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Review of the Evidence on Sexuality Education

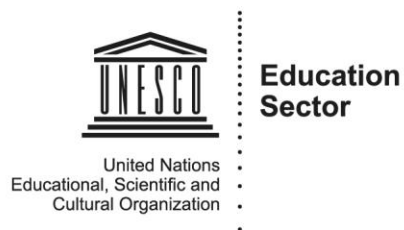
Report to inform the update of the UNESCO International Technical Guidance on Sexuality Education

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Published in 2018 by the United Nations Educational, Scientific and Cultural Organization
7, place de Fontenoy, 75352 Paris 07 SP, France
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This document was commissioned by UNESCO as background information to prepare the revised International technical guidance on sexuality education. The views and opinions expressed in this document are those of the authors and should not be attributed to UNESCO.

This document can be cited as follows: "UNESCO. 2016. *Review of the Evidence on Sexuality Education. Report to inform the update of the UNESCO International Technical Guidance on Sexuality Education*; prepared by Paul Montgomery and Wendy Knerr, University of Oxford Centre for Evidence-Based Intervention. Paris, UNESCO".

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Executive Summary

UNESCO published the International Technical Guidance on Sexuality Education (ITGSE) in 2009. In 2016, they sought an external consultant to update its content to reflect the evidence and lessons learned since the original publication. Two independent researchers undertook a review of the evidence, seeking the highest-quality evidence on the effectiveness and implementation of CSE programmes worldwide since 2008, based largely on selected systematic reviews and large-scale randomized controlled evaluations of school-based sexuality education programmes. While this review emphasizes evidence from rigorous research, it also shares evidence from implementation and practice based on input from UNESCO and an expert Advisory Group, participants at a consensus meeting on sexuality education in October 2016, and the results of an expert survey.

Effectiveness of CSE

This review found that, while the evidence base for CSE has expanded since 2008, the original ITGSE still maintains much of its validity and applicability. The evidence reemphasizes that sexuality education — in or out of schools — does not increase sexual activity, sexual risk-taking behaviour or STI/HIV infection rates. There is also strong evidence that programmes addressing both pregnancy prevention and HIV/STIs are more effective than those focused only on pregnancy prevention, for instance, in increasing effective contraceptive and condom use and decreasing reports of sex without a condom. School-based CSE, while not enough by itself to prevent HIV and ensure the health and rights of young people, remains a crucial and cost-effective strategy. There are still relatively few high-quality trials of school-based CSE that measure biological outcomes, such as rates of STIs or HIV, but there continues to be good evidence of the positive effects of CSE on increasing young people's knowledge and improving attitudes related to sexual and reproductive health.

In line with the original ITGSE, some of the strongest outcomes of CSE programmes come from replication studies. This fits with studies from other disciplines (e.g., parenting programmes) showing that transporting programmes from one country or culture to another — even when cultural or other contexts are dramatically different — can be effective.

Another key finding is that when effective curricula are delivered as intended, they are much more likely to have the desired positive effects on young people's health outcomes. This also links to teacher preparedness: teachers or others who deliver CSE need to teach a curriculum in full rather than selectively. However, there must also be respect for teachers' personal and professional expertise. This might be addressed by ensuring that the curriculum that is chosen or developed is based on sound theoretical principles, with evidence of effectiveness from rigorous evaluations, but also has an inherent level of flexibility.

Goals of sexuality education

A major theme in the evidence and among practitioners and experts is that the goals of sexuality education have changed, with an increased interest among advocates for CSE to extend beyond HIV prevention (which was a primary focus in the original ITGSE), to encompass young people's well-being and abilities to make healthy decisions. This might involve emphasizing the need for CSE programmes to empower young people, especially girls, and to address gender norms, which is one of the learning objectives in the original ITGSE (Volume II).

Delivering sexuality education

There was a strong emphasis in some literature on the need to address sensitive issues; this topic was touched on briefly in the original ITGSE. The updated edition might include discussion of how CSE is not the same as any other school subject, and how it can arouse strong emotions and reactions among students and teachers. Those who deliver CSE must be capable of dealing with sensitive issues, including, for example, harmful practices and norms. To this end, we recommend adding a new section on 'ensuring confidentiality, privacy and a safe environment for young people.'

Much of the information in the original ITGSE on building support and planning for implementation remains accurate, but we suggest adding additional information about teacher preparedness. For example, by addressing teachers' willingness but also comfort with teaching sensitive subjects, and the possibilities of engaging other experts, such as school nurses or external experts, to deliver CSE. Another delivery-related topic that should be added is on the use of technology/digital media as a strategy for supporting the delivery of CSE and to reach young people who are not in schools. Finally, the original ITGSE already includes a statement about the limited evidence of effectiveness for peer-led CSE programmes. This is still the case based on research since 2008, especially when compared to teacher-led programmes.

Schools as part of a continuum of CSE delivery

The original ITGSE included a section on schools as community resources. New evidence suggests expanding this to focus on schools as being part of a continuum of CSE delivery, and the need for a holistic, multi-sector approach. The biggest impacts

have been seen when school-based CSE is augmented with community components or services, such as training for health providers, youth-friendly services, and work with parents, to name a few. This can help to address the wider sociocultural determinants of sexual behaviour. The information about schools as part of a continuum also links with the need to create an enabling environment at all levels for young people to benefit from CSE: national level (through enabling policies, funding), local level (by involving parents, the community, faith organizations) and school level.

Curricula components

We found no new high-quality research into the effectiveness of particular components of CSE curricula. However, in the absence of new research on the specific effects of the components of CSE curricula, we recommend emphasizing replication of programmes already found to be effective, and the imperative to ensure programmes are delivered with fidelity.

Further recommendations for research

There is a need for a rigorous analysis of the components of CSE curricula. This could clarify effectiveness of components and help to establish priorities, for example, whether to develop new curricula/components, adapt existing curricula that has already been shown effective in randomized trials, or to devote resources to ensuring fidelity of implementation. More high-quality randomized controlled evaluations of CSE programmes are also needed in low- and middle-income countries, and to test multi-component programmes (those with school and community components). To this end, it would be useful to test the effects of CSE, in and/or out of schools, on biological outcomes. There is also limited information from high-quality research on aspects of teacher training, dosage related to CSE (i.e., how many sessions, hours, classes, etc.) and other contextual and implementation factors. Finally, and importantly, all randomized evaluations should be augmented with process evaluations and other forms of qualitative research to illuminate contextual and implementation factors and implications.

Introduction

UNESCO published the International Technical Guidance on Sexuality Education (ITGSE): An evidence-informed approach for schools, teachers and health educators, in 2009. It put forward the rationale for sexuality education, technical advice on characteristics of effective programmes, and topics and learning objectives to be covered in a ‘basic minimum package’ of sexuality education for children and young people aged 5–18+. Since the publication, UNESCO, several UNAIDS cosponsors and other international partners have advocated for ‘comprehensive sexuality education’ (CSE) for all adolescents and youth, and as an essential component of quality education.

With the passage of time and the expanded understanding of the role of CSE, UNESCO sought to review the ITGSE with the aim of updating its content to reflect the evidence and lessons learned from implementing sexuality education programmes since 2009. UNESCO sought the technical services of a consultant team to conduct an evidence review to inform the update.

This review would involve research on new evidence and good practice in sexuality education including evidence on the effectiveness of CSE and lessons documented through the implementation of sexuality education programmes to highlight benchmarks of quality CSE content and modalities of delivery. The research was also intended to make recommendations as to the: adequacy of existing content; presence of any gaps in this content; and evidence-based recommendations on how such content gaps can be addressed in the updated ITGSE.

This review aims to present the highest-quality evidence on the effectiveness of CSE programmes worldwide since 2008, largely by summarizing the results of selected systematic reviews and randomized trials.

Advisory Group guidance

This review also shares evidence from implementation and practice, including practitioner knowledge based on contributions from UNESCO and an expert Advisory Group, as well as the participants at a consensus meeting on sexuality education in October 2016, and the results of an expert survey.

Throughout the document, Advisory Group guidance will be highlighted in tinted boxes. This will bring attention to experience from the field, particularly the potential for CSE to be a key contributor to the overall well-being of young people, for example, by addressing gender norms and power in relationships, violence, young people’s civic participation, self-efficacy and confidence, and many other crucial areas of change.

While there is currently limited evidence from high-quality randomized trials around many of these topics, the Advisory Group guidance reveals a number of important trends and topics shaping policies, research and practice today.

Defining sexuality education

As previously mentioned, since the publication of the ITGSE in 2009, UNESCO, several UNAIDS cosponsors and other international partners have advocated for ‘comprehensive sexuality education’ (CSE) for all adolescents and youth, and as an essential component of quality education. CSE is defined as:

“... an age-appropriate, culturally relevant approach to teaching about sex and relationships by providing scientifically accurate, realistic, non-judgemental information. Sexuality education provides opportunities to explore one’s own values and attitudes and to build decision-making, communication and risk reduction skills about many aspects of sexuality. The term comprehensive emphasizes an approach to sexuality education that encompasses the full range of information, skills and values to enable young people to exercise their sexual and reproductive rights and to make decisions about their health and sexuality,” (UNESCO, 2016b).

UNESCO’s 2015 publication, *Emerging evidence, lessons and practice in comprehensive sexuality education: A global review* (UNESCO, 2015b), describes how this evolved definition incorporates the wording and intent used to describe and advocate for sexuality education at the ICPD in 1994, and is based on the WHO’s working definition of human sexuality as a part of human development throughout life cycle. This basic concept of the definition of comprehensive sexuality education has since been elaborated upon by organizations including UNFPA, the WHO, the International Planned Parenthood Federation, and others.

For example, UNFPA defines CSE “as a right-based and gender-focused approach to sexuality education, whether in school or out of school. CSE is curriculum-based education that aims to equip children and young people with the knowledge, skills,

attitudes and values that will enable them to develop a positive view of their sexuality, in the context of their emotional and social development” (UNFPA, 2014, p7).

These definitions take a holistic view of sexuality and sexual behaviour, going beyond the traditional focus on prevention of pregnancy and STIs, giving young people accurate information about sexuality, health and human rights, equipping them to develop positive values and attitudes towards their sexual and reproductive health, and self-esteem, respect for human rights and gender equality (UNFPA, 2014). UNFPA also specifies that CSE should “empower young people to take control of their own behaviour and, in turn, treat others with respect, acceptance, tolerance and empathy, regardless of their gender, ethnicity, race or sexual orientation,” (UNFPA, 2014, p6). Finally, CSE helps young people to acquire life skills for developing better relationships with family, peers and sexual partners (UNFPA, 2014).

Moreover, the NGO Rutgers WPF provides a useful clarification of what makes a programme ‘comprehensive’:

“Formal, effective sex education can happen in or out of school, but it must always be based on fact. To be comprehensive it shouldn’t focus solely on sex and sexuality, but emphasise the importance of forming healthy relationships. Young people should gain self-esteem and understand how to protect their physical and emotional well-being. They should understand the consequences of having sex and the importance of safer sex. Young people should learn that they have sexual health rights, (Rutgers WPF, 2016)”.

While the working definitions of CSE introduced by various agencies may differ slightly, they share a common and fundamental aspect: a grounding in human rights and empowerment, and particularly young people’s rights to education about the bodies, relationships and sexuality (UNESCO, 2015b).

In this review, we have adopted the rationale and approach used by UNESCO in its 2015 global review, which states:

“One of the main challenges in defining sexuality education, and particularly the elements that comprise comprehensive programming, may stem from the different terminologies used across national policies and curricula. Many different names are used, reflecting an emphasis on various aspects of CSE by different countries. These include: prevention education, relationships and sexuality education, family life education, HIV education, life skills education, healthy lifestyles and the basics of life safety. However, core elements of these programmes bear similarities, and incorporate some or many aspects of CSE. ... Throughout this review, the term CSE is used to describe all of these programmes, understanding that CSE encompasses more than just sex education, HIV education and general life skills and health education, where each is taken in isolation,” (UNESCO, 2015c, p13).

Methodology and levels of evidence

There are increasing calls to use robust evidence and evidence-based programmes in schools and other educational settings, primarily in the form of randomized controlled trials (RCTs) (Goldacre, 2013; Scott & McNeish, 2013). RCTs are the best way to determine the extent to which a programme has the intended effect, and they are the basis of any high-quality evidence review. While RCTs were originally used to assess the effectiveness of medical interventions, they have been used in educational settings for decades, and they have been shown to be feasible, including in low-resource and complex settings.

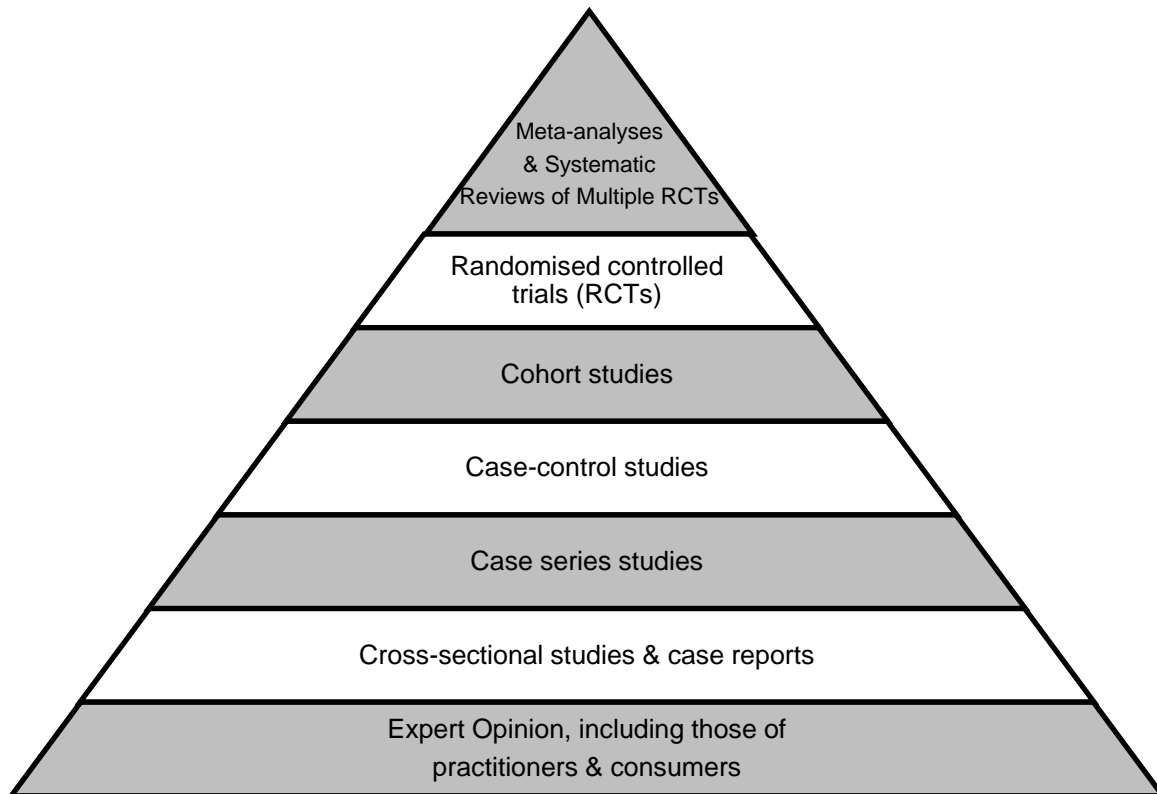
Moreover, there are very strong arguments for basing policy decisions in any setting, including schools, on the highest-quality evidence that is available, which means RCTs, or systematic reviews which synthesize the evidence from multiple RCTs.

It is also the case, however, that research in educational settings — as in many contexts where social intervention takes place — needs to answer questions beyond ‘does it work?’ To develop and implement effective programmes for young people it is also important to know: ‘did it cause harm?’, ‘was it acceptable and feasible?’, ‘where and with whom does it work or not work?’, ‘was it cost-effective?’ and ‘how was it implemented?’ Because RCTs cannot answer every question, they must be supplemented with qualitative research. This requires a combined approach involving first and foremost an RCT, accompanied by qualitative research such as interviews, focus groups and other similar designs (Goldacre, 2013; Scott & McNeish, 2013).

To this end, the main conclusions of this Evidence Review are based on results from rigorous systematic reviews and randomized controlled trials. However, it is notable that many of the included systematic reviews assessed studies using a wide range of study designs, therefore the evidence presented encompasses results from across the hierarchy of evidence (Figure 1), but with a strong emphasis on the highest quality designs. We sought evidence for children and young people from age 5 to 24, and extended the reach of the original ITGSE to include out-of-school interventions as well as school-based interventions, when these were analysed within systematic reviews. Our extensive searches identified 22 relevant systematic reviews, more than

70 potentially relevant randomized controlled trials, and a significant amount of non-trial information from 65 publications and online resources (Appendix C, List of other publications and -sources searched).

Figure 1. Hierarchy of evidence (adapted from Fraser (2009))



2.1 High-quality systematic reviews of studies aimed at improving the sexual and reproductive health of young people aged 10-24 years

We conducted a selective review of high-quality systematic reviews of studies published after 2008 that aimed to improve the sexual and reproductive health of young people aged 10–24 years. Some reviews were included even if they did not include mostly high-quality trials, if they were deemed relevant to other issues of interest to UNESCO, the advisory committee and its partners. Systematic reviews included in this review were identified through the larger search for trials (described in the next section) and by additional searching in Google Scholar and through references in relevant trial reports.

By looking primarily at systematic reviews it was possible to capture information from a wide range of studies, including those testing interventions outside of schools, and those using a variety of study designs. More specifically, the authors sought systematic reviews that included, but were not exclusively focused on, school-based CSE programmes. As a result, many of the reviews also included non-school-based programmes, such as those which were implemented in clinics or communities, and in some cases performed direct comparisons between school-based and non-school-based programmes. Also, as previously mentioned, the authors sought systematic reviews that included at least some RCTs, but often also included other research designs, such as non-randomized controlled trials, case-control studies, before-after studies and cross-sectional surveys.

2.2 Randomized controlled trials of school- and curriculum-based sexuality education programmes aimed at young people aged 5–18 years

To supplement information drawn from systematic reviews, we identified and did minimal analysis of RCTs based on the inclusion criteria in Table 1.

Table 1. Criteria for inclusion and exclusion of studies in the search of high-quality trials

Component	Study context
Population	Children and adolescents aged 5–18 (please note that analyses of systematic reviews included young people up to age 24)
Intervention	School-, group- and curriculum-based STI, HIV, sexuality, reproductive health or relationship education interventions (which may be identified using different names, e.g., life-skills or ‘family life’ programmes, or similar), focused primarily on influencing sexual behaviour, knowledge and attitudes, (as opposed to those mainly aimed at reducing other risk behaviours, such as drug or alcohol use)
Comparison intervention	We will include studies that used the following comparison groups: no intervention; attention-control: interventions that were equal in format and time, but targeted non-sexuality education-related behaviours; comparisons between enhanced and non-enhanced versions of the same programme; usual care or services as usual.
Outcomes	Primary: Behavioural/biological/health outcomes (e.g. incidence of STIs, HIV, pregnancy; age of sexual debut; condom use; other contraceptive use; abstinence; number of sexual partners) Secondary: Knowledge and attitudes about sexual health, sexual risk behaviour and gender; self-confidence, self-awareness, social skills; and other related non-biological outcomes.
Study design	We will include only controlled interventions that evaluated the effects of programmes designed to influence behaviour change or knowledge/attitudes/ self-confidence (see outcome measures listed above). These include randomized and quasi-randomized controlled trials. We define quasi-randomized controlled trials as those that approximated randomization by using a method of allocation that was unlikely to lead to consistent bias, such as flipping a coin or alternating participants. Further, all trials must contain a contemporaneous comparison group.

Advisory Group guidance

Experts involved in the Consultation Meeting felt strongly that CSE programmes have the potential to improve more than just health outcomes, and that there are many synergies between the fields of CSE and other areas of intervention, including the prevention of substance abuse, violence prevention, addressing gender norms, and rights-based approaches. There were strong calls to widen future evidence reviews to gather evidence from these and other similar areas of study, and to share learning across these different topics and sectors.

