Reproductive and sexual behaviour and health

Book section

10. The Reproductive and Sexual Behaviour and Health of Britain's Population

Ernestina Coast and Emily Freeman

Changing population structure and composition, combined with dynamic social norms and behaviours, has implications for a population's sexual and reproductive health. Sexual relationships and sexual and reproductive behaviour and attitudes are key components of physical and mental well-being. Sexual and reproductive health (SRH) is not just the absence of ill-health or disease but 'a state of complete physical, mental and social wellbeing' (WHO, 2010). Good SRH implies a pleasurable and safe sex life, freedom in sexual expression and the ability to regulate fertility. This chapter considers key ways in which population change has shaped and has been shaped by SRH in the UK over the last 25 years.

The majority of the UK population are sexually active (Mercer, 2014). People have sex – volitional and non-volitional – for a wide range of reasons, and with a broad spectrum of positive and negative health outcomes that change over the lifecourse. Strategies to improve SRH focus on both the public health outcomes of sexual behaviour, such as sexually transmitted diseases, and aspects of reproductive and sexual well-being that are important in their own right, such as sexual pleasure. SRH policies and interventions that address and support all aspects of positive sexual experiences are typically most effective in improving health.

SRH beliefs, behaviours and outcomes are shaped by demographic factors, including age, ethnicity, gender, and socio-economic status. Recent demographic changes with salience for SRH discussed in previous chapters include: population ageing, migration, rates and patterns of partnership formation and dissolution, and later childbearing. Reflecting these and generational changes, major shifts in sexual behaviours in the UK since the 1980s include: declining age at first intercourse (Hawes et al., 2010), increasing number of lifetime sexual partners and rates of partnership concurrency (Fenton and Hughes, 2003), and more same-sex sexual activity (Wellings and Johnson, 2013; Mercer, 2014).

Of these demographic trends, young people's SRH has arguably attracted the most research and policy attention. Of particular focus are rates of sexual initiation, partner change and conceptions among those aged under 25, and how these compare to other high-income countries (Hawes et al., 2010). Increased data availability and improved reporting allow better understanding of a broader range of sexual partnerships, behaviours and practices. For

example, we know that people aged 16-25 years in Britain are more likely to report oral than vaginal sex, and that 1 in 5 report having anal sex (Hagell, 2014; Marston and Lewis, 2014). Such evidence is crucial if policies and services are to meet the SRH needs of the population, moving beyond a narrow focus on the risk of conception. The implications of non-sexual behaviours such as alcohol and drug misuse for SRH are also important (Tripp and Viner, 2005; Hawes et al., 2010; Aicken et al., 2011; DoH, 2013b).

There is also growing recognition of sexual health needs beyond the reproductive ages. Increasing longevity and years of healthy life, combined with older adults' changing expectations and attitudes to sex, increased frequency of divorce and new sexual partnering at older ages, and the increasing 'medicalisation of sexuality', means that sexual health services for older adults will become increasingly important (Gott, 2006).

Changes in ethnic composition also have implications for SRH. In England and Wales, census data show that the non-White British population increased by 57% between 1991 (7 million) and 2011 (11 million) and that the population reporting African ethnicity has grown faster than any other minority in the last two decades (Jivraj, 2012; see also Chapter 9). Black and minority ethnic (BME) populations can be systematically disadvantaged by the design and delivery of SRH services and education, influencing outcomes at the individual and group level (Hennink et al., 1999; Weston, 2003; Saxena et al., 2006; Coleman and Testa, 2007).

Population change is accompanied by, and in part driven by, changes in population-level attitudes. Attitudes towards sexuality and reproduction have become more socially inclusive over time (see Figure 10.1). In 2012 in Britain nearly half (46%) of the population born in the 1940s thought homosexuality was 'always or mostly wrong', compared with 18% of those born in the 1980s. In 1983, 37% of people felt that the law should allow abortion when a woman decides she does not wish to continue the pregnancy, compared to 62% in 2012 (Park et al., 2013) and repeat polling has shown continued declines in support for an outright ban on abortion, down from 12% in 2005 to 7% in 2013 (YouGov, 2013).

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Sexual Health Policies

The UK's political system is relatively complex. To varying degrees, the four countries of the UK (Scotland, England, Wales and Northern Ireland) have different legislative powers, policies and responsibilities for collecting and disseminating data. SRH data are sometimes

collected for the whole of the UK, sometimes just for Great Britain (Scotland, England and Wales combined) and, more recently, for each country separately.

Each of the four constituent countries of the UK produces their own SRH policies and strategies (Table 10.1). Both Scotland and Northern Ireland's policies describe a situation of 'poor' SRH. All prioritise reducing unintended pregnancies and sexually transmitted infections (STIs), and all but Scotland's policy identify young people as key focus populations for protecting and promoting SRH.

<Table 10.1 about here>

Given these priorities, all countries of the UK have sex-education policies targeted towards children and young people and delivered as part of school-based education programmes. Since around 2000, frameworks for sex education have shifted from an emphasis on sex education that reflects moral and religious principles held by school management authorities and parents, to emphases on positive sexual relationships and inclusion of topics such as contraception, abortion and sexually transmitted infections. However, provision of sex education is widely regarded to still be inadequate by those working to improve SRH (House of Commons Education Committee, 2015), as well as by young people themselves (Pound et al., 2015).

In England, relationships and sexuality education (RSE) is delivered as part of personal, social, health and economic education (PSHE) from age 11 onwards in most schools but does not, as of January 2016, have statutory status. This means that while it is compulsorily offered in state (state-funded and run) schools, independent (fee-paying 'private') and academy (state-funded but independently run) schools where curricula are not set by the Government, are not required to offer sex education. In 2013 the Office for Standards in Education, Children's Services and Skills reported that RSE required improvement in 40% of state-run schools in England (Ofsted, 2013). In 2015 an all-party Government Education Committee reported that, without statutory status, schools were less committed to developing and delivering strong sex-education learning programmes (House of Commons Education Committee, 2015).

School-based sex education is undoubtedly a major source of information, and in surveys is reported as a main source of information about sex (Wellings et al., 2001; Macdowall et al., 2006). However, school-based programmes are not the only source of information, with parents, peers and media also playing an important role (Yu, 2010; Currie et al., 2011). The impact of school-based sex education programmes on SRH outcomes is, however, mixed (DiCenso et al., 2002). A meta-analysis of school sex education programmes

found a positive relationship with improved knowledge (Song et al., 2000), although impacts on outcomes such as conception or abortion are much less clear (Stephenson, 2004; Henderson et al., 2007; Vivancos et al., 2012).

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Contraception and Unintended Pregnancy

The effective use of contraception is the major determinant of population fertility, and contributes to reducing maternal morbidity and mortality; barrier methods are effective in preventing sexually transmitted infections. Since1974 contraception has been available from the National Health Service (NHS) (Botting and Dunnell, 2000).

Most people do not use the same contraceptive method over their lifecourse; they stop, start and switch methods according to their circumstances (partnership, health, age, fertility intentions). Before the 1960s available fertility control included male and female condoms, intrauterine devices (IUDs), 'natural methods' involving abstinence or withdrawal, and male and female sterilisation. In the 1960s female hormonal contraceptives became available as pills and have since dominated the population's 'method mix' – the proportion of people using different methods (Botting and Dunnell, 2000).

