ECDC **GUIDANCE**

HIV and STI prevention among men who have sex with men

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Contents

Abbreviations

AIDS	Acquired immunodeficiency syndrome
ART	Antiretroviral treatment
ARV	Antiretroviral
CDC	US Centers for Disease Control and Prevention
CD4	Cluster Differentiation 4
EACS	European AIDS Clinical Society
EASL	European Association on the Study of the Liver
ECDC	European Centre for Disease Prevention and Control
EEA	European Economic Area
EMIS	European Men-who-have-sex-with-men Internet Survey
EU	European Union
HASTE	Highest Attainable Standard of Evidence
HIV	Human immunodeficiency virus
HPV	Human papilloma virus
HSV2	Herpes simplex virus type 2
IUSTI	International Union against Sexually Transmitted Infections
LGBTI	Lesbian, gay, bisexual, trans- and intergender persons
LGV	Lymphogranuloma venereum
MSM	Men who have sex with men
PEP	Post-exposure prophylaxis
PrEP	Pre-exposure prophylaxis
RCT	Randomized controlled clinical trial
STI	Sexually Transmitted Infection
UAI	Unprotected anal intercourse
UK	United Kingdom
UNAIDS	Joint United Nations Programme on HIV/AIDS
WHO	World Health Organization

Executive summary

In all countries of the European Union and European Economic Area, men who have sex with men (MSM) are disproportionately affected by HIV and other sexually transmitted infections including gonorrhoea, syphilis, chlamydia and hepatitis B and C. In several countries in the region, the incidence of these infections has increased among MSM, in some cases markedly, over the last decade. There is evidence that services to prevent, diagnose and treat infections are not being delivered at the appropriate scale to impact on transmission patterns.

Based on a systematic review of the literature and expert opinion, the European Centre for Disease Prevention and Control suggests that there is good evidence to ensure that the following key components are considered for inclusion in national and sub-national public health programmes in countries in Europe. The evidence indicates that these services and interventions can effectively prevent and reduce HIV and STI transmission among MSM, address the needs of MSM who are living with HIV, as well as promote sexual health among all MSM.

- **Vaccinations:** Promote and deliver vaccination to protect against hepatitis A and B. Consider vaccination for human papilloma virus (HPV).
- **Condoms:** Provide easily accessible condoms and condom-compatible lubricants and promote their effective use.
- **HIV and STI testing**: Provide voluntary and confidential HIV and STI counselling and testing via a variety of modalities that are easy to access for the target group. Voluntary partner referral can support the early diagnosis and treatment of contacts.
- **Treatment:** Timely provision of treatment for HIV, viral hepatitis and STI should be ensured. Preventive benefits of treatment are significant.
- **Health promotion:** Provide accurate and accessible information that enables men to understand and assess sexual health-related risks and prevention efficacy, and that promotes awareness of one's own HIV and STI status.
- **MSM-competent health services:** MSM-competent points of care offering a comprehensive sexual health programme including health promotion, counselling, peer support, prevention, adequate diagnostics and treatment will increase service uptake. Ensure target group involvement and training for providers on how to offer comprehensive care for MSM.
- **Targeted care for MSM living with HIV:** Provide antiretroviral treatment for HIV and vaccination; regular STI screening using adequate diagnostics; treatment for STIs; individual counselling, sexual health promotion and peer-support groups for men living with HIV.

Prevention services for MSM should be targeted following the analysis of relevant and reliable epidemiological data, so that services are directed at the appropriate scale to those geographical and risk populations most at risk of HIV and STI infection. Combinations of the suggested key interventions should be offered to MSM in order to achieve synergy and the highest levels of effectiveness. Prevention needs and preferences of MSM vary across and within country settings, by individual and over time. Offering and implementing prevention packages in collaboration with the target group, or where appropriate, by the target group, is crucial to the success of national and sub-national prevention programmes.

As many countries in Europe experience constrained public health budgets, it is more important than ever to implement targeted and evidence-based measures that address the groups most affected by the HIV epidemic as well as those most at-risk for disease acquisition and transmission. The promotion of sexual health using positive messages framed in an empowering environment in relation to individual needs, will ensure greater effectiveness of the prevention efforts resulting in increased sexual health and reduced new infections of HIV and other STI in Europe.

Introduction

Epidemiology of infections among MSM in the EU/EEA

In Europe, men who have sex with men (MSM)[i] are disproportionately affected by HIV and other STIs [1, 2]. In 2013, 29 157 people were newly diagnosed with HIV in the European Union/European Economic Area (EU/EEA) [3]. Sex between men was the most common mode of HIV transmission, representing 42% of newly diagnosed HIV cases. There was a 33% increase in HIV diagnoses among MSM observed in the EU/EEA between 2004 and 2013. There is a corresponding cumulative increase in the number of MSM that are living with HIV; in 2012, HIV prevalence among MSM was at or above 5% in 15 EU/EEA countries [4].

Recently there has been an increasing trend in syphilis, with close to half (48%) of new syphilis cases in the EU/EEA in 2012 reported among MSM [2]. Reported gonorrhoea cases are also increasing with 38% of cases in 2012 reported among MSM. Prevalence estimates of hepatitis B among European MSM have varied from 1–10%, with most countries reporting declining trends in incidence, likely due to successful vaccination programmes [5-7]. Still, 12% of reported acute hepatitis B cases in 2012 with known route of transmission were attributed to sex between men [8]. Furthermore, there have been reports of outbreaks of hepatitis A among MSM in several European countries in recent years and trends of increased hepatitis C incidence among HIV-positive MSM observed [9-15].

Factors affecting the sexual health of MSM in the EU/EEA

The higher incidence of HIV observed among MSM as compared with heterosexual populations in similar settings is largely due to the higher transmissibility of HIV via anal intercourse (estimated 1.4% per act transmissibility at unprotected receptive anal intercourse or 14-times greater than that of unprotected receptive vaginal intercourse). There are higher rates of partner acquisition and concurrent partnerships among some groups of MSM as well as a higher density of sexual networks [16-19]. The role of transmission during the acute or primary phase of HIV infection also plays a role in transmission rates among MSM [20].

However, the number of cases of HIV and other STIs diagnosed among MSM in most European countries indicate significant exposure [21-26] coupled with an unmet need for enhanced prevention services. Out of 174 209 MSM participating in the European MSM Internet Survey (EMIS), 30% reported at least one episode of anal intercourse where a condom was not used with a partner of unknown or sero-different HIV status during the previous 12 months [27]. Over 13% of EMIS respondents indicated that they had anal intercourse without a condom in the previous 12 months because a condom was not available [28].

Access to and uptake of HIV testing appears to be low among MSM in many EU/EEA countries. Depending on which EU/EEA country, between 20 and 47% of MSM had tested for HIV in the last 12 months and knew their result [28]. The majority of HIV transmission is thought to occur before men are aware of their HIV status [29, 30]. Analysis of EMIS data reveals that most stigmatising societal climates are associated with internalised homo-negativity, which influences sexual risk behaviour for HIV/STIs as well as HIV testing uptake [31].

The relatively low testing rates for HIV result in delayed knowledge of HIV status, which is essential for access to treatment. In all European regions, the majority of MSM reporting unprotected anal intercourse (UAI) risks in the preceding 12 month period had not been tested for HIV during this period [28]. More than 35% of HIV cases reported among MSM in 2013 were diagnosed late, and were already in need of treatment (CD4<350 cells/mm^3) while nearly 20% of HIV cases among MSM were diagnosed at an advanced stage of the disease (CD4<200 cells/mm^3) [3].

Nearly two-fifths (38%) of EMIS respondents did not know if STI testing was free in their country and STI testing in the last 12 months varied from less than 20% to 52%. Even when STI testing was accessed, very few men reported penile or anal inspection (18%) or anal swabbing (16%) as part of the exam [28, 32]. Although vaccination for hepatitis B is recommended for MSM in most EU/EEA countries, about 40% of EMIS respondents were in need of vaccination for hepatitis B and in some countries this proportion was much higher [28].