2.3 Search methods for identification of trials and systematic reviews

Comprehensive search strategies are detailed in Appendix A. They relate to searches in the following electronic databases:

- ERIC
- EMBASE
- CINAHL
- Cochrane Central Register of Controlled Trials (CENTRAL)
- Global Health
- Grey Literature Report
- International AIDS Society Online Resource Library
- MEDLINE
- OpenGrey
- UN Library

- WHO African Index Medicus

2.4 Non-trial literature on a wide range of issues related to sexuality education

Methodological reviews have indicated that publication bias can result in peer-reviewed trials demonstrating larger effects than those from grey literature (Hopewell, McDonald, Clarke, & Egger, 2007). To avoid skewing the results of reviews, we also searched grey literature (Liberati et al., 2009). This included databases for grey literature (e.g. Grey Literature Report, OpenGrey, the International AIDS Society Online Resource Library, UN Library, and the WHO African Index Medicus). We also searched the online libraries and publications of UNAIDS, USAID, WHO, UNFPA, The World Bank, and the websites of IPPF, PSI, the Population Council, SIECUS and Rutgers WPF.

Results

The initial search for relevant randomized controlled trials of school-based sexuality education programmes in databases of peer-reviewed research and grey literature identified 6,732 records. After removing duplicates, 6,118 records remained. Based on the titles and abstracts, an additional 5,990 records were excluded, and full-text articles were sought for the remaining 128 records. Fifty-one of these were excluded, for example, because they were not school-based programmes, were not aimed primarily at young people aged 5–18 years, were not testing sexuality education, were not curriculum-based, or were clearly not randomized controlled trials. Seventy-seven studies remained and were included in the final analysis of trials. (Appendix B, PRISMA flow chart, for detailed search results for trials.)

The analysis of trials involved ‘mining’ the abstracts and seeking full-text copies of trials which involved issues relevant to the expressed interests of UNESCO and its partners and readers, including gender, rights, access and other implementation factors. As part of this large search for trials, 22 systematic reviews were also identified and used as the basis for the more detailed analysis of systematic reviews. In addition, searches of keywords were conducted for 65 publications and online resources (Appendix C, List of other publications and -sources searched).

These searches and subsequent analyses show clearly that the evidence base of high-quality trials on sexuality education has grown tremendously since the ITGSE was published. Fonner et al. (2014) note the marked increase in controlled and randomized designs compared, for example, to the reviews conducted by Kirby & Coyle (1997) and Kirby, Laris & Rolleri (2007).

3.1 Geographical reach

In our search for new, high-quality RCTs of school- and curriculum-based sexuality education programmes, we found more than 70 potentially relevant RCTs. More than half of these were for trials in low- or middle-income countries. Among those:

- most took place in sub-Saharan Africa (7 in Nigeria, 6 in South Africa, 2 each in Liberia, Kenya and Uganda, and 1 each in Ghana, Zambia, Tanzania and Ethiopia);
- 7 trials took place in Asia (3 in India, 2 in China, and 1 each in the Philippines and Thailand);
- 6 took place in Latin America or the Caribbean (3 in the Bahamas and 1 each in Mexico, Ecuador and Belize);
- 1 trial took place in Ukraine.

This suggests an impressive geographical range of recent, high-quality, published studies, and significant progress in high-quality evaluation in low- and middle-income countries.

This geographical breadth of trials was echoed in the systematic review literature, where most of the 22 systematic reviews we analysed included a significant number of relevant trials in low- and middle-income countries, and particularly in sub-Saharan Africa (Michielsen et al., 2010; Napierala Mavedzenge, Doyle, & Ross, 2011). Napierala Mavedzenge, Doyle and Ross (2011), for example, focused specifically on HIV prevention interventions in sub-Saharan Africa, from 2005–2008, for young people aged 10–24, and included 23 trials, 11 of which were school-based.

3.2 The role of schools

The importance of ensuring young people's access to sexual and reproductive health information, education and services, including contraception, is outlined in international agreements, from the groundbreaking Programme of Action of the International Conference on Population and Development (ICPD) in 1994, to the Education 2030 Incheon Declaration. This is also fundamental to the 2030 Agenda for Sustainable Development, which has at its centre the Sustainable Development Goals (SDGs). For instance, SDG 3 (Target 3.7) calls for access to sexual and reproductive health-care services, including information and education.

While young people learn about sexuality and sexual health from many sources, schools still play a central role. Although school-based sexuality education and HIV prevention are not enough by themselves to prevent HIV and ensure the rights of young people to sexual and reproductive health, school-based programmes are a very cost-effective way to contribute to these aims (Kivela, Ketting, & Baltussen, 2013; UNESCO, 2011). The percentage of schools providing life-skills-based HIV and sexuality education to young people is a Thematic Indicator (28) for monitoring the Education 2020 Agenda (UNESCO, 2016a).

A 2014 systematic review of any programme worldwide aimed at improving youth sexual and reproductive health, including preventing HIV and unwanted pregnancies, found 88 randomized or quasi-randomized studies. One-third were delivered in schools (mostly middle schools), more than one-third of the others were either delivered after school or in community settings, and the rest were in community health clinics or juvenile justice settings (Goesling, B., Colman, Trenholm, Terzian, & Moore, 2014). Though the trial literature shows that schools are a central delivery point, surveys indicate great variability in the provision of sexuality education worldwide. The 2016 Global Education Monitoring Report found that basic school curricula and education standards in many countries rarely include comprehensive sexuality education (UNESCO, 2016a). Haberland and Rogow (2015) reported that multi-country reviews show limited progress in the development of national policies and strategies for implementing CSE or in developing high-quality, large-scale programmes.

On a more positive note, a recent UNFPA survey shows that the majority of countries in Eastern and Central Africa, which have some of the highest levels of HIV infection in the world, report that they provide CSE in at least 40 per cent of primary and secondary schools (UNFPA, 2016).

3.3 The goals of sexuality education: policies vs practice

The general goals of CSE as stated in policies and strategies, both at international and national levels, have become broader and encompass a more explicit human-rights, life skills and empowerment focus (e.g., UNESCO and UNFPA, 2012; UNFPA, 2014). This echoes appeals from a wide range of experts and advocates for an explicit 'empowerment approach' to CSE, which calls for more than just adding an empowerment-related component or activity to CSE curricula, but for example:

"... to develop curricula designed to not only increase comprehensive knowledge among young people, but to empower them to adopt protective behaviours," (UNESCO and UNFPA, 2012) p2..

There are also demands for an empowerment approach focused more explicitly on gender and power, which:

"... rests on the view that sexuality education seeks explicitly to empower young people —especially girls and other marginalized young people —to see themselves and others as equal members in their relationships, able to protect their own health, and as individuals capable of engaging as active participants in society," (Haberland, N. & Rogow, 2015, pS16).

An 'empowerment approach' with a focus on gender norms and power relations recognizes that these are crucial factors in safer sex negotiation (Haberland, N. & Rogow, 2015; Pulerwitz, Gortmaker, & DeJong, 2000) and, more broadly, in the overall social and cultural environment in which young people make decisions.

Despite calls for an empowerment approach to CSE, there is little evidence that this is being implemented widely. Evidence from high-quality trials and non-trial literature suggest that most curricula still mainly addresses reproductive physiology or emphasizes abstinence or delayed sexual initiation, with limited or inadequate attention to information about contraception or other sexual health issues (Lopez, L. M., Bernholc, A., Chen, M., & Tolley, E., 2016; UNESCO and UNFPA, 2012). In addition, the recent study by Haberland (Haberland, N. & Rogow, 2015) reported that, "... relatively few CSE programs address empowerment or gender equality in meaningful, consistent ways."

The focus of curricula is also dependent on the context in which the programme is operating. In higher-income countries, this often means a focus on preventing unwanted pregnancies, while in regions with high rates of HIV, HIV and STI prevention is often the focus. For example, in South Africa, CSE programmes largely focus on HIV and AIDS awareness, even though the national policy calls for promoting HIV and AIDS awareness along with the life skills needed for young people to practice healthy behaviours and make sound decisions (Visser, 2005).

In other words, evaluations of CSE programmes have not yet caught up to the aims as reflected in practice, policy and advocacy strategies. However, one notable improvement is that, in systematic reviews assessing high-quality trials of sexuality education, programmes focused on abstinence-only or which emphasize abstinence or delay of sexual debut over other risk reduction strategies are far fewer in number than those providing CSE (Fonner, Armstrong, Kennedy, O'Reilly, & Sweat, 2014; Manlove, Fish, & Moore, 2015).

These issues are covered in more detail in the next section, **3.4 Characteristics of sexuality education curricula**.

Advisory Group guidance

The experts and practitioners consulted as part of this project strongly recommend that CSE curricula development, policies and research move towards an empowerment approach by mainstreaming gender and power into CSE programmes and explicitly measuring the impact of gender, power and rights-oriented components and activities on a wide range of outcomes. Many also see CSE as an opportunity for young people to build stronger relationships, not just a way to reduce health risks. They call for a more positive vision of adolescents and young people.

3.4 Characteristics of sexuality education curricula

3.4.1 Common and effective characteristics or components

The original ITGSE described the “common characteristics of existing and evaluated sexuality education programmes,” which “were identified and verified through independent review, based on their effectiveness in increasing knowledge, clarifying values and attitudes, developing skills and at times impacting upon behaviour,” (UNESCO, 2009, p4).

Identifying common characteristics of programmes is an important first step in understanding what works, where, with whom and in which contexts. To move the field of CSE education forward, the next important step would be to identify characteristics or components of programmes that are not just common, but which are also shown to be effective in achieving some of the main goals of CSE based on a rigorous components analysis. This type of analysis is designed to reveal which components consistently lead to good outcomes, and which may be less cost-effective or even harmful (Durlak, 2013). We found no such analyses in the current literature, thus it is safe to conclude that the evidence compiled by Kirby, Laris & Rolleri (2006) is likely to be the best available. In fact, many of the rigorous interventions we found incorporate the characteristics of effective curricula as defined by Kirby, Laris & Rolleri (2006), including, for example, the following content- and delivery-related characteristics:

1. Focused on clear health goals — the prevention STI/HIV and/or pregnancy
2. Focused narrowly on specific behaviours leading to these health goals
3. Addressed multiple sexual psychosocial risk and protective factors affecting sexual behaviours (e.g., knowledge, perceived risks, values, attitudes, perceived norms, and self-efficacy)
4. Created a safe social environment for youth to participate
5. Included multiple activities to change each of the targeted risk and protective factors
6. Employed instructionally sound teaching methods that actively involved the participants
7. Employed activities, instructional methods and behavioural messages that were appropriate to the youths’ culture, developmental age, and sexual experience
8. Covered topics in a logical sequence (p213).

There is clearly a need for a rigorous component analysis, which would replace the best intentions and tendency to promote desirable characteristics that have not been adequately tested. A rigorous component analysis would go a long way towards

improving outcomes for young people, and also ensuring that CSE programmes are as efficient as possible, reducing the waste of public spending on programmes and components that do not contribute much to improving well-being (Durlak, 2013).

Accurately assessing the effectiveness of components is complicated by the lack of reporting of this information in published papers of high-quality trials. A rigorous review by Lopez, Bernholm, Chen and Tolley (2016) found that many trials did not adequately report the content of interventions. For example, many trials assessed contraceptive use as an outcome but did not report whether the intervention content included information or demonstrations related to contraceptive methods and their effectiveness. In a review of behaviour interventions for adolescents, the authors found that the content was highly variable. However, the 15 randomized trials it analysed (mostly in the USA, but also Europe and sub-Saharan Africa) all addressed HIV and/or STIs more generally, 6 also covered the prevention of unwanted pregnancies and/or contraception, and most encouraged a reduction in sexual risk-taking (e.g., by increasing the acceptance of condom use during intercourse or delaying sexual initiation). A few studies also included lessons in sexual negotiation or communication skills, practising condom skills, enhancing self-efficacy or encouraging favourable peer norms (Picot et al., 2012).

Another factor that complicates our understanding of effective components or characteristics of CSE programmes is fidelity, or whether all components are actually delivered in practice. Even if curricula training manuals and other materials are adequately designed to cover essential subjects, this does not ensure they will be delivered as intended. (This issue is covered in more detail in **Section 3.8.1 on fidelity.**)

Inadequate delivery of curricula and a lack of attention to fidelity are supported by qualitative research. For instance, a review of young people's views on sexuality education, from several high- and middle-income countries, assessed over a 25-year period, found strikingly similar reports that programmes do not adequately address a range of important topics (Pound, Langford, & Campbell, 2016). Pound et al. (2016) assessed studies from the UK, Ireland, the USA, Australia, New Zealand, Canada, Japan, Iran, Brazil and Sweden, and found that the following topics are not often addressed sufficiently or at all:

- Contraception, pros and cons of different types of contraception
- Emergency contraception and its adverse effects
- Different opinions on contraceptive pill, adverse effects of contraceptive pill
- Contraceptives other than the condom
- Where to obtain different forms of contraception, how to buy condoms
- What to do if no contraception available
- Why condoms should be used
- How to use male and female condoms; importance of lubrication
- Options if become pregnant, i.e., adoption, abortion, teenage pregnancy
- Unbiased information on abortion and how to deal with an abortion
- STIs, including transmission through oral sex," (Pound et al., 2016, p10).

Pound and colleagues reported that the inadequate and ineffective delivery was true across countries, over time, and whether the curriculum being delivered took an abstinence-based approach or was more comprehensive. This may suggest that, while ensuring that curricula cover the right topics is important, it is equally important to pay attention to fidelity of implementation.

3.4.1a Programme components designed to address gender, power and rights

Among the many characteristics of CSE curricula recommended by the original ITGSE, one is the critical examination of gender inequalities, gender norms and power in relationships. For instance, this is addressed in Volume I of the ITGSE, in **Section 5.2 (Characteristics of the curriculum itself)**, and in Volume II, under Key Concept 1 and 2, but especially Key Concept 3 (e.g., 3.1 Sexuality, Culture and Human Rights; 3.3 The Social Construction of Gender; and 3.4 Gender-Based Violence, including Sexual Abuse, Exploitation and Harmful Practices) (UNESCO, 2009).

However, to date, there are still very few CSE programmes that explicitly address empowerment or gender equality in a meaningful way (Haberland, N. & Rogow, 2015), and even fewer that explicitly measure the potential effects of these components. An assessment of the content and delivery of CSE programmes, using UNESCO's Sexuality Education Review and Assessment Tool (SERAT), found that few national sexuality education programmes in sub-Saharan Africa meet what are considered global standards, with the weakest coverage relating to gender and social norms (Herat, Hospital, Kalha, Alama, & Nicollin, 2014). In Latin America and the Caribbean, the International Planned Parenthood Federation (IPPF) found that only

half of the 19 countries surveyed had curricula that adequately addressed gender equality, sexuality, HIV and AIDS, violence prevention and relationships (Hunt, Castagnaro, & Castrejón, 2014).

We found only one systematic review focused specifically on gender and power components in CSE programmes (Haberland, N. A., 2015). While it is an important addition to the evidence base, it has a number of methodological limitations relating to quality of the trials that are included and analysis, thus does not provide a strong enough basis to make specific recommendations related to gender and power in CSE curricula. Nevertheless, it should be seen as a vital foundation for building a case for including, or in fact mainstreaming, gender and power components. As the study's author points out, "... only characteristics that are looked for will be found and proven or disproven as consequential," (Haberland, N. A., 2015) p32 — a clear call to action for those developing curricula and the researchers who evaluate programmes.

While the evidence is still sparse in relation to empowerment and gender in CSE programmes, one high-quality trial stands out for its explicit rights-based approach (Constantine et al., 2015b; Rohrbach et al., 2015). This trial, in the USA, reported short-term positive effects on knowledge and attitudes, including about sexual relationship rights, greater communication about sex and relationships with parents, and greater self-efficacy to manage risky situations. There were no significant effects on communication with sexual partners and intentions to use condoms. At one year, there were significant, positive effects found on psychosocial and some behavioural outcomes, but, according to the study authors, this may not be adequate to change future sexual behaviours among younger adolescents who are not yet sexually active.

3.4.1b Components aimed at preventing violence

Global policies and good practice guidelines note that school settings, and CSE curricula in particular, are an optimal entry point for violence prevention among children and young people (UNESCO / UN Women, In press). Sexual abuse and violence are explicitly addressed in the curriculum guidelines in the original ITGSE, Volume II, under Key Concepts 1 and 2, but especially under Key Concept 3.4: Gender-Based Violence, including Sexual Abuse, Exploitation and Harmful Practices (UNESCO, 2009).

Our research found very few systematic reviews reporting on studies that involved violence prevention as components or key characteristics. Fonner et al. (Fonner et al., 2014) found five studies, but most were of low quality (Fonner et al., 2014; Mathews et al., 2012b). The rigorous SATZ trials in South Africa and Tanzania included violence prevention components at some schools (Mathews et al., 2012a), but it was not possible to isolate the effects of these components. Despite recommendations to address aspects of violence prevention in CSE curricula, this has still not become as widespread as might be expected.

3.4.2 Delivery modes/methods

Findings from high-quality trials suggests that the most effective school-based interventions were multifaceted, involved multiple sessions, were interactive, and provided a variety of activities. Some authors have concluded that these types of approaches are more likely than a didactic approach to engage the attention of adolescents and to potentially lead to behaviour change (Lopez, L. et al., 2016). In addition to standard lecture and information sessions, elements commonly reported within the trial literature include:

- role-plays
- quizzes or competitions
- skills-based sessions (such as correct condom use)
- condom provision
- drama or songs
- 'information kiosk'
- anonymous question box
- printed materials
- festivals and
- group work (Amaugo, Papadopoulos, Ochieng, & Ali, 2014; Fonner et al., 2014; Tolli, 2012).

Unsurprisingly, the use of digital media is also becoming more common. In some cases, the internet is used to allow students to complete online modules during school hours (Fonner et al., 2014). A systematic review of digital media-based interventions (some of which were school-based), showed that such delivery provides a wider scope for tailoring and targeting interventions.

For instance, studies tailored content by gender, race/ethnicity, or according to a young person's risk profile. The interventions also included, for example:

- stories of role models and videos featuring peers or 'experts'
- moderated online discussion
- contact by health professionals over e-mail
- self-assessment of skills and attitudes
- mobile phone calls from research staff.

In three studies, Web-based activities were supplemented with more conventional educational approaches, including classroom instruction, small-group sessions and a CD-ROM-led exercise (Guse et al., 2012). (See **Section 3.6.3 Digital media as delivery mechanism**, for a detailed discussion of digital media-based interventions.)

A synthesis of qualitative studies documenting young people's views on CSE found that young people value the ability to participate without being singled out, for example, through group discussions. They also noted the importance of skills-based sessions (Pound et al., 2016).

3.5 Acceptability and feasibility

Qualitative studies which focus mostly on acceptability and feasibility are an important starting point for programme or curriculum development. Rigorous RCTs, however, can provide reliable measures of acceptability and feasibility while also revealing the overall effects of the programme with a particular population. High-quality RCTs can help us to understand answers to questions such as: was it feasible with this population? Was it acceptable (how many schools or students dropped out)? Does it have the desired effects in real-world settings (were the outcomes for all participants who started the programme included in the analysis, even if they didn't complete the whole programme)?

Rigorous RCTs and systematic reviews of RCTs often measure acceptability and feasibility in terms attrition (also known as 'loss to follow-up'): the number of participants (e.g. students) or other units (e.g. schools) which drop out of the programme before it ends or before the final data collection is complete. Many systematic reviews, for example, draw conclusions by appraising whether studies maintained a certain level of participants, such as at least 80 per cent, which means that no more than 20 per cent of the participants in the trial dropped out before it finished. If a trial has a high level of drop-out (e.g. >20 per cent) it might suggest a low level of feasibility or acceptability within the trial population or, in the case of trials in schools, among the schools involved.

Lopez et al. (2016) for example, based their conclusions of the effectiveness of school-based programmes on contraceptive use on whether a trial was 'high quality', and one of the key measures of this was a loss to follow-up of less than 20 per cent. So rigorous systematic reviews tell us not only whether a programme was effective, but was it effective as well as acceptable/feasible based on rates of attrition/loss-to-follow-up. In the case of Lopez et al. (2016), there was high loss-to-follow-up in most trials. High attrition rates indicate poor acceptability or feasibility.