Although today there is a wide range of contraceptive options available in the UK, the majority are female-controlled. Research to develop male hormonal methods over the last 40 years has not been taken up by pharmaceutical companies (Wang and Swerdloff, 2010). Thus the main male-controlled method remains the male condom.

To benchmark changes in availability of contraception (and abortion) and fertility in the 1960s and 70s, the British Government commissioned a Survey of Family Planning Services (1975) and the Family Formation Survey (1976). Subsequently, surveys including the General Household Survey (until 2007), the National Statistics Omnibus Survey (until 2008/9), and the National Survey of Sexual Attitudes and Lifestyles (NATSAL) (1990, 2000, 2010-12) have provided data on contraceptive use in Britain.

Data are, of course, political. For example, NATSAL was originally intended to include Northern Ireland, but interviewers there refused to ask sensitive questions, reflecting the prevailing social climate with regards to issues of sexual attitudes and lifestyles (Rolston et al., 2004). Responding to the shortage of Northern Irish data, the Family Planning Association commissioned a survey of young people in 2000 (Schubotz et al., 2002) and since 2010/11 some data on contraception are available from the Health Survey Northern Ireland.

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Trends in Contraceptive Use

Three quarters of women in Britain aged 15-49 used some form of contraception in 2008/9. The majority of those who do not use any form are either already pregnant or trying to conceive or believe that they are not at risk of pregnancy lack of opposite-sex sexual activity or reckon they are infecund (Lader and Hopkins, 2008). Although oral hormonal contraceptives (OCs) and male condoms are the most popular contraceptive methods in Britain, they have some of the highest failure rates, related to the need for their consistent and correct use (Wellings et al., 2007; Bury and Ngo, 2009). In a Scottish study of women undergoing abortion, almost half had been using these methods (Schünmann and Glasier, 2006).

Method mix changes by age. Levels of OC and male condom use among older (35-44) women are much lower than younger (16-24 years) women (OC: 16.8% vs 62.6%, male condom: 26.3% vs 63.3%, respectively). By contrast, levels of IUD use rise with age, from 1.7% at 16-24 years to 7.9% at 35-44 years, as does female and male sterilisation (0.1% aged 16-24 vs 19.7% and aged 35-44, 0% aged 16-24 vs. 14.9% aged 35-44, respectively) (National Centre for Social Research et al., 2005). A retrospective study of patient case files (1992-1999) for women (20-54 years) and men (20-64 years) showed a relative decline in female sterilisations over the period, and constant levels of vasectomy (Rowlands and Hannaford, 2003).

A UK-wide review of trends in contraceptive use at first sex indicates that 70-80% of people do use contraception, with higher rates reported by women than men (Hawes et al., 2010). Use is related to age of sexual debut, with those aged under 16 less likely to use contraception at first sex than those aged 16-19 (Tripp and Viner, 2005). First partnerships involving relatively older or younger partners are less likely to involve contraception (Mercer et al., 2006). A review of contraceptive services for young people suggested that anonymity and confidentiality are their most significant concerns, representing a significant barrier to SRH service use (Baxter et al., 2011).

The male condom is the most frequently reported contraceptive used at first sex by younger people (Mercer et al., 2006), although survey data indicate that approximately 15% of 16-24 year olds had sex with at least two partners in the past year without one (Hagell, 2014). Use of condoms over other methods at younger ages may reflect easier access to condoms (unlike most other contraceptives that are available without a prescription and from a wider range of outlets), or increased acceptability for users (and prescribers) over hormonal methods, or a reluctance to use longer-term methods to protect against pregnancy when

sexual activity is sporadic. Levels of OC use at first sex are low, although this varies by age at first sex. In Scotland, over 20% of 18 year old women reported using OC at first sex (West, 1993, cited in Hawes, 2010), compared to less than 3% among 14 year olds (Henderson, 2002, cited in Hawes, 2010). A study of the association between contraceptive method at first sex and subsequent pregnancy among 16 year olds in England and Scotland suggests that, even though OC are more effective at pregnancy prevention than condoms, young teenagers may use OC less effectively than condoms (Parkes et al., 2009).

Long-acting reversible contraceptives (LARCs) – contraceptive injections, implants, intrauterine systems (IUS) and IUDs – are more effective at preventing pregnancy than user-controlled quick-acting hormonal methods and condoms. They are currently a policy and service priority in England, Scotland and Wales, reflecting new NICE guidance (DoH 2013b). A multi-year (2004-2010) study of the use of LARCs in the UK using the general practice (GP) database found overall increases in use, while remaining low at younger ages (Cea Soriano et al., 2014). Data from England suggest that LARC usage is associated with decreased abortion and unintended pregnancy rates among women aged <20 years, but not with those aged 20 years and older (Connolly et al., 2014).

Despite increases in their use, an attitudes study of general-practice clinicians in England found that, while a substantial proportion (80.2%) were supportive of LARCs for preventing adolescent pregnancies, less than half (47.1%) thought young women would want to use them. The study identified need for substantial professional and public education and training to increase provision of LARCs, especially for younger women among whom LARC knowledge was low (Wellings et al., 2007).

Trends in contraceptive use by ethnicity suggest that women from all ethnic minority groups are less likely to report using hormonal or permanent contraception than White women, but there are significant differences by partnership status. In Britain, cohabiting or ever-married women of Indian and Pakistani ethnicity are less likely to use contraception (78% and 74%, respectively) than other cohabiting or ever-married women. However never-married and non-cohabiting Black Caribbean and Black African women (88% and 82%, respectively) are less likely to use contraception than similar Indian and White women (100% and 95%, respectively). These differences persist after taking parity and educational achievement into account (Saxena et al., 2006). The reason for differences between ethnicities has not been fully explored but may reflect differing access to contraceptive services or fertility preferences. Migrants' use of contraception may reflect culture and services in their place of origin. For example, qualitative interviews with Chinese asylum

applicants to the UK show how their experience of (very) different contraceptive service and policy in China continued to influence their decisions about contraception once in the UK (Verran et al., 2015). The limited evidence suggests a need for contraceptive service provision to respond more effectively to the needs of the UK's changing population composition.

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Emergency Hormonal Contraception

Emergency hormonal contraception (EHC), launched in the UK in the 1960s, has been widely available without prescription since 2001 (Anderson and Blenkinsopp, 2006). Analyses of data for women aged 16-49 years from the 2000-02 Omnibus Survey, however, showed no significant change in the proportion of women using EHC or of having unprotected sex: 8.4% in 2000, 7.9% in 2001 and 7.2% in 2002 (Marston et al., 2005). While knowledge levels about EHC in the UK are high (Dawe and Rainford, 2004), rates of use remain relatively low, possibly reflecting low levels of knowledge about how to access EHC, or barriers to access. Research among women presenting for an abortion in Scotland in 2004-05 found that 11.8% had used EHC to try to prevent the pregnancy. The authors conclude that, with such low levels of EHC use even among women who were not planning a pregnancy, EHC is unlikely to significantly reduce unintended pregnancy rates (Lakha and Glasier, 2006). Use of EHC is highest among women aged below 20 years, possibly reflecting greater levels of knowledge and awareness among younger cohorts. A study of factors associated with the use of EHC among British women aged 16-44 showed use was more common among young, single women, women using male condoms for contraception and women with more than one sexual partner in the preceding year (Black et al., 2006).

