# Family/parent engagement interventions

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| Description of intervention | Context of delivery | Country and period of publication of papers used | Targeted groups | Outcomes tested | Evidence –pregnancy | Evidence – other mediators | Papers |
| Programmes promoting parent-adolescent communication about sexual health | Community, Clinic, Media, Electronic resources | USA 1985-2014 | Universal/ethnic subgroups/socio-economic subgroups | Parent-child communication; parental monitoring; sexual risk behaviours; pregnancy | None | Increased parent-adolescent communication and decreased sexual risk behaviours | Gavin et al., 2015, Kirby and Miller, 2002, Hindelang et al., 2001, Dittus et al., 2015, Underhill et al., 2007a, Cardoza et al., 2012 |

# School-based sexual health interventions

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| Description of intervention | Context of delivery | Country and period of publication of papers used | Targeted groups | Outcomes tested | Evidence –pregnancy | Evidence – other mediators | Papers |
| School-based sexual health clinic   * Including access to non-condom contraceptives | Schools-based health clinic | USA 1980-2008  UK 2003 | Universal (contingent on uptake) | Rates of provision of contraceptive; type of contraceptive requested; use and knowledge of contraceptives; rates of sexual intercourse |  | Some evidence of increase in contraceptive distribution and use. | Blank et al., 2010, Kirby, 2002b, Matthias, 2002, Shackleton et al., 2016, Allen-Meares et al., 2013, Owen et al., 2010, Strunk, 2008 |
| School-based condom distribution | No-barrier distribution (e.g. baskets), vending machines, clinics | USA 1996-1999 | Universal (contingent on uptake) | Number of condoms taken per student, rates of condom use, rates of sexual activity. |  | High uptake, however rates of sexual risk behaviour and pregnancy outcomes unclear | Kirby, 2002b, Owen et al., 2010, Andrzejewski et al., 2018 |
| School-based pregnancy prevention education  (including awareness, motivation and skills training)  (including interventions promoting abstinence messages alongside safer sex) | Schools, classroom via teacher | USA 1981-2016  UK 2002-2008 | Universal | Knowledge of risks, initiation of intercourse, contraception use rates, pregnancy rates, recent sexual intercourse | Reduction in pregnancies or births in some cases, no effect in many cases | Reduction in risk behaviours. Meta-analysis shows (highly heterogeneous) decrease in sexual activity; unlikely to increase events or prompt earlier initiation.  Quality of programme (often unreported) and minority status of pupils may be determinants. | Blank et al., 2010, Iyer and Aggleton, 2015, Kirby, 2002b, Kirby et al., 1994, Lopez et al., 2016a, Marseille et al., 2018, Mason-Jones et al., 2016, Shackleton et al., 2016, Allen-Meares et al., 2013, Shepherd et al., 2010, Beltz et al., 2015, Cardoza et al., 2012, Chin et al., 2012 |
| School-based abstinence (only) education   * “exclusive purpose teaching the social, psychological, and health gains to be realized by abstaining from sexual activity” (U.S. Government Social Security, 1997) | Schools, classroom via teacher | USA 1980-2008 | Universal | Pregnancy rates, intention to have sex, attitudes towards teenage pregnancy, use of contraception and contraception-clinic | Often associated with higher rates of pregnancy. | Inconsistent findings. Some programmes decrease sexual activity, with meta-analysis showing decrease when non-RCTs are included. No clear effect seen in most cases and in RCTs alone. May have some or no effect on attitudes and intentions. Lower rates of contraceptive use. | Blank et al., 2010, Kirby, 2002b, Kirby et al., 1994, Underhill et al., 2007a, Bennett and Assefi, 2005, Beltz et al., 2015, Underhill et al., 2007b, Cardoza et al., 2012, Chin et al., 2012 |
| Abstinence-plus? | Schools, classroom via teacher | USA 1980-2008 | Universal |  |  |  | Underhill et al., 2008, Underhill et al., 2007c, Chin et al., 2012 |
| Intensive case management to prevent repeat pregnancies | Schools, via a school-based social worker | USA 1995-2008 | Adolescents with prior pregnancies | Births, contraception use, pregnancy rates |  | Decreased rates of repeat pregnancies and births | Blank et al., 2010 |
| Peer-led sex education | Peer contact through schools | UK 2008  Italy 2005 | Universal | Pregnancy rates, condom use, knowledge of contraceptive use |  | Decreased rates of pregnancy (self-report), increased knowledge of sexual-risks (compared to teacher-led education) | Lopez et al., 2016a, Mason-Jones et al., 2016, Shepherd et al., 2010 |
| Infant simulator programmes | School distributed, connected to lessons | USA 2006 | Universal |  |  | Increased awareness and self-reported motivation to reduce risk, increased use of contraceptives | Cardoza et al., 2012 |
| STI-prevention-focussed education (not linked to pregnancy) | Schools, classroom via teacher | USA 1995-2006  Netherlands 1996 | Universal | Frequency of sex, number of sexual partners, age at first sexual intercourse, rates of condom use |  | Strong evidence of no increase in sexual activity, decrease in sexual risk behaviours and increase in condom use. | Kirby, 2002a, Kirby et al., 1994, Shepherd et al., 2010, Cardoza et al., 2012 |