[i] The term 'men who have sex with men' (MSM) is used to recognise that not all homosexually active men have a gay or bisexual identity. MSM attempts to indicate the population of men, including transgender men, engaged in same-sex sexual behaviour inclusive of sexual identity (gay, bisexual, straight, experimenting, etc.) and sexual desire (e.g. it includes men who experience no sexual desire for other men but who engage in sex with men for money or favours). It has become a standard term within HIV prevention work and research and encompasses both men who have sex with men only, and those who have sex with both men and women.

Most countries in the EU/EEA ensure that their national HIV prevention policies and plans have some specific focus on MSM. Across the EU/EEA, MSM are identified as a priority group for the promotion of HIV testing, condoms and targeted information on risk reduction [4]. Stigma reduction and STI testing and treatment among MSM are also common national priorities. However, implementation and coverage of programme services often do not meet policy aspirations. Some countries continue to have legislation that hampers HIV prevention planning and programming. Protective laws that ensure MSM are not subject to discrimination are also often absent [33].

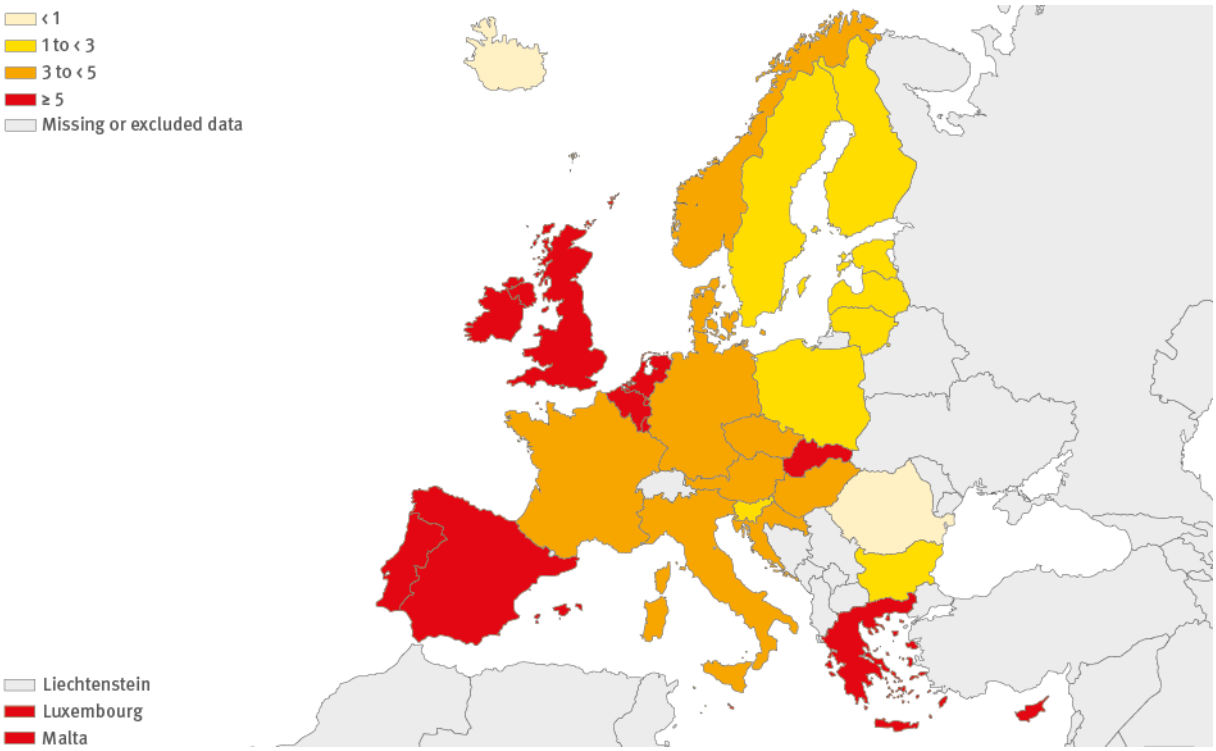
While HIV and STI programmes across Europe include MSM to varying extents, very few settings provide services tailored to the needs of MSM, particularly MSM who are living with HIV. Fewer still comprehensively address men's needs for health promotion to empower sexual health decision-making, HIV and STI testing, treatment, and prevention. More challenging is that due to stigma and fear of discrimination, significant numbers of men in parts of Europe do not disclose their sexual orientation to others. A recent survey conducted by the EU Fundamental Rights Agency found that 38% of gay male respondents said that none of their healthcare providers were aware of their sexual orientation [34]. The European MSM Internet Survey showed that lack of 'being out' was associated with sexual unhappiness, not being tested for HIV, lack of coverage by HIV prevention programmes, lack of knowledge about HIV and STIs, and internalised homonegativity[i] [28, 35].

Rationale for a European guidance

Epidemiological, policy and response data on the situation of HIV and STI among MSM in the EU/EEA indicate that there is margin for improvement with regard to knowledge and service provision for this population in Europe. Enhanced targeted efforts are needed to address and reduce the burden of HIV and STIs and to improve the quality of sexual health among MSM in the EU/EEA.

This document is intended to complement global HIV prevention guidance, such as the WHO guidelines on prevention and treatment of HIV and other sexually transmitted infections among MSM and transgender people, and the comprehensive guidelines on prevention among key populations [36, 37], while providing additional information on STI and hepatitis and including regionally-specific guidance, tailored to the European situation.

Figure 1. HIV diagnoses attributed to MSM per 100 000 male population, EU/EEA, 2013



Source: ECDC/WHO (2014)

[i] negative attitude towards homosexuality or homosexual persons

Aim and target audience

This guidance aims to support EU/EEA Member States in their efforts to reduce HIV and STI incidence and morbidity among MSM. To achieve this, the guidance details a comprehensive list of evidence-based actions to help guide national and sub-national policy makers and programme implementers in the EU/EEA Member States on their HIV and STI prevention and health promotion activities among MSM. The guidance may also be useful for NGOs, advocacy organisations and other actors working with MSM in the fields of sexual health and disease prevention.

This guidance targets the prevention of HIV and other STIs, including chlamydia, gonorrhoea, and syphilis. Hepatitis A, B, and C are also addressed. The target group for prevention is MSM, including all men who have had or may have any kind of sexual relations with another man. Sub-groups of MSM have different preventive needs and different possibilities to access and use prevention. In this guidance the specific prevention needs of HIV-infected MSM are also addressed. While this document is based on reviews of evidence for cis-men[i] who have sex with men, some of the recommendations may be valid for transgender men having sex with men. The comprehensive needs of transgender women and MSM who inject drugs and are not thoroughly addressed in this guidance but other guidance documents [36, 38] address the needs of these groups (Annex 2).

[i] Cis-men refers to persons born biologically male who self-identify as male

Guidance development

This guidance was developed through systematic reviews of scientific literature, combined with consultation of a multidisciplinary group of public health, clinical and prevention experts from across the European region [39].

Evidence base

Systematic reviews of peer-reviewed literature that addressed efficacy of HIV and STI interventions among MSM were performed on the interventions listed in Annex 1. The process involved exhaustive search strategies to search multiple scientific databases as well as the World Health Organization and UNAIDS databases. The final step was grading the evidence by applying the Highest Attainable Standard of Evidence (HASTE) grading system.

First, a small expert team identified an exhaustive list of safe sex/risk reduction strategies and HIV and STI preventive interventions to guide the search process. Interventions that had been well-reviewed such as HIV treatment efficacy for individual health, or vaccine efficacy, were not reviewed, rather global guidelines on these topics are referred to. For those strategies which were considered, efforts were made to make an inclusive list, ranging from individual strategies such as condom use to newer biomedical interventions such as pre-exposure prophylaxis (PrEP). As a next step, 'PICO questions' were developed and agreed. PICO-questions are formulated around four components: Population (P), Intervention (I), control/comparison group (C) and Outcome (O). Their purpose was to assist in formulating specific and adequate searches of medical literature in relation to a given question. Hence PICO-questions were formulated to identify studies of any design that examined an individual strategy or an intervention in the MSM population, in relation to the outcomes: prevalence or incidence of HIV or STIs; self-reported episodes of unprotected anal sex; condom use; or self-reported HIV, STI or hepatitis diagnosis [40]. The review prioritised articles of systematic reviews; when no systematic reviews were found, individual studies were included. The searches generated 5 487 publications, out of which 47 were included in the final evidence review. Studies were included based on their fulfilling the inclusion criteria, as formulated by the PICO-questions. Since implementation data was also of interest, a broad interpretation of 'control/comparison group' was applied. Further details on the methodology of this review are available in the accompanying review of the evidence [39].