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Unintended Pregnancy

Understanding patterns of sexual behaviour and contraceptive use, including EHC, is critical for the reduction of unintended pregnancy. Unintended pregnancy – particularly among younger women – remains a priority focus for health policy and services (Baxter et al., 2011). It is estimated in Britain that 1 in 6 pregnancies in Britain is unplanned (Wellings et al., 2013). A study of women attending antenatal care in Scotland found only 65.6% describing their pregnancy as intended, while nearly a third were 'ambivalent' (Lakha and Glasier, 2006). Evidence from NATSAL-3 suggests that unplanned pregnancy is associated with receiving sex education mainly from a non-school-based source, highlighting the linkages between sex education and reproductive outcomes (Wellings et al., 2013). Nevertheless

conceptions to the under-18s are decreasing (ONS, 2015). In 2012-13 the overall conception rate fell and the number of under-18 conceptions was the lowest since 1969 (ONS, 2015).

While some pregnancies result from failure of a contraceptive method, most pregnancies occur either because no contraception was used or because the method was used inconsistently or incorrectly (Price et al., 1997; Schünmann and Glasier, 2006;, Rowlands, 2007a; Bury and Ngo, 2009). It is estimated in the UK that up to 25% of unwanted pregnancies that end in induced abortion are due to these reasons (Lakha and Glasier, 2006). These data point to the need for improved education and services to reduce inconsistent, to incorrect or non-use of contraception among those wishing to limit their fertility, and to increase awareness and use of EHC services. A prospective cohort study of women in England found that women who stopped or switched their contraceptive method were younger, better educated and more likely to be single compared to women who continuously used the same method for a year (Wellings et al., 2015).

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Abortion

While some women will proceed with their pregnancies, many of which will become wanted, some women will end them. In England and Wales in 2013 (ONS, 2015) around 1 in 5 pregnancies were aborted, a proportion that has remained relatively stable over the past two decades (19.2% in 1993, 22.5% in 2003) Governments in England (DoH, 2013b), Wales (NAW, 2000; WAG, 2010) and Scotland (Scottish Executive; 2005: NHSQIS, 2008) have all published policy documents that include recommendations for improving abortion services, including promoting equitable access to high quality services. However, access to abortion in the UK is unequal, with different legal frameworks for Britain and Northern Ireland.

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Abortion Law in the UK

In Britain the law regarding abortion is set out in the Abortion Act 1967. This permits abortions up to 24 weeks gestation if the pregnancy would involve a greater risk than termination to the life or physical or mental health of the pregnant woman or her family, taking account of her foreseeable environment. Abortions at any gestation are permitted to prevent death or grave permanent injury to the pregnant woman's mental or physical health or if there is a substantial risk that if a child was born it would suffer from 'such physical or mental abnormalities as to be seriously handicapped' (UK, 1967).

There are fewer circumstances under which abortion is permitted in Northern Ireland. A judicial review there in 2003 clarified the legal grounds for abortion to be where

continuation of the pregnancy threatens the life of the pregnant woman, or where it presents serious 'permanent or long-term' harm to her physical or mental health. While possibility of death is sufficient for abortion to be legal, harm to physical or mental health is required to be probable. It has, however, been argued that abortion provision remains inconsistent in Northern Ireland (FPA, 2014). The majority of women travel to England to access abortion services. In 2011-12, 35 women received a legal abortion in Northern Ireland, compared with a conservative estimate of 1,007 Northern Ireland residents who received a legal abortion in England in 2011 and 905 in 2012 (FPA, 2014).

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Access to Abortion for Residents of Northern Ireland

Women from Northern Ireland who travel to Britain are not entitled to use NHS abortion services. Further, while early gestation abortions do not normally involve an overnight stay, appointments may mean that women traveling from Northern Ireland typically have to travel the day before their procedure. It is estimated that this travel to and accommodation in England, along with medical fees, costs women around £600 for terminations under 14 weeks gestation and up to £2,000 for later terminations, more if someone accompanies them (FPA, 2014). Women who are either unable to pay, or are unable to travel, risk unsafe abortion within Northern Ireland or continue with their unwanted pregnancies.

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Trends over Time

The incidence of abortion in Britain increased after the 1967 Abortion Act came into effect but has declined recently. In Scotland, the rate of abortion peaked in 2008 at 13.1 per 1,000 women aged 15-44 (ISD, 2015). Figure 10.2 shows the rate of abortion in England and Wales over time. In England and Wales there were 184,571 abortions to residents in 2014, a slight decrease (0.4% and 0.6%) and on the previous two years. This equates to 15.9 abortions per 1,000 women resident in England and Wales aged 15-44 (DoH, 2015). Although this is the lowest rate since 1997, it is double the rate (7.8 per 1,000) recorded in 1970 (DoH, 2015).

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Abortion rates in Scotland have been consistently lower than those in England and Wales, although they have also been decreasing recently. There were 11,475 abortions in 2014, equivalent to 11.0 abortions per 1,000 women aged 15-44, a 17.5% decrease on the peak number of abortions recorded in 2008 (ISD, 2015).

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Age

Rates of abortion are higher among younger people than older people (Table 10.2). British data for 2014 indicate that the rate is highest for women aged 20-24 (DoH, 2015; ISD 2015). In England and Wales, the rate among women aged 22 – the highest rate – was 28 per 1,000 women in 2014 and 30 per 1,000 in 2013 (DoH, 2015).

<Table 10.2 about here>

The under-16 and under-18 abortion rates have decreased over the last decade. In Scotland, rates of abortion among under-16s and 16-19 year olds dropped from 3.8 per 1,000 in 2008 to 2.0 per 1,000 in 2014, a 46% decrease, and from 24.0 per 1,000 in 2008 to 14.3 in 2014, a 40% reduction (ISD, 2015). In England and Wales, the abortion rate among under-18s in 2014 was 11.1 per 1,000 women, down from 17.8 per 1,000 women in 2004 (DoH, 2015). Similarly, abortion among under-16s reduced to 2.5 per 1,000 from 3.7 in 2004.

While the abortion rate is lower among those aged under 20 than those in their 20s, of those women who do conceive in this age group, the proportion of pregnancies that are terminated is much higher than at older ages, and the proportion is increasing. In 2013 in England and Wales 61.6% of conceptions to women aged under 16 ended in abortion, compared to 49.8% in 1993. The gradual increase in proportion of conceptions ending in abortion is similar among women aged under 18 (50.7% in 2013) and those under 20 (44.2%) (ONS, 2015).

While the conception rate for women aged 40 and over has more than doubled since 1990 from 6.6 to 14.2 conceptions per thousand women in 2013, the percentage of conceptions leading to abortion fell from 43% in 1990 to 28% in 2010, and has since remained constant (ONS, 2015). Women aged 30-39 have typically had the lowest rates of abortion across Britain (DoH, 2015). In England and Wales in 2013 only 13% of conceptions to women aged 30 to 34 in England and Wales ended in abortion, a proportion that has remained relatively constant (ONS, 2015).