# Health clinic based interventions *(These may include school-based clinic interventions – as above – however, they are distinguished here as their location is not likely to be a key element in delivery, as opposed to the school-specific interventions)*

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| --- | --- | --- | --- | --- | --- | --- |
| Description of intervention | Context of delivery | Country and period of publication of papers used | Targeted groups | Outcomes tested | Evidence of effectiveness | Papers |
| Counselling and health advice for at-risk individuals | Health clinic, one-to-one appointment | USA 1990-2012 | Screened individuals (e.g. STI-positive, identified as sexually active) | Condom and contraceptive use | Increased condom and contraceptive use | Kirby, 2002a, Lopez et al., 2016b, Cooper et al., 2014, Lin et al., 2008, Moos et al., 2003, Wilson et al., 2015, Zapata et al., 2015, Barham et al., 2007, Brittain et al., 2015b |
| Provision of contraception and contraception advice   * Including efforts to improve continuation of contraceptive use | Health clinic | USA 1990-2006  UK 1999-2001  Sweden 2008  Canada 1996 | Universal (offered to all health-clinic using adolescents, contingent on uptake) | Condom use | Assurance of confidentiality may improve service use | Blank et al., 2012, Brittain et al., 2015a, Cooper et al., 2014, Steenland et al., 2013, Walker and Townsend, 1999, (referencing Peersman et al., 1996) |
| Peer contact services at clinics   * Information and advice at in-clinic meetings * Follow-up contact after clinic visits * Outreach services | Health clinic | USA 2005 | Clinic users with sexual healthcare needs | Contraception use (consistency, effectiveness of methods) | Increase in contraceptive use overall, uptake of more effective methods (alongside decrease in condom use) | Brittain et al., 2015b |

# Community engagement interventions

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Description of intervention | Context of delivery | Country and period of publication of papers used | Targeted groups | Outcomes tested | Evidence –pregnancy | Evidence – other mediators | Papers |
| Community volunteering programmes with personal development goals | Community-based opportunities (linked to schools) | USA 1992-2000 | Universal | Rates of sexual activity, rates of pregnancy | Lower rates of pregnancy during period of voluntary placement | Lower rates of sexual activity during period of voluntary placement | Kirby, 2002a |
| [CAS-Carrera] ‘Holistic’ personal development |  | USA 2000 | Disadvantaged individuals | Rates of pregnancy and birth, rates of contraceptive use, age at first sexual intercourse |  | A randomised controlled trial of the CAS-Carrera program showed reductions in pregnancies and births, increase in contraceptive use, and age at first sexual intercourse | Kirby, 2002a |
| Community sexual health awareness event | Community-based | USA | Universal (local community) |  | Lower rates of pregnancy amongst intervention groups | Increased sexual health knowledge, later initiation of sexual activity, increase in contraceptive use | Cardoza et al., 2012 |