The evidence retrieved from the included studies was evaluated by way of the grading instrument HASTE, i.e. the Highest Attainable Standard of Evidence [41]. The HASTE grading builds upon the GRADE system, and takes into account three categories that are given equal weight: efficacy data; implementation science data; and biological and public health plausibility, which makes it specifically useful for analysing public health evidence [42]. A quality assessment was done on all included studies, and taken into account in the HASTE grading. Levels of evidence are described in Table 1.

Table 1. HASTE grading criteria used to assess the strength of evidence

Grade Level		Strength of evidence	Explanation
Grade 1		Strong	• High plausibility • Efficacy is consistent • Large body of consistent implementation data
Grade 2	Grade 2a	Conditional - Probable	• Plausibility • Limited efficacy data • Consistently effective from implementation data
	Grade 2b	Conditional - Possible	• Plausibility • Limited or inconsistent efficacy data • Limited or paucity of implementation data*
	Grade 2c	Conditional - Pending	• Plausibility • Ongoing efficacy trials
Grade 3		Insufficient	• Undefined plausibility • Inconsistent data • Inconsistent or paucity of implementation data
Grade 4		Inappropriate	• Consistent data demonstrating lack of efficacy • Consensus from implementation data of inappropriate intervention

Adapted with permission from Baral et al [41]. Modified to add paucity of implementation data to grade 2b

Expert consultations

To complement the review of the evidence and grading process, expert opinions were integrated into the development of the guidance in three steps. First, an initial expert meeting was held in March 2013 to discuss aims and purpose, core values, initial results from the evidence, policy reviews and proposed format of the guidance. In the second step, the draft document was sent to experts for a written consultation in December 2013. Finally, after taking the expert comments and opinions into account, a second consultation meeting was held in January 2014 to discuss and approve the text of the evidence and findings.

A summary of HASTE grading plus expert opinion per intervention is available in Annex 1 and in the associated systematic review of the literature [39]. This information is also included under each component.

Values and principles

The expert group recommended that the guidance include a section entitled 'values and principles for service provision', referring to the underlying factors needed in order for the key components of public health services to be effective. These values and principles were formulated through discussion in the expert group and are supported by non-systematic review of the published literature, including qualitative studies.

Values and principles of service provision

The tenets of service provision presented in this section are based on fundamental principles of public health and ethics, combined with substantial experience in service implementation [43]. These were developed with public health and human rights perspectives in mind and focus on MSM. These core values were based on expert opinion and should be seen as the foundation of the key interventions presented in this guidance.

Programmes and services should be planned and implemented in the spirit of these core values to achieve maximum impact moving towards the 'best sex with least harm' for MSM. As an underlying principle, HIV prevention and sexual health promotion should thus recognise the right of sexual minorities to pursue a satisfying sexual life. Without concurrent efforts to decrease discrimination and homonegativity in the political, legal, social, cultural and religious environment, the services suggested below will be of limited effect. The physical and emotional impact of living in a discriminatory and homonegative society reduces MSM's capacity to adopt health-promoting and protective attitudes and behaviours [44]. All prevention targeted at MSM should therefore be based on respect for the target group.

Structural barriers limit access to sexual health, HIV and STI prevention

Structural factors such as criminalisation of same sex practices, societal stigma and hetero-normative policies create barriers for MSM to access prevention and healthcare services [35, 43, 45]. Providing an enabling environment through appropriate legal rights, social, economic, political and environmental factors is the essential backbone needed for national prevention programmes targeting MSM to succeed [44]. Laws and policies either promote or decrease the ability of a country to enable sexual health among MSM. When disclosure of one's sexual identity or behaviour is associated with repercussions, consequences to sexual health are severe. Structural barriers are also inherent to many STI services, where access is limited or where appropriate diagnostics are not performed [32].

Disease prevention and health promotion will be most effective in a non-discriminatory climate, where persons are treated with respect regardless of their sexual identity.

A recent survey of lesbian, gay, bisexual and transgender persons in the EU found that the proportion of respondents who felt discriminated against or harassed in the last 12 months on the grounds of their sexual orientation was on average 47% (ranging between 30% in the Netherlands and 61% in Latvia). One-quarter of respondents reported that they had been attacked or threatened with violence due to their sexual orientation in the previous five years [34]. The promotion of sexual health and rights, while increasing awareness of stigma around homosexuality and how this affects MSM, can create a tolerant climate where men feel safe, thereby promoting the uptake of health promotion and disease prevention services. Addressing and debunking myths and misconceptions and promoting non-judgmental attitudes are central features of de-stigmatising efforts, and contribute to the creation of a non-stigmatising, MSM-friendly environment both within community and health services and in society as a whole.

Empowerment and participation of the target population in planning and carrying out activities is key to their success.

The ultimate and most effective means of empowering MSM in response to the threat of HIV and other STIs is to ensure their participation in all aspects of prevention interventions. In countries with a coordinated prevention program of several decades' history, civil society organisations led and governed by gay men now play the central role in implementation. In places where public health and other government officials are in sole charge of prevention programmes, participation depends on their opportunities and openness to involve MSM through advisory groups, committees, focus groups and surveys. It is important to acknowledge that in most settings there is not one 'MSM community' and that those populations that are most vulnerable and at-risk for HIV and STIs may be most difficult to engage in empowerment or participatory activities.

Key components of public health programmes to address HIV and STIs among MSM

Based on the scientific evidence available and supported by expert opinion, the following key components are suggested to be considered for inclusion in national and sub-national public health programmes. These aim to effectively prevent and reduce HIV and STI transmission among MSM and to address the needs of MSM who are living with HIV.

Material provision of

- **Vaccinations:** Promote and deliver vaccination to protect against hepatitis A and B. Consider vaccination for HPV.
- **Condoms:** Provide easily accessible condoms and condom-compatible lubricants and promote their effective use.
- **HIV and STI testing**: Provide voluntary and confidential HIV counselling and testing via a variety of modalities that are easy to access for the target group including routine offering of tests in clinic, outreach and community-based settings. Offer STI screening including anal/penile inspection and adequate diagnostics (e.g. sampling of urethra, pharynx and rectum and blood). Voluntary partner referral can support the early diagnosis and treatment of contacts.
- **Treatment:** Timely provision of antiviral treatment of HIV, hepatitis B and C according to individual needs and national or international clinical guidelines should be ensured. Provide targeted antibiotic treatment for other STIs. The preventive benefits of treatment are significant.

Counselling and messages to provide

- **Health promotion:** Provide accurate and accessible information that enables men to understand and assess sexual health-related risks and prevention efficacy, and that promotes awareness of one's own HIV status. Health promotion could take place in counselling sessions, peer support groups, and outreach interventions for MSM as well as by targeted information provision to promote sexual health among MSM.

Delivery of interventions

- **MSM-competent health services:** MSM-competent points of care offering a comprehensive sexual health programme including health promotion, counselling, peer support, prevention, adequate diagnostics and treatment will increase service uptake. Design and implementation of services should be organised with target group involvement. At any health facility that targets sexual health there should be training for providers on how to offer comprehensive care for MSM.
- **Targeted care for MSM living with HIV:** Provide antiretroviral treatment for HIV and vaccinations based on current guidelines and clinical judgement to all men in need; offer and supply regular STI screening (including syphilis, gonorrhoea, hepatitis C and LGV testing if positive for chlamydia) using adequate diagnostics; provide treatment for STIs including hepatitis B and C. Offer individual counselling, sexual health promotion and peer-support groups.