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Ethnicity

Since 2002 information on the ethnicity of women accessing abortion services has been recorded in England and Wales (DOH, 2014). These data indicate that women of Black or Asian ethnicities are overrepresented. In 2014 77% of women receiving abortion were reported as White, 9% as having Asian ethnicity and 8% as having black ethnicity. In the 2011 census 86% of the population identified as White and only 7.5% and 3.3% identified as having Asian and Black ethnicities (DoH, 2015).

The age of women seeking abortion services appears to be similar, irrespective of ethnicity (DoH, 2015). Nevertheless among the youngest women, who have the highest likelihood of abortion following conception, qualitative research suggests that different social and cultural dynamics influence abortion decision-making. In some minority ethnic communities, particularly Muslim communities, teenage pregnancy within marriage is unlikely to end in abortion, while teenage pregnancy outside of marriage is heavily socially sanctioned against (Higginbottom et al., 2006). Young women who had not been pregnant in Bangladeshi and Indian communities in London, Manchester and Birmingham expected they would be required to marry if they became pregnant and reported that they would seek abortion to avoid it. In contrast, young women living in communities of Jamaican origin expect support from family and friends should they become pregnant and report a lower likelihood of seeking abortion (French et al., 2005).

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Previous Abortions

The proportion of women accessing abortion services who have previously had an abortion is increasing. In England and Wales in 2014, 37% of women receiving an abortion had one or more previous abortions, up from 32% in 2004. However, increases in the proportion of all abortions that are repeat abortions could be a reflection of the decrease in number of all abortions in recent years. The rate of repeat abortions expressed as a proportion of all women of reproductive age – an indicator of the overall frequency of repeat abortions – has in fact been fairly static over the last decade. In Scotland, the 31.7% of abortions among women who had a previous abortion, equates to a rate of 3.5 per 1,000 women aged 15-44. This rate has remained stable at around 3.0-3.5 per 1000 women aged 15-44 since 2005 (ONS, 2015).

The likelihood of having had more than one abortion increases with age (7% for the under-18s vs. 45% for those aged 35 and over), as women spend longer periods at risk of having an unwanted pregnancy (DoH, 2013a). There is little evidence to suggest that women presenting for an abortion more than once over their lifetimes differ from those who present only once (Rowlands, 2007b). Public-health concern therefore focuses on women for whom multiple abortions are more likely to indicate vulnerability.

For example, the higher rates of multiple abortions observed among women experiencing domestic violence (Aston and Bewley, 2009) are likely to reflect lack of choice in sexual and reproductive behaviour, as well persistency of abuse. Multiple abortions among very young women are more likely to reflect the presence of barriers to using contraception, a failing of post-abortion contraceptive advice and/or limited power in negotiating sexual

activity. In England and Wales in 2014, 7% of women aged 16 or 17 and 2% of women aged 15 or younger receiving an abortion had undergone a previous abortion (DoH, 2013a). In 2014, 48% of women of Black ethnicity having an abortion in England and Wales had had one before, compared to 34% of Asian women and 36.6% of White women (DoH, 2013a). While this ethnic differential is noted as a SRH priority in England by the Department of Health (DoH, 2013b), there has been very little research into the reasons for these differences.

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Sex-Selective Abortion

The last 25 years have seen an increase in sex-selective abortion among some Indian ethnic communities in England and Wales, reflecting a cultural preference for sons. The sex ratio of births to mothers born in India was relatively stable in the 1970s and 1980s, but increased after the 1980s, deviating from sex ratio of births to women of all ethnicities. Between 1969 and 1989 the average sex ratio at birth was 104.1, rising to 107.9 between 1990 and 2005, and averaging 108.3 between 1995 and 2005. Higher-order births to women of Indian origin, particularly third or later, are now more likely to be male. The scale and sudden timing of this shift in gender balance is likely to indicate the abortion of female foetuses (Dubuc and Coleman, 2007). As a result, in 2014 the Department of Health clarified that the law, drafted before prenatal sex diagnosis was available, did not permit abortion based on gender preference. In 2015 MPs voted to review the extent of sex selective abortion in England, Wales and Northern Ireland.

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Sexually Transmitted Infections

Sexually transmitted infections (STIs) affect mortality and fertility. Left untreated, they can cause death from a range of cancers and further illnesses, infertility, ectopic pregnancy, spontaneous abortion and still birth. In addition, STIs are often associated with social stigma and psychological distress (Fenton and Hughes, 2003). Early diagnosis and treatment of STIs can reduce the likelihood of all these complications, reflected in the inclusion of STIs in more recent sex-education curricula. STIs are a significant, preventable and increasing public health concern: rates of new diagnoses have been rising steadily since the mid-1990s across the UK's four countries. In England, rates of new STI diagnoses rose by 11% and 52% among men and women between 2005 and 2014 (PHE, 2015c), while in Northern Ireland, the annual number of new STI diagnoses increased by 37% between 2001 and 2010 (PHA, 2014).

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Data Sources

Data on STIs in the UK are primarily sourced from genito-urinary medicine (GUM) clinics and integrated GUM and sexual and reproductive health (SRH) clinics that offer free, open-access STI and HIV testing, diagnosis and management services. However, since some STIs, including chlamydial and gonococcal infections in women, are usually asymptomatic, GUM/SRH clinic data are likely to under-represent their prevalence at the population level. In Britain, chlamydia test and diagnosis data are therefore additionally sourced from community-based settings. The English National Chlamydia Screening Programme (NCSP) began in 2003 and provides opportunistic screening of sexually active young people aged 15-24 at primary-care settings (general practices and pharmacies), community SRH services and abortion clinics as well as GUM clinics, while Scottish and Welsh strategies similarly encouraged community-based testing in this age group, but with no formal programme. In Northern Ireland, however, chlamydia data come from symptomatic testing in primary-care and GUM clinics and there is no chlamydia testing programme (PHA, 2014).

While only GUM clinics have a statutory duty to report HIV data to the four public health bodies of the UK (Public Health England, Public Health Wales, Public Health Agency and Health Protection Scotland), information about new diagnoses of HIV infections, AIDS cases and deaths is also collected through voluntary reporting systems, including the Survey of Prevalent HIV Infections Diagnosed (SOPHID) (from 1995) and the Unlinked Anonymous HIV Surveillance Program. Unlike other STIs therefore, HIV data are available UK-wide.

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Overall Trends in Diagnoses in the UK

There are over twenty types of STIs, caused by bacteria, parasites and viruses. Increases in the rates of new STIs in the UK are accounted for by human papillomavirus (HPV), HIV, Chlamydia and genital warts, as well as outbreaks of previously rare gonorrhoea and syphilis (DoH, 2013b).Rates of syphilis diagnoses in England increased by 27% over the 10-year period 2005-14 and gonorrhoea almost doubled (PHE, 2015d).

Although more widespread screening (Sonnenberg et al., 2013) and more sensitive diagnostic tests partly explain increasing rates of STI diagnoses, changes in sexual behaviour are also important (Fenton and Hughes, 2003; PHE, 2015b). STIs not only influence demographic outcomes, but their prevalence also reflects demographic trends, including younger ages at sexual debut and increasing migration. While the sub-populations most at risk of infection varies between different STIs, the majority of all reported STI cases in the

UK are among people aged under 25, men who have sex with men (MSM) and people of Black ethnicity (DoH, 2013b).

