Annex 18B. Evidence of Effectiveness and Cost-Effectiveness of Sexual and Reproductive Health Interventions, including for HIV

Supplemental material for: Reavley, N., G.C. Patton, S.M. Sawyer, E. Kennedy, and P. Azzopardi. 2017. "Health and Disease in Adolescence." In *Disease Control Priorities* (third edition), Volume 8, *Child and Adolescent Health and Development*, edited by D.A.P Bundy, N. de Silva, S. Horton, D.T. Jamison, and G.C Patton. Washington DC: World Bank.

Table 18B.1. Evidence of Effectiveness and Cost-Effectiveness of Sexual and Reproductive Health Interventions, including for HIV

Intervention description	Key findings	Limitations/comments	Recommendation
School-based interventions			
Comprehensive sex education: A curriculum-based approach that aims to provide young people with the knowledge, attitudes, skills and efficacy to make informed decisions about their sexuality and sexual and reproductive health (UNESCO 2009, UNFPA 2014) Some school-based interventions also provide contraceptive services or encourage young people to use contraception	**Knowledge and attitudes:** High quality evidence of moderate benefit from studies conducted in HICs and LMICs (Amaugo and others 2014, Fonner and others 2014, Harrison and others 2010, Paul-Ebhohimhen, Poobalan, and van Teijlingen 2008, Speizer, Magnani, and Colvin 2003, Blank, Baxter, and others 2010b); Both adult-led and peer-led interventions have shown benefit (Kim and Free 2008) **Safe-sex behaviors:** Moderate quality evidence of mixed impact on service use (Denno, Hoopes, and Chandra-Mouli 2015, Kang, Skinner, and Usherwood 2010, Lazarus and others 2010); Evidence of significant but minimal beneficial impact on safe-sex behaviors, including condom use, number of sexual partners, initiation of first sex and risky sexual behavior (McQueston, Silverman, and Glassman 2013, Chin and others 2012, Denno, Hoopes, and Chandra-Mouli 2015,	Few studies of interventions involving provision of contraceptives conducted in LMICs (McQueston, Silverman, and Glassman 2013, Denno, Hoopes, and Chandra-Mouli 2015) Few interventions assess impact on biological outcomes Most studies assessing impact on pregnancy have been conducted in HICs	Ensure that all adolescents and young adults' rights to essential health information are met, including comprehensive sexuality education

	Amaugo and others 2014, Fonner and others 2014, Oringanje and others 2009, Gottschalk and Ortayli 2014, Michielsen and others 2010, Paul-Ebhohimhen, Poobalan, and van Teijlingen 2008, Allen-Meares, Montgomery, and Kim 2013) **STI or HIV prevalence and incidence:** No evidence of benefit (Denno, Hoopes, and Chandra-Mouli 2015, Fonner and others 2014, Napierala Mavedzenge, Doyle, and Ross 2011); high-quality evidence of some benefit of interventions that also involve contraception provision (Chin and others 2012) **Pregnancy:** High-quality evidence of benefit of programs combining education and contraceptive promotion.(Oringanje and others 2009); Moderate quality evidence of the effectiveness of multi-component interventions, particularly if these include intensive case management by a culturally matched social worker.(Blank, Baxter, and others 2010b, Blank and others 2012)	No evidence that interventions encourage young people to become prematurely sexually active (Michielsen and others 2010, Mason-Jones and others 2012)	
Abstinence-only education	High quality evidence that abstinence-only education is ineffective in preventing HIV, incidence of STIs and adolescent pregnancy (DiCenso and others 2002, Chin and others 2012, Silva 2002)		Abstinence-only education is not recommended
School-based health services: Provision of primary care services, ranging from fully equipped and permanently staffed centers with medical, nursing and other health professional staff to clinics offering	**Safe-sex behaviors:** Moderate quality evidence of mixed impact on contraceptive behavior, and more likely to be effective if contraceptives are provided on-site (Mason-Jones and others 2012, Blank, Baxter, and others 2010b, Owen and others 2010) **Pregnancy:** Some moderate quality evidence of benefit if contraception provision is on site (Blank, Baxter, and	Majority of studies have been in HICs Some studies in LMICs have shown that strengthening linkages with health services, may increase uptake of some SRH services	Provision of essential resources for health in schools and easy access to adolescent health services, including condoms and more reliable contraception