Even when levels of drop-out are relatively high, however, it is possible to measure how effective a programme is at a public-health level by conducting an 'intention-to-treat' analysis. This means that the results are analysed for all participants of a trial, even those who did not complete the programme and for whom data was not available at the end of the trial (e.g., these participants might have dropped out of school, or they may have simply stopped attending class, or the school administration may have decided to drop out of the study). Decisions about whether a programme is worth scaling up or rolling out more widely should be based on both effectiveness and acceptability/feasibility.

Among the 53 trials included in the systematic review by Oringanje et al. (2009), 5 did not report attrition rates, and 18 (or around 40 per cent of the trials) had attrition rates that exceeded 20 per cent. However: "Most trials conducted a modified intention-to-treat analysis (whereby all students were included in the analysis regardless of number of sessions attended as long as they provided baseline and follow-up data)." In this case, though there were high levels of drop-out from many trials (which might indicate low levels of acceptability or feasibility), the authors are still able to provide a reliable estimate of how effective the programme was in changing particular outcomes. By conducting intention-to-treat analyses, it is possible to show that, in a 'real-world' setting such as a school, where there may be a certain level of drop-out from any programme, we can still demonstrate the effects of the programme.

In the review by Oringanje et al. (2009), the authors did two analyses: first, based on intention-to-treat, and then based on ‘treatment-of-the-treated’, in other words, looking at the effects only on those participants who completed the programme and provided data at the end of the trial. In this case, in cluster RCTs, there was a non-significant reduction in pregnancy rates, but when trials with high levels of attrition (>20 per cent) were excluded (treatment only of those who received the whole programme), the effects on pregnancy rates were higher and significant. This suggests that the programme seems to work among those who receive it, but unfortunately, the programme was not acceptable/feasible among much of the target population.

Based on the results of systematic reviews that reported on attrition, it appears that the CSE programmes that were tested have poor acceptability/feasibility, and therefore were not very effective at a public-health level.

Measuring or assessing attrition cannot, of course, indicate why a trial may or may not be acceptable or feasible; process evaluations or other qualitative research during or after the trial are helpful in this regard. In the SATZ trials in South Africa and Tanzania, the authors report that they were not able to collect data on three pairs of schools in Cape Town, and therefore an intention-to-treat analysis was not possible. They also reported a high rate of attrition in Cape Town, and note that school drop-out is high (as much as 60 per cent) throughout South Africa. This excellent study included a range of qualitative and process evaluations, which showed that in all of the study sites, those who were not followed up at the end of the study (i.e. drop outs from the study) “were more likely to report having had their sexual debut, indicating a need for programmes targeting adolescents who drop out and the potential value of interventions to increase students’ connectedness to school and to promote retention,” (p117).

The SATZ trial authors also provide rich information about general acceptability, with many students and teachers who were interviewed reporting positive opinions about the programme.

Pound et al. (2016) offered an important perspective on acceptability of CSE curricula among young people. They assessed qualitative studies of young people’s views, concluding that most programmes do not adequately address the real lives of young people, are not sex-positive enough, and do not sufficiently cover some very key topics. While this could suggest that CSE curricula itself is inadequate, it is just as likely to be a measure of the inadequate delivery of programmes (i.e., poor implementation fidelity, which is covered in more detail in **Section 3.8.1**).

Advisory Group guidance

Many practitioners and other experts note the very large number of non-randomized, non-controlled studies, and qualitative studies that have assessed various aspects of CSE programmes, especially in low- and middle-income country settings, since 2008. These studies, while not able to provide causal evidence, are nonetheless pertinent and help set the stage for future research and development of CSE programmes. These studies should not be ignored in assessing the evidence around CSE, especially as it relates to the impact of CSE on non-health outcomes, and their absence from this Evidence Review should be seen as limitation of the review.

3.6 Outcomes measured

The systematic reviews included in this report analysed trials which measured a wide range of outcomes. Most were related to sexual health and health behaviours, but a number also measured other health and non-health outcomes, as shown in Table 2. For instance, Fonner et al. (2014) in their review of school-based studies in sub-Saharan Africa, chose outcomes to meta-analyse based on their relevance to HIV prevention and their frequency in studies. They report that: “The five most commonly reported outcomes across studies were: HIV knowledge, condom use, self-efficacy related to HIV prevention (e.g., confidence in refusing sex or confidence in using condoms during sex), initiation of first sex, and number of sexual partners,” (p3).

Some reviews focused on a particular outcome, such as unintended pregnancy (Oringanje et al., 2009) and/or contraceptive use (Lopez, L. M. et al., 2016). However, even these reviews assessed knowledge-based outcomes when studies reported such outcomes, such as knowledge of contraceptive effectiveness or effective method use and attitude about contraception or a specific contraceptive method (Lopez, L. M. et al., 2016).

Table 2. Outcomes measured in included systematic reviews

Sexual health outcomes	Other health outcomes
Abortion	adherence to medication (for those with HIV)
Abstinence	use of health services

age of sexual debut	viral load (HIV-positive youth on ARVs)
Childbirth	Substance use
condom use	alcohol use
contraceptive use	cigarette smoking
first births	drug use
frequency of sexual activity	Health-related knowledge and attitudes
initiation of sexual intercourse	attitude about contraception
pregnancy-related morbidity	attitudes toward engaging in risk behaviours
pregnancy-related mortality	knowledge/attitudes about unintended pregnancy risk
number of sexual partners	knowledge of contraceptive effectiveness/method use
Pregnancy	sexual attitudes, intentions or self-efficacy
recent sexual activity	sexual knowledge
sex while under influence of drugs/alcohol	Non-health outcomes
sexual initiation	alterations to public profiles on social networking sites
sexual Intent	communication skills
STIs (including HIV)	educational outcomes
unintended pregnancy	intimate partner violence
unprotected Sex	parental monitoring
use of birth control methods	parent–child communication about sex
	respectful relationships
	social norms
	suicide attempts

Advisory Group guidance

There is a strong sense from practitioners and experts on sexuality education that CSE programmes have the potential to do much more than just change sexual behaviours. CSE can contribute, for example, to changes beyond health outcomes, including reducing gender-based and intimate partner violence, reducing discrimination, and increasing gender equitable norms. There have been limited rigorous studies assessing these types of non-health outcomes to-date, and many calls for these to be assessed in future evaluations of CSE programmes worldwide, but especially in low- and middle-income country settings.

Among the individual RCTs identified for this review, one stands out as a potential example of measuring a wider range of non-health outcomes. The rigorous RCT of a rights-based curriculum (Rohrbach et al., 2015) was similar to many trials in that its primary measures were related to pregnancy, STIs, multiple sexual partners and use of sexual health services. However, it also measured a range of psychosocial outcomes, and found that the rights-based curriculum (compared to the normal CSE curriculum) led to improved sexual health knowledge, attitudes about relationship rights, partner communication, protection self-efficacy, access to health information, and awareness of sexual health services. The students who received the programme were also more likely to report the use of sexual health services and to be carrying a condom, but there were no clear effects for the other primary outcomes of sexual health behaviour (pregnancy, STIs, multiple sexual partners).

3.7 The effectiveness of sexuality education programmes

There are many facets to the question ‘what works?’ when it comes to CSE, and looking primarily at high-quality RCTs and systematic reviews can only provide part of the picture. Mixed methods research — involving RCTs and associated qualitative

research in the context of the trial — are vital for understanding the many facets of effectiveness as they apply in educational settings and in the lives of young people. Likewise, the word ‘effectiveness’ can be understood in different ways, depending on the goals of a particular programme or effort. For instance, in educational settings, there are overarching goals that go far beyond measuring a single programme over a short period of time (e.g., one school year).

Nevertheless, there are proven ways to use experimental research designs in complex settings such as schools, and where there are multiple and complex long-term goals. In this review, measures of ‘effectiveness’ describe what has been found to be effective compared to other or no intervention in existing high-quality RCTs of CSE curricula, largely in schools settings but also outside of schools. To enhance the usefulness of this information, we also report (in **sub-sections 3.7.2 – 3.8.8**) on findings about implementation and other factors based on qualitative studies that were associated with RCTs and through syntheses provided in systematic reviews of such studies.

Overall, the evidence base for the effectiveness of school-based sexuality education continues to grow and strengthen, with many reviews reporting positive results on a range of outcomes. The 22 systematic reviews that were analysed reported mixed results of CSE programmes (i.e., some positive, some null or showing no effect, and some, but not many, negative results).

3.7a Primary outcomes (sexual behaviour, health)

The primary outcomes of interest in this review were: behavioural/biological/health outcomes (e.g. incidence of STIs, HIV, pregnancy; age of sexual debut; condom use; other contraceptive use; abstinence; number of sexual partners). This update of the evidence echoes research from the previous ITGSE and the wider scientific and practice literature in emphasizing that sexuality education — in or out of schools — does not increase sexual activity, sexual risk-taking behaviour or STI/HIV infection rates. This has been confirmed across the most rigorous trials and systematic reviews (e.g., Fonner et al., 2014; Shepherd et al., 2010). There is also strong evidence that programmes addressing both pregnancy prevention and HIV/STIs are more effective than those focused only on pregnancy prevention, for instance, in increasing effective contraceptive and condom use and decreasing reports of sex without a condom (Lopez, L. M. et al., 2016).

Unfortunately, there are still relatively few high-quality trials of school-based CSE that measure biological outcomes, such as rates of STIs or HIV, making it difficult to draw strong conclusions (Fonner et al., 2014; Lopez, L. M. et al., 2016; Oringanje et al., 2009). This is true in high- as well as low- and middle-income countries, though the majority of high-quality evidence is still concentrated in high-income countries. (More detail about the included systematic reviews is in Table 3.)

3.7b Secondary outcomes (knowledge, attitudes, other non-health/behavioural)

The secondary outcomes of interest were: knowledge and attitudes about sexual health, sexual risk behaviour and gender; self-confidence, self-awareness, social skills; and other related non-biological outcomes. The strongest evidence points to positive effects on increasing young people’s knowledge and improving attitudes related to sexual and reproductive health and behaviours.

3.7c Replication studies

Echoing earlier research (e.g., Kirby et al., 2006), studies which adapted educational interventions already found effective in previous trials were more likely to have effects on knowledge, attitudes or behaviours, even when implemented in different settings (Fonner et al., 2014). This is in line with findings from other fields of study, which show that psychosocial and behavioural interventions that are well-designed and found effective in one country or culture can be successfully replicated in different contexts, even when they are transported from high- to low-resource settings (Gardner, Montgomery, & Knerr, 2015; Leijten, Melendez-Torres, Knerr, & Gardner, 2016).

3.7d Unanticipated outcomes

There were few analyses of potential harms of sexuality education programmes in high-quality trials, or at least very few reported. The exception was a review of programmes to prevent unintended pregnancies in low- and middle-income countries. This review found several interventions which had unexpected outcomes, including a reduction in contraceptive and condom

use; an increase in multiple partners, ever having sexual intercourse and transactional sex among boys; and an increase in ever having sexual intercourse among girls (Hindin et al., 2016). The authors hypothesize that these outcomes are the result of various shifts in sexual behaviour, from having sex with casual partners to more regular partners, and for girls from older partners to same-age partners. Unfortunately, the number of participants in the trials included in this review was not reported, therefore it is difficult to assess the reliability of these results. In addition, some of these outcomes could be interpreted as either positive or negative, depending on local context or programme aims.

3.7.1 Methodological considerations

While, overall, systematic reviews report mixed results of CSE programmes (i.e., some positive, some null, and some, but very few, unanticipated results), in and out of schools, it is vital to recognize the implications of the following methodological factors.

Overall, the methodological quality of the systematic reviews included in this update were high, but most review authors rated the quality of the individual trials as moderate or low. Fortunately, the most rigorous reviews accounted for these methodological limitations when assessing outcomes and drawing conclusions. Therefore, we can have some confidence in the conclusions of the reviews. In addition, there have been some very high-quality evaluations of school-based programmes, using rigorous RCT designs, which offer not only highly reliable evidence of effectiveness but also significant information about implementation and lessons learned. (See **Section 4. Lessons learned about implementation from recent large-scale evaluations.**)

3.7.1a Comparison conditions

The quality of the methods used to conduct trials affects how much we can rely on the outcomes of those trials, including how generalizable the results are to other settings or populations. More directly, methodological issues can be a key reason for poor outcomes from programmes, particularly in relation to the condition that the main intervention is being compared to (Wight, D, 2011). For example, interventions compared to ‘usual’ sex education often show limited effects on knowledge and behaviour. This is true in many trials from high-income countries, where most schools offer some form of sexuality education, but also in low- and middle-income countries, especially where generalized HIV epidemics have led to the implementation of a range of HIV prevention programmes in and out of schools (Mathews et al., 2012a).

In both cases, young people are more likely to have been exposed to information on sexual health and behaviours, and therefore trials are less likely to show strong effects. However, it is important to recognize that interventions compared to existing sex education programmes would need to have a very large impact to show any noticeable change. Mixed or limited effects could indicate that the basic standard of sexual health knowledge among young people in some settings is already relatively high, and therefore that some progress has been made. The SATZ trials in South Africa and Tanzania provide a good example of how testing similar interventions across multiple and diverse settings can help us to better understand how context affects the impact of programmes. (For more information, see **section 4.2. SATZ cluster RCT in 3 sites in South Africa and Tanzania.**)

3.7.1b Short-term follow-up periods

Many trials conducted only short-term follow assessments, for example, one year after intervention (Hindin, Kalamar, Thompson, & Upadhyay, 2016; Shepherd et al., 2010). The likelihood of measurable change among young people could vary greatly depending on their age, but also on their level of sexual experience, with programmes having variable effects on those who are already sexually active, compared to those who are not, and even depending on when sexual debut takes place, either many years before an intervention or many years after. It may not be reasonable to expect a programme to show short-term effects, particularly when it teaches on a broad range of topics and provides a wide variety of life skills that are meant to equip young people for life, not just adolescence (Hindin et al., 2016; Shepherd et al., 2010). [See **Section 3.6.5. Age-appropriateness and tailored delivery models**, for a wider discussion about the effects of timing on programme impact.]

3.7.2 Gender norms as a moderator of effect

The influence of gender norms and power in relationships on all aspects of the health and well-being of young people were mentioned in previous sections (e.g., **3.3 and 3.4.1**). It is hard to overstate the ways that gender interacts with sexual and reproductive health and well-being, especially for girls and young women. The recent large-scale SATZ trial in South Africa and Tanzania are among many to highlight the need to analyse the ways that gender/power norms influence the impact of programmes, including the ability to act on new knowledge about sexual risk. Mathews et al. (2012a) reported that, in Dar es Salaam, the SATZ sexuality education intervention was effective at delaying reported sexual debut. Once data were

disaggregated by sex, though, it showed that the positive effect was due overwhelmingly to delayed debut among boys, not girls. The authors concluded that this was likely due to “Prevalent gender power inequities [which] might have constrained the young women, preventing them from acting on what they had learned during the intervention,” (p117). This also highlights some of the ways in which knowledge or attitudes alone may not be sufficient to change sexual behaviour where other factors — in this case restrictive gender norms — have a strong influence.

In the systematic review of youth HIV prevention interventions in sub-Saharan Africa, Michielsen et al. (2010) found a larger impact on males than females (e.g., for condom use at last sex, ever having had sex, and number of partners). They concluded that this might suggest “women still experience marked difficulties in negotiating condom use or assuming full control over their sexual activity,” (p1201).

This shows the continued urgency to consider the role of gender as a moderator in CSE programmes, and supports the calls for a more explicit ‘empowerment approach’ to CSE, particularly in relation to gender, as described in **section 3.3 (The goals of sexuality education)**.

3.7.3 Violence as a mediator of effect

The percentage of students who experience forms of violence in school settings is a thematic indicator (33) for monitoring the Education 2030 Agenda. In the SATZ trials in South Africa and Tanzania, levels of violence in some schools in the trial may have reduced levels of effectiveness compared to other schools where levels of violence were not as severe (Mathews et al., 2012a). Similar to recommendations relate to gender as a moderator of effect, it is important for evaluations to consider the role that violence may play in the effectiveness of CSE programmes. This is also a call to action to actively address violence experienced by young people, in and out of schools, which is supported by a number of recent global efforts (e.g., UNICEF, 2014). (The important lessons learned from the SATZ trials are examined in **Section 4. Lessons learned about implementation from recent large-scale evaluations.**)

3.7.4 Comprehensive, holistic and multi-component approaches

Two large, rigorous reviews that looked at both school-based and other delivery sites for sexual health interventions, found that the programmes most likely to change behaviour were those offering more than just education or information. They often included components such as promotion, provision or skills-building related to contraception, training of healthcare staff to offer youth-friendly services, usually in the community, and/or engaging parents (Fonner et al., 2014; Oringanje et al., 2009). (**Section 3.6.7 Stand-alone or integrated programmes**, details lessons learned from the evidence base about these interventions.)

Reviews suggest that school-based sexuality education should be part of a holistic strategy aiming to engage young people in learning about and shaping their sexual and reproductive future, encompassing multiple settings, including schools, the community, health services and households/families.

3.7.5 Conditional cash transfer and other economic incentive programmes

One approach to improving sexual health outcomes among young people has been via indirect methods such as economic incentives to keep girls in school, particularly conditional cash transfer (CCT) programmes. There is evidence that CCT programmes have a noticeable impact on rates of unwanted pregnancy or HIV or STIs. A systematic review of programmes to prevent unintended pregnancy in low- and middle-income countries found that some CCT programmes did reduce rates of pregnancy while others had no impact. Importantly, that review found no evidence that these programmes increase rates of pregnancy, thus refuting one of the key criticisms of CCT programmes (Hindin et al., 2016). We found very few trials of economic incentives for young people (usually girls) which also include an explicit school-based sex education programme, therefore the potential of this approach combined with comprehensive sexuality education remains unclear. However, there has been important evaluation and analysis in this field (Lutz & Small, 2014), particularly of the impact of attending school on rates of HIV and other related outcomes, which could contribute to a holistic policy and programme approach to improving young people’s sexual and reproductive health.

Table 3. Summary of analysis of systematic reviews: effectiveness of sexual health interventions

Citation	Age range	Trial countries/ region	# included trials / participants (by study design)	Overall effectiveness / review quality (if not assessed as 'high')	Quality of included studies / review ⁱ
(Napierala Mavedzenge et al., 2011)	10-24	South Africa (5), Kenya (3), 1 each in: Tanzania, Uganda, and Zimbabwe	23 (11 in schools) / 135,235 (variable study designs)	7 of the 11 school-based programmes showed positive effects on at least one measure of reported sexual behaviour; none showed effect on biological outcomes; combined (education + contraception) interventions appear to reduce unintended pregnancy, but methodological quality and variability, and paucity of studies directly comparing interventions precludes definitive conclusion.	high / unclear
(Agbemenu & Schlenk, 2011)	14-18	Kenya	5 / unclear (at least 24,660 schools)	lack of high-quality studies precludes an accurate summary of impact / limited assessment of study quality and unclear reporting of N of participants	low / low
(Oringanje et al., 2009)	10-19 (but some included studies were up to age 24)	4 in LMICs; all others in HICs	53 / 105,368 (RCTs)	In low-quality studies, educational interventions were unlikely to significantly delay the initiation of sexual intercourse among adolescents compared to controls; in studies of moderate quality, significantly increased reported condom use at last sex in adolescents compared to controls who did not receive the intervention; unclear if any effect on unintended pregnancy as this was not reported; overall, combined interventions (educational plus contraceptive promotion) had moderate quality designs and showed the most significant effects	low-to-moderate / high
(Fonner et al., 2014)	school age (including college, university)	LMICs (SS Africa n=29; East Asia/Pacific n= 15; Europe/Central Asia n =2; Latin America/Caribbean n =16; South Asia n= 4)	64 / 87,307 (including 57,079 RCTs, comprising both individual participants and groups)	meta-analysis found that school-based sexuality education showed an effect for condom use; CSE interventions were effective at reducing high-risk sexual behavior, but no conclusion could be drawn from interventions emphasizing abstinence due to the small number of eligible studies and inconsistent findings; the most significant changes were seen in interventions which had a community component (extended beyond schools), and those that were replications of previously efficacious programmes	moderate / high

ⁱ Quality of included trials was based on the assessments of the authors of each included systematic review. Criteria for the assessment of the quality of included systematic reviews is outlined in Appendix D.