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Sex at Younger Ages

The percentage of men and women aged 16-24 who had opposite-sex sexual intercourse before age 16 in Britain increased between 1990/2 and 2010/12, rising from 27% and 18% respectively to 30% and 29%) (NATSAL, 2013). Young people have the highest rates of concurrent sexual partners and partner change (Mercer et al., 2013) and are at a disproportionate risk of acquiring STIs. Figure 10.3 shows rates of new STI diagnoses by age group and gender for England in 2014. The higher rates of STIs among older men are accounted for by diagnoses of STIs among MSM (PHE, 2015b).

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Same-Sex Sex

More men and women are reporting same-sex sexual experiences now than 25 years ago (Mercer et al., 2013). Men with same-sex partners are at higher risk of STIs in the UK. In Northern Ireland, MSM make up less than 5% of the male population, but accounted for 83% of male syphilis, 46% of male gonorrhoea, and 12% of male chlamydia infections in 2014 (PHA, 2014). In England in 2014, they accounted for 81% of syphilis, 52% of gonorrhoea and 21% of chlamydia diagnoses among men attending GUM clinics. While diagnoses of genital warts, genital herpes and chlamydia are concentrated among men and women with exclusively opposite-sex sexual partners (92%, 92% and 86% of diagnoses respectively), rates of these STIs among MSM are increasing. Genital warts diagnoses among MSM attending GUM clinics increased by 10% in 2013-2014, genital herpes by 10% and chlamydia by 26%. Recently, acute bacterial STIs have risen sharply among MSM with HIV, with rates now four times higher for these than among other MSM (PHE, 2015b). Prevalence of STIs among young MSM is particularly high. In 20111 34% of genital warts, 24% of gonorrhoea, 22% of genital herpes and chlamydia and 13% of syphilis cases diagnosed among MSM were in those aged 15–24 (DoH, 2013b).

Higher risks of STIs among MSM can be explained by the high per-act transmission probability of STIs transmission in receptive anal sex and role versatility, as well as decreasing use of condoms among men adopting HIV seroadaptive behaviours; e.g. HIV-negative men only choosing HIV-negative partners (serosorting) and HIV-positive men only having receptive anal sex (seropositioning) (Beyrer et al., 2012) .). Reflecting more sexually-

inclusive social norms, there are now more opportunities for men to meet prospective partners, including an increase in traditional venues in British cities (e.g. saunas) and targeted social media (e.g. smartphone applications and matching websites).

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Partnership Concurrency and Number of Lifetime Partners

Concurrent partnerships - having more than one partnership at the same time – increase the probability of onward transmission of STIs. Concurrency has become more common since 1990 (Fenton and Hughes, 2003). Between 1990/91 and 2010/12 the number of people reporting opposite- and same-sex sexual experience has increased, as has the number of lifetime partners from 3.7 to 7.7 opposite-sex partners for women and from 8.6 to 11.7 opposite-sex partners for men (Mercer et al., 2013).

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Geographic Variation

There is spatial variation in the distribution of STIs reflecting the distribution of population sub-groups most at risk of infection, clustering of sexual networks, and access to diagnosis and treatment services. Outbreaks of syphilis in England in the early and mid 2000s were predominantly among MSM and concentrated in Manchester, Brighton and London, cities with homosexual communities (Fenton, 2002). Urban areas are typically more ethnically diverse, so are where the majority of STI diagnoses among people of Black ethnicity are made (Fenton et al., 2005). Geographical clustering around sexual networks is particularly clear in gonorrhoea: in 2014 in Lambeth the rate of gonorrhoea diagnosis was 634 per 100,000 population, compared to 0 per 100,000 in the Isles of Scilly (PHE, 2015c).

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Chlamydia

Genital chlamydia is the most commonly diagnosed STI in the UK (PHA, 2014; PHE, 2015c). In England, 206,774 new diagnoses were made in 2014, accounting for 47% of all STI diagnoses (PHE, 2015b). Chlamydia is frequently asymptomatic, increasing the risk of onwards transmission and longer-term health outcomes such as pelvic inflammatory disease, ectopic pregnancy and infertility in women and urethritis, epididymitis and reactive arthritis in men. Chlamydia infection facilitates the transmission of HIV infection in both men and women (Baeten and Overbaugh, 2003).

Rates of chlamydia diagnoses are consistently and significantly higher among younger people, particularly women. According to Sonnenberg et al. (2013), weighted age-specific prevalence data from NATSAL indicates that chlamydia is highest for women aged

18-19 (4.7%) and men aged 20–24 years (3.4%). In Northern Ireland, peak diagnostic rates among women are slightly later: between 2000 and 2013, prevalence was highest among both men and women aged 20-24. Prevalence of chlamydia in the 16-24 age group targeted by England's NCSP and Scotland and Wales' strategies to increase testing is 3·1% in women and 2·3% in men.

Spatial variation in chlamydia detection rates among younger people (e.g. from 4,270 per 100,000 in Hackney to 530 per 100,000 in Isles of Scilly) could be due to differences in sexual behaviours, data quality or testing coverage (PHE, 2015c). Rates of chlamydia diagnoses have increased among young adults following the 2003 launch of the NCSP in England (DoH, 2013b). Testing among young women and men in Scotland and Wales, where strategies to increase testing were not embedded within formal programmes, is significantly lower – 32.4% and 45.6% respectively, compared to 57.1% in England (Sonnenberg et al., 2013). As well as increasing testing and access to treatment among those offered the service, in England the programme is credited with raising general awareness of chlamydia and other STIs among young adults, suggesting that their Scottish and Welsh counterparts may be at higher risk of undiagnosed and untreated STIs as well as of infection via onward transmission.

Sex without using a condom significantly increases risk of chlamydia transmission. Across all age groups, data suggest 5.3% of people having condomless sex with two or more sexual partners in the past year may have chlamydia, compared to 1.1% of those who do not (Sonnenberg et al., 2013).

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Gonorrhoea

Since 2009 the UK has seen large increases in gonorrhoea diagnoses among at-risk populations; it is now the second most commonly reported bacterial STI in the UK (DoH, 2013b). In England, 34,958 new diagnoses in 2014 represented a 98% increase from 2013 (PHE, 2015d). In Northern Ireland, new diagnoses more than doubled between 2010 and 2013 (PHA, 2014). Although the rise in diagnoses coincides with the introduction of more sensitive dual test for chlamydia and gonorrhoea and an increase in the number of people tested, the continued increase is also likely to represent increased transmission. In Wales, the number of people who were tested for gonorrhoea increased by 61% between 2010 and 2012, whereas the number of people testing positive for gonorrhoea increased by 219% (PHW, 2013).

Recent increases in diagnoses were initially focused among females, reflecting more women accessing the dual chlamydia/gonorrhoea test. Since 2013, all UK countries have documented increasing prevalence among males. In Scotland and England, males accounted for 74.9% and 76% of episodes in 2014 respectively, larger than in the previous four years (PHE, 2015b).