nursing services for only a few hours per week	others 2010b, Blank and others 2012, Mason-Jones and others 2012)	(Kesterton and Cabral de Mello 2010)	
Community-based interventions			
Interventions to generate community support for interventions in other settings such as schools and health services through media and marketing, public hearings, meetings, dialogues and fairs	**STI or HIV prevalence and incidence:** South African Stepping Stones program showed reductions in HSV-2 incidence (Jewkes and others 2008) **Pregnancy:** Some moderate quality evidence of benefit, particularly studies including access to SRH services (Kågesten and others 2014, Gavin and others 2010) **Early marriage:** Some moderate quality evidence for the effectiveness of integrated programs that focus on empowerment and incentives (Lee-Rife and others 2012, Kågesten and others 2014, Warner, Stoebenau, and Glinski 2006)	Particularly in LMICs, community support is likely to play a key role in effective interventions in other settings (Gottschalk and Ortayli 2014)	Generation of community support plays a key role in the success of interventions within other settings and should feature in multi-component interventions
Positive youth development (PYD) programs aim to address the causes of sexual health risks and early pregnancy. They may focus on school retention and academic success as well as social support and skill development such as family or parent engagement, life skills training or peer mentoring (Gavin and others 2010, Cardoza and others 2012)	**Knowledge and attitudes:** Some moderate quality evidence for impact **Safe-sex behaviors:** Some moderate quality evidence for impact on use of contraception, delayed sexual initiation and number of sexual partners (Kågesten and others 2014, Gavin and others 2010, Gottschalk and Ortayli 2014) **Pregnancy:** Moderate quality evidence of no benefit (Kågesten and others 2014, Gavin and others 2010, Maticka-Tyndale and Brouillard-Coylea 2006, Speizer, Magnani, and Colvin 2003) **Early marriage**: Moderate quality evidence of mixed impact (Kågesten and others 2014)	PYD programs may also incorporate adolescent participation and leadership and are likely to have broad educational and social benefits (Kågesten and others 2014)	Promising intervention; further research is needed

Youth-friendly venues in which young people access information and services that address SRH needs, and may also offer life skills and recreational activities (IPPF 2006)	Moderate quality evidence of mixed impact on uptake of services. Ineffective in changing safe sex behaviors, HIV or STI prevalence or incidence and adolescent pregnancy (Zuurmond, Geary, and Ross 2012)	Main users are often older than the target age group (Zuurmond, Geary, and Ross 2012)	Not recommended in current form
Interventions aiming to change social norms around early marriage and pregnancy	**Early marriage:** Moderate quality evidence of mixed impact (Lee-Rife and others 2012)		Should feature in multi-component interventions
Cash transfers (in LMICS) may be unconditional, with payments going to individuals who are not required to do anything to receive these, or conditional, with payments tied to behavior such as remaining STI or HIV-free, staying in school or not becoming pregnant.	**Safe sex behaviors:** Some moderate quality evidence for the impact of both unconditional and conditional cash transfers (Pettifor and others 2012) **STI and HIV prevalence and incidence:** Mixed results of conditional cash transfers to adolescents who remain STI- or HIV-free (Pettifor and others 2012); A program providing cash transfers for young women (the Zomba program) who remained in school showed a reduction in HIV prevalence at an 18-month follow-up (Baird and others 2012) **Pregnancy**: Moderate quality evidence of some benefit (McQueston, Silverman, and Glassman 2013) **Early marriage:** Some moderate quality evidence for interventions that support school attendance, including provision of uniforms and school supplies (McQueston, Silverman, and Glassman 2013)	Further research needed around payment amounts and frequency, and to explore unforeseen effects (Wamoyi and others 2014) The Zomba conditional cash-transfer program in Malawi decreased teenage pregnancy rates among girls who had previously dropped out of school, but not among schoolgirls (Baird and others 2012)	Promising intervention; further research is needed
Peer education: Education delivered by young people to their peers	**Safe sex behaviors:** Some moderate quality evidence for impact in LMICS of programs that include provision of contraception (Gottschalk and Ortayli 2014, McQueston,		Promising intervention in LMICs; further research is needed