# Technology-based interventions

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| --- | --- | --- | --- | --- | --- | --- |
| Description of intervention | Context of delivery | Country and period of publication of papers used | Targeted groups | Outcomes tested | Evidence of effectiveness | Papers |
| Text messages giving sexual health advice and information | Mobile phones used by adolescents | USA  Australia  New Zealand |  |  |  | L'Engle et al., 2016 |
| Interactive site or app giving information and advice | Mobile phones and computers | USA  Netherlands  Australia |  |  |  | Widman et al., 2018 |

# Interventions to prevent repeat pregnancies (aimed at adolescents with prior pregnancies)

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| --- | --- | --- | --- | --- | --- | --- |
| Description of intervention | Context of delivery | Country and period of publication of papers used | Targeted groups | Outcomes tested | Evidence of effectiveness | Papers |
| Multicomponent, school-based approach | School | USA 2008 | Adolescent parents attending school | Repeat pregnancy rate | Reduced rate of repeat pregnancies (one study; Schaffer et al., 2008) | Owen et al., 2010 |
| Multicomponent, clinic-based approach | Clinic |  |  |  |  | Brittain et al., 2015a |

# Contraceptive technology effectiveness *(Reviews which address effectiveness of changing contraceptive method policies or recommendations in preventing pregnancy. Condom use considered a comparator here. These are to be considered hypotheses of changing prevalence of methods across the timeline.)*

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| --- | --- | --- | --- | --- | --- | --- |
| Description of contraception | Context of delivery | Country and period of publication of papers used | Targeted groups | Outcomes tested | Evidence of effectiveness | Papers |
| Long-acting, reversible contraception | Clinic | USA 1973-2016  Sweden and Finland 1979-2004 | Universal (contingent on uptake) | Knowledge of method, continuation of contraception, pregnancy rates | Giving information increased uptake. Users had high continuation rates and low pregnancy rates | Deans and Grimes, 2009, Diedrich et al., 2017, Prescott and Matthews, 2014, Usinger et al., 2016, Krashin et al., 2015 |
| On-demand availability of emergency contraception | Clinic, pharmacies |  |  |  |  |  |
| Advance provision of emergency contraception | Clinic, pharmacies | Sweden 2008  USA 2004-2005 | Universal (contingent on uptake) | Rates of emergency contraceptive use, other contraceptive use, mean time to emergency contraceptive use | Greater rates of effective use of emergency contraceptive, often no effect on other contraceptive use. No evidence of decrease in pregnancy rates | Blank et al., 2012, Meyer et al., 2011, Rodriguez et al., 2013 |
| Hormonal contraception pill |  | USA |  |  | Policies improving accessibility often associated with lower birth rates.  Rates of compliance low amongst adolescents but can be improved through other interventions | Rosenberg et al., 1995, Beltz et al., 2015 |

# Cultural, environmental and policy changes hypothesised as causative *(Includes policy changes which do not have decreases in teenage pregnancy or associated risk behaviours as explicit goals)*

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| --- | --- | --- | --- | --- | --- |
| Description of cultural change and mechanism | Country and period of publication of papers used | Targeted groups | Outcomes observed | Evidence of effectiveness | Papers |
| Greater uptake of post-compulsory education   * Decreased sexual risk-taking of youth in schools (‘incarceration effect’) * Environment which discourages risk-taking * Risk-avoidance behaviour in response to future education aspirations * Increased social skills helping adolescents avoid unprotected sex | USA 1985-2000 | Universal | Age of initiation, frequency of sexual intercourse, rates of pregnancy and birth, use of contraception | Increased educational involvement associated with decreased teen birth rates.  Dropping out of school may influence sexual risk-taking behaviour.  Greater school attachment associated with less risk-taking behaviour.  Plans to continue education associated with less risk-taking behaviour. | Kirby, 2002b |
| Improved compulsory education   * ‘Incarceration effect’ of more pupil school-hours * Greater aspirations of future education and employment leading to risk-avoidance behaviour |  |  |  |  | Beltz et al., 2015 |
| Changes in welfare policies and provision   * Increased support influencing positive behaviours * Alternatively, reduced support decreasing perceived financial security |  |  |  | Mixed evidence of direction of effect of various policies | Beltz et al., 2015 |

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