Increases in male prevalence hide regional differences in risk groups. In Northern Ireland and Wales, there has been a recent decline in gonorrhoea among MSM and an increase in new diagnoses among men having exclusively opposite-sex sexual activity (PHW, 2013; PHA, 2014); In London, while the number of new diagnoses among men having exclusively opposite-sex sex has also increased, it is infection among MSM that has been driving increases in male diagnoses, accounting for 54% of the 5139 men newly diagnosed in 2010 and 80% of the 14,449 diagnosed in 2014 (PHE, 2015e).

The highest rates of gonorrhoea diagnoses are among young men aged 20-24 (151 per 100,000 in 2009) and women aged 16-19 (123.4 per 100,000 in 2009), although gonorrhoea diagnoses are increasing at all ages (PHW, 2013). Diagnoses at older ages (adults aged 45 years and older) increased by 8% between 2000 and 2009, from 4.7 to 4.8 per 100,000 (FPA, 2010).

Untreated gonorrhoea can enter the bloodstream and joints, and in women it can lead to pelvic inflammatory disease, infertility and ectopic pregnancy. Some strains are now less susceptible to antibiotic treatments (PHE, 2014a), increasing the likelihood of onward transmission and more serious clinical outcomes among infected individuals.

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Human Immunodeficiency Virus (HIV)

HIV is a progressive illness that suppresses the body's immune system making an infected individual vulnerable to other infections and to chronic diseases. It is associated with significant mortality and morbidity. In 2013 around 107,800 people had diagnosed or undiagnosed HIV in the UK. This equates to an overall prevalence of 2.8 per 1,000 population aged 15-59 years (1.9 per 1,000 women and 3.7 per 1,000 men) (PHE, 2014b). Arguably more than any other STI, HIV is still frequently understood to be a stigmatising condition, contributing to late diagnoses and HIV transmission.

The advent and availability of anti-retroviral therapy (ART) has reduced rates of acquired immunodeficiency syndrome (AIDS) and HIV-related death in the UK, as well as onwards transmission. ART is most effective when HIV diagnosis and treatment commences early. Those treated promptly can now expect a near-normal life expectancy. However, there

are high rates of late HIV diagnoses, 42% of diagnoses in 2013 (Yin et al., 2014). This is poorly understood, as are new infections at all ages and an increasing population of people living with HIV into older ages at which the interaction between HIV-related and age-related morbidity (High et al., 2012) means that HIV remains a SRH priority in the UK (DoH, 2013b).

In 2013 there were an estimated 5740 new (probably) sexually-acquired HIV diagnoses in the UK, a decline from peak levels in 2003-2005. However, declines have only been seen among people with exclusively opposite-sex partners. Numbers of new HIV diagnosis among MSM have increased over this period, increasing from 33% of new diagnoses in 2004 to 58% in 2013 (PHE, 2014c).

Women, and to a lesser extent, men of African ethnicity disproportionately account for new HIV diagnoses among those with exclusively opposite-sex partners. In 2013, people of Black African ethnicity accounted for two-thirds (65%) of HIV prevalence in this population group.

The majority of new HIV diagnoses are among adults aged 25-49, but newly diagnosed infection among older adults is a growing concern. The numbers of adults aged above 49 being diagnosed with HIV has increased since 1998: in 2013, two-thirds more older adults were diagnosed than in 2004. Following increased transmission at older ages and improved survival following treatment, Public Health England estimate that 1 in 4 people living with a diagnosed HIV infection in the UK is now aged 50 or older (Yin et al., 2014).

Prevalence of HIV in the UK is increasing, in part because of new infections, but also because of increased survival of people diagnosed and initiating treatment in previous years. However, a quarter of those estimated to be infected with HIV do not know their HIV status (PHE, 2014b). This rate is expected to be even higher among older adults aged 50 and over (HPA, 2012) and men and women of Black African ethnicity, of whom nearly two in five men and almost one in three women are unaware of their infection (PHE, 2014b). As well as being at risk of HIV-related morbidity and mortality, those who are unaware they have HIV increase the risk of onwards transmission of the virus, especially if they are also infected with an STI such as chlamydia or syphilis.

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Human Papillomavirus (HPV)

HPV is the most common viral infection of the reproductive tract; most sexually active people will be infected at some period over their lifetime. Cervical cancer is the most common HPV-related disease. HPV is mainly transmitted through sexual contact, although

penetration is not required for infection. The majority of infections with HPV occur soon after the onset of sexual activity, highlighting the need for comprehensive sex education to incorporate this topic. Risk factors for cervical cancer include early age at sexual debut, multiple partners and immune suppression. Cervical cancer, developing 5-20 years later, remains primarily a disease of the young: in England 62% of diagnoses are made before age 50, with the highest diagnosis rates being at 25-29 (ONS, 2013; PHE, 2015a).

In the UK in 2012, around 920 women died from cervical cancer (CRUK, 2014), although survival rates are increasing. In England cervical cancer mortality rate declined significantly between 1971 and 2011 from 8 to 2 deaths per 100,000 women, and for 200711 the survival rate was 67% (ONS, 2013). Survival is higher at younger ages – almost 90% for women aged under 40 (CRUK, 2014).

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HPV Vaccination

HPV vaccines are highly effective at preventing the infection of specific HPV types and aim to reduce incidence of cervical cancer. In 2008 HPV vaccination was introduced routinely for girls aged 12-14 (NHS, 2015). HPV in sexually-active 16-18 year old females undergoing chlamydia screening was 66% lower in post-immunisation in 2010-13 than in 2008 pre-immunisation (PHE, 2015a). Coverage of vaccination programmes in the UK has increased (see Table 10.3).

<Table 10.3 about here>

However, there are inequalities in vaccination uptake by ethnicity (Kumar and Whynes, 2011). In 2011, 72% of White but only 56% of Asian and 55% of Black females aged 13-19 years attending sexual health services in England had the recommended three (Sacks et al., 2014). Similarly, White females aged 16-17 offered vaccinations as part of a 'catch-up' cohort were more likely to receive the vaccine than their BME counterparts (Bowyer et al., 2014) , with a significant relationship between vaccination coverage and level of deprivation (Hughes et al., 2014). The evidence suggests that HPV vaccine services need to make special efforts in order to reduce inequalities in uptake.

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Conclusion

The sexual and reproductive health of the UK's population over the last 25 years has been shaped by its changing demography. SRH differences exist along age, ethnic and gender axes. There are clear and compelling health and well-being implications of improved SRH. Beyond individuals' health, the population benefits of improving SRH are wide. For

example, the annual direct medical cost of unintended pregnancy to the UK National Health Service (NHS) is estimated to be £382 million. The majority (67%) of these pregnancies result from poor contraceptive adherence. Both the cost of unintended pregnancies and contraception to the NHS could be reduced if more people were to use long-acting reversible contraceptives (Hassan et al., 2012).

Understanding SRH across the four countries of the UK involves a complex and changing set of policy, service and data systems that deal with one, two or three and less frequently, all four. Some aspects of SRH, such as contraception and STIs, are well-established, with substantial evidence and policy support. Other aspects of SRH are less well-understood, reflecting their more recent emergence in the UK as a result of its changing demographic composition. For example, while the growth of the population aged over 65 is well-established, how the SRH needs of changing cohorts of older people will manifest is rather less well understood. Similarly, changing migration and linked sexual attitudes have meant that in the UK, female genital mutilation (FGM) has relatively recently necessitated data, policy and service interventions, despite being illegal in the UK since 1985. In October 2015 it became mandatory for all regulated healthcare professionals in England and Wales to record FGM patient data (HSCIC, 2015); there are no equivalent datasets for Scotland or Northern Ireland.