	Silverman, and Glassman 2013, Denno, Hoopes, and Chandra-Mouli 2015) **Health service use:** Moderate quality evidence of mixed impact in LMICS (Denno, Hoopes, and Chandra-Mouli 2015) Moderate quality evidence that peer education in Europe was ineffective in changing knowledge and attitudes, STI or HIV prevalence and incidence or adolescent pregnancy (Tolli 2012)		
Family-based interventions			
Interventions to improve parent/child communication about sexual health and sexuality	Some moderate quality evidence of impact on parent-child communication and safe-sex behaviors (Gottschalk and Ortayli 2014, Downing and others 2011, Wight and Fullerton 2013, Sutton and others 2014)		Should feature in multi-component interventions
Online interventions			
Group and individually tailored internet and computer-based theory and behavioral skills-based interventions	**Knowledge and attitudes:** High-quality evidence of moderate benefit (Bailey and others 2010, Noar, Black, and Pierce 2009, Noar, Pierce, and Black 2010) **Safe-sex behaviors:** High-quality evidence of significant but minimal benefits (Bailey and others 2010, Noar, Black, and Pierce 2009, Noar, Pierce, and Black 2010) **STI or HIV prevalence or incidence:** High-quality evidence of significant but minimal benefits (Noar, Black, and Pierce 2009)	All studies conducted in HICs	Promising intervention; further research is needed, particularly in LMICs
Promoting universal health coverage			
Health service interventions involve the provision of information aling,	**Safe-sex behavior:** Moderate quality evidence of mixed impact on contraceptive behaviors (Denno, Hoopes, and Chandra-Mouli 2015, Gottschalk and Ortayli 2014,	Quality of provider training likely to be an important factor in the	Health services should provide all essential health care responses,

contraception, prenatal and postnatal care and delivery, abortion services and post-abortion care, treatment and prevention of STIs, HIV testing and counselling, and care for sexual and gender-based violence.	Napierala Mavedzenge, Doyle, and Ross 2011); Some moderate quality evidence that making services more adolescent friendly increases service use (Denno, Hoopes, and Chandra-Mouli 2015) **STI or HIV prevalence or incidence:** Moderate quality evidence of ineffectiveness (Denno, Hoopes, and Chandra-Mouli 2015)	success of interventions (Chandra-Mouli and others 2015)	including modern contraception and when necessary safe abortion regardless of age, marital and socioeconomic status. Health care providers should have the skills and knowledge to provide confidential and non-judgemental care for all adolescents and young adults.

Notes:

Not recommended

Implement as part of multi-component interventions

Moderate recommendation/further research needed

Highly recommended

Source: Patton, G.C., S.M. Sawyer, J.S. Santelli, D.A. Ross, R. Afifi, and others. 2016. "Our Future: A *Lancet* Commission on Adolescent Health and Wellbeing." *The Lancet*. 387(10036): 2423-78.

Table 18B.2 Evidence of Effectiveness and Cost-effectiveness of Interventions for the Prevention of Adolescent and Young Adult Violence, Interpersonal and Sexual Violence