Combine key components to achieve synergy

No single intervention will be enough to curb HIV or STI transmission if applied on its own [46]. Combination prevention, offering packages of interventions, will have a synergistic effects in reducing HIV and STI transmission [47]. Combinations of the suggested key interventions should be offered to MSM in order to achieve synergy and the highest levels of effectiveness. Prevention needs and preferences of MSM vary by individual and over time. Offering and implementing prevention packages in collaboration with the target group, or where appropriate, by the target group, is crucial to the success of national and sub-national prevention programmes [48].

Seven key components of public health programmes to address HIV and STIs among men who have sex with men

Vaccinations

Promote and deliver vaccination to protect against hepatitis A and B. Consider vaccination for HPV.

Hepatitis A and B vaccination

A three-dose course of hepatitis B vaccination (at 0, 1 and 6 months) provides 95% long-term protection against hepatitis B and is recommended by WHO to be part of child vaccination programmes [49]. Childhood hepatitis B vaccination has been implemented in most but not all European countries [50, 51]. According to self-reported data from EMIS, 40% of MSM in Europe are in need of hepatitis B vaccination, largely irrespective of age. In many countries the proportion is substantially higher [28]. Therefore, better access to hepatitis B vaccination is a crucial prevention measure for MSM in Europe.

Outbreaks of hepatitis A have occurred among MSM within the EU, associated with faecal-oral contact during sex and also with sex at saunas [11-14]. Given this, a combination vaccine for both hepatitis A and B is suggested for adults as a catch-up vaccination for MSM in need. Vaccination against both hepatitis A and B has been shown to be safe and have a high efficacy. Information on vaccine availability should be included in health promotion programmes targeting MSM.

Intervention	Outcome	Strength of evidence (HASTE level)	Expert opinion
Provision of hepatitis A and B vaccination	Vaccine efficacy	Strong (1)	Recommended

HPV vaccination in male adolescents

HPV vaccination policies differ widely within the European setting, from inclusion in child vaccination programmes for all children, or only for girls, to no vaccination policy [51]. HPV Types 16 and 18 cause 80% of anal cancer and 66% of anal intraepithelial neoplasia cases among men [52]. Due to the high prevalence of HPV-related anal cancer seen in MSM, HPV vaccination is likely a valuable health promotion intervention for MSM and is specifically recommended for HIV-positive men by the European AIDS Clinical Society [53, 54]. This guidance suggests that countries consider HPV vaccination based on national guidelines and local epidemiological circumstances.

Intervention	Outcome	Strength of evidence (HASTE level)	Expert opinion
Provision of HPV vaccination	Vaccine efficacy to prevent anal intraepithelial neoplasia	Pending (2c)	Recommended as per national guidelines and local epidemiological circumstances.

Vaccinations for persons living with HIV

In addition to following national guidelines for vaccines for the healthy population, and the vaccinations recommended above, the European AIDS Clinical Society recommends that HIV-positive individuals receive the following vaccines: influenza (yearly), *Streptococcus pneumoniae*, and Varicella Zoster Virus [54]. Some vaccines are contraindicated for persons with CD4 counts of less than 200 and because the immune response may be lower in HIV-positive persons, antibody titres are recommended to assess vaccines' effectiveness [54].

Intervention	Outcome	Strength of evidence (HASTE level)	Expert opinion
Provision of additional vaccinations for people living with HIV (PLHIV)	Not reviewed for this guidance; EACS guidelines [54] recommend		Recommended, as per clinical judgement

Condoms

Provide easily accessible condoms and condom-compatible lubricants and promote their effective use.

Condoms and condom-compatible lubricant use

Condom use when having anal sex with a partner of unknown viral burden or infection status is a core component of HIV and STI prevention. Condoms prevent contact between semen and rectal mucosa, as well as between rectal fluid and the penile mucosa, thereby preventing the transmission of HIV. Condoms do not provide complete protection against all STIs as they reduce but do not always eliminate mucosal contact and smear infections.

Operational research also emphasises the importance of condom-compatible lubricant use (water- or silicon-based) during anal sex [55]. Lubricant use facilitates entry and prevents micro-tears in the rectum during anal sex as well as decreasing rates of condom breakage. Oil-based lubricants increase the risk of latex condom breakage and are not recommended in combination with condoms for anal sex [56, 57]. The importance of condom-compatible lubricant use needs to be taken into account as a part of condom promotion interventions for MSM, and preferably distributed through the same programmes. Sub-optimal lubricant use is common among MSM, and correct use of lubricant should be included in prevention messages [28].

Intervention	Outcome	Strength of evidence (HASTE level)	Expert opinion
Condom use	HIV incidence	Strong (1)	Recommended
Condom-compatible lubricant use	Condom failure	Probable (2a)	Recommended

Condom distribution interventions aim to ensure that MSM have access to appropriate condoms when needed. Condoms are available for purchase online and in stores. In addition, community-based experience suggests that providing free condoms in settings were MSM frequent, ranging from venues such as saunas to health service centres for MSM, is preferable to condoms solely being available online and in stores [1]. Since the beginning of the HIV epidemic, civil society and other gay men's organisations in Europe have played a vital role by actively promoting condom use. The strong support for condom use as a key method of HIV/STI prevention facilitates continuous successful implementation of condom promotion and distribution programmes [36, 58].

Implementation advice

Condoms and condom-compatible lubricants should be widely available and combined with activities promoting effective condom use among MSM at risk of STIs including HIV. Condom and lubricant provision should be organised, and supplied in close collaboration with the target group and adapted to their needs. Free supply and promotion of condoms at, for example, sex venues (environments outside the home where men meet other men for casual, sometimes anonymous, sexual encounters) has been effective in some contexts [17]. Penile dimensions and corresponding condom fit, as well as men's perceptions of condom fit and feel should be addressed in sexual health encounters in order to minimise condom failure and to promote use. Non-latex condoms should be available for men with latex allergies.

Testing and screening for HIV and STIs

Provide voluntary and confidential HIV counselling and testing through a variety of ways that are easy to access for the target group, including outreach to the community, and routine offering of tests in clinics and community-based settings. Offer STI screening including anal/penile inspection and adequate diagnostics (e.g. sampling of urethra, pharynx and rectum and blood). Voluntary partner referral can support the early diagnosis and treatment of contacts.

Comprehensive screening for STIs

Regular comprehensive screening offered to asymptomatic MSM includes anal/penile inspection and sampling of the urethra, pharynx, rectum and blood for syphilis, gonorrhoea, chlamydia (and LGV if positive for chlamydia). Hepatitis B (for unvaccinated men) and C screening is performed as indicated by the individual risk or local epidemiological circumstances. Testing for Herpes simplex virus type 2 (HSV-2) should also be performed if clinically indicated [59, 60]. These tests should preferably be performed in combination with HIV testing for men not yet diagnosed [61]. MSM living with HIV should be offered voluntary screening for hepatitis C and other STIs annually or more often if clinically indicated [54, 62].

Regular comprehensive STI screening among asymptomatic MSM can be implemented in combination with risk reduction counselling. Routine STI screening of asymptomatic individuals will reduce the period in which infected individuals might remain both untreated and unknowingly able to transmit the infection to others. Screening frequency for STIs should be decided according to individual risk assessment and local epidemiological circumstances. The use of rapid tests, which are progressively becoming widely available for some infections can increase test uptake, including among MSM [63], but quality standards for their use must be ensured. Adequate treatment according to national, regional or WHO guidelines should be offered to persons testing positive [64].

Intervention	Outcome	Strength of evidence (HASTE level)	Expert opinion
Regular STI screening of asymptomatic MSM	STI incidence	Probable (2a)	Recommended

HIV testing

As with any medical test or investigation, individuals need to be able to make an informed decision about whether to undergo an HIV test. In services which target MSM, such as genitourinary medicine (GUM), STI or sexual health clinics, or primary care encounters, a brief risk assessment can be part of the pre-test discussion. Such services can be important places for identifying MSM who would benefit from the offer of a test and referral to other prevention services, counselling and support.