Changing sexual behaviours, combined with changing population structure and composition in the UK, have implications for SRH policies and the funding and evidence to support them. The spatial distribution of incidence and prevalence of SRH issues in the UK are sometimes the outcome of unrelated policies. For example, policies relating to the dispersal of asylum seekers in the UK, might explain changing geographic distribution of populations potentially affected by FGM. The UK National Asylum Support System has a principle of dispersal to cities outside of the SE of England of destitute asylum seekers while a decision about their asylum claim is pending. This policy is likely to explain why Glasgow has the highest number of potentially affected by FGM population in Scotland (Baillot et al., 2014).

Changes in population behaviours and attitudes mean that responding to these changes is a constantly moving target. For example, evidence suggests that young people are reporting that they get much of their sex and relationships information from web-based pornography (Marston and Lewis, 2014), which is likely to influence sexual attitudes, expectations and relationships in ways that are not yet well understood (Wellings and

Johnson, 2013). Understanding and supporting SRH across the lifecourse is integral to understanding population change in the UK.

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Tables

Table 1: SRH Priorities in the UK

Country	Document	Date	Focus
England	*A Framework for Sexual Health Improvement in England*	2013-n/a	– Under-18 conceptions – Chlamydia diagnoses at 15–24 – Late diagnosis of HIV
Northern Ireland	*Sexual Health Promotion: Strategy and Action Plan 2008-2013* and *Progress and Priorities,* addendum to 2015	2008-2015	– SRH of <25s, especially those in or leaving care – Men who have sex with men – Sex workers
Scotland	*Respect and Responsibility. A Strategy and Action Plan for Improving Sexual Health and Sexual Health* and *Blood Borne Virus Framework 2011* and *2015-2020 Update*	2005-2020	– Accessibility of services – HIV incidence – Unintended pregnancies – Health inequalities in SRH – Outcomes for those with blood borne viruses – Coercion and harm in sexual relationships – Attitudes to SRH
Wales	*Sexual Health and Wellbeing Action Plan for Wales 2010 to 2015*	2010-2015	– Sexual health and relationships literacy – Accessibility of services Unintended pregnancies, especially under-18 – STIs and HIV incidence – Outcomes for people with HIV – Surveillance and research

Table 2: Abortion incidence and rate for residents Britain, 2012-2014

England and Wales, 2014			Scotland, 2012		
Age	Total	Aged standardised rate per 1,000 women	Age	Total	Aged standardised rate per 1,000 women
<15	698	1	<16	249	3
15-19	26,757	16	16-19	2,248	18
20-24	52,722	28	20-24	3,809	21
25-29	44,157	23	25-29	2,730	16
30-34	32,108	17	30-34	1,786	11
35-39	19,771	11	35-39	1,128	7
40-44	7,639	4	40≤	497	3
45-49	695	0			
50≤	24	-			

Source: (ISD 2013, DoH 2015)

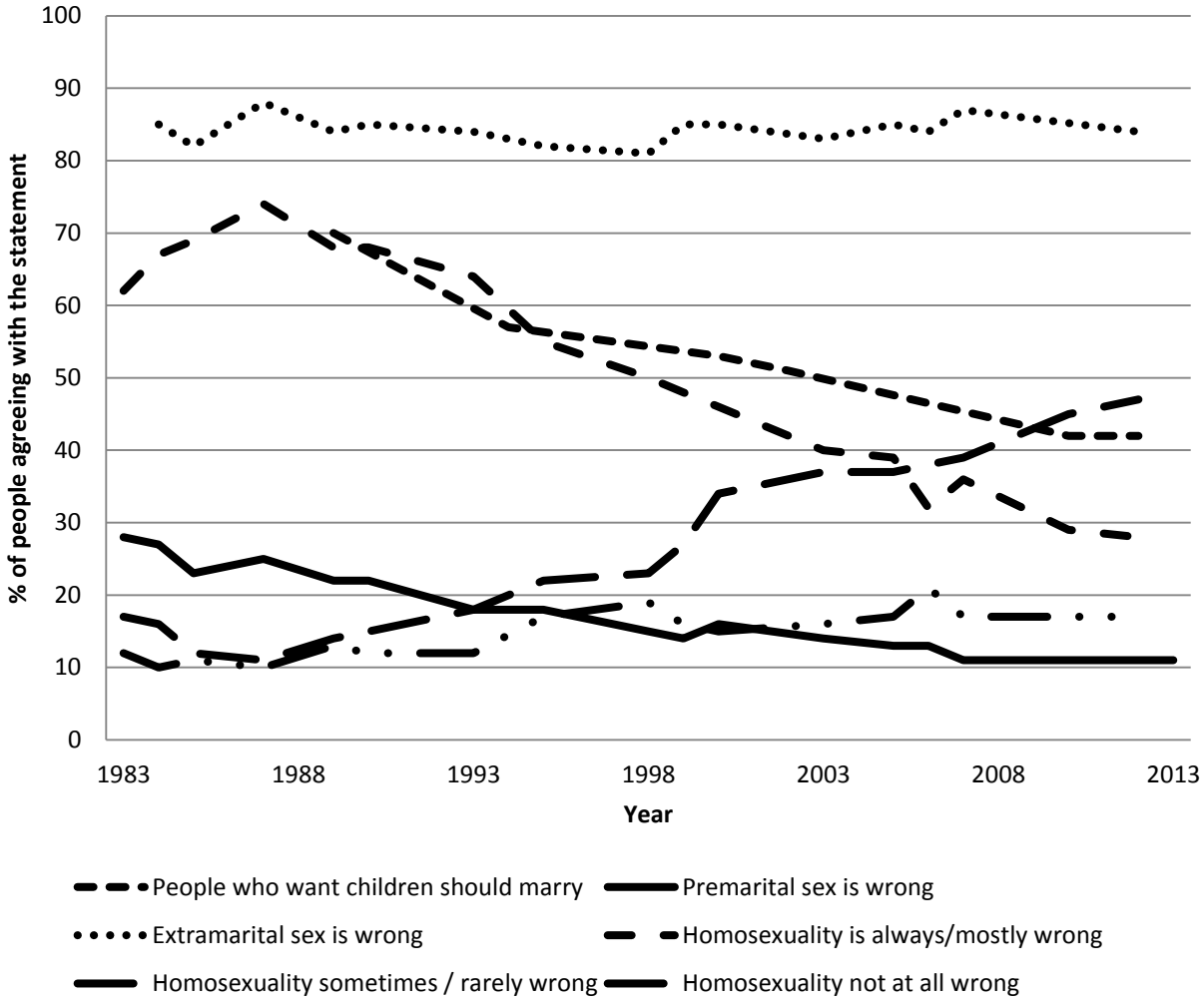
Table 3: Annual England, Scotland, Wales and Northern Ireland HPV vaccine coverage 2013/14, and UK coverage 2008/09 to 2013/14