Intervention Description	Key Findings	Limitations/Comments	Recommendation
Adolescent and Young Adult Violence			
Policy-level interventions			
Restriction of access to means	Evidence of effectiveness (WHO 2010, Krug and others 2002)	Evidence from interrupted time series studies	Restrict adolescent and young adult access to weapons
Reduce the availability and harmful use of alcohol	Evidence of effectiveness (WHO 2010, Krug and others 2002)	Evidence from interrupted time series studies	Reduce availability and harmful use of alcohol
School-based interventions			
Educational interventions seek to provide adolescents with the skills to recognise and regulate their emotions, solve problems, effectively communicate with others, cope with stressful situations and resolve conflicts using assertive rather than aggressive behavior (Fagan and Catalano 2013, Hahn and others 2007, Mytton and others 2006, Park-Higgerson and others 2008a, Scheckner and others 2002, Cook and others 2008)	Moderate quality evidence of some effectiveness in reducing violent behaviors (Fagan and Catalano 2013, Hahn and others 2007) High quality evidence of significant but minimal benefit in at-risk adolescents. (Mytton and others 2006, Park-Higgerson and others 2008a, Limbos and others 2007)	Similar impacts in schools in low SES and high crime areas (Hahn and others 2007) Further research needed as program effects decrease over time (Hahn and others 2007)	Implement as part of multi-component intervention
Multi-component interventions incorporate elements including curriculum interventions, changes to a school's ethos or environment, and engagement with families or communities	High quality evidence of some effectiveness in reducing violent behavior, with greater effects for interventions that target violence and substance use simultaneously (Blank, Baxter, Goyder, and others 2010, Langford and others 2014)	Studies mainly conducted in the United States	Implement multi-component intervention

School-based mentoring programs involving adult mentors creating supportive relationships with at-risk adolescents	High quality evidence of ineffectiveness (Wood and Mayo-Wilson 2012)	Some negative results reported, particularly when mentoring after relationships break down	Not recommended
Family-based interventions			
Interventions aim to promote parent-child communication and improve parenting skills such as providing children with positive and negative consequences for behavior	Moderate quality evidence of some effectiveness (Fagan and Catalano 2013)	Some interventions use a combined school and family approach Studies limited to HICs	Further research is needed, particularly in LMICs
Community-based interventions			
Community-based positive youth development interventions that target risk factors for violence	Moderate quality evidence of mixed effectiveness (Fagan and Catalano 2013, Sethi and others 2010)	Studies limited to HICs	Further research needed, particularly in LMICs
Interpersonal and Sexual Violence **Policy interventions**			
Legislative and justice sector interventions such as specialized police stations for women and girls	Important but unlikely to reduce intimate-partner violence and SV in isolation (Ellsberg and others 2015)	Evidence from interrupted time series studies	Implement as part of multi-component interventions
School-based interventions			
Interventions aim to prevent or reduce dating and intimate-partner violence by promoting gender-equitable norms and healthy relationships. They may incorporate training in communication and conflict resolution as well as dealing with stress, disappointment and rejection. They may seek to reduce the risk of experiencing violence by improving self-esteem and	High-quality evidence that programs may change knowledge and attitudes but they are unlikely to affect behavior (Lundgren and Amin 2015, Fellmeth and others 2013b, De Koker and others 2014, Garrity 2011, Christensen 2013, Whitaker and others 2006)	Most studies conducted in the United States	Further research is needed, particularly in LMICs

skills to lower the risk of relationship violence			
Community-based interventions			
Interventions aim to promote gender-equitable norms that may incorporate group education, community mobilization, media campaigns, mentorship, and identification of safe spaces	Moderate quality evidence of mixed impact on violent behavior, although most studies found changes in knowledge and attitudes (Lundgren and Amin 2015)	Most common in LMICs	Implement as part of multi-component interventions
Economic empowerment programs aim to enhance economic independence and decision-making power	Moderate quality evidence of mixed impact on violent behavior (Lundgren and Amin 2015)	These may not work in adolescents due to legal limits on age of participation and the ability to pay back loans (Lundgren and Amin 2015)	Further research is needed
Advocacy interventions that improve general awareness among communities on issues related to violence. They inform survivors and the public of their rights, and the services available to them, and improve knowledge of the different forms, risk factors, and consequences of violence	Moderate quality evidence of mixed impact on violent behavior (Arango and others 2014)	Evidence from general population studies	Further research is needed
Group training to improve awareness, knowledge, and/or skills related to violence among men and women	Moderate quality evidence of some impact on violent behavior (Arango and others 2014)	Evidence from general population studies	Promising intervention; further research is needed
Home visitation	Moderate quality evidence of some impact on violent behavior (Arango and others 2014)	Evidence from general population studies	Promising intervention; further research is needed
Batterer programs aim to reduce violent behavior among perpetrators	Evidence of ineffectiveness (Arango and others 2014)	Evidence from general population studies	