Knowledge of one's HIV status is crucial for access to antiretroviral therapy and HIV testing is thus recommended to be easily accessible and offered in an inclusive and non-discriminatory manner in order to be acceptable and accessible for MSM.

Current HIV testing coverage is not adequate in most settings in Europe and needs to be improved, so that all men who need testing can access it regularly. National UK guidance recommends at least annual HIV testing for MSM, and every three months for men having anal sex without a condom with new or multiple partners [65]. US Centers for Disease Control and Prevention guidelines recommend annual screening for MSM who themselves or whose sex partners have had more than one sex partner since their most recent HIV test [66]. This guidance suggests that individual counselling and mapping of risk behaviour should be used for individual recommendations around frequency of testing for HIV (and other STIs), but that annual testing for sexually active MSM would be a minimum suggested interval for testing.

Intervention	Outcome	Strength of evidence (HASTE level)	Expert opinion
HIV testing	Condom use	Probable (2a)	Recommended

Counselling connected to HIV testing and models of HIV testing such as opt-out testing, community-based testing and self-sampling were not reviewed as stand-alone interventions specifically for this guidance, but are covered in previous ECDC guidance on HIV testing [67], and are briefly mentioned below in relation to options for increasing testing frequency and coverage among MSM.

Counselling connected to HIV testing: HIV counselling and testing refers to an integrated process in which individuals make an informed decision about undergoing an HIV test and provides a good occasion for reflection on their risk situation and health promotion. In situations where counselling is part of HIV testing, brief pre-test counselling or discussion carried out by a trained counsellor, covering the benefits of testing and the practical arrangements for taking the test and receiving results, has been shown to be acceptable and effective in helping to increase testing uptake [68].

Post-test counselling aims to help the individual to discuss their HIV status whether it be HIV negative or HIV positive. HIV testing and counselling should ideally emphasise individual risk assessment, and counsellors should be trained to address sexuality issues and allow for discussion of individual risk reduction strategies and sexual health promotion, irrespective of a positive or negative test result.

Opt-out HIV testing: In the opt-out testing approach, an HIV test is part of routine STI screening, and all clients are informed about HIV testing and are tested for HIV as a routine part of STI screening unless they decline. WHO and the Joint United Nations Programme on HIV and AIDS (UNAIDS) recently published guidelines recommending provider-initiated opt-out screening in concentrated and low level epidemics at STI services and other health services for most at-risk populations [69]. Opting out is not a standard HIV testing strategy in Europe because routine comprehensive STI screening is not implemented in all European settings. However, there is a general trend towards recommending more routine HIV testing [70]. Potential benefits of opt-out are expansion of HIV testing, early diagnosis resulting in clinical benefit to the HIV-positive individual, and the reduction of HIV transmission [71].

The time taken for each patient is less for opt-out testing than for opt-in testing because extensive counselling and specific consent are not required. Cost-effectiveness of opt-out testing varies according to several factors, including HIV prevalence in the population to be screened (UK NICE guidelines recommend universal screening for all MSM, for all persons with an STI, and for all men in areas with HIV prevalence of more than 2 per 1 000 population) [65, 72, 73]. For opt-out testing to function well, mechanisms need to be in place to guard against the common concerns of lack of specific informed consent, a potential for coercive testing practices and lack of counselling services. Opt-out testing should be considered as part of comprehensive STI screening in settings where such an approach is culturally and legally acceptable.

Community-based testing: Rapid HIV testing and counselling in community settings delivered by trained staff or peers can increase the uptake of HIV testing among MSM and can reach populations of men that have previously not accessed HIV testing [74, 75]. MSM have also expressed preference for rapid testing over conventional testing in some European settings [76, 77]. Testing done in community settings such as testing centres located in easily accessible areas and at easily accessible times of day, or through outreach or mobile services, can allow easier access to and uptake of HIV testing services. Community-based testing services provide testing that is free or low-cost in an environment that is comfortable for difficult-to-reach groups. Community-based testing services can be delivered by trained peers, which can improve the uptake and acceptability of services for some MSM.

HIV self-sampling and self-testing: HIV self-sampling consists of a kit that allows a user to take a blood or saliva sample from themselves, post it to a testing lab and receive the result by phone, text or email. HIV self-testing implies that the patient would obtain a sample at his own convenience, such as an oral fluid swab, self-administer the test and then interpret the result. Some countries have approved or are in the process of approving the sale of self-testing kits for HIV. The United Kingdom became the first country to initiate sale of tests for home testing in April 2015. These kits will permit the individual to produce their own sample and run the test in their own home, with a result in 15 to 40 minutes. Self-testing might increase testing frequency due to test availability and easy access, but it requires careful quality assurance to minimise false negative and false positive results as well as well-defined pathways for accessing confirmatory testing and counselling in order to ensure linkage to care, and access to prevention and support [76, 78].

Voluntary and confidential partner referral

Partner referral is the process of identifying the contacts of a person with an infectious disease (index patient) and ensuring that they are aware of their exposure. For STIs, relevant contacts include those with whom the index patient has had sex with during the infectious period. The terms 'partner notification' or 'contact tracing' are often used interchangeably with partner referral. The term is used here in its broadest sense, encompassing both patient and provider referral. A key component for all forms of partner referral is that it must be voluntary and confidential. In some settings in Europe, due to patient confidentiality issues and practice, this approach is not widely-accepted, while in others this is legislated and not strictly voluntary. Where implemented in Europe, acceptability, defined as willingness of index patients to notify their partners, is broad [79, 80]. No efficacy study could be identified that reported on the impact of contact tracing on UAI or HIV/STI incidence. The possibility that partner referral could reduce HIV/STI incidence is biologically plausible but might be restrained by implementation barriers. The International Union against Sexually Transmitted Infections (IUSTI) has included the importance of performing partner referral in current patient management guidelines for STI [81]. Partner referral is usually recommended as part of the essential package of HIV, STI and hepatitis prevention measures, and can support the early diagnosis and treatment of contacts. Implementation modes can vary [82].

The preferred method to notify partners for the majority of MSM is direct person-to-person notification [83]. Online surveys also report broad acceptance of internet partner notification by some MSM, regardless of HIV serostatus, including willingness to receive an e-mail if they had been exposed to an STI or to initiate a notification e-mail [80, 84, 85]. If implemented, partner referral should be done on a non-coercive basis within enabling and supportive social and legal environments for disclosure.

Intervention	Outcome	Strength of evidence (HASTE level)	Expert opinion
Voluntary anonymous partner referral	HIV incidence	Pending (2c)	Recommended, in situations where participation is both voluntary and anonymous

Implementation advice

Testing for HIV and other STIs should not be limited to health facilities but promoted and offered, where possible, in community-based settings by persons that have appropriate training, and quality and infection control standards in place. Informed consent should always be ensured and documented but does not have to include signed written consent. In some services, pre-test discussion has been replaced with written information in order to free up resources to provide testing to more people. This is in line with other medical investigations and is part of the normalisation of HIV and STI testing. A detailed sexual history is not always required before offering a test. However, in settings where sexual health is within the scope of the services, a brief risk assessment or more extensive pre-test counselling focusing on risk reduction strategies is indicated, e.g. in case of frequent risk exposure this should always be available and staff should know how to refer to skilled counsellors.

Treatment provision

> Timely provision of antiviral treatment of HIV, hepatitis B and C according to individual needs and national or international clinical guidelines should be ensured. Provide targeted antibiotic treatment for other STIs. The preventive benefits of treatment are significant.

STI, HIV and hepatitis treatment should be offered following a positive diagnosis based on an appropriate test, and in relation to clinical guidelines. In the absence of national guidelines, regional guidelines produced by IUSTI, the European Association on the Study of the Liver (EASL), and the European AIDS Clinical Society (EACS) [54] or global guidelines [37] could be useful. Correct and specific treatment is crucial to benefit the health of the individual and to hinder further transmission.