Table 3. Summary of analysis of systematic reviews: effectiveness of sexual health interventions

Citation	Age range	Trial countries/ region	# included trials / participants (by study design)	Overall effectiveness / review quality (if not assessed as 'high')	Quality of included studies / review ⁱ
(Guse et al., 2012)	13-24	7/10 in USA	10 / 7,630 (RCTs or quasi-RCTs)	2 studies significantly delayed initiation of sex, and one was successful in encouraging users of an SNS to remove sex references from their public profile; 7 interventions significantly influenced psychosocial outcomes such as condom self-efficacy and abstinence attitudes, but at times the results were in directions unexpected by the study authors; 6 studies increased knowledge of STIs/HIV or pregnancy; statistically significant impacts were most often seen on knowledge-based outcomes, which may not translate to meaningful reductions in youth risk behaviours.	moderate / high
(Hindin et al., 2016)	10-24	13 different countries in SS Africa, Latin America and Asia	21 (2 school- and curriculum-based) / unclear	9 reported statistically significant declines in pregnancy rates; 7 reported increases in contraceptive use; 2 reported decreases in sexual activity; and 2 reported an increase in age of sexual debut. Overall: The most common intervention design targeting contraceptive use was life-skills training programs, with very mixed results. Limited evidence of effective evaluations on distal outcomes (sexual activity, abstinence) showed mostly mixed or null results; many successfully reduced pregnancy, although some have no impact. Importantly, none found an increase in pregnancy among young people. Despite the success of cash transfer programs, they may be unsustainable in terms of cost, and it is unclear whether changing norms is needed for sustained long-term change. For the proximal outcome of contraceptive use, those with the strongest results were those that provided contraception directly to young people / The review did not appear to report the number of participants in the included trials.	high / moderate

Table 3. Summary of analysis of systematic reviews: effectiveness of sexual health interventions

Citation	Age range	Trial countries/ region	# included trials / participants (by study design)	Overall effectiveness / review quality (if not assessed as 'high')	Quality of included studies / review ⁱ
(Kennedy, Fonner, O'Reilly, & Sweat, 2014)	any (only 3 included were with children/young people, and only 1 with a school component)	6 sub-Saharan Africa, 3 South or Southeast Asia, and 3 Latin America and the Caribbean	12 (1 with school component described as 'health education') / 2,779 (RCTs)	few included studies found significant effects on condom use, number of sexual partners, or other HIV-related behavioural outcomes; 1 trial showed a 55% reduction in intimate partner violence; no studies measured incidence/prevalence of HIV or STIs among intervention recipients; overall, the influence on HIV-related behaviours and outcomes is inconclusive, but income-generation interventions may have important effects on outcomes beyond HIV prevention	moderate / high
(Lopez, L. et al., 2016)	19 and younger	1 Mexico, 1 South Africa, 9 USA or UK	11 (all school-based) / 41,742 (RCTs)	Among the 3 effective, high-quality programmes: after a 2-year programme, the intervention group reported more use of birth control as well as condoms during last sex than the group with standard classes; another study found that programmes for avoiding risk and reducing risk showed fewer reports of sex without using birth control or condoms; the 3rd study had peers lead eight sessions of educational activities, and showed less birth control use compared with teacher education but the researchers did not adjust for the study design	low / high
(Goesling, B. et al., 2014)	19 or younger		88 / unclear	31 of 88 interventions (of all types, not just in schools) showed evidence of effectiveness	high / high

Table 3. Summary of analysis of systematic reviews: effectiveness of sexual health interventions

Citation	Age range	Trial countries/ region	# included trials / participants (by study design)	Overall effectiveness / review quality (if not assessed as 'high')	Quality of included studies / review ⁱ
(Manlove et al., 2015)	18 and younger		103 evaluations of 85 programmes (54 in schools) / unclear	Studies of CSE programmes found that just under half were effective or had mixed findings for at least one outcome; among the 14 studies of abstinence-education programmes, 5 were deemed effective in relation to sexual initiation and sexual frequency; one of those reduced pregnancies or births, but none reduced the number of sexual partners, increased condom or contraceptive use, or reduced STIs	unclear / unclear
(Picot et al., 2012)	13-19	most USA; the rest Africa (South Africa, Tanzania and Namibia), Italy, The Netherlands, Scotland and England	15 (all school-based) / 16,098 (RCTs)	Limited effects on behavioural outcomes, such as condom use, but no negative impact (e.g. no earlier sexual initiation); around half the studies reported beneficial effects on at least one behavioural outcome, but this was sometimes limited to a participant subgroup; trials which included a control group showed improvements in attitudes to sexual health and behavioural intentions, but few of those which compared intervention to standard sex education found a statistically significant difference between groups.	high / high
(Sutton, Lasswell, Lanier, & Miller, 2014)	9-16		15 (5 school-based) / 7,720 (RCTs)	significant effects with black/African-American male youth, including decreased recent sexual intercourse and increased condom use compared with controls after a 48-month follow-up	moderate / high
(Tolli, 2012)	10-24	EU countries (Italy, Germany, England, Greece)	5 / 13,728 (variable study designs)	Compared to standard practice or no intervention, no clear evidence of effectiveness of peer education / conclusions not clearly supported by the trial analysis	low / moderate

Table 3. Summary of analysis of systematic reviews: effectiveness of sexual health interventions

Citation	Age range	Trial countries/ region	# included trials / participants (by study design)	Overall effectiveness / review quality (if not assessed as 'high')	Quality of included studies / review ⁱ
(Wight, D, 2011)	13-15	UK only	4 / 22,174 (RCTs)	strong effect on knowledge and attitudes, but relatively low effect on behavioural and biological outcomes, especially over the long term; none of the 3 programmes made a remarkable improvement in SH outcomes, suggesting that existing health promotion programmes are adequate, and that broader social factors need to be the target of future initiatives, along with more targeted programming for those most at risk	high / high
(Wight, D. & Fullerton, 2013)	5-18	all but 4 in USA (others in Trinidad & Tobago, Mexico, South Africa and Nicaragua)	44 / 21,235 (in relevant RCTs, excl those aimed at university-age parents)	Of the 44 programs with adequately robust evaluation, one-third were school based and one-third were community based. By and large, where outcomes were measured, they showed positive results, but sexual behavior outcomes were only positive in slightly more than half the studies where they were measured (NB: (16 were secondary school based; school-based programmes were either abstinence-based or CSE, and outcomes were similar, though CSE programmes used more rigorous study designs and had larger sample sizes)	unclear / high
(Shepherd et al., 2010)	13-19	High-income countries	15 / 35,557 (RCTs)	There were few significant differences between the intervention and comparator in terms of changes in behavioural outcomes such as condom use	high / high
(Michielsen et al., 2010)	10-25	SS Africa	31 (19 in schools) / 50,990 (RCTs and controlled trials)	Sex education and condom promotion among youth did not increase sexual behaviour, including risky sexual behaviour. No positive effects on sexual behaviour were detected either and condom use at last sex only increased among males.	low / high
(Amaugo et al., 2014)	10-24	Nigeria	7 / 4,974 (variable study designs)	All of the reviewed studies revealed statistically significant improvements in at least one measured outcome; the reviewed studies showed over 35 significant improvements in measured outcomes compared with only five non-significant results.	low / high

Table 3. Summary of analysis of systematic reviews: effectiveness of sexual health interventions

Citation	Age range	Trial countries/ region	# included trials / participants (by study design)	Overall effectiveness / review quality (if not assessed as 'high')	Quality of included studies / review ⁱ
(Haberland, N. A., 2015)	19 or younger	6 in LMICs	22 (10 in schools, 15 RCTs) / 33,293 (RCTs)	Overall results indicate more promising outcomes for gender/power-based curricula, although one-quarter of participants come from one trial whose curriculum is light on gender/power / limited analysis of data and of the quality of included trials	moderate / moderate
(Maness & Buhi, 2013)	9-18	USA	10 (3 school-based, 2 after school) / 5,619 (RCTs)	most included trials yielded at least one statistically significant result on an outcome variable intended to reduce adolescent pregnancy; interventions used to prevent repeat pregnancy demonstrated effectiveness while not all interventions to delay sexual intercourse showed a significant positive effect (this is consistent with adolescent pregnancy prevention programs for a wider range population, which were found to have inconsistent results (Kirby, 2007))	high / high
(Denno, Donna M., Chandra-Mouli, & Osman, 2012)	10-24	mostly LMICs (Canada, Denmark, Frances, Malawi, Mexico, the Netherlands, UK, USA, Zambia)	20 (10 with comparative data; excluded school-based) / unclear	The studies generally demonstrated positive impact, although results varied across settings and approaches. The most successful approaches included mail-based chlamydia screening (the Netherlands), condom distribution via street outreach (USA), home-based HIV counseling and testing (Malawi), and promotion of over-the-counter access to emergency contraception (various countries)	low / high
(Mason-Jones et al., 2012)	school age	all in North America	27 / no RCTs	very little high-quality, reliable evidence, therefore accurately summarizing impact was not possible	low / high

3.8 Implementing programmes

Implementation of programmes involves elements of: dose (how many sessions or hours); delivery (by whom, where, using which methods); uptake (was it acceptable, and how many participants received all sessions); and context (in which settings or environments was it effective, or not effective). (Some aspects of uptake were covered in **Section 3.5, on acceptability and feasibility.**)

Implementation information is not always documented in reports of trials, but the number of RCTs of CSE programmes that also report the results of process evaluations or similar assessments is significant. Among the trials analysed in the 22 systematic reviews we included, the intervention dosage ranged from a few hours to as much as 20 sessions over 2 years, or even longer multi-year programmes. Delivery was by teachers, peers or nurses or other clinicians, and some trials report the extent to which the interventions may have been delivered as intended (i.e. fidelity, see **Section 3.8.1**). There was limited information in reviews about uptake and context, though the large-scale, multi-site randomized trials which are highlighted in **Section 4 (Lessons learned from recent large-scale evaluations)** provided significant information about uptake and context (Farb, 2013; Shepherd et al., 2010; Wight, D, 2011). This section summarizes some of the lessons learned from process evaluations and systematic reviews.

3.8.1 Fidelity

“Implementation fidelity refers to the degree to which an intervention or programme is delivered as intended,” (Carroll et al., 2007). Fidelity is important not only in research trials of programmes or curricula, but also when a programme is scaled-up. In many areas where we intervene to improve youth outcomes, implementation fidelity is cited as one the most crucial determinants of a programmes success or failure.

“In many cases, programs have failed to achieve their intended outcomes for youth when implementation was poor whereas, in other cases, program impact was much higher when there were reports of more effective implementation ... In other words, participants may receive more benefits as a result of better program implementation, or they may receive no significant benefit if program implementation is poor,” (Durlak, 2013, p4).

While fidelity is vital to ensuring that a programme continues to have the effects it was intended to have, it is natural for programmes to be adapted, especially when they are implemented over time, as in the case, for example, of long-term school-based programmes. In light of this, it is useful to think of implementation quality as being on a continuum, from poor- to moderate- to high-quality. High-quality implementation is vital for achieving the outcomes that were achieved in original effectiveness trials of a curriculum or programme (Durlak, 2013).

Implementation quality can be affected by many things, “... from societal, community, program, practitioners, and organizational influences, as well as the implementation process itself,” (Durlak, 2013, p4). This includes adaptations aimed at meeting the particular needs of the environment, the school, the students, the faculty or even the community. Adaptation should be done with careful consideration and with some understanding of the core components of the programme or curriculum, as outlined by the programme developers or in subsequent research.

Some adaptations are likely to have a limited effect on fidelity. These can include, for example, changing language (translating and/or modifying vocabulary), replacing images to show youth, families or situations that look like the target audience or context, replacing cultural references. Less acceptable or risky adaptations — those likely to influence the effectiveness of the programme — may include, for instance:

- reducing the number or length of sessions or how long participants are involved;
- lowering the level of participant engagement;
- eliminating key messages or skills learned;
- removing topics;
- changing the theoretical approach;
- using staff or volunteers who are not adequately trained or qualified; or
- using fewer staff members than recommended (O’Connor, Small, & Cooney, 2007).

There are a number of models and guidelines available for adapting social interventions which would be applicable to CSE (Castro, Barrera, & Martinez, 2004; Lau, 2006) and worth noting for future efforts at understanding the tension between fidelity and adaptation.

Many of the reviews included in this report emphasized the importance of fidelity (Michielsen et al., 2010; Shepherd et al., 2010; Wight, D, 2011). Poor implementation can result in inaccurate findings. This can waste resources or even lead to negative consequences, as ineffective programmes are judged to be effective and therefore rolled out more widely. On the other hand, the opposite can be true, where efficacious programmes are not replicated because they are deemed to have a limited impact (Michielsen et al., 2010; Wight, D, 2011). In all cases, it is important for evaluators of programmes to measure fidelity.

The review of large-scale trials of the SATZ teacher-led programmes in South Africa and Tanzania (Mathews et al., 2012a) conducted extensive evaluations, including those focused on fidelity, and suggest a generally good level of fidelity. They looked at how many lessons the students received (55.9 per cent of students received 10 or more lessons), how many school periods were spent delivering the lessons (teachers reported using 26–55 school periods, totalling 20–50 hours, to cover the programme). “Twenty-six teachers in 13 schools were observed delivering a lesson in Cape Town, and a lesson for each teacher in each intervention school in Dar es Salaam and Mankweng,” (p115).

In the SATZ trials, the interactive elements of the programme were vulnerable to being left out: “In Cape Town, four teachers at two schools did not implement the condom demonstration lesson. In all sites, several teachers used whole class discussions in place of the skills-based activities such as role-plays and group work owing to the large class sizes (sometimes in excess of 100 students in Dar es Salaam),” (p115). This is despite the conclusions of some authors that the interactive elements may be crucial for changing behaviours (Shepherd et al., 2010), as suggested in other rigorous reviews (e.g., Lopez, L. et al., 2016). Omission of more interactive or skills-based elements of programmes was reported in the review of programmes in sub-Saharan Africa (Michielsen et al., 2010), while several trial authors cited a reluctance among teachers and health professionals to discuss condom use with young people (Fonner et al., 2014; Michielsen et al., 2010).

In addition, Michielsen et al. (2010) noted that “resource constraints and general disorganization in schools often hampered implementation of the planned activities, such that time assigned for the scheduled activities was often curtailed or cancelled altogether,” (p1200). This could have clear effects on fidelity, as it may have prevented some activities from being delivered fully or at all, but it is logical to conclude that these factors could have wider effects on overall effectiveness.

Moreover, echoing earlier research (e.g., Kirby et al., 2006), studies which adapted educational interventions already found effective in previous trials were more likely to have effects on knowledge, attitudes or behaviours, even when implemented in different settings (Fonner et al., 2014). This is in line with findings from other fields of study, which show that psychosocial and behavioural interventions that are well-designed and found effective in one country or culture can be successfully replicated in different contexts, even when they are transported from high- to low-resource settings (Gardner et al., 2015; Leijten et al., 2016).

3.8.2 Delivery of interventions (Delivery)

3.8.2a How should sexuality education be delivered?

Pound et al. (Pound et al., 2016) provide an important analysis of 48 studies looking at young people’s views on how sexuality education is delivered. They report that most schools treat CSE as if it were any other subject, without enough attention to the fact that, “Sex is a potent subject that can arouse strong emotions, reactions and feelings—of anxiety, embarrassment and vulnerability among others ...,” (Pound et al., 2016, p4). According to (Pound et al., 2016), this has led to CSE curricula that, at best, is “out of touch with many young people’s lives,” particularly those who are sexually active, and at worst renders young people vulnerable. They argue for a sex-positive approach to CSE delivery, and that:

“Unless we get the delivery right, young people will continue to disengage from SRE and opportunities for safeguarding young people and improving their sexual health will be reduced,” (Pound et al., 2016, p12).

In particular, students reported that they value safety and confidentiality in CSE lessons and the ability to participate without being singled out. This sense of safety was linked to ensuring adequate discipline in the classroom and some students suggested that smaller class sizes or small-group discussions could help to maintain discipline (Pound et al., 2016).

3.8.2b Who should deliver sexuality education?

Sexuality education programmes are most commonly delivered by teachers, peers or health professionals, or a combination of all three (Fonner et al., 2014). A review of programmes in the UK found that the characteristics of the provider affected young people's acceptance and engagement with the programme, and that:

“Providers of school-based interventions need to be enthusiastic and credible, with considerable expertise in classroom management and the delivery of skills-building activities, such as role plays and group discussions,” (Shepherd et al., 2010, p xii).

In particular, the review by Shepherd et al. (2010) noted the need for providers who are comfortable and capable of dealing with sensitive discussions and a wider understanding of cultural and gender norms that affect sexual health and behaviours. In some cases, programmes that have been culturally adapted to reach specific populations of young people may use facilitators from same the ethnic/cultural group as the young people the programme aims to reach, or the facilitators may be specially trained to work with these groups (Maness & Buhi, 2013).

A qualitative synthesis of young people's views on CSE by Pound et al. (Pound et al., 2016) — based on studies from high- and middle-income countries — found that, on the whole, teachers are viewed by students as unsuited to deliver CSE. They specifically cited a lack of training of teachers, embarrassment on the part of teachers to discuss sex frankly or with confidence, an inability to answer students' questions, and a reliance on poor teaching methods, such as viewing outdated films. Students reported that this reduced the credibility of teachers, prevented the enjoyment of CSE lessons and suggested that sex could not be discussed in a frank or open way. Pound and colleagues reported varying views on teachers as the best option for delivering CSE: on the one hand, they know their students and so are the best choice, while on the other, this familiarity made it less appropriate, awkward or embarrassing. Views also varied on whether teachers or peers were best placed to delivery CSE, with some suggestions that outside 'experts', such as those specifically trained to deliver CSE, would be welcomed. Pound and colleagues compiled a list of the qualities young people prefer in sex educators:

- “Knowledgeable
- Has expertise in sexual health
- Professional
- Specifically trained in [sex and relationship education]
- Confident, unembarrassed, straightforward, approachable and unshockable, experienced at talking about sex, uses everyday language
- Trustworthy, able to keep information confidential
- Has experiential knowledge, comfortable with own sexuality
- Good at working with young people
- Able to relate to and accept young people's sexual activity
- Respectful of young people and their autonomy, treats them as equals
- Has similar values to youth, provides balanced view, non-judgemental,” (Pound et al., 2016, p11).

Considering the views of young people is vital to ensuring good outcomes of CSE. However, this needs to be balanced with evidence from other sources. There is strong evidence of the effectiveness of teacher-led sexuality education programmes in many settings, based on high-quality randomized studies. The original ITGSE stated that adult-led sexuality education programmes generally show stronger effects than peer-led programmes, and more recent evidence strengthens this finding (Tolli, 2012; Wight, D, 2011). This will, of course, be affected by many factors, such as the level and quality of training that teachers receive, the quality of the programme, whether the programme is delivered as intended (i.e. fidelity) and also the school and wider social environment.

While some commentators cite a lack of rigorous trials of peer-led programmes to determine their effectiveness (e.g., Napierala Mavedzenge et al., 2011; Villa-Torres & Svanemyr, 2015), we found a number of high-quality trials, mostly in low- and middle-income countries (16 trials, 13 of which were implemented in low- and middle-income countries, mostly in sub-Saharan Africa, but also India, China, Brazil and Ecuador). Peer-led programmes have shown very limited effects on knowledge or behaviour, especially when compared to standard, curriculum-based teacher-led programmes (Lopez, L. M. et al., 2016; Tolli, 2012; Wight, D, 2011). Interestingly, one review found that peers may be more effective at changing norms, but teachers may be more effective at increasing knowledge (Wight, D, 2011). There are also suggestions that peer-led programmes, while less expensive initially than training teachers, may be less cost-effective in the long run because peer educators soon grow up and leave the

school system, while teachers often remain and the school system can continue to benefit from the investment in their training (Shepherd et al., 2010).

Young people's views on peer-led programmes vary. For instance, Tolli (2012) assessed peer-led sexuality education programmes in Europe and found one trial in which young people felt more comfortable learning from and talking to teachers about sensitive issues, while Pound and colleagues (Pound et al., 2016) found a highly variable mix of views. Wight (2011) and Pound et al. (2016) both reported that some girls felt less comfortable in mixed-gender, peer-led classes. This supports the recommendation that gender must be considered as a moderator of the effects of CSE programmes, and this should be evaluated and addressed in programme design and delivery.