Health service interventions			
Psychosocial support programs aim to identify and care for women who have experienced violence	Ineffective in reducing further violence (Ellsberg and others 2015)	Beneficial effects in improving physical and mental health (Ellsberg and others 2015) Evidence from general population studies	Implement as part of multi-component intervention

Notes:

Not recommended

Implement as part of multi-component interventions

Moderate recommendation/further research needed

Highly recommended

Source: Patton, G.C., S.M. Sawyer, J.S. Santelli, D.A. Ross, R. Afifi, and others. 2016. "Our Future: A *Lancet* Commission on Adolescent Health and Wellbeing." *The Lancet*. 387(10036): 2423-78.

Table 18B.3 Evidence of Effectiveness and Cost-effectiveness of Interventions for the Prevention of overweightness and Obesity and the Promotion of Physical Activity

Intervention Description	Key Findings	Limitations/Comments	Recommendation
Policy-level interventions			
This includes taxation, reduction of fast-food advertising, and front-of-pack nutrition labelling	Evidence of long-term reductions in BMI (Gortmaker and others 2011, Laska and others 2012)	Evidence from general population studies. Further research needed in LMICs	Tax unhealthy foods Reduce fast-food advertising targeted to adolescents and young adults Use front of pack nutrition labelling
School-based interventions			
Multicomponent interventions typically involve education about healthy diet and increased opportunities for physical education (including class time)	High quality evidence of ineffectiveness on BMI (Gonzalez-Suarez and others 2009, Sobol-Goldberg, Rabinowitz, and Gross 2013, De Bourdeaudhuij and others 2011) Some evidence of effectiveness in increasing physical activity in the short term (De Meester and others 2009, Dobbins and others 2013, Dudley and others 2011)	Studies in HICs and LMICs show similarly mixed results (Li and others 2008, Verstraeten and others 2012) Even for individual studies that do report beneficial effects, evidence of longer term impact is largely unavailable (De Bourdeaudhuij and others 2011, Kothandan 2014, Lai and others 2014) Multi-component interventions of longer duration (1–4 years) that involve elements integrated across the curriculum as well as peer support approaches and environmental changes are more likely to be effective (Clemmens and Hayman 2004, Dudley and others 2011, Pardo and others 2013, Rees and others 2006, Gonzalez-Suarez and others 2009) School-based interventions are more effective than those in non-school settings (Hamel, Robbins, and Wilbur 2011, Kothandan 2014),	Further research is needed, particularly in older adolescents

		particularly for girls. (Camacho-Miñano, LaVoi, and Barr-Anderson 2011, Pearson, Braithwaite, and Biddle 2015a) Most cost-effectiveness studies are in younger adolescents.	
Combined school and family-based interventions			
School-based interventions that also focus on parental involvement	Moderate quality mixed evidence for the impact of combined family and school-based obesity prevention interventions, with some reviews reporting increased effectiveness, while others do not (Ajie and Chapman-Novakofski 2014; Camacho-Miñano, LaVoi, and Barr-Anderson 2011; De Meester and others 2009; Hamel, Robbins, and Wilbur 2011; Verstraeten and others 2012; Cook-Cottone and others 2009; Crutzen 2010, Seo and Sa 2010; Sobol-Goldberg, Rabinowitz, and Gross 2013; Stice, Shaw, and Marti 2006)	Effects may be stronger in younger adolescents (Kothandan 2014, Sobol-Goldberg, Rabinowitz, and Gross 2013, Hung and others 2015) Young people view parents as both barriers and facilitators to physical activity; parents may limit participation in physical activity due to safety concerns or may provide encouragement and financial support (Rees and others 2006) Further work needed to explore the role of parenting factors in obesity prevention in adolescents, particular in older adolescents (Crutzen 2010; De Meester and others 2009; Stice, Shaw, and Marti 2006)	Further research is needed, particularly in older adolescents
Online/phone interventions			
Online obesity-prevention interventions typically provide nutrition education and guidance on recommended daily activity. Other	Moderate quality mixed evidence of ineffectiveness on BMI (Ajie and Chapman-Novakofski 2014, Chen and Wilkosz 2014, Whittemore	Long-term impacts are unknown and further work on the types of interventions that adolescents prefer (such as games versus smartphone apps), and the number and length of sessions, is also needed (Ajie and Chapman-	Further research is needed