Intervention	Outcome	Strength of evidence (HASTE level)	Expert opinion
Treatment for HIV, hepatitis B and C, and other sexually transmitted diseases	Efficacy not reviewed for this guidance and clinical guidelines are referred to		Recommended

Bacterial STIs should be treated with targeted antibiotic treatment in accordance with national clinical guidelines. Due to widespread availability of diagnostic tools including rapid tests and in order to reduce drug resistance, syndromic management is not recommended for STI treatment. National treatment guidelines, particularly for gonorrhoea, should be reviewed regularly due to changing resistance patterns. The IUSTI treatment guidelines are regularly updated based on the latest epidemiological and microbiological data [86].

Antiviral treatment for hepatitis C or herpes simplex virus should also be provided as per national or regional (EASL and IUSTI) clinical guidelines. There is good evidence that early treatment of hepatitis C is more desirable, and new direct-acting antiviral treatment regimens are highly effective.

HIV should be treated with antiretroviral treatment in accordance with national or European clinical guidelines. Antiretroviral therapy initiated when CD4 counts fall to 500 or lower is recommended in recent WHO treatment guidelines together with a recommendation to offer treatment immediately to individuals in discordant relationships [37]. Early results from the START study, a randomised controlled trial of 4 600 participants set up to evaluate whether there is a clinical and public health benefit in starting treatment immediately after establishing the presence of infection, demonstrated that starting treatment early is superior to waiting[i].

It should be emphasised that the main benefit and primary reason for offering HIV treatment to an individual is for their individual health benefit. However, it is important to explain to patients, and to consider in public health programmes, that treatment has been shown to be beneficial both to individual health and in decreasing the risk of transmission to the individual's partner(s). The sexual transmission of HIV from an HIV-positive person to their partner is correlated with concentrations of HIV in the genital tract and genital fluids [87], which is the mechanism for how combination antiretroviral treatment (ART) reduces sexual transmission of HIV. Studies evaluating HIV transmission were carried out mostly on heterosexual HIV-discordant couples and have shown that treatment of persons with HIV can reduce the risk of sexual transmission of HIV to their partner by over 90% [87, 88]. The interim results of the PARTNER study, which included MSM discordant couples, so far confirmed these findings for the MSM population by not detecting any episodes of linked HIV transmission from men infected with HIV and a viral load below the limit of detection [89]. It has been estimated that the majority of HIV transmissions among MSM in UK settings occur before the positive partner is diagnosed [29]. Therefore, the main efforts for effective HIV prevention and care programmes in EU/EEA settings will be focused on achieving high and regular testing frequency for those MSM most at-risk and facilitating treatment access and adherence to treatment among those who are tested positive.

[i] International Network for Strategic Initiatives in Global HIV Trials (2015) http://insight.ccbr.umn.edu/start/

Intervention	Outcome	Strength of evidence (HASTE level)	Expert opinion
HIV treatment as prevention	HIV incidence	Strong (1)	Recommended, stressing that the primary reason for treatment should be for the good of the individual HIV-positive man in need of treatment

Implementation advice

Treatment of HIV, STIs, and hepatitis B and C should be integrated and delivered at MSM-competent points of care as well as at general clinics. ART can also be used, with high efficacy, to provide pre- and post-exposure prophylaxis.

Post-exposure prophylaxis (PEP): Post-exposure ARV-based prophylaxis is approved for use in Europe and should be started as soon as possible after HIV risk exposure, but always within 48–72 hours [54, 90]. Treatment should be continued for 28 days, unless the source individual is determined to be HIV negative. PEP has consistently been shown to reduce HIV transmission in animal studies [91, 92] and was originally introduced to reduce transmission following needle stick injuries. For ethical reasons no RCT has been conducted. Observational studies show consistent protection, but of various degrees [93]. Apart from occupational PEP and PEP in situations of sexual assault, in most countries PEP is also recommended to individuals having had anal intercourse without a condom with partner of unknown HIV serostatus, seeking care within 48–72 hours [54, 90]. The most common use of non-occupational PEP is in discordant couples (where the index partner is not on ART) due to condom breakage or failure. United States and most European guidelines also specifically include individuals having had unprotected receptive anal intercourse with a homosexual or bisexual man of unknown HIV-status as eligible for PEP [54, 90, 94]. Since antiretroviral medication also carries a risk of adverse events, individual benefit of PEP needs to be weighed against risks, and in countries where PEP is available, it is a clinical decision based on individual benefit, rather than a strict guideline-based measure.

PEP has not been associated with an increase in high-risk sexual behaviour among MSM, and has rarely been promoted as a main prevention method to the MSM population [93, 95]. Awareness of PEP and perceived access to PEP is low among MSM in most European countries, indicating that PEP is not a first-line prevention intervention. A Danish study showed only a modest increase in requests for PEP despite having a PEP-knowledgeable MSM population and easy access to the treatment [96]. A study evaluating Amsterdam's PEP programme found a similar trend of a very modest increase in PEP requests, however 75% of requests were from MSM. In EMIS, less than 2% of respondents in 26 of the 38 countries included reported ever having accessed PEP; the remaining countries reported slightly higher use, with respondents in France reporting the highest use, still only 9% [28]. The low use of PEP in most European settings could be explained by low awareness or low perceived needs. Access is also an important issue and in the 2010 EMIS survey, about one-third of European countries reported that PEP could not be accessed for free [28].

There is a large variation across Europe with respect to how often PEP is considered and prescribed for HIV prevention. MSM who are exposed to HIV – regardless of the reason for exposure – have a right to be informed about all potential interventions, including knowledge about what PEP is and where it can be obtained. EMIS findings suggest that condom accidents and a consistent lack of knowledge on how to use condoms correctly, rather than carelessness, are associated with exposure to HIV and related experience of PEP [28].

This guidance suggests that knowledge about PEP should be promoted to MSM and that PEP should be provided at clinics targeting MSM or sexual health where feasible. PEP should be offered to MSM having had sex without a condom with a HIV positive partner of unknown viral load status, and additionally to MSM who have had receptive anal sex with a partner of unknown HIV status and who seek care within 48–72 hours.

Intervention	Outcome	Strength of evidence (HASTE level)	Expert opinion
Post-exposure prophylaxis (PEP)	HIV incidence	Probable (2a)	Recommended

Pre-exposure prophylaxis (PrEP): PrEP is a method to reduce the risk of HIV infection in HIV-negative adults who are at high risk of HIV exposure. The treatment includes the use of oral antiretrovirals in order to prevent the virus from establishing a permanent infection [97]. Detectable drug levels in the blood strongly correlated with the prophylactic effect, emphasising the importance of adherence to PrEP [98].

The final results of the extension of a large clinical trial (iPrEX OLE) conducted among MSM and transgender women showed that good adherence to PrEP was associated with a risk reduction of 84% for HIV infection [99]. While it was expected that open-label, non-trial use of PrEP might result in lower efficacy, the UK PROUD trial of 545 MSM randomised to immediate or deferred daily PrEP arms, found an 86% reduction among men in the immediate PrEP arm, and equal rates of rectal STIs and high condom use in both groups throughout the course of the trial, indicating that men had incorporated PrEP into existing risk reduction strategies [100]. The French Ipergay study carried out on 400 MSM, also demonstrated an 86% reduction in HIV infection among MSM taking intermittent PrEP (two tablets 2–24 hours before sex, one tablet 24 hours later, and one tablet 48 hours subsequent to the first dose) as compared to the placebo arm [101]. High efficacy was achieved despite the fact that only 43% of MSM reported taking PrEP optimally during their last intercourse [101].

These studies provide strong evidence on the efficacy of PrEP and indicate that serious consideration should be given to its inclusion in the 'HIV prevention toolbox', especially for those MSM most at risk of acquiring infection. WHO has included a new recommendation on the use of PrEP in MSM as an additional prevention choice within a comprehensive HIV prevention package, in the consolidated guidelines for HIV prevention, released in July 2014 [37]. The US has recommended it since 2012, although implementation in many areas has been slower than anticipated.