Rigorous trial evidence provides more support for teacher-delivered than peer-delivered CSE, but qualitative evidence remains equivocal and highly varied. In addition to these factors, it is worth noting some suggestions in non-trial literature that peer-led CSE can help to create strong peer networks, improve interpersonal and communication skills among those who are trained as peer educators, and confer other similar benefits relevant to future job seeking and leadership. The potential value of involving young people in educating their peers must be weighed against the benefits of other approaches. Overall, there is a need to further assess this topic, especially with qualitative research that is part of an RCT, thereby testing the effectiveness of the programme alongside considerations of acceptability and feasibility.

In some cases, teachers and peers may not possess all of the skills and qualities needed to effectively deliver sexuality education to young people (Shepherd et al., 2010). Borawski et al. (2015) studied the differential effects of a well-established HIV/STI prevention curriculum (Be Proud! Be Responsible!), when taught by school nurses compared to health education teachers in secondary schools. It found that, while both teacher- and nurse-led programmes led to improvements in HIV/STI/condom knowledge following the intervention, nurse-led lessons led to more sustained changes of up to one year after the intervention in attitudes, beliefs, and efficacy. The teacher-led programmes led to fewer changes, and sustained changes only in knowledge about condoms (Borawski et al., 2015). The authors concluded that, while both teachers and nurses could deliver sexual and reproductive health information, nurses may be more likely to possess some of the more technical or interpersonal capabilities needed to communicate skills such as condom-use and negotiation. This was based on a single rigorous study so may not be widely generalizable. However, the qualitative review by Pound and colleagues reports that many students would welcome CSE delivery by trained experts rather than teachers or peers, including specialists in health clinics (Pound et al., 2016), so this is worth pursuing as a topic of evaluations and overall delivery of CSE.

Sexuality is a sensitive issue, and there are calls for ensuring that sexuality education programmes and those who deliver it deal effectively with the potential embarrassment or worries of young people (Pound et al., 2016). The qualitative review of young people's satisfaction with school-based sexuality education from 10 high- and middle-income countries found that most schools teach these programmes as if they were like any other subject, without consideration for the sensitive nature of the topic. Young men in the surveys expressed anxiety about appearing sexually ignorant, while young women risked harassment if they participated. Overall, the review found that school-based sexuality education programmes were out of touch with young people's lives, and cited negative, gender-biased and heterosexist aspects of programmes, as well as a lack of anonymity and poor training of teachers (Pound et al., 2016).

On a more positive note, a report from UNFPA shows that all countries in Eastern and Central Africa, which have some of the highest levels of HIV infection, have some sort of CSE training programme for teachers, and the majority report that CSE is provided in at least 40 per cent of primary and secondary schools (UNFPA, 2016).

The number of teachers available to deliver CSE programmes can be affected by whether the programmes are delivered as part of other subjects (such as health), or if they are stand-alone programmes. The lack of teacher training programmes noted in some reports of large-scale programmes (e.g., Mathews et al., 2012a) suggests that, in many places, there simply won't be enough teachers who are trained to adequately deliver CSE programmes effectively. Delivery of CSE programmes needs to take place in a safe and supportive environment, which requires adequate training and support for teachers. For instance, UNESCO (2015b) reports that in ten countries in Eastern and Southern Africa, most curricula did not indicate that teachers were provided with guidance, supervision or other information when they became aware of sexual abuse experienced by students. This is one of the challenges to consider in terms of teacher training, but also one factor among many in ensuring a safe and supportive environment for delivery of CSE programmes overall, alongside issues such as school policies.

3.8.2c Digital media as delivery mechanism

There are a considerable number of studies of sexuality education programmes delivered via digital media, largely in the USA but also in countries such as Kenya, China and Brazil. They varied widely in relation to the technology being used, which includes, for example, text messaging, social networking, websites, e-mail, podcasts, blogs and gaming. In some cases, delivery via digital

media was part of a wider curriculum-based programme, which included modules delivered by teachers, peers or health professionals.

The most notable review of these studies found 10 trials with 7,630 participants in high-quality trials (i.e. RCTs or non-randomized controlled trials, N=8). They were aimed at young people up to age 24. The interventions were mostly web-based, with 1 using mobile phones and another using a social networking site (SNS) (Guse et al., 2012). Some of the interventions were delivered in schools. Most were aimed at the same types of outcomes as other sexuality education interventions (i.e., changing sexual risk behaviours, increasing knowledge, improving attitudes), though one targeted HIV-positive young people with mobile phone calls reminding them to take their medication. The review found three studies which significantly changed target behaviours: two delayed initiation of sex, and one encouraged users of SNS to delete sexual references from their public profiles. However, the most common effects were on knowledge and attitudes, with 7 studies influencing condom self-efficacy and abstinence attitudes as well as knowledge of HIV/STIs or pregnancy (Guse et al., 2012).

Digital-media-based delivery of sexuality education appears to offer rich opportunities compared to other delivery mechanisms, especially its ability to tailor interventions to the specific needs of users, including sub-groups of young people who may not be adequately addressed in static, curriculum-based programmes that are delivered to whole school-year classes. Guse et al. (2012) reported on several interventions which used web-based self-assessments or programmes that assess a young person's cognitive level or even their level of sexual experience, and deliver appropriate information to fill knowledge gaps or otherwise address needs for skills or information. There was also tailoring by gender, race/ethnicity or risk profile.

Digital media-based delivery could also increase access to sexuality education for some populations. Some of the discussion around these interventions has suggested they can limit access, especially in resource-poor settings, where young people do not have access to online resources at home, or where there is limited or poor infrastructure in communities, school districts or regions. However, the review by Guse et al. (2012) found that these programmes successfully reached young people from marginalized and often under-served populations (e.g., HIV-positive young people, those with substance abuse problems), and in resource-poor settings.

Increasing access via digital media needs to be done with careful consideration of a wide range of factors, for example, how much technological support and equipment is required to adequately implement the programme. In many cases, mobile phones are widely available and/or cheap to provide, so they may offer an effective means for communicating information to young people. Some of the interventions highlighted by Guse et al. (2012) were delivered in schools, though the authors noted that school environments can place filters on web sites which might prevent examining sexual and reproductive health information (Howard, Davis, & Mitchell, 2011).

There are also ethical implications related to providing sexuality education through digital media, whether as part of a larger curriculum-based programme, or as a stand-alone intervention, for example, whether young people's online behaviour or personal profiles should be revealed to programme staff, teachers or researchers (Guse et al., 2012). The opportunities presented by digital-media delivery of sexuality education may be best exploited, and the risks minimized, through consultation with and participation of young people, who in many cases are far more expert users of these technology than their teachers, parents or other elders.

3.8.3 How many sessions or hours? (Dose)

Sexuality education programmes vary widely in terms of the number of hours or sessions young people receive, and it is rarely clear how this may affect effectiveness. Programmes involved as little as a single 5-hour session or 2–3 hours of intervention, to as much as 20 sessions over 2 years, or 26 hours of intervention over a 5–7 week period (Fonner et al., 2014; Lopez, L. M. et al., 2016; Picot et al., 2012). There were also examples of multi-year interventions that incorporated community-based elements, such as training in youth-friendly health provision for healthcare staff and youth-led condom distribution (Fonner et al., 2014). A review of studies from sub-Saharan Africa (Michielsen et al., 2010) reported greater impact among young people who received more of the intervention, but only for the few trials that reported level of exposure.

3.8.4 Development of and support for sexuality education programmes (Uptake, Context)

It is widely agreed that sexuality education programmes, like any social intervention, must be developed using a participatory process, with researchers, policymakers and educators (WHO Regional Office for Europe and BZgA, 2010) as well as parents, community entities and, of course, young people themselves. Denno, Hopes and Chandra-Mouli (2015) conducted a very large analysis of strategies for providing adolescents with sexual and reproductive health services, and found that community support

was fundamental to success, and cited detailed information about strategies for generating community support. That review echoes other studies which also suggest that involving community ‘gatekeepers’ such as religious leaders can lead to wider community support (Denno, D. M. et al., 2015; Svanemyr, Amin, Robles, & Greene, 2015).

There are now many good examples of programmes in low- and middle-income countries that have been developed through a collaborative process. For example, in Jamaica, the Ministry of Education worked with government agencies, UN partners, parent-teacher associations, faith-based organizations, NGOs and students to revise the curriculum (UNESCO, 2010).

A review of rigorous studies from low- and middle-income countries found that most involved some form of community involvement, including consulting parents and community members about the content of the intervention. In many of the studies, teachers, parents and other community entities expressed reluctance to discuss or allow discussion of condoms (Fonner et al., 2014).

Overall, a positive school environment has been shown to facilitate the full implementation of programmes, which thus supports effectiveness (Picot et al., 2012). Many effective programmes involve cultural adaptation, for example, planning sessions or focus groups with young people and parents to ensure programmes are appropriate and acceptable to the local community (Maness & Buhi, 2013).

There are strong arguments for involving many stakeholders and especially parents and community members, such as faith organizations, in the development of sexuality education curricula. However, it is equally important to balance the desires of communities, parents, young people themselves, and other local stakeholders, with the responsibility to provide young people with the most effective and comprehensive (and, to the extent possible, evidence-based) interventions based on high-quality research.

There is an emphasis in some of the literature on the need for cultural tailoring of programmes, especially in places with ethnically or culturally diverse populations, and where there are wide health inequalities along ethnic/cultural lines (Amaugo et al., 2014; Maness & Buhi, 2013). Cultural adaptation of behavioural interventions can be done either at community level, as part of the process of getting input and ‘buy in’ from parents, communities and other stakeholders. However, it is vital that established programmes of any kind are implemented with fidelity. How programmes are adapted can affect their impact, and yet this is rarely reported in evaluations of programmes. There is also a paucity of evaluations that directly tests culturally adapted components compared to non-adapted components (Maness & Buhi, 2013).

Holistic approaches must also address the differential needs of girls, including those who may be married or not in school; those who are HIV-positive; lesbian, gay, bisexual, transgender (LGBT) youth; and other key subgroups. Many evaluations of programmes report little or no information about socioeconomic status, ethnicity, and even gender of participants, leaving a gap in knowledge about whether programmes increase, or perhaps may even hinder, access to information and services and inequalities (Shepherd et al., 2010).

As outlined in Section 3.6.2b. Digital media as delivery mechanism, there may be a place for digital media in reaching young people who are hard to reach, and in tailoring interventions to meet specific needs (Guse et al., 2012).

3.8.5 Age-appropriateness and sexual history (Context)

Age-appropriateness is one of the defining characteristics of high-quality, effective, comprehensive sexuality education (Haberland, N. & Rogow, 2015). There are compelling arguments for delivering suitable programmes to children at young ages (Haberland, N. & Rogow, 2015), such as 10–14 year-olds, who are at the transition point between childhood and older adolescence, and for children in primary school, enabling them to recognize inappropriate behaviour, including child abuse, and to develop healthy attitudes about their bodies and relationships (Igras, Macieira, Murphy, & Lundgren, 2014).

In addition to age-appropriateness, there is compelling evidence that more targeted interventions may be needed to address the needs of subgroups of young people. In particular, it may not always be possible for school-year-wide programmes to be effective for all young people, including those who are already sexually active (Shepherd 2010) or those who are not yet sexually active (Michielsen et al., 2010). Young people may become sexually active at different ages, and much of the evaluation literature suggests that targeting interventions to reach young people at different levels of sexual experience may be important to ensure the effectiveness of programmes.

In a review of HIV prevention interventions for young people in sub-Saharan Africa, Michielsen et al. (2010) found that “differences in impact according to sexual history were present in several evaluations: participants who were virgins at the time of exposure to the intervention reported higher rates of abstinence after the intervention..., less sexual intercourse in the past months ... and higher intentions to use a condom” (p1201). A number of other reviews also suggest that age and level of sexual experience (or inexperience) are important considerations. Findings from large-scale, rigorous evaluations of school-based CSE

programmes in high-income countries suggest that delivering programmes to young people who are not yet sexually active may mean the benefits are missed, because non-sexually active students do not view the content of CSE lessons as relevant to their lives (Constantine et al., 2015a; Farb, 2013; Rohrbach et al., 2015; Wight, D, 2011), even though delivery to this group is essential when a key goal is to delay sexual debut. However, the cost of adding targeted programmes or modules may be a significant barrier in low-resource settings. Also, trying to target interventions carries the risk of stigmatizing pupils by singling them out as having different needs (Wight, D, 2011). This was addressed in one programme in the UK by linking the school-based intervention with community-based sexual health services, though; it increased uptake of free condoms, but did not show any impact on risk-taking behaviour (Wight, D, 2011).

Overall, it is important to recognize the heterogeneity of populations of young people, even if they are the same age and in the same year at school, and how this influences the potential effectiveness of any school-based CSE programme. It is also important to recognize that the teen years may be too late to have a big effect on sexual behaviour. There is a growing evidence base on parent- and family-based interventions for improving sexual health outcomes of young people, and suggestions that intervening even earlier — with parents, well before their children reach adolescence — may be an important avenue for improving sexual health (see the next section, **3.6.6 Involving parents in sexuality education strategies**).

3.8.6 Involving parents

Parental involvement with sexuality education programmes has traditionally meant that they have been consulted with regard to developing the curriculum, or asked for their support for school-based programmes. In one example, parents in Bangladesh showed a high level of acceptance of educational and service-related programmes on sexuality education because they found it difficult to discuss these topics with their children (Denno, D. M. et al., 2015). In Tanzania, three-quarters of the 287 parents surveyed, in both urban and rural areas, supported school-based sexuality education from the age of 10, with strong support for the provision of facts, information and skills, but less support for lessons on attitudes and values (Mkumbo & Ingham, 2010).

In recent years, there have been an increasing number of interventions directly with parents, aimed at improving the sexual health of their children. Wight and Fullerton (2013) found that, while schools are the main setting for adolescent sexuality education programmes, many school-based programmes incorporate a parenting component. They found 44 trials (25 of them were of high quality), mostly in the USA, but also trials in Trinidad and Tobago, Mexico, South Africa and Nicaragua. The parenting component of the trials was usually about communication about sex, but also included components on sexual and reproductive health information, discussion about their children's future values or plans, regulation of child behaviour, and parental modelling of behaviour. Parents' involvement included homework assignments, after-school sessions for parents and their children, and encouraging parents to learn about the programme; interventions with higher levels of parent involvement, regardless of level of child involvement, showed the strongest effects. Overall, the trials that measured sexual health outcomes showed some positive impact, though the evidence base of rigorous studies is still small and therefore results are inconclusive.

A further search recent individual randomized trials found several which took place outside of Europe and North America. Notable was the trial by Akpabio, Asuzu, Fajemilehin and Ofi (2009), which compared an HIV health information intervention delivered by nurses compared to one delivered by both nurses and parents, on secondary school pupils in Nigeria. It found health education delivered by nurses only, was more effective at increasing favourable attitudes toward HIV/AIDS preventive measures than the intervention involving both nurses and parents. The authors note that parental involvement in HIV prevention with young people has had equivocal results in other studies, in some cases suggesting that parents may not be best able or comfortable to deliver this information, and others suggesting the opposite. The study by Akpabio and colleagues used a single session for educating parents, and they question whether a longer or more extensive intervention with parents is necessary to ensure positive results.

A study in the Bahamas (Stanton et al., 2015; Wang et al., 2014) tested a parental monitoring intervention alongside a school-based sexuality education programme for grade 10 students. The parents were randomized to receive a parental monitoring intervention (CImPACT), a goal-setting intervention (Goal for It [GFI]), or no intervention. The control condition for students was the existing Bahamian Health and Family Life Education (HFLE) Curriculum. Adding the parent component improved knowledge, condom-use skills, and perceptions, and showed marginally significant increases in self-reported condom use, compared to students who only received the sexuality education programme with no parental intervention. The authors also reported a small effect on condom use from both parent interventions (the sexual risk communication intervention and the goal-setting intervention). This may suggest that parent's participation, even if not specifically focused on sexual health communication, could confer benefits over sexuality education for young people alone (Wang et al., 2014).

3.8.7 Stand-alone or integrated programmes (Delivery, Context)

Sexuality education may be delivered as a stand-alone subject or it can be integrated across subjects within the school curriculum. The former has the advantage of enabling specialized teacher training and monitoring and evaluation, while the latter is more likely to be retained despite funding cuts or overburdened timetables. Overall, organizations recommend that sexuality education be compulsory and not extra-curricular (UNESCO, 2015b). UNESCO's Global Review (UNESCO, 2015b) surveyed the place of CSE within the curricula of schools in a number of countries, and noted that this is largely linked to national policies and curricula organization.

Our updated review of the evidence reiterates UNESCO's conclusion that there is still very little evidence on effectiveness based on CSE's place in the curriculum.

3.8.8 Linking CSE programmes to health services (Delivery, Context)

One of the most promising developments in ensuring the sexual and reproductive health of young people is in multicomponent programmes which offer school-based sexuality education alongside community- or health-service-based services. Some reports suggest that the biggest impacts are seen when school-based programmes are augmented with community elements, including training for health providers to deliver youth-friendly services, condom distribution, and involving parents and teachers (Chandra-Mouli et al., 2015; Fonner et al., 2014; UNESCO, 2015a). Moreover, not all children attend schools, and schools often face shortfalls of funds and resources (Fonner et al., 2014), so sexual health education needs to be the responsibility of more than just the education sector.

High-quality evidence supports the provision of multicomponent interventions, especially linking school-based sexuality education with non-school-based youth-friendly health services, including the provision of contraceptives/condoms (Wight, D, 2011). In the three interventions reviewed by Wight (2011) in the UK, the one intervention that included access to sexual health services saw more young people use the services, including those from lower socioeconomic backgrounds. This highlights the ways that extending programmes beyond school walls can help to increase access for marginalized groups. In their review of programmes to reduce unwanted pregnancies in low- and middle-income countries (in or out of schools), Hindin et al. (2016) found that direct provision of contraceptives to young people was the most likely way to increase contraceptive use; however, they note that this is not possible in places where young people do not access health services.

The holistic approach to youth sexual health complements school-based programmes by addressing the wider sociocultural determinants of sexual behaviour. These include, for example, gender norms, parent-child communication and relationships, socioeconomic factors (such as those addressed by conditional cash transfer programmes), and others. In places with high levels of HIV infection, Michielsen et al. (2010) notes that: "From an ecological perspective, HIV/AIDS is only one factor among a great number of interacting factors which operate on different levels to influence sexual behaviour," (p1200).

Multicomponent programmes that extend beyond the school setting are particularly important for reaching marginalized young people, including those who are not in school. In line with the original ITGSE, though, there needs to be a trade-off between reaching large numbers of students in schools and reaching the most vulnerable young people with out-of-school interventions, especially in light of resource restrictions. Few existing programmes in low-income settings appear to be addressing vulnerable young people (Haberland, N. & Rogow, 2015).

In general, evidence suggests that simply providing youth-friendly services, without complementing that with school-based programmes or support from parents and communities, is likely to be ineffective. All elements are needed for a holistic and effective approach (Denno, D. M. et al., 2015). Much of the attention in this area has been paid to clinic- or community-based health services, for example, with referral systems linked to schools (Denno, D. M. et al., 2015). However, a few studies have assessed the effectiveness of school-based health services, which is a way for schools to become the primary resource even for subgroups of young people who may not be well-served by school-year-wide educational interventions (Mason-Jones et al., 2012). The majority of studies on school-based health services are of low quality and have been implemented in North America, but the limited data available found that girls used the services more than boys. Notably, the one systematic review of school-based services reported on a study of the provision of sexual health services alongside mental health services for young people. It found that the main reason young people cited for using mental health services was for pregnancy and sexuality issues, depression or conflict, and violence. Those who used the school-based services were also often found to exhibit more risk behaviours, such as unprotected sex (Mason-Jones et al., 2012).

Advisory Group guidance

There is a strong consensus that greater efforts must be made to reach young people who are not in school and to begin approach CSE as a continuum that exists in and out of formal education environments. Educators, curriculum developers, policymakers, researchers and others need to investigate points of entry for reaching young people who are not in formal education. There should also be investigation of some of the benefits of providing CSE to all young people in non-formal settings.