intervention elements may include cognitive exercises for body image improvement, online journals for tracking food, physical activity, and weight, newsletters, personalised e-mails, journals and discussion groups. Video games, interactive and mobile phone interventions are increasingly popular (Chen and Wilkosz 2014)	and others 2013, Nguyen, Kornman, and Baur 2011) Moderate quality evidence of some effectiveness of interactive interventions in increasing physical activity in the short-term (Ajie and Chapman-Novakofski 2014, Hamel, Robbins, and Wilbur 2011)	Novakofski 2014, Chen and Wilkosz 2014, Whittemore and others 2013)

Notes:

Moderate recommendation/further research needed

Highly recommended

Source: Patton, G.C., S.M. Sawyer, J.S. Santelli, D.A. Ross, R. Afifi, and others. 2016. "Our Future: A *Lancet* Commission on Adolescent Health and Wellbeing." *The Lancet*. 387(10036): 2423-78.

Table 18B.4 Effectiveness of Interventions for the Prevention of Harmful Use of Alcohol

Intervention Description	Key Findings	Limitations/Comments	Recommendation
Harmful Use of Alcohol			
Policy-level interventions			
Interventions include limiting the availability of alcohol sales, alcohol pricing/taxation, drink-driving legislation, illicit alcohol restriction, mass media restrictions on advertising, and interventions in licensed premises	High-quality evidence of benefit on alcohol use and alcohol-related harms (Martineau and others 2013)	Evidence from general population studies, mostly in HICs	Restrict the age at which adolescents can buy alcohol and enforce minimum age laws Use taxation to reduce adolescent access to alcohol Restrict marketing of alcohol to adolescents
School-based interventions			
Interventions aim to delay the onset of drinking or reduce the frequency of alcohol consumption. They may address social norms (correcting over-estimates of the alcohol use of others, recognising high-risk situations, increasing awareness of media, peer and family influences), and may also incorporate social competence skills training (including refusal skills), motivational enhancement and psycho-education (Tanner-Smith and Lipsey 2015, Strøm and others 2014)	High-quality evidence of small but significant impact on alcohol use lasting up to 12 months (Strøm and others 2014) High-quality evidence of some impact on risky drinking (Foxcroft and Tsertsvadze 2011a) Moderate quality evidence of some benefit for school-based online interventions on alcohol use and risky drinking (Champion and others 2013)	Social competence skills training more likely to be effective (Foxcroft and Tsertsvadze 2011a) Individually-delivered interventions are more likely to be effective (high-quality evidence of significant moderate benefit) than group interventions (Hennessy and Tanner-Smith 2015) Moderator analyses showed no significant differences according to school grades, program intensity, age or gender (Strøm and others 2014)	School-based interventions should incorporate social competence skills training

Family-based interventions			
Develop parenting skills, including nurturing, establishing clear boundaries and rules, and parental monitoring Family interventions may address social and peer resistance skills, fostering healthy norms and positive peer relationships	High-quality evidence of some benefit in reducing alcohol use and risky drinking (Foxcroft and Tsertsvadze 2011b) Evidence of mixed impact on alcohol-related harms (Smit and others 2008, Foxcroft and Tsertsvadze 2011b)	Although the effects were small, there was evidence of persistence in the medium- to longer-term (Foxcroft and Tsertsvadze 2011b)	Family-based interventions should focus on parental support, nurturing behavior, establishing clear boundaries and rules, and parental monitoring
Community-based interventions			
Multi-component interventions: interventions implemented in more than one setting	High-quality evidence of some benefit in reducing alcohol use, risky drinking and alcohol-related harms (Foxcroft and Tsertsvadze 2011d)		Implement multi-component interventions
Mentoring	Evidence of mixed impact on alcohol use (Thomas, Lorenzetti, and Spragins 2013a)		Further research is needed
Media campaigns	High-quality evidence of some benefit in reduction of risky drinking and alcohol-related harms (Martineau and others 2013)	Evidence from general population studies	Implement media campaigns as part of a broader strategy
Interventions in health care settings			
Screening and motivational interventions based in health care settings (including student health services and emergency departments)	Low-quality evidence of mixed impact on alcohol use, risky drinking and alcohol-related harms (Patton, Deluca, and others 2014, Newton and others 2013)		Further research is needed