A number of scientific and practical questions remain regarding PrEP which will need to be addressed as European countries begin to implement PrEP outside of trial settings. First, the medication used for PrEP (Truvada) is, as of mid-2015, only approved in the EU to treat HIV infection, not for prophylactic use, although this is expected to change in the future. The cost-effectiveness of PrEP in the long term requires further investigation although the event-based use of PrEP, as deployed in the Ipergay study may offer the prospect of reducing costs. In addition, the longer term potential risk of developing drug-resistance, if breakthrough infection occurs, must also be considered. The potential impact of PrEP on condom use and STI acquisition will also need to be carefully monitored.

Intervention	Outcome	Strength of evidence (HASTE level)	Expert opinion
Pre-exposure prophylaxis (PrEP)	HIV incidence	Possible (2b)[i]	Recommended, Implementation considerations need revisiting as PrEP expands outside of trial settings in Europe

Health promotion

> Provide accurate and accessible information that enables men to understand and assess sexual health-related risks and prevention efficacy, and that promotes awareness of one's own HIV status. Health promotion could take place in counselling sessions, peer support groups and outreach interventions as well as by targeted information provision to support sexual health among MSM.

Health promoting interventions aim to increase knowledge and skills to enable MSM to maximise their sexual health and well-being. Historically, such programmes have promoted decreased sexual risk taking by supporting increased condom use, HIV and STI-testing among MSM.

Health promotion programmes have also addressed the effects of alcohol or drug use on sexual decision-making. In some settings, including the UK, gay men have been known to use drugs, especially stimulants, more than the general population [102]. The use of drugs preceding or during the sexual session (referred to as 'Chemsex' or 'Party and Play') has received significant media attention and is, by some accounts, increasing in parts of Europe, although robust data are lacking. Health promotion can address harm reduction with regard to drug and alcohol use, can screen for problem drug and alcohol use, and can provide or link to MSM-competent drug or alcohol services when needed.

[i] This review was carried out and grading performed prior to release of UK PROUD Study (McCormack et al, CROI 2015) and Ipergay (Molina et al CROI 2015) studies. Taking these into account, the strength of evidence and recommendation for PrEP would increase further.

Information and awareness-raising through campaigns or ongoing messaging

Public information targeting MSM but also accessible to the general population can help achieve higher awareness about specific health needs among MSM. Since there are MSM who do not identify as gay or who do not access MSM-specific venues, it is important that this information covers a wide range of crucial health messages (examples of health messages that may be relevant for some MSM in some settings could include: 'get vaccinated', 'get tested often, at least yearly', 'Get STIs treated', 'intercourse is not compulsory', 'use condoms and water-based lubricant for anal sex', 'it's ok to decline some partners', 'Consider sharing your status'). These messages should appear in traditional media as well as the internet and social media. Messaging should focus on key health issues to promote sexual health among MSM[i]. Many organisations also do extensive work to promote information through social media, posters at sex venues, updates on Wikipedia or other sources, or leaflets at testing facilities. Campaigns to promote gay, lesbian, transgender equality can also be included under this broad category and there is evidence that such campaigns, targeting the general population, can result in reduced stigma and homonegativity.

Intervention	Outcome	Strength of evidence (HASTE level)	Expert opinion
Social marketing media campaigns	Uptake of HIV testing	Probable (2b)	Recommended
Internet-based HIV prevention messages	UAI	Possible (2b)	Recommended
Campaigns for Lesbian, Gay, Bisexual and Trans equality	Self-reported stigma towards LGBTI	Pending (2c)	Recommended

Counselling HIV-negative MSM

Trained counsellors (peer or non-peer) meet face to face with MSM at risk for contracting HIV infection to provide information and discuss strategies for reducing and mediating HIV and STI risk. The contents of these meetings may vary by intervention, but mainly rely on addressing individual drivers of risk that would facilitate behaviour change such as increased condom use, knowing partners' HIV status, and the identification of problem alcohol or drug use [1]. As PrEP becomes more available in Europe, those who are HIV-negative and at high risk of HIV and STI exposure can be provided information and counselling about PrEP for HIV, and about the importance of regular HIV and STI screening.

Health promotion theories including social cognitive theory, the trans-theoretical model of change, or the information motivational-behavioural skills model can guide the approach to HIV and STI counselling. However, providing one-off counselling interventions in isolation may be insufficient to influence behaviour over time, and such interventions can benefit from being combined with offering HIV/STI testing and support groups. Counselling addresses behaviour and sexuality, and will include strategies for reducing risk as well as provide information regarding HIV/STIs, testing and treatment. There is significant peer experience of HIV/STI counselling among MSM in Europe. It is suggested to combine counselling with referral to or from other services when appropriate, including: prevention, testing and treatment.

Intervention	Outcome	Strength of evidence (HASTE level)	Expert opinion
Individual counselling for MSM	UAI	Possible (2b)	Recommended

Peer activities

Community and peer involvement is crucial to health promotion. Peers are popular opinion leaders who promote health-promoting behaviours within a defined community. They are more likely to influence peer norms since they are seen as credible and non-judgmental role models. Critical peer attributes such as age, identity, HIV status, socio-economic background, migrant or ethnic minority background and sex work, may be important characteristics that will help peers more effectively reach certain groups of MSM.

[i] A separate report providing more information on creating a communication strategy and key messages for HIV and STI prevention among MSM is being produced by ECDC

Peer support groups

Peer support groups have been widely used and have been shown to be both acceptable and feasible among MSM. In peer support groups, HIV/STI prevention messages are communicated by trained peers to a group of individuals. Such sessions aim to promote a specific behaviour (for example, condom use, adherence to treatment) through the individuals participating as well as by making use of group dynamics. Group discussions take advantage of the influence of peers to foster the behaviour of interest by creating norms around, for example condom use. Peer outreach workers are often popular opinion leaders that are more likely to influence the behaviour of their peers since they are seen as credible and non-judgmental role models [103]. Acceptability is improved by the involvement of peers and by creating enabling environments [104].

Intervention	Outcome	Strength of evidence (HASTE level)	Expert opinion
Peer-led group interventions	UAI	Strong (1)	Recommended

Peer outreach activities

Peer outreach activities typically involve other MSM who are able to influence and support members of the same group to maintain healthy sexual behaviours and to positively influence group norms. Peer outreach activities can take place online, off-line and via mobile phone apps. Peer outreach activities have been shown to be effective across a number of countries and income levels and, in one systematic review, were associated with a 30% reduction in UAI compared with minimal or no HIV prevention [105]. If adequately resourced and well planned, community-based peer interventions have the capacity to reach individuals who would not normally participate in facility-based interventions.

Intervention	Outcome	Strength of evidence (HASTE level)	Expert opinion
Peer outreach	UAI	Strong (1)	Recommended

Implementation advice

Community-based peer outreach interventions have the capacity to reach people who would not participate in facility-based interventions and who might be at higher risk than many who enrol in small groups or individual interventions. The effectiveness of the intervention may be attenuated with time and therefore offering boosters might be important to sustain behaviour change [106]. To be feasible and scalable, peer outreach requires sufficient resources, intensity of the intervention, cultural competence, and a basis in behavioural and social science theory. Peer leaders need on-going training monitoring, support, and sometimes incentives to avoid high attrition rates.

Deliver MSM-competent health services

MSM-competent points of care offering a comprehensive sexual health programme including health promotion, counselling, peer support, prevention, adequate diagnostics, and treatment will increase service uptake. Design and implementation of services should be organised with target group involvement. At any health facility that targets sexual health, there should be training for providers on how best to offer comprehensive care for MSM.