Recent large-scale evaluations

Systematic reviews of multiple trials of CSE programmes are the most reliable way to determine effectiveness and learn lessons about implementation and practice. However, several large-scale programme evaluations stand out in the recent literature as being not only rigorous, but also sources of rich and detailed information about implementation. We provide a summary and overview of the lessons learned from these evaluations. (Another notable evaluation which included extensive qualitative research, but which we did not have time to review here, is by Harden and colleagues (Harden et al., 2006).)

4.1 SHARE, RIPPLE and HEALTHY RESPECT in the UK (Wight 2011)

Daniel Wight (2011) provided an overview of four rigorous evaluations of three CSE programmes implemented in the UK. This was an in-depth analysis of very robust evaluations, which reached nearly 80 schools and more than 22,000 students, and included extensive process evaluations. Below and in Table 4 is a summary of the characteristics of the programmes and their evaluations, including some of the rich implementation information and lessons learned reported by the authors.

Were the programmes effective?

All three programmes improved sexual health knowledge and, to some degree, attitudes. These results, however, were influenced by delivery: the peer-led programme was more successful in modifying norms while teacher-led programmes were more likely to improve knowledge. Overall, however, none of the programmes showed a remarkable improvement in sexual health outcomes, and the study authors suggest that the existing health promotion programmes may have been adequate, and that broader social factors may need to be the target of future initiatives, particularly for young people most at risk of poor sexual health outcomes. It was also acknowledged that this may be difficult in routine school CSE, which delivers to all students at the same time.

The most notable implementation lessons learned come from the HEALTHY RESPECT trial, as it made links with external health services.

The authors also noted interesting findings about the implementation and delivery of CSE programmes and their influence on gender- and rights-based factors. For instance, the original evaluation of the RIPPLE trial (Stephenson et al.) found that peer-led CSE sessions tended to be less strict in terms of discipline, or there was more difficulty in managing boys' behaviour. This led some girls to report discomfort in contributing during sessions, and calls for at least some single-sex sessions.

In the trial of HEALTHY RESPECT, which involved links with external health services, more participants in the intervention schools used sexual health services, including those from lower socioeconomic backgrounds. This suggests that multicomponent interventions, with links between school CSE and health services in the community, can, indeed, improve equity of access to services.

Overall, the author's conclusions suggest that, where basic CSE and sexual health services are already in place, improving young people's sexual health outcomes may not best be achieved through further improvements in CSE or services, but instead through a wider approach. In particular, they suggest early-years interventions (i.e. with parents and families, before children reach their teen years), macro-level socioeconomic interventions (to address inequalities), and interventions to mitigate the influence of violent or unhealthy media, including negative sexual images.

Advisory Group guidance

Some participants in the expert advisory group have suggested that the limited effects of modified CSE programmes in places where there is already an existing basic CSE programme may not be due to existing programmes being adequate. Instead, they suggest this may reflect that researchers are not making the right kinds of investments in strengthening CSE programmes.

Table 4. Summary characteristic from long-term evaluation of 3 CSE programmes in the UK (Wight 2011)

Project (trial period)	SHARE (1996–2004)	RIPPLE (1997–2005)	HEALTHY (2001–2003 and 2007–2009)	RESPECT
Description	20-session, theory-based, teacher-led CSE for 13–15 year-olds	peer-led, 3-session CSE lessons for 13–14 year-olds	multi-component intervention for 14–16 year-olds, whose main elements were SHARE (extended to cover 2nd, 3rd and 4th years of secondary school), youth-friendly drop-in sexual health services, media campaigns and branding	
# schools / participants	25 schools / 5,854 participants	27 schools / 6,656 participants	27 schools / 9,664 participants	
Study design	cluster RCT	cluster RCT	2 before-after cross-sectional surveys with matching	
Training	5-day specialist training for teachers	year 12 pupils (aged 16-17 years) were recruited as peer-educators and trained to use participatory methods with year 9 pupils	5-day specialist training for teachers	
Follow up	age 15–16 and age 20 (national health system data)	age 15–16 and age 20 (national health system data)	Short-term (varied)	
Content	Physiology, relationships, typical experiences of early sex, contraception, parenthood, sexually transmitted infections (STIs), and skills for sexual negotiation, condom use and accessing local sexual health services.	3 classroom sessions: on relationships, STIs, and condoms and contraceptives; the aim was to develop skills in sexual communication and condom use, and knowledge about pregnancy, STIs, contraception and local sexual health services	aimed to improve sexual health, including respect for other sexual orientations, and to reduce sexual health inequalities	
Delivery	Combined active learning and skills development, primarily through the use of interactive video and role playing	1-hour sessions, teachers not present, replaced the usual teacher-led sex and relationships education development of skills	encouraged partnerships between the National Health Service, Local Authorities and the voluntary sector	
Compared to	7–12 sex education lessons primarily devoted to information provision and discussion; only 2 control schools had condom handling demonstrations and none systematically developed negotiation skills; teacher training for CSE was very limited	on average, 6–7 teacher-led sex and relationship education sessions covering contraception, STIs and relationships at least once, though pupils were less likely than teachers to report that relationships had been addressed; delivery was largely through information provision, with limited skills development	mainly information provision and discussion; sexual health services were less available and not linked to schools; no overarching communications strategy	

4.2 SATZ cluster RCT in 3 sites in South Africa and Tanzania

In the recent trial literature, searches identified what appears to be one of the first large-scale RCTs of a school-based HIV prevention/CSE intervention developed based on extensive research, conducted in three different social contexts and cultures in sub-Saharan Africa. This was tested using a high-quality, cluster-randomized design (Mathews et al., 2012a) (Table 5).

Table 5. Summary characteristic of the SATZ trial for 12–14 year olds 3 locations in South Africa and Tanzania (Mathews et al., 2012a)

Project (trial period)	2004–2005
Description	11–17 hour teacher-led intervention + booster sessions; developed using intervention mapping, a systematic method using empirical evidence, behavioural change theory and formative research
# schools /participants	80 / 12,139 (grade 8 in South Africa and grades 5 and 6 in Tanzania; 30 high schools each in Cape Town and Mankweng and 24 primary schools in Dar es Salaam)
Study design	Cluster RCT
Training	4–5 days of training by a specialist consultant or trainer from the Institute of Education; two teachers trained per school (they were Life Orientation teachers in Cape Town and Mankweng, and Science teachers in Dar es Salaam); all also received 1 or more booster training sessions. Lessons were observed to assess fidelity; teachers kept logs of lesson implementation; and focus group discussions were conducted with teachers and students.
Follow up	6 and 12 months after baseline assessment
Content	Topics covered at most or some schools: Self-image and values clarification; personal, social and physical development; sexuality and reproduction; HIV, AIDS, STIs and substance use; condom use; gender roles (at some schools); skills for protection and safety; intimate partner violence (at some schools); contraception; sexual decision-making and sexual risk behaviour; sexual risk assessment (at some schools); myths and misconceptions; Healthy lifestyles; reproductive health rights
Delivery	Teacher-led brief presentations, skills training through modelling, whole class and small group discussions (mixed sex and same sex), role-plays, small group activities, questionnaire for students to interview their parents, homework and assignments to involve parents in homework; condom demonstrations took place only at the schools in Cape Town Materials used in some schools: A teacher manual with lesson plans, student workbooks, Homework worksheets, posters, condoms, a dildo, booklet on substance use, flip charts and manila cards
Compared to	Existing curriculum (which was more detailed in South Africa than in Tanzania; schools in the comparison arm received teacher training and the provision of the materials at the end of the study)
Outcomes	Among those who had had their sexual debut (N=488), 40% (N=196) reported using a condom at last sex; in Dar es Salaam, students in the intervention were less likely to have their sexual debut during the study, but there was no effect on condom use; in Cape Town and Mankweng, the intervention had no impact on sexual debut or condom use. Overall, the interventions were effective at delaying sexual debut in Dar es Salaam but not in South Africa, where they need to be supplemented with programmes to change the environment in which adolescents make decisions about sexual behaviour.

The trial was notable for its rigour, including measures of implementation fidelity; for the systematic approach to developing the intervention; for the supportive and extensive training of teachers, including booster sessions; and for the well-documented information and implementation materials provided for the project (e.g. <http://prepare.b.uib.no/>). The study was also important because, although it found the intervention effective at delaying sexual debut in Dar es Salaam, but not in the two sites in South Africa, the trial report provides rich

information about possible reasons for this related to implementation and context, which provide valuable lessons learned for implementation in these countries and elsewhere.

Lessons learned and implementation factors

Some of the possible reasons for the differential effects described by the study authors include:

- **Who delivered the intervention:** science teachers delivered the classes in Tanzania, and Life Orientation teachers in South Africa, and the former may be held in higher respect.
- **Content and delivery mechanisms:** while the interventions were similar across sites, the Tanzanian implementation included drama, but the South African sites did not use drama; however, the interventions was considered more comprehensive overall in South Africa.
- **Comparison conditions:** At the time of the study, there was a variety of school-based HIV prevention programmes and educational interventions using participatory learning approaches, especially in Cape Town. In contrast, there were relatively few of these in Tanzania, which could have made it more likely that this intervention would have an impact in Tanzania compared to South Africa. In addition, students in control schools in South Africa would have been exposed to the Department of Education’s Life Orientation curriculum, which includes HIV prevention components and is more detailed than the equivalent curriculum in Tanzania. The influence of other educational interventions may have contributed to the relatively higher baseline scores among Cape Town students compared to those in Tanzania, and the post-trial improvements seen among students in Tanzania and Mankweng but not Cape Town.
- **School environment/violence:** the authors hypothesize that the higher levels of violence in South African schools compared to in Tanzania may have affected students’ abilities to participate in the intervention sessions. However, this remains unclear, as there is limited comparative data on school violence from Tanzania.

4.3 TEEN Pregnancy Prevention Approaches (PPA) in the USA: the healthteacher evaluation in Chicago

The Evaluation of Adolescent Pregnancy Prevention Approaches (PPA) study was a major effort of the US Government, from 2008–2016, taking place in seven sites across the country. The evaluations were led by a professional research firm (Mathematica Policy Research and its partners) and the Child Trends and Twin Peaks Partners, LLC. Detailed implementation reports and some impact reports are available for all seven programmes at: <http://www.hhs.gov/ash/oah/oah-initiatives/evaluation/federal-led-evaluation/ppa-study.html>

Among the general school-based CSE programmes in the PPA project, the first impact evaluation is available for the trial of HealthTeacher in 14 Chicago schools, reaching nearly 1,200 students. Table 6 shows the main characteristics of this programme and its evaluation.

Table 6. Summary characteristic of the HealthTeacher curriculum for 13-year-olds in 14 Chicago public schools

Project (trial period)	HealthTeacher (2011–12)
Description	Comprehensive, teacher-led health education curriculum for students in grades kindergarten through year 12
# schools /participants	14 schools / 1,200+ participants
Study design	Cluster RCT
Training	available ‘off-the-shelf’, with curriculum manual, guidelines and supplementary materials available to teachers through a website
Follow up	1 year after baseline (6 months after end of intervention)
Content	9 lessons from the online HealthTeacher curriculum: Recognizing Respect, Changing Minds, Changing Bodies, Menstruation and Sperm Production, Looking to My Future, Looking at Barriers, Abstinence, It’s Okay to Say No, Preventing STDs/HIV 3 lessons developed by the Chicago Public School System and University of Chicago staff: Contraceptives, Sexuality, and Gender
Delivery	12 class-room based lessons of 45–90 minutes each, including group work and discussions, videos and visual aids

Compared to

curriculum-as-usual (despite policies directing schools to provide family life education and CSE, it was not provided during the evaluation period to year 7 students, and there was no indication of programmes outside of the curriculum or in the community)

Was it delivered as intended?

The evaluation of HealthTeacher in Chicago schools included a systematic assessment of implementation fidelity among the teachers delivering the programme. This is a crucial analysis for understanding the programme's impact, and notable because reports of fidelity based on planned or systematic assessment of fidelity are rare in the CSE evaluation literature.

Comparison condition

Like the evaluations in the UK reviewed by Wight (2011), the HealthTeacher evaluation also included a detailed assessment of the comparison conditions. In this case, students in control schools received curriculum-as-usual. However, interviews with teachers found that, despite policies directing schools to provide family life education and CSE, it was not provided during the evaluation period to year 7 students, and teachers in all of the participating schools were unaware of any programmes outside of the curriculum or in the community that provided sexuality education.

Getting teachers' perspectives

The impact evaluation of the HealthTeacher programme revealed rich information about how teachers found the experience of implementation. The full report is available online (<http://www.hhs.gov/ash/oah/oah-initiatives/evaluation/federal-led-evaluation/ppa-study.html>). Some of the key findings were that teachers found the curriculum easy to use and felt it helped them address questions from and misconceptions held by students. They also felt that the curriculum helped to fill a gap in the intervention schools, more than half of which did not previously have a CSE programme for year 7 students. Student focus groups also revealed that the programme was well received and considered valuable. Among more experienced teachers there was a desire to continue using the HealthTeacher curriculum, and some suggested adapting it to include field trips, such as a visit to a health centre.

While the programme was largely well liked, teachers also reported a number of challenges. These included finding it difficult to complete some of the lessons in the time available, a lack of context or links between the lessons, and in some cases confusing or unclear directions for some lessons.

Lessons learned for implementation

The authors cite the following lessons learned from their implementation evaluation.

- Allow ample time for students' questions. "Lessons originally scheduled to take 45 minutes might be better spread over two class periods, and lessons scheduled for 90 minutes might be better spread over three 45-minute class periods."
- Consider implementing lessons on a daily basis, or at least more frequently than once a week, to promote continuity between lessons.
- Strike a balance between fidelity and allowing teachers to exercise creativity. "Teachers would benefit from expanded opportunities to supplement the curriculum."
- Provide more support to new teachers, who may not be familiar or comfortable with the content, such as through regular check-ins from supervisory staff.

Was HealthTeacher effective?

The evaluation found that HealthTeacher increased student's knowledge, but did not lead to reduced rates of sexual activity or improvements in refusal skills (which were based on answers to the questions: "How likely is it that you could stop them if they wanted to touch your private parts below the waist, meaning the parts of the body covered by underwear, and you did not want them to do that?" and "How likely is it that you could avoid having sexual intercourse if you didn't want to?"), attitudes and intentions.

“Students in the treatment schools were just as likely as those in the control schools to report engaging in sexual intercourse and oral sex, and they did not demonstrate any sustained gains in protective skills or attitudes,” (Goesling, Brian, Colman, Scott, & Cook, 2014, p27).

Because the evaluation employed a high degree of rigour, the authors could conclude with a high level of confidence that the outcomes did not reflect poor implementation, nor did they indicate that the impacts were diluted because students were accessing similar information elsewhere.

They hypothesize, however, that students may have been too young or inexperienced to benefit from the program information, as surveys suggested that most of the students targeted in the intervention schools were not yet sexually active, nor would they be for some time.

The authors propose that,

“Alternatively, our results could also be viewed more broadly as questioning the general effectiveness of relatively low-cost, off-the-shelf school curricula such as *HealthTeacher*. School districts around the country often rely on such curricula as a practical, affordable approach to sex education. However, there is little evidence demonstrating the effectiveness of this approach in changing youth behaviors, including in this current study,” (Goesling, Brian et al., 2014, p28).

They suggest that more intensive and targeted interventions may be worth exploring, though they tend to be more costly.

4.4 Lessons learned

The rigorous, large-scale evaluations highlighted in this section involved nearly 80 schools in the UK, 80 in South Africa and Tanzania, and 14 in the USA, and included more than 35,000 young people. They provide some of the most detailed and reliable evidence and implementation information for CSE programmes to date. The programmes were all delivered to 13–16 year-olds and were curriculum-based, and all but one of the trials was delivered by teachers, demonstrating some of the characteristics of effective programmes as defined by the evidence covered throughout this review. The outcomes were similar for the trials in the USA and UK, where the interventions improved knowledge and, to some extent, attitudes, but not sexual health behaviours, even at long-term follow up. However, the results of the trials in sub-Saharan Africa were more variable, showing effects on sexual debut in Tanzania but no effects in South Africa.

Where these evaluations differ is in terms of their comparison conditions, and what this may suggest about their effectiveness. In the UK, the programmes were compared to existing sex and relationship education programmes, and the findings suggest that those existing programmes may be adequate. In the USA, the programmes were compared to no intervention, as teachers reported that there was no curriculum-based teaching for year 7 students nor any known programmes outside of school. The authors concluded that students may have been too young or inexperienced to benefit from the programme (because they did not feel it was relevant to their current lives), or simply that low-cost, off-the-shelf curricula may simply not be effective. The trials in Tanzania and South Africa may also have been influenced by comparison condition. In South Africa, where there are relatively more HIV prevention programmes and therefore young people are more likely to be exposed to sexuality education information, there was no significant effect. Also, the authors of the SATZ studies note the level of violence in schools in South Africa, and the impact this may have on adolescents’ abilities to benefit from school-based programmes.

Strengths and limitations of this review

Among the strengths of this review is its primary reliance on high-quality evidence from systematic reviews and RCTs, balanced with evidence from qualitative research, policy and strategy documents, and expert advice from UNESCO, its partners, and the Advisory Group. Many of the included systematic reviews assessed studies using a wide range of study designs, therefore the evidence presented encompasses results from across the hierarchy of evidence, but with a strong emphasis on the highest quality designs. However, the fact that the evidence threshold is somewhat variable throughout could also be seen as a limitation. As the time to conduct this review was limited, it is possible that some trials or systematic reviews were not included, though it is unlikely that this would have influenced the overall conclusions, considering the number of search engines searched and experts contacted, and the large number of trials and systematic reviews that were included.

Conclusions and recommendations

In view of the high-quality evidence generated since 2008, it is promising to find that the original ITGSE still maintains much of its validity and applicability. We feel it is still a sound and reliable resource for developing and promoting CSE. To update and improve the ITGSE, we provide detailed recommendations below. Our recommendations are based primarily on evidence from high-quality research and approaches that strongly predict changes in behaviour, rather than just knowledge, attitudes or other non-health outcomes. We have also included recommendations based on suggestions from the Consultation participants and Survey Respondents, as applicable.

Recommendations

ITG Foreword

- Most content still highly relevant and accurate
- Update paragraph 4 with new data on young people's knowledge about HIV transmission, and perhaps add other data here, e.g., on young people's access to CSE, data about young people's sexual health, etc.
- Update paragraph 7 to reflect the new rigorous evidence and that this is an update to the original ITGSE.

ITG 1.1 (What is sexuality education and why is it important?)

- Update definition of CSE (to be provided by UNESCO)
- Consider adding a sentence adapted from (Chandra-Mouli et al., 2015, p3): "In many countries, CSE is still not widely available in schools. These realities have a negative impact not only on the health and development of girls and boys but also affect nations in their efforts to reach their development goals."
- Update paragraph 2 with new data on young people's knowledge of how to prevent HIV transmission, and possibly other data about access to CSE. E.g., data from UNFPA: "Recent research conducted by UNFPA in seven ESA countries shows that: 45% of all youth have comprehensive knowledge of HIV; 74% of youth know about HIV prevention methods (from 59% of youth in South Africa to as high as 85% in Swaziland)," (UNFPA-ESA).
- Also update the information about prevalence of CSE programmes: which countries/regions, for example, with data/information taken from the UNESCO 2015 global review (UNESCO, 2015b).

ITG 1.2 (What are the goals of sexuality education?)

- Paragraph 1: consider modifying the first sentence to reflect the importance of sexuality education beyond HIV. For example, considering adapting some text from sections 3.2 and 3.3 of the Evidence Review (ER) (e.g., consider replacing paragraph 4 in the ITGSE with text from the ER-3.2, paragraph 1: "While young people learn about sexuality and sexual health from many sources, schools still play a central role. Although school-based sexuality education and HIV prevention are not enough by themselves to prevent HIV and ensure the rights of young people to sexual and reproductive health, school-based programmes are a very cost-effective way to contribute to these aims (Kivela et al., 2013; UNESCO, 2011). The percentage of schools providing life-skills-based HIV and sexuality education to young people is a Thematic Indicator (28) for monitoring the Education 2020 Agenda," (UNESCO, 2016a).
- You may also want to add text about gender norms/power, rights and/or violence, and how sexuality education could be a means for addressing these issues.