Online/phone interventions			
Interventions involve information provision or skills training. Phone interventions involve the use of text messaging	Moderate quality evidence of mixed impact on alcohol use (Mason and others 2015)	Recent growth in popularity but further higher quality studies are needed (Champion and others 2013, White and others 2010, Mason and others 2015)	Promising intervention; Further research is needed

Notes:

Moderate recommendation/further research needed

Highly recommended

Source: Patton, G.C., S.M. Sawyer, J.S. Santelli, D.A. Ross, R. Afifi, and others. 2016. "Our Future: A *Lancet* Commission on Adolescent Health and Wellbeing." *The Lancet*. 387(10036): 2423-78.

Table 18B.5 Effectiveness of Interventions for the Prevention of Harmful Use of Illicit Drugs

Intervention Description	Key Findings	Limitations/Comments	Recommendation
Policy-level interventions			
Supply control	Low-quality evidence of benefit on illicit drug use (Strang and others 2012)	Evidence from general population studies Policy interventions must be tailored to local contexts, accounting for patterns of substance use, as well as social and political factors	
School-based interventions			
Combined social competence and social influence approach training (goal-setting, problem-solving and decision-making, as well as cognitive skills to resist media and interpersonal influences, enhance self-esteem, cope with stress and anxiety, increase assertiveness and interact with others)	High-quality evidence of significant but minimal short-term benefit on illicit drug use (Faggiano and others 2014, Norberg, Kezelman, and Lim-Howe 2013); Ineffective in long-term prevention (Faggiano and others 2014) High-quality evidence of mixed impact on drug-related harms (Carney and others 2014)	Universal multi-modal programs that targeted early adolescents (age 10–13), used non-teacher or multiple facilitators, were short in duration (10 sessions or less), and implemented booster sessions were associated with large effects (Norberg, Kezelman, and Lim-Howe 2013) Interventions which increase student participation, improve relationships, promote a positive school ethos, and address disaffection and truancy are more likely to be effective, especially for boys (Fletcher, Bonell, and Hargreaves 2008) Life skills training is ineffective in reducing cannabis use among adolescents (Gorman 2011)	Interventions should be multi-component, target younger adolescents, and incorporate social competence skills training

Information provision only	Low-quality evidence of ineffectiveness in prevention of illicit drug use (Faggiano and others 2014, Ennett and others 1994)		Information provision alone is unlikely to be effective
Early intervention	High-quality evidence of significant but minimal short-term benefit on illicit drug use (Carney and others 2014); Ineffective in prevention of drug-related harms.(Carney and others 2014)		Further research is needed
Family-based interventions			
Interventions involve behavioral parent training, family skills training, in-home family support, brief family therapy, and family education	High-quality evidence of mixed impact on illicit drug use (Gates and others 2006) Moderate quality evidence of mixed impact on drug-related harms.(Kumpfer, Alvarado, and Whiteside 2003)	Evidence appears strongest for the Strengthening Families Program, which has been replicated with positive results by independent researchers with different cultural groups and with different ages of children, including ages 10–14.	Promising intervention; Further research is needed
Community-based interventions			
Education and skills training	High-quality evidence of mixed impact on illicit drug use and drug-related harms (Gates and others 2006)		Further research is needed
Mentoring	High-quality evidence of mixed impact on illicit drug use (Thomas, Lorenzetti, and Spragins 2013a)	Poor quality studies limit conclusions	Further research is needed
Mass media interventions	High-quality evidence of ineffectiveness (Ferri and others 2013a)		Should not be implemented alone