	% with 1 dose ≤	% with 2 doses ≤	% with 3 dose ≤
UK coverage			
2008/09	88.4	86.6	80.9
2009/10	85.0	83.1	77.5
2010/11	89.0	87.6	83.8
2011/12	90.8	89.7	87.0
2012/13	91.0	89.7	85.8
2013/14	91.3	89.9	85.9
Coverage in 2013/14			
England	91.1	89.8	86.7
Scotland	93.6	91.7	81.4
Northern Ireland	91.5	90.8	87.2
Wales	89.6	87.6	77.2

Source: (PHE 2015a)

Illustrations

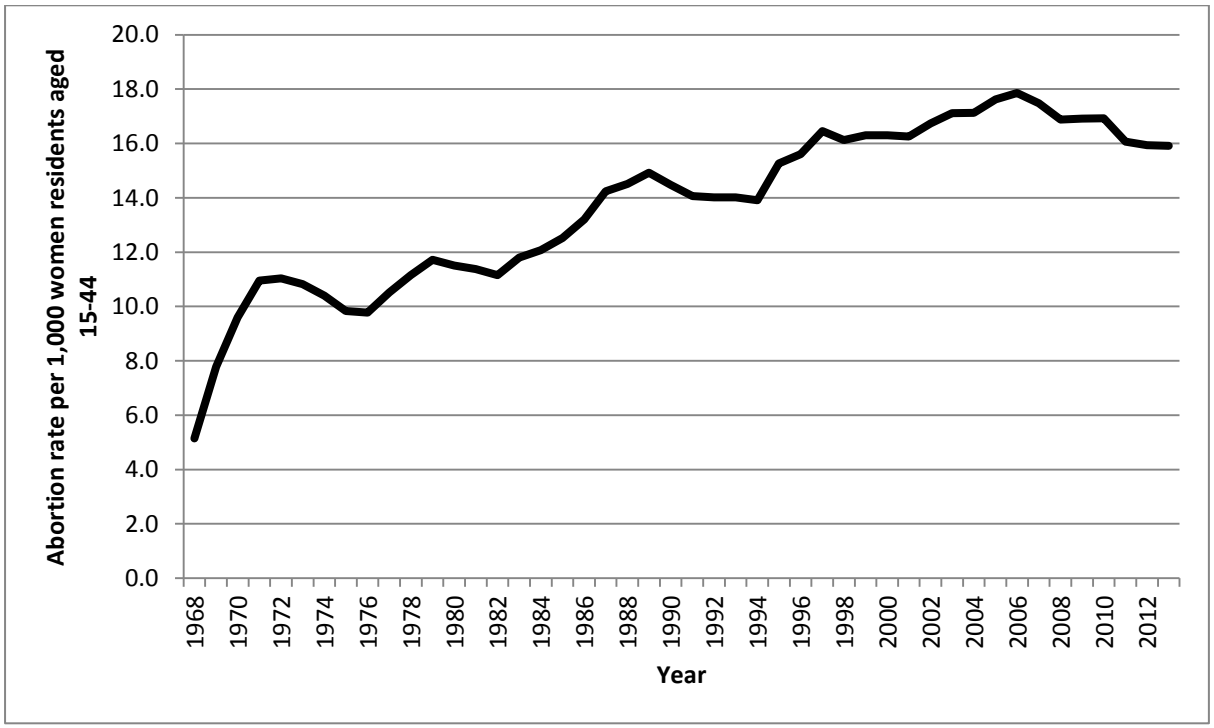
Figure 1: Attitudes towards sex and relationships in Britain, 1980-2013



Source: NatCen British Attitudes data[1]

[1] Available from http://www.bsa-data.natcen.ac.uk/?_ga=1.6275763.1068730213.1415366354. [Accessed 05 October 2015]

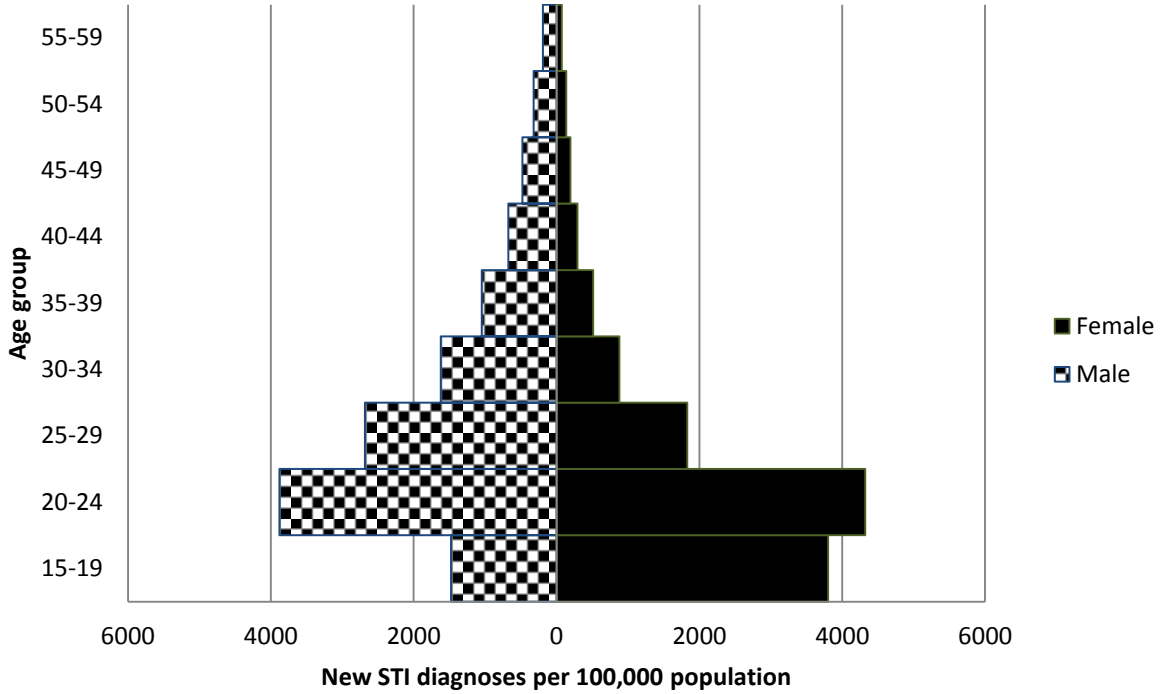
Figure 2: Age-standardised rates of abortion in England and Wales, 1968-2014



Source: Department of Health 2015

Notes: 1968 figures contain only 8 months data as the legislation came into effect on 27 April 1968. Graph shows NHS- and privately-funded abortions from 1981 when collection of information on independent sector commenced. Rates for all women residents are age-standardised using the 2013 European Standard Population for ages 15-44.

Figure 3: Rates of new STI diagnoses in England per 100,000 population, 2014



Source: Data provided by Public Health England. Data are from routine GUM service returns (GUMCADv2) and chlamydia data from community services. Rates are calculated using ONS population estimates based upon the 2011 Census. Rates for 2014 have been calculated using 2013 population estimates. Data includes patients accessing services located in England, i.e. data may include people who are resident in England, Wales, Scotland, Northern Ireland or abroad