increase the evidence base and shape future provision [30]. However, further work is needed to establish a more accurate and comprehensive picture of the overall proportion of subsequent teenage pregnancies in England and Wales and their patterns according to pregnancy outcomes. This later point is important as motivation, or the lack thereof, behind each pregnancy may differ and therefore discrete interventions may be required. In-depth qualitative work to explore teenagers' experiences of subsequent pregnancies and their sexual and contraceptive behaviors is also needed to increase understanding of the complexities of the issues involved.

The teenage years are a unique time where a number of different changes and challenges are faced. To continue declines in the teenage pregnancy rate efforts need to focus both on preventing first-time pregnancies and assisting pregnant and parenting teenagers to help them better manage their fertility and sexual lives. This is particularly important now, with the commissioning of community contraceptive services placed with local authorities and maternity and abortion services the responsibility of Clinical Commissioning Groups. All organizations

will need to work together so that teenagers have an effective contraceptive plan in place that meets their needs after a pregnancy, along with receiving ongoing support to encourage uptake and continuation and improved access to emergency contraception.

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