Interventions in health care settings			
Screening and motivational interventions based in health care settings (including student health services)	High quality evidence of some effectiveness (Barnett E 2012b, Jensen and others 2011)		Promising intervention; Further research is needed
Online Interventions			
Interventions involve information provision or skills training	Low quality evidence of mixed impact on illicit drug use (Wood and others 2014a)		Promising intervention; Further research is needed

Notes:

Not recommended

Implement as part of multi-component interventions

Moderate recommendation/further research needed

Highly recommended

Source: Patton, G.C., S.M. Sawyer, J.S. Santelli, D.A. Ross, R. Afifi, and others. 2016. "Our Future: A *Lancet* Commission on Adolescent Health and Wellbeing." *The Lancet*. 387(10036): 2423-78.

Table 18B.6 Effectiveness of Interventions for the Prevention of Harmful Use of Tobacco

Intervention Description	Key Findings	Limitations/Comments	Recommendation
Policy-level interventions			
Interventions include smoke-free air laws, funding tobacco control programs, taxation/pricing controls, and restricting youth access to tobacco	High-quality evidence of benefit (Farrelly and others 2013, Wakefield and Chaloupka 2000b)	Some evidence from general population studies and some from adolescent-specific studies.	Use taxation to reduce adolescent and young adult access to tobacco Restrict the age at which adolescents can buy tobacco Ratify the control convention
School-based interventions			
Interventions involve information provision, social norms approaches, social competence skills training and combined approaches. Some interventions combine curriculum-based approaches with broader approaches that may incorporate school policy changes and family and community initiatives	High-quality evidence of significant but minimal benefit (Thomas, McLellan, and Perera 2013a, Langford and others 2014)	Social competence programs and programs that combine social competence with social influence approaches are more effective than other programs Information-only intervention is ineffective. Programs led by adults may be more effective than those led by peers. No evidence of benefit of booster sessions Multi-component interventions are effective whether they focus on smoking or multiple risk behaviors (Langford and others 2014)	Interventions should be multi-component and incorporate social competence skills training Further research is needed to assess the impact of school tobacco policies (Coppo and others 2014)
Family-based interventions			

Parenting interventions typically aim to change parenting behavior, parental or sibling smoking behavior, or family communication and interaction	High-quality evidence of some effectiveness (Thomas and others 2015a)	Programs typically introduced in early adolescence (ages 11–14). Strongest evidence for high-intensity programs used independently of school interventions. Programs that encouraged a parenting style that involved showing strong interest in and care for the adolescent and rule-setting were most likely to be effective.	Interventions should target younger adolescents and focus on parental support, nurturing behaviors, establishing clear boundaries and rules, and parental monitoring
Community-based interventions			
Widespread, multi-component programs may include education of tobacco retailers about age restrictions, programs for prevention of smoking-related diseases, mass media, school, and family-based programs.	High-quality evidence of mixed impact (Carson and others 2011a)		Promising intervention; Further research is needed
Mentoring	High-quality evidence of mixed impact (Thomas, Lorenzetti, and Spragins 2013b)		Further research is needed
Mass media interventions			
Television, the Internet, radio, newspapers, and billboards	High-quality evidence of mixed impact (Brinn and others 2010)	Campaigns with a solid theoretical basis, that use formative research in designing their campaign messages, and broadcast messages of reasonable	Campaigns should be relatively intense and long term

		intensity over long periods are more likely to be effective	
Interventions in health care settings			
Provision of information about the harmful effects of tobacco, mailing of newsletters, and follow-up phone calls to families	High-quality evidence of mixed impact (Christakis and others 2003)		Further research is needed

Notes:

Moderate recommendation/further research needed

Highly recommended

Source: Patton, G.C., S.M. Sawyer, J.S. Santelli, D.A. Ross, R. Afifi, and others. 2016. "Our Future: A *Lancet* Commission on Adolescent Health and Wellbeing." *The Lancet*. 387(10036): 2423-78.