ITG 1.5 (How was the ITG developed?)

This needs updating to reflect the ER and 2016 global technical consultation

ITG 2.1 (Young people's SRH)

- Update paragraph 1 with information about SDGs: we recommend text from page 2 of the IPPF publication on the SDGs (IPPF, 2016), some of which is paraphrased in ER-3.2, paragraph 1.
- Consider adding to or modifying paragraph 4, the last sentence, which briefly mentions sexual abuse and rape, with a more detailed paragraph on violence and power in relationships, e.g.,: information may be found in UNFPA's Operational Guidance (UNFPA, 2014), Section **4.3 (Addressing Risk/Protective Factors in the Wider Social Environment)**, pp50–1.
- One of the key requests from the Stakeholder Survey was for more information about gender-based violence, and this may be an appropriate place for this information.
- Consider modifying paragraphs 5–6, which now focus on the global HIV epidemic. This may involve adding a paragraph about other facts related to young people's knowledge of sexual and reproductive health (not just HIV), and the importance of young people's SRH beyond prevention of HIV, for example, for addressing young people's well-being and ensuring their abilities to make healthy decisions and to develop healthy relationships, etc. This might be a good place to focus on CSE beyond health outcomes, for addressing gender norms and power, for overall health and well-being. You might consider paraphrasing this text from (Edwards, 2015):
 - "There are about 1.8 billion young people between the ages of 10 and 24 – the largest youth population ever. Many of them are concentrated in developing countries. In fact, in the world's 48 least developed countries, children or adolescents make up a majority of the population. Too many of these young people see their potential hindered by extreme poverty, discrimination or lack of information. But with proper investment in their education and opportunities, these young people's ideas, ideals and innovations could transform the future." ... "HIV-related deaths are down 35 per cent from 2005 – but estimates suggest that deaths among adolescents are actually rising."

ITG 2.2 (The role of schools)

Most information still current, but consider adding information from ER-3.2, paragraph 2, sentences 1 and 2.

ITG 2.3 (Young people's need for sexuality education)

- Consider updating this short section with information suggested by advisory group/consultation participants, on the need to empower young people, especially girls, e.g., by adapting the information from (Haberland, N. & Rogow, 2015), quoted in ER-3.3:
 - "... sexuality education seeks explicitly to empower young people —especially girls and other marginalized young people —to see themselves and others as equal members in their relationships, able to protect their own health, and as individuals capable of engaging as active participants in society," (Haberland, N. & Rogow, 2015) pS16.
 - empowerment approach with a focus on gender norms and power relations recognizes that these are crucial factors in safer sex negotiation (Haberland, N. & Rogow, 2015; Pulerwitz, Gortmaker, & DeJong, 2000) and, more broadly, in the overall social and cultural environment in which young people make decisions.
- Box 1. Sexual activity has consequences: examples from Uganda: no new data from Uganda; consider replacing with another case study, in part to avoid the somewhat negative wording of the title.
- This would also be a good place to integrate more information about gender-based violence and other similar issues that were requested by respondents to the Stakeholder Survey.

ITG 2.4 (Addressing sensitive issues)

- This very brief section currently discusses reaching young people before they are sexually active, and the challenge for those developing/delivering CSE to address sensitive issues such as vulnerability and disability. It also mentions same-sex relationships.

- Consider adding information from ER-3.8.2a (How should sexuality education be delivered?), about how CSE is not the same as any other school subject, and how it can arouse strong emotions and reactions, such as anxiety and embarrassment, both among students and teachers. Also mention safety and confidentiality, as well as appropriate discipline in the classroom to ensure that everyone feels they can participate.
- There could also be a mention about ensuring that those who deliver CSE are capable of dealing with sensitive issues (ER-3.8.2b), which is covered later (under ITG 3.4), but may deserve a mention here as well.
- This would also be a good place to integrate some information about harmful practices and norms, with some discussion about how CSE can address this sensitively (this could also be integrated into ITG 2.1). E.g., information may be found in UNFPA's Operational Guidance (UNFPA, 2014), **Section 4.3 (Addressing Risk/Protective Factors in the Wider Social Environment)**, pp50–1.

ITG 3 (Building support and planning for implementation...)

Table 1 is accurate and still relevant, but we have two recommendation that you may wish to consider:

- Update Concern 7 (Teachers may be willing to teach sexuality education but are uncomfortable...): you may consider adding a sentence about the possibilities of engaging other experts, such as school nurses or external experts, to deliver CSE.
- Strengthen Concern 8 (Sexuality education is already covered in other subjects): the response to this is a bit weak; perhaps consider adapting this statement from ER-3.2, paragraph 3: basic school curricula and education standards in many countries rarely include comprehensive sexuality education (UNESCO, 2016a).
- Consider modifying Concern 9 (Sexuality education should promote values.): This seems to focus on rights and rights-based approaches, even though the Concern is about 'values'. Perhaps consider rearranging the content, and whether talking about a rights-based approach is the best way to communicate with the target audience. Instead, consider changing the response,
 - start with the idea that 'values cannot be separated from discussions of sexuality' (also, the existing text uses the phrase 'not possible to divorce considerations of values from discussions of sexuality' — the word 'divorce' may be misunderstood by readers who are less comfortable with English, so we suggest rephrasing)
 - Then, 'the ITG supports the promotion of "values such as respect, acceptance, tolerance, empathy and reciprocity."'
 - Lastly, mention that these values are also the basis of universally agreed human rights.
 - You might also consider adding a few statements addressing cultural taboos/norms and how to balance the scientific evidence on 'what works' in relation to CSE with discomfort or cultural expectations/norms/etc.
- You might consider adding a case study to this section, e.g., adapt from (Chandra-Mouli et al., 2015):
 - "In China, community resistance to new CSE programmes was strong because parents feared it would teach their children to start having sex at an early age, and that CSE was a Western concept unsuitable for China (UNESCO, 2010). Programmes instead focus on abstinence-only education. Some teachers in China (Rogow et al., 2013) and Thailand (Thaweessit & Boonmongkon, 2009) were found to reinforce gender stereotypes and discrimination in their CSE classes. In Thailand, teachers do not teach CSE despite there being a national policy and curriculum, which the authors attribute to teacher discomfort or resistance (Thaweessit & Boonmongkon, 2009).
 - In Nigeria, in order to scale up the national CSE programme, the government was forced to modify the curriculum in order to reach consensus (Haberland & Rogow, 2015). Religious and conservative groups achieved a number of changes in the curriculum, including the proviso to adapt the curriculum to suit local cultures (UNESCO, 2010). Cultural resistance and the belief that CSE encourages sexual activity are identified as the most significant challenges in Nigeria (UNESCO, 2010). There is strong evidence against this claim. Clear and replicable research has shown that CSE does not lead to earlier sexual initiation or an increase in sexual activity (Braeken & Cardinal, 2008)."

- You may also consider (either here, or in ITG 3.4 At school level) adding a sub-section on teacher training, or ensuring that those who deliver CSE are prepared with adequate training and support. This could be adapted from ER-3.8.2b (Who should deliver sexuality education?). Also could include:
 - “CSE has also been successfully integrated into pre-service training for primary teachers. In-service teachers also receive capacity building in effective delivery of CSE... Partnerships with civil society and private institutions have been critical in key elements of scale-up such as teacher training and the development of teaching and learning resources.” (UNESCO, 2015c, p9).
 - “A number of efforts are underway to strengthen CSE pedagogy. Transforming teaching methods for CSE, however, requires more than one-shot pre-service training and in-service workshops. Rather, it has bold implications for pedagogy more broadly and thus for education reform. At the global policy level, CSE ... cannot advance in the public sector without a major investment in strengthening teacher skill,” (Haberland, N. & Rogow, 2015, p19).
 - (Browne, 2015), p11: “In a review of the application of the Population Council’s It’s All One CSE training tool, the authors find that teacher preparedness is the major challenge facing most countries (Rogow et al., 2013). Teachers may not be specifically trained in delivering CSE and may lack knowledge and attitudes to deliver this effectively. The authors recommend that a significant investment is made in teacher training.” (Rogow et al., 2013)

ITG 3.1 (Key stakeholders)

- This section is relevant and accurate.
- Consider adding some information from the 2015 UNESCO document (UNESCO, 2015a), e.g.:
 - “Participation can be regarded as a civil and political right (i.e., participation in political elections) and as an economic, cultural, and social right (i.e., the participation in the design and implementation of development agendas, including health, education, housing policies, and poverty reduction strategies such as youth employment). Children’s and adolescents’ right to participation in all matters related to their own lives has been recognized in the Convention on the Rights of the Child,” (p52).
- Also consider information from some of these sources for modifying this section:
 - Section on “Generating community support” reviews evaluation literature of interventions to enhance support from different stakeholders (Denno, D. M. et al., 2015, p37)
 - Svanemyr et al. (2015 p12): “Community mobilization can foster intergenerational communication in support of ASRH. By engaging in public education efforts, community members learn about ASRH issues in culturally sensitive ways, increasing the prospects for attitudinal change. There is some evidence that the involvement of key community gatekeepers, including religious leaders, can generate wider community support,” (Svanemyr et al., 2015), adapted from (Kesterton & Cabral de Mello, 2010) and (Denno, D. M. et al., 2015). ... Learning Forums engaged parents and community leaders to sensitise them to the needs and experiences of young people who had received LSBE”
- Box 2. (Involving young people) — consider replacing, e.g.:
 - Case study from Jamaica: “Jamaica’s current HFLE programme is the result of a collaborative revision process that began in 2005. During the two-year revision period, the Ministry of Education (MoE) involved government agencies and UN partners and organized a series of consultations with parent-teacher associations (PTAs), faith-based organisations, NGOs and student bodies (see box) in order to build ownership of and support for the revised curriculum. The draft curriculum was pilot tested in 2006 in 24 schools,” (UNESCO, 2010, p28).
 - Case study drawn from the review by Pound, Langford, & Campbell (2016), the large review on “What do young people think about their school-based sex and relationship education? A qualitative synthesis of young people’s views and experiences”

ITG 3.2 (Developing the case for sexuality education)

- Box 3. (Latin America and the Caribbean: Leading the call to action): consider replacing this with a case study, e.g.:
 - drawn from the WHO Pakistan Country Synthesis document (WHO, Pakistan country synthesis report, document provided by UNESCO), which includes information such as:
 - “The programme engaged with and conducted repeated consultations with religious leaders and their endorsement was essential for the implementation of the LSBE curriculum,” ... “- The conservative operating environment was addressed through a multiplicity of media and advocacy activities in the community, among parents, and by involving teachers, school administrators, district education departments and Muslim scholars in the development and review of the curriculum ... The term LSBE was chosen in preference to CSE in an attempt to tackle resistance to the use of contested terms like sexuality
 - Or from (UNESCO, 2015b), p25: teacher training case study from Save the Children that led the implementation of a Pan-African Comprehensive Sexuality Education and Information project across 15 countries in Southern, Eastern and Western Africa.
 - Or p15 in this case study of CSE adaptation in Kenya (USAID, 2012), see the section on ‘Overcoming obstacles to change’

ITG 3.3 (Planning for implementation)

- (UNESCO, 2010) provides a list on p10 of ‘Levers of success’, which you might consider adding to this section.
- A possible case study idea to adapt, from Haberland & Rogow (2015, p18): “Not surprisingly, implementation at the classroom level can lag behind policy. A notable exception is PESCC (In English, Project for Sexuality Education and the Construction of Citizenship), implemented by the Colombian Ministry of Education, with support from UNFPA ... “CSE programs do not function in a vacuum. Policies and programs are beginning to address a range of factors beyond the curriculum, including the culture of learning, that enhanced or undermined adolescents’ sexual health and well-being.”

ITG 3.4 (At school level)

- This section covers a lot of topics. Perhaps consider breaking it up, possibly under a different major sub-head, such as ‘Creating an enabling environment for sexuality education’, with sub-sub-heads such as: ‘At national or regional level’, and ‘At school level’.
 - ‘At national level’ might include a case study from Senegal, adapted from Chau et al. (Chau, Traoré Seck, Chandra-Mouli, & Svanemyr, 2016), e.g.: P9: “In 2005, the Senegalese government developed an education policy paper identifying FLE and HIV education as a priority for improving the education sector’s quality and performance ... In the health sector, the most relevant vertical scale-up measures were the 2005 Reproductive Health Law, recognising young people’s rights to the highest standard of SRH (République du Sénégal Primateure 2005), and the national Ministry of Health’s first adolescent sexual and reproductive health strategy, which included references to reproductive health education (Ministère de la Santé et de l’Action Sociale 2005; Joyce et al. 2008). Additionally, Senegal’s 2002–2006 and 2007–2009 HIV/AIDS Strategic Plans included guidance regarding delivery of reproductive health and HIV education in schools (Bundy et al. 2010).”
 - Another possible case study could be adapted from (UNICEF, 2012), which gives some examples of national policies in case studies from Armenia, Barbados, Jordan, Kenya, Malawi, Mozambique and Myanmar. These include national policies, teacher training, content and implementation, etc

ITG 3.5 (Parental involvement)

- The content of this section is accurate, but consider adding to it with information from the ER-3.8.6 (Involving parents).
- Consider adding a case study, e.g., adapted from:
 - (Browne, 2015), p4: “In general, parents in Sub-Saharan Africa express support for teaching sex education in schools (Mkumbo & Ingham, 2010). A survey of 287 parents from one rural and one urban area in Tanzania showed that more than 75 per cent supported the provision of sex and relationships education in schools, however, it is not systematically taught (Mkumbo & Ingham, 2010). These parents also thought sex education should be taught to pupils from the age of 10. Perhaps surprisingly, the issues identified as controversial (condom use, homosexuality and masturbation) were more amenable to rural parents than urban ones. On the whole, all parents supported cognitive (facts and information) and behavioural (skills and relationships) topics, but showed less support for affective topics (attitudes and values). Along with the holistic approach recommended throughout the literature, there is some evidence that suggests CSE is more effective when the views and attitudes of parents are taken into account (Mkumbo & Ingham, 2010).”
 - Or adapt from (UNESCO, 2015b), e.g.: P21: “NGOs and UN agencies have piloted effective programmes to equip parents with the information and skills to communicate effectively on these topics. In several countries in Latin America – including Argentina, Uruguay and Peru – ministries of education have produced materials aimed at parents to support their children’s activities at school. In eight countries in Africa, NGOs and UN agencies have developed specific tools to support community engagement in sexuality education. Parents’ involvement in school health education committees – as members of school boards, or as advocates during community controversy – is vital to making sure that young people receive accurate information and that answers to their questions are not censored.”

ITG 3.6 (Schools as community resources)

- Consider modifying and expanding this section, which will include changing its title. It could focus on ‘A holistic approach to comprehensive sexuality education: in and out of school’.
 - Currently the section very briefly describes how schools can be trusted community centres, which provide links to resources such as SRH services, services for substance abuse, and gender-based violence. This might be a good place to also add information about:
 - The importance of reaching young people who are not in school, or who leave school
 - The importance of linking with health services.
 - Much of this information can be adapted from ER-3.8.8 (Linking CSE programmes to health services), which covers the holistic approach, linking with health services, multicomponent CSE, and an expert recommendation about recognizing the continuum of CSE which extends outside of schools.
 - Also consider adding information and a case study on reaching out-of-school youth, from the UNESCO global review, section 3.5 (p28), Case Study 8
 - Another possible case study: (UNFPA, 2014), p40, BOX 9. SOUTH AFRICA: CSE WITHIN LIFE SKILLS AND INTEGRATED SCHOOL HEALTH.
 - Add information or a brief sub-section about the use of technology/digital media, as a way to support the delivery of CSE and to reach young people who are not in schools.
 - Information can be adapted from ER-3.8.2c (Digital media as delivery mechanism).
 - Also consider adding a case study, e.g., from UNESCO global review, Case Study 9 (p29)

ITG 4.1 (2008 Review of the impact of sexuality education on sexual behaviour)

- Update paragraph 1 using text from ER-1 (Introduction)
- Update paragraph 2 (on p6) with text from ER-3.1 (Geographical reach)
- Limitations and strengths of the review: update using text from ER-5 (Strengths and limitations of this review)

ITG 4.2 (Impact on sexual behaviour)

We recommend collapsing sections **4.2–4.6 and 4.8-4.9** into one section on ‘Impact’. This could be broken into two sections:

- Impact on sexual behaviour (see ER-3.7a Primary outcomes (sexual behaviour, health)) and
- Impact on non-behavioural outcomes (see ER-3.7b Secondary outcomes (knowledge, attitudes, other non-health/behavioural)).

ITG 4.7 (Results of replication studies)

Replace text with text under ER-3.7c (Replication studies)

ITG 4.10 (Summary of results)

- Bullets 1 and 2 are still accurate based on the new evidence.
- Delete bullets 3, 4 and 5.
- Replace bullets 3 and 4 with this information (rephrased to fit the style and tone of the Guidance), from ER-3.7a and b:
 - The update of the evidence echoes research from the previous ITGSE and the wider scientific and practice literature in emphasizing that sexuality education — in or out of schools — does not increase sexual activity, sexual risk-taking behaviour or STI/HIV infection rates. This has been confirmed across the most rigorous trials and systematic reviews. There is also strong evidence that programmes addressing both pregnancy prevention and HIV/STIs are more effective than those focused only on pregnancy prevention, for instance, in increasing effective contraceptive and condom use and decreasing reports of sex without a condom.
 - The strongest evidence points to positive effects on increasing young people’s knowledge and improving attitudes related to sexual and reproductive health.
- Replace bullet 5 with information from ER-3.7c (Replication studies):
 - Studies which adapted educational interventions already found effective in previous trials were more likely to have effects on knowledge, attitudes or behaviours, even when implemented in different setting. This is in line with findings from other fields of study, which show that psychosocial and behavioural interventions that are well-designed and found effective in one country or culture can be successfully replicated in different contexts, even when they are transported from high- to low-resource settings.
- Add a bullet about programmes delivered as intended (i.e. fidelity), based on information from ER-3.8.1, stating that when effective curricula are delivered as intended, they are much more likely to have the desired positive effects on young people’s health outcomes.
- Delete bullet 6, which we did not find sufficient evidence to support.
- Consider replacing bullets 7 and 8 with information about the very strong findings around multicomponent/holistic approaches to CSE, from ER-3.8.8 (Linking CSE programmes to health services), e.g.:
 - The biggest impacts are seen when school-based programmes are augmented with community elements, including training for health providers to deliver youth-friendly services, condom distribution, and involving parents and teachers.
 - High-quality evidence supports the provision of multicomponent interventions, especially linking school-based sexuality education with non-school-based youth-friendly health services, including the provision of contraceptives/condoms.
 - The holistic approach to youth sexual health complements school-based programmes by addressing the wider sociocultural determinants of sexual behaviour. These include, for example, gender norms, parent-child communication and relationships, socioeconomic factors (such as those addressed by conditional cash transfer programmes), and others.

- Multicomponent programmes that extend beyond the school setting are particularly important for reaching marginalized young people, including those who are not in school.

ITG 5 (Characteristics of effective programmes)

This information is still valid based on our review of the evidence, however, we recommend adding two things and rearranging the chapter as follows.

1. Add a recommendation to choose programmes that have already been shown effective in high-quality randomized trials (evidence-based programmes), or to develop a CSE programme based on the characteristics from curricula already shown to be effective. To this end, you might consider moving the text from ITG 4.7 (Results of replication studies) to here, as this is a key finding in many areas of psychosocial research.
2. Add a section on the need to deliver programmes with fidelity. This was a strong finding throughout the evidence, even stronger, in fact, than the need to improve the components/characteristics of curricula. Text about delivering with fidelity can be adapted from the following sections of the Evidence Review:
 - a. ER-3.4.1 (Common and effective characteristics or components), paragraphs 5–7
 - b. ER-3.8.1 (Fidelity), especially the information about cultural adaptation of interventions, and the types of adaptations that are less or more likely to change the programme’s effectiveness (see paragraph 4 in ER-3.8.1).

This could then be followed by the existing information in the ITG, with a brief statement about how, if readers decide to develop their own programme, these are factors to consider.

ITG 6 (Good practice in educational institutions)

- The introductory sentence, which references Kirby, 2009 and 2005, should also include a reference to the Evidence Review.
- The following numbers refer to the sub-headings in ITG 6; where we have a recommendation we include it here. If we make no recommendation, assume the sub-section is fine as is.
 1. (Implement programmes that include at least twelve or more sessions): Add a statement adapted from this information in ER-3.8.3 (How many sessions or hours?): “A review of studies from sub-Saharan Africa (Michielsen et al., 2010) reported greater impact among young people who received more of the intervention.”
 3. (Select capable and motivated educators to implement the curriculum):
 - This section is still accurate, but we recommend modifying or expanding it based on text in ER-3.8.2b (Who should deliver sexuality education?).
 - We also advise a stronger recommendation that there is limited evidence to support peer-led CSE compared to teacher- or other-expert-led (e.g., nurses). This information is detailed in ER-3.8.2b.
 4. (Provide quality training to educators): this section is accurate, but:
 - We recommend a stronger statement about the need to ensure that educators teach the curriculum in full, not selectively (i.e. implementation fidelity). This could be supported, for example, by information drawn from ER-3.8.1 (Fidelity), especially the 4th paragraph on which adaptations/changes to programmes are less or more likely to affect their outcomes.
 - You also might consider integrating some information from the UNESCO 2015 global review (UNESCO, 2015c), Section 4.1.4 (p34–5)
 - NEW SECTION: We recommend adding a new section on *ensuring confidentiality, privacy and a safe environment for young people*: this was a strong recommendation from qualitative studies; information can be found in:
 - ER-3.8.2a (How should sexuality education be delivered?)
 - The final paragraph of ER-3.8.2b (Who should deliver sexuality education?)

- This text from (Svanemyr et al., 2015): “... key elements for creating enabling environments for adolescent sexual and reproductive health (ASRH) ...: At the individual level, strategies that are being implemented and seem promising are those that empower girls, build their individual assets, and create safe spaces. At the relationship level, strategies that are being implemented and seem promising include efforts to build parental support and communication as well as peer support networks. At the community level, strategies to engage men and boys and the wider community to transform gender and other social norms are being tested and may hold promise. Finally, at the broadest societal level, efforts to promote laws and policies that protect and promote human rights and address societal awareness about ASRH issues, including through mass media approaches, need to be considered.”
- Information from the UNFPA Operational Guidance on CSE (UNFPA, 2014), p12 (4. A safe and healthy learning environment)

Appendix I (International conventions/agreements)

Education 2030 Incheon Declaration

- CSE is listed as a theme relevant to education for sustainable development (ESD) and global citizenship education (GCED).
- Thematic Indicators to Monitor the Education 2030 Agenda. Thematic Indicator 28 (p287): “Percentage of schools that provide life skills-based HIV and sexuality education”
- World Education Forum. (2015). *Education 2030: Incheon Declaration and Framework for Action. Towards inclusive and equitable quality education and lifelong learning for all*. Incheon: World Education Forum. Available at: www.uis.unesco.org/Education/Documents/incheon-framework-for-action-en.pdf

ICPD Beyond 2014

Consider updating the section on the ICPD with new information from the ICPD Beyond 2014 review, e.g.:

- “meeting human rights standards for sexual and reproductive health services, information and education” is seen as a remaining challenge”
- “Urgent and deliberate action is needed specifically to protect and fulfil the human rights of adolescents and youth, including their right to sexual and reproductive health services and comprehensive sexuality education”
- Discussions repeatedly reaffirmed that provision of comprehensive sexuality education is a widely ignored human rights obligation, although it has been articulated by intergovernmental human rights mechanisms, and agreed to, in various formulations, by States in consensus documents. Participants called for major investments to make comprehensive sexuality education available and accessible to all adolescents, both in and out of school.”
- “that focused attention and priority be given, in all the actions below, to those who are disadvantaged, marginalized or subjected to other forms of discrimination, including women and adolescents, especially girls, in the lowest two income quintiles, living in hard-to-reach places; persons of diverse sexuality, persons with disabilities, indigenous populations, sex workers, migrants especially those who are vulnerable, and persons in conflict and humanitarian crises settings.”
- ICPD Beyond 2014 International Conference on Human Rights. (2013). Conference Report. Noordwijk, the Netherlands, 7-10 July 2013. Available at: http://www.ohchr.org/Documents/Issues/Women/WRGS/ICP_%20Beyond_2014_International_Thematic_Conference/Report_of_the_ICPD_Beyond_2014_International_Conference_on_Human_Rights.pdf.

Sustainable Development Goals (SDGs)

- Goal 3 “Ensure healthy lives and promote well-being for all at all ages”: target 3.7 “By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes”;
- Goal 4: “Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”;
- Goal 5 “Achieve gender equality and empower all women and girls”: target 5.2 “Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation”
- <https://sustainabledevelopment.un.org/?menu=1300>

Eastern and Southern African (ESA) Commitment

- UNFPA evidence brief: "in 2013, Ministers of Health and Education from 20 countries endorsed the Eastern and Southern African (ESA) Commitment to scale up access to quality CSE, as well as sexual and reproductive health (SRH) and HIV prevention for adolescents and young people. Specifically, it sets a target that by 2020, ninety per cent of teachers are trained in CSE and that at least 90 per cent of schools have CSE curricula integrated"
- UNFPA East and Southern Africa Region. *How Effective is Comprehensive Sexuality Education in Preventing HIV?* Evidence brief. Sunninghill: UNFPA.

Appendix II (Criteria for selection of evaluation studies, and Review methods)

Modify this section to include information from ER-2 (including 2.1–2.4), on methodology.

Appendix III (People contacted and key informant details)

Modify this section to include the members of the Advisory Group.

Appendix IV (List of participants)

Modify this section to include the participants at the 2016 Consultation Meeting.

Appendix V (Studies referenced as part of the evidence review)

References to studies that were assessed in the systematic review are marked with a * in the References list of the Evidence Review.

Volume II. Topics and learning objectives

ITG-Vol II. 1. (Introduction)

(What is sexuality education...): see Volume I recommendations

ITG-Vol II. 2 (Age range)

Modify this section with information from:

- ER-3.8.5 (Age-appropriateness and sexual history)
- Text from the UNESCO 2015 global review (UNESCO, 2015c) section 2.1 (p18)

ITG-Vol II. 4 (Stand-alone or integrated programmes)

Modify or update with information from UNESCO’s 2015 global review (UNESCO, 2015c), sections:

- 3.1 (p24)
- 3.2 (p25), including considering adding a case study based on Case Study 6 (p25) and

- 4.1.2 (CSE position within the curriculum) (p33)

Consider updating Box 1. (Examples of point of entry from five countries) with:

- data from the 2015 global review, Annex 1 (pp40-2)
- Information (UNICEF, 2012), p34, e.g., on Barbados:
- “Barbados is one of 14 Caribbean countries implementing HFLE [Health and Family Life Education] using the CARICOM framework. There is a national policy for HFLE in Barbados, which has been institutionalized as part of the core curriculum for primary and secondary schools (up to Form 3) since 2000. Its continuing importance is highlighted in the new draft 10-year educational strategy. ... The HFLE curriculum includes four themes: 1) self and interpersonal relations; 2) sexuality and sexual health; 3) healthy eating and fitness; and 4) managing the environment. It is intended to be delivered as a stand-alone subject and part of the core curriculum. It addresses and challenges social norms and behaviours, providing young people with options for positive behaviour, as well as encouraging the development of self-esteem, confidence and skills to make their own, informed choices.”

ITG-Vol II. Appendix I (International conventions.)

See Volume I recommendations

ITG-Vol II. Appendix V (Bibliography of resources)

Some newer resources are likely to be available. We recommend checking all hyperlinks to ensure they still work, and searching the organizations responsible for many of the listed resources, to see if they have other or more updated versions.

General suggestions from Consultation participants

Tone of the ITGSE

Suggestions to change the tone so that it communicates:

- CSE as an opportunity for young people to build stronger relationships
- a positive vision of adolescent/young person
- better outcomes beyond health
- more focus on positives than risks.

References

(Those marked with * were included in the analysis of systematic reviews and high-quality evaluations.)

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*Amaugo, L. G., Papadopoulos, C., Ochieng, B. M. N., & Ali, N. (2014). The effectiveness of HIV/AIDS school-based sexual health education programmes in Nigeria: a systematic review. *Health Education Research*, 29(4), 633-648. doi:10.1093/her/cyu002

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Appendices

Appendix A. Search strategy

OID search strategy (MEDLINE, EMBASE, Global Health)

1. sex education.mp.
2. education, family planning.mp.
3. education,sex.mp.
4. family planning education.mp.
5. family planning training.mp.
6. reproductive health.mp.
7. sexual health.mp.
8. contraception.mp.
9. birth control.mp.
10. contraceptive methods.mp.
11. adolescent health.mp.
12. HIV.mp.
13. sexually transmitted diseases.mp.
14. sexually transmitted infections.mp.
15. (STDs or STIs).mp.
16. Infections, chlamydia.mp.
17. sexuality.mp.
18. gender identity.mp.
19. pregnancy in adolescence.mp.
20. adolescent pregnancy.mp.
21. pregnancy, adolescent.mp.
22. pregnancy, teenage.mp.
23. preteen pregnancy.mp.
24. teen pregnancy.mp.
25. teenage pregnancy.mp.
26. sexual abstinence.mp.
27. virginity.mp.
28. first intercourse.mp.
29. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28
30. (adolescence or adolescents or adolescent or "adolescents, female" or "adolescents, male" or teenagers or teens or youth or minors or child or children).mp.
31. 29 and 30
32. education.mp.
33. activities, educational.mp.
34. students.mp.
35. curriculum.mp.
36. curricula.mp.
37. primary schools.mp.
38. secondary schools.mp.
39. schools.mp.
40. 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39
41. 31 and 40
42. randomized controlled trial.mp.
43. random*.mp.
44. 41 and 43
45. limit 44 to yr="2008 -Current"
46. remove duplicates from 45

CINAHL and ERIC via EBSCOhost

Sex education in schools OR sexuality education in schools OR (sexuality education and schools and programmes) OR sex ed OR (sex education and teen pregnancy) OR sex education programs OR sexuality education OR (contraception or birth control or family planning) OR (contraception and teenagers) OR (sexually transmitted diseases or sexually

transmitted infections or sti or std) AND (teenagers or adolescents or young adults or teens or youth or emerging adults) AND (randomized controlled trials or rct or randomised control trials)

limit to 2008-2016

hits: 1745

CENTRAL

sex education:ti,ab,kw or (contraception or sexuality or sex or pregnancy or HIV or STI or STD or "family planning" or "birth control" or chlamydia or virginity or abstinence) and (programme or program or education or curriculum or curricula or school or school-based):ti,ab,kw and randomized:ti,ab,kw and adolescent or adolescence or teen or teenage or preteen or child or pupil or student or youth:ti,ab,kw Publication Year from 2008 to 2016, in Trials (Word variations have been searched)

hits: 2757

WHO African Index Medicus

sex or sexuality or contraception or HIV or pregnancy or STI or STD or "sexually transmitted" or "birth control" or "family planning" or relationship abstinence or virginity)

AND

education or program or programme or curriculum or curricula or school or schools or school-based

AND

adolescent or adolescence or teen or teenage or preteen or student or pupil or child or minor

sex or sexuality or contraception or HIV or pregnancy or STI or STD or "sexually transmitted" or "birth control" or "family planning" or relationship abstinence or virginity [Key Word] and education or program or programme or curriculum or curricula or school or schools or school-based [Key Word] and adolescent or adolescence or teen or teenage or preteen or student or pupil or child or minor [Key Word]

References found : 63 [refine]

By adding: **AND ("RANDOM" or "RANDOMISE" or "RANDOMISED" or "RANDOMIZED") [Key Word]**

Hits: 1

Instead, adding: (random\$ or trial or evaluation or control or controlled) [Key Word]

Hits: 23

Among these, still only 1 met our criteria, so was included. The rest were either pre-2008, surveys about attitudes or use of condoms, etc., MTCT, and one non-randomized evaluation.

LILACS

sexuality [Words] and education [Words] and random [Words]

References found : 8

(sex or sexuality or sexual) and "ADOLESC" or "TEEN" or "TEEN-AGE" or "TEEN-AGER" or "TEEN-AGERS" or "TEEN-PREGNANCY" or "TEENAGE" or "TEENAGE PREGNANCY" or "TEENAGE PREGNANCY/" or preteen or student or pupil or child [Abstract words] and education or curriculum or curricula or programme or program [Abstract words] and random or randomized or randomised or randomization or randomly [Abstract words]

Hits=130 (none relevant)

Grey Literature Searches

OpenGrey

Would not allow complex searches, so did multiple small searches.

Search terms

- Sexuality education: hits=83, Refined by year (2008-present): hits=17
 - Results: 1 non-controlled (and interesting, but not RCT) study: Evaluating the computer-assisted HIV/AIDS education intervention implemented in schools in Uganda, Musiimenta, Angella, University of Manchester ; 2011.
- (sex* and education) and random*: hits=9
- (sex* and school) and random*: hits=9
- (sex* and curricul*) and random*: hits=1
- (sex* and program*) and random*: hits=9
- (contrace* and education) and random*: hits=3
- (contrace* and school*) and random*: hits=2
- (contrace* and curricul*) and random*: hits=0
- (contrace* and program*) and random*: hits=1
- (pregnan* and education) and random*: hits=2
- (pregnan* and school*) and random*: hits=6
- (pregnan* and curricul*) and random*: hits=0
- (pregnan* and program*) and random*: hits=3
- (HIV and education) and random*: hits=3
- (HIV and school*) and random*: hits=4
- (HIV and curricul*) and random*: hits=0
- (HIV and program*) and random*: hits=3
- STI and random*: hits=3
- STD and random*: hits=1
- condom* and random*: hits=3
- virginity and random*: hits=0
- abstinen* and random*: hits=5
- adolesc* and random*: hits=35
- teen* and random*: hits=8
- student and random*: hits=42 (limit to 2008+)
- school* and random* (2008+): hits=48
- curricul* and random*: hits=17
- "life skills": hits=22
- relationship* and education and random*: hits=31
- relationship* and curricul* and random*: hits=6
- "family life" year:2008+: hits=36
- "birth control" and random*: hits=0
- "family planning" and random*: hits=1

Grey Literature Report

Complex searching not supported. I first searched using the following combinations of words, all limited by 'random' and year: 2008–2016:

- Sexuality and education

- Sex and education
- Sex(uality) and programme
- Sex(uality) and curriculum
- Sex(uality) and programme
- Contraception
- Teen
- Pregnancy

Where () are used, it indicates the search was done separately with both the shorter and longer forms of the word. Hits were between 0 and 1 for each. Then I just searched 'random', limited to 2008-2016, which according to the site would pick up any form of the word (6 characters or more = wild card).

Hits=61 (none relevant)

International AIDS Society Online Resource Library

Very limited search function. Not always clear the exact number of hits.

Sexuality education

Sex* education random*: 75 hits

(education or curriculum or curricula or schools or school) and (adolescen* or teen* or pupil or student or youth or "young person" or child) and random*: 44 hits

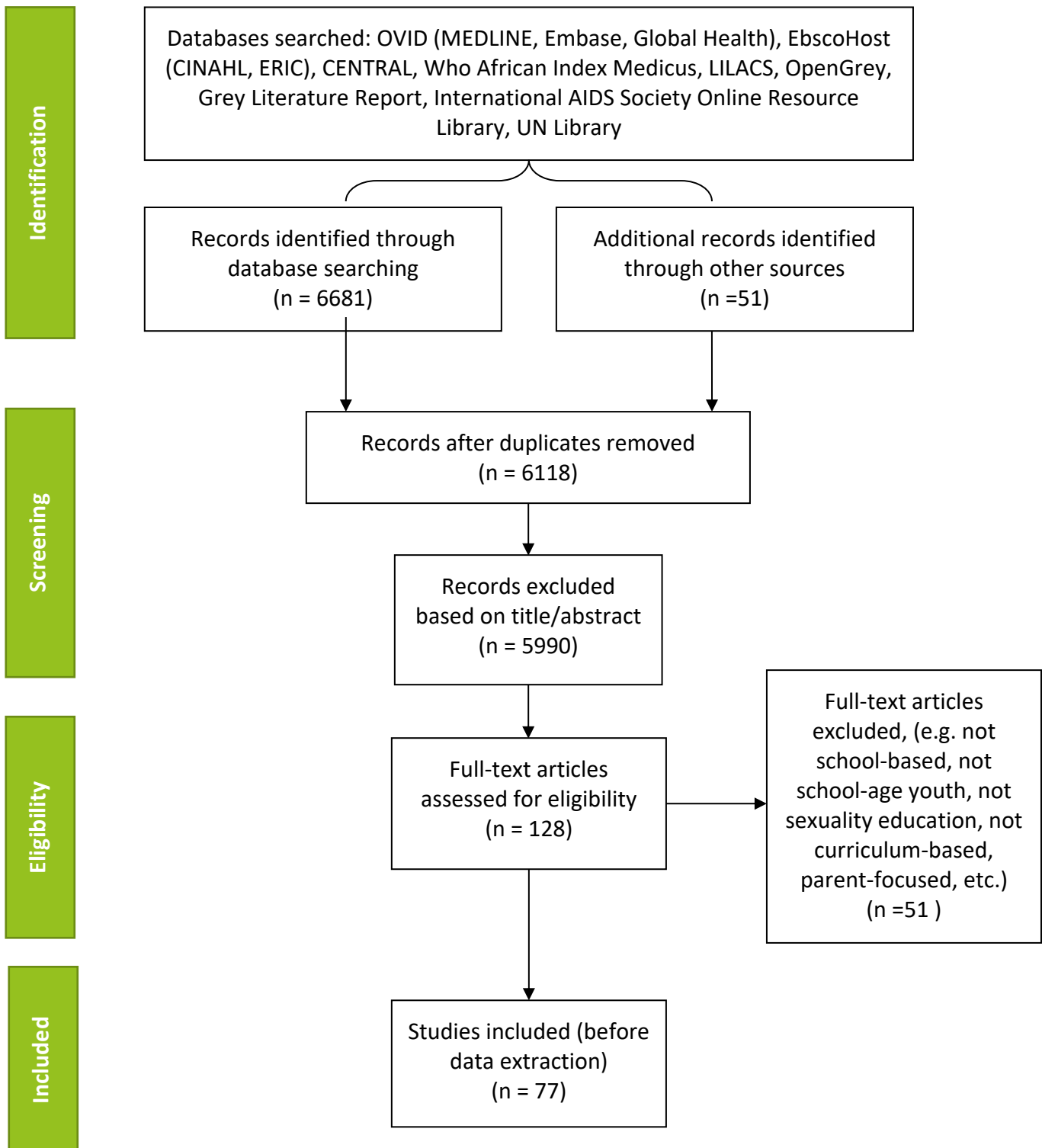
UN Library

<http://www.un-ilibrary.org>

47 results for **All Fields** containing "'sexuality education'" Published Between **1900** and **2016** AND **Full Text** containing '*' Published Between **2008** and **2016**

15 results for **All Fields** containing 'education or curriculum or curricula or school or schools or students' AND **All Fields** containing 'contraception' Published Between **2008** and **2016**

Appendix B. PRISMA 2009 Flow Diagram



Appendix C. List of other publications and sources searched

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Appendix D. Criteria for assessing quality of included systematic reviews

The following criteria were used to assess the quality of the systematic reviews included in this review. Reviews that appeared to meet all of the criteria were rated as 'high' quality; those that met most criteria were rated as 'moderate'; and those which met fewer than half the criteria were rated 'low' quality. In cases where necessary information was not reported, the study was rated as 'unclear' quality.

Stated a clear review question or aim

Described the literature search strategy

Described explicit inclusion/exclusion criteria relating to selection of the primary studies

Provided evidence that a substantial effort was made to search for all relevant research

States that there was a transparent system to evaluate the quality of individual studies (including, e.g., method of randomization or selection, blinding, whether analysis was on intention-to-treat basis, etc.)

Provides sufficient detail of the individual studies presented

Provides a summary of the primary studies

Indicates that there was a transparent system to evaluate the quality of body of evidence

The authors' conclusions appear to be supported by the evidence presented