MSM-competent points of care

The term MSM-competent refers to health services that are specifically dedicated to MSM but may include more general services that are competent in providing care to MSM. Like all persons, MSM require care and commitment from healthcare providers. In addition, it is critical that healthcare providers are aware of specific health risks and needs of MSM and address sexual health-related needs in a non-judgmental manner. Health needs include sexual and mental health, and in certain situations substance use. MSM-competent health services offer comprehensive care and are sensitive to the specific needs of MSM, thus reducing barriers that cause men not to seek care or to disclose relevant personal information once in care. MSM-competent points of care can ensure that MSM can access safe and non-stigmatising health services. In some European countries, community-based projects providing professional services and peer support (by gay men for gay men) have had success in achieving high client satisfaction – thereby ensuring better uptake, follow-up and compliance. Examples of this include community-based HIV testing 'checkpoints' in Barcelona, Athens, and elsewhere throughout Europe.

Intervention	Outcome	Strength of evidence (HASTE level)	Expert opinion
MSM-competent clinics	No intervention studies found	Pending (2c)	Recommended

Training for healthcare providers in providing comprehensive care for MSM

Specific education and training is needed for healthcare providers to build their awareness and effectiveness when dealing with the specific prevention and health needs of MSM. Some MSM have unique healthcare needs because of societal stigma related to homosexuality and gender non-conformity, which is associated with higher reported rates of depression, anxiety, substance use, and other adverse health outcomes as well as a risk of increased sexual risk taking [107–109]. Providers need to be knowledgeable about health disparities affecting MSM in their specific setting, and the best ways to provide competent care in order to optimise their MSM patients' health and well-being. With adequate education and training, health professionals will not only provide more appropriate routine care for their MSM patients but also help patients avoid internalisation of stigma associated with homosexuality, access healthcare to prevent HIV and other STI acquisition, and to support patients in achieving better sexual health with less harm [108]. The inclusion of professional gay care providers into respective health care settings has helped to improve gay-competent care in many EU Member States. Training should be regular, up-to-date and should be aimed at providing information on HIV and STIs, information on testing, referral pathways, and clinical management/stigma.

Intervention	Outcome	Strength of evidence (HASTE level)	Expert opinion
Training for healthcare providers to offer comprehensive care for MSM	No intervention studies found	Pending, Grade (2c)	Recommended

Implementation advice

MSM-competent points of care are best developed by or at least in close collaboration with the target community to better design and address service delivery. Peer-support groups available for both HIV-positive and HIV-negative MSM achieve good results in relation to promoting sexual health and infection prevention behaviours. MSM-competent points of care will benefit from linking to the community and integrating peer-support into their services. Similarly, training for healthcare providers at clinics addressing sexual health and general practices, needs to be developed in close collaboration with the community in order to adequately address stigma and specific needs relevant to local national circumstances.

Targeted care for HIV-positive MSM

Provide antiretroviral treatment for HIV and vaccinations based on current guidelines and clinical judgement to all men in need. Offer and supply regular STI screening (including syphilis, gonorrhoea, hepatitis C and LGV testing if positive for chlamydia) using adequate diagnostics. Provide treatment for STIs including hepatitis B and C. Offer individual counselling, sexual health promotion and peer-support groups.

Treatment

As detailed in the treatment section, antiretroviral therapy for HIV started at CD4 counts of 500 or lower is recommended in the current WHO treatment guidelines [64] for all persons diagnosed with HIV, including MSM. Recent START trial results may lead to still earlier treatment initiation in many European settings. In the same guidelines, it is also recommended that individuals in a sexual relationship with a discordant partner should be offered immediate treatment irrespective of CD4 count. This decision should be made by the informed individual, including their negative partner where the patient agrees. Willingness to start treatment will depend on the individual's motivation and the healthcare provider's relationship with the patient. Benefits to the HIV-positive individual will include the health benefits of ART as well as the opportunity to decrease the risk of transmission of HIV to their HIV-negative partner(s).

Vaccinations

As described in the section on Vaccines, Influenza (yearly), *Streptococcus pneumoniae*, and Varicella Zoster Virus vaccines are recommended to be offered to people living with HIV and certain precautions taken with regard to vaccinating when CD4 is below 200 [54].

Monitoring

Regular clinical monitoring of CD4 count and viral load should be offered. Annual or more frequent screening for STIs (including syphilis, gonorrhoea, hepatitis C, and LGV for those who are chlamydia positive) should be offered to MSM living with HIV. Initial screening for tuberculosis should be conducted and thereafter additional screening if suspected due to clinical concerns or if the patient lives in a high endemic area. Anal HPV screening and smear should be offered routinely or as clinically indicated. Treatment of STIs and viral hepatitis should be offered as needed and in accordance with national treatment guidelines. Additional information on the clinical care and monitoring guidelines for men living with HIV are provided by the European AIDS Clinical Society [54].

Counselling

Counselling for MSM living with HIV focuses on risk reduction, stigma and health promotion strategies. Minimising sex without condoms among MSM living with HIV can reduce their risk of acquiring other STIs, including hepatitis C. However practices such as 'slamming' (injecting drugs usually in conjunction with sex), snorting drugs, fisting or the use of group sex toys can transmit hepatitis C virus. MSM should be provided information on harm reduction if they are engaged in any of these behaviours. Counselling about other STIs is also important. STI acquisition may increase viral load and accelerate disease progression for untreated HIV infection and can increase discomfort and impact on sexual satisfaction [110]. Counselling may support men by reducing stigma and introducing risk and harm reduction strategies [111, 112]. Counselling for MSM living with HIV should be a part of care programs both as an immediate post-test counselling service, and also as a longer-term service to people living with HIV in addition to support groups. Its intensity and content should be adapted to the needs and preferences of the target group locally.

Intervention	Outcome	Strength of evidence (HASTE level)	Expert opinion
Counselling for MSM living with HIV	UAI	Probable grade (2a)	Recommended

Peer support groups

Support groups for MSM living with HIV are not equally prevalent across Europe, but these can be a useful way to address safer sex within a broader range of topics relevant for people living with HIV such as pathology of HIV, treatment effects and side effects, self-esteem building exercises, challenges in everyday life, stigma, mental and physical health. To improve acceptability, peer support groups can provide emotional support, facilitate physical support for symptomatic persons, and offer support that matches specific needs [113]. The involvement of peers might also improve acceptability of the intervention. Successful implementation of risk-reduction interventions for HIV-positive people requires removing barriers to discussing HIV-transmission risks and eliminating the social stigmas that preclude people from disclosing HIV status. Individual counselling and peer support groups offering theory-based interventions to enhance sexual health have shown significant reduction in sex without condoms [114]. Given the high potential effectiveness and potential health benefits, peer support among MSM living with HIV should be supported.

Intervention	Outcome	Strength of evidence (HASTE level)	Expert opinion
Peer-led group interventions targeting MSM living with HIV	UAI	Probable grade (2a)	Recommended

Implementation advice

MSM-competent service delivery points, as well as healthcare staff adequately trained to care for HIV-positive MSM will ensure better access to treatment, adherence and counselling services. They should support and acknowledge that HIV-positive MSM have sexual relationships and a right to a fulfilling sex life and should be offered specific support, including information regarding the benefits of antiretroviral treatment. Close collaboration with HIV-positive MSM active as peer supporters will contribute to ensuring that services are well-grounded in the needs of HIV-positive MSM. Viral load should be used as a clinical monitoring tool to measure the effectiveness of ART and its function and relationship to the infection should be emphasised. Experiences from clinical settings where patients get a chance to understand, follow and interpret their infective markers (CD4, viral load) are positive, and these patients seem likely to have optimal possibilities to internalise the needs for adherence to antiretroviral treatment and to adopt other preventive measures as needed.

Settings for health promotion interventions for MSM

While interventions can and do take place in a variety of settings across Europe, it is important to consider the particularities of the setting when determining the types of men to be reached and the types of interventions that are appropriate and feasible in that setting. Outside of healthcare and community HIV testing centres/checkpoints, there are some additional settings for reaching MSM in Europe. Given that a variety of interventions might take place using these settings, they are included here as additional settings in which the key recommended interventions might take place.

Sex venues

Sex venues include commercial venues such as saunas, sex clubs, night clubs, health clubs, adult movie houses, adult bookstores, backrooms of bars, etc. They can also include places within the public space, 'cruising zones', such as certain parks, beaches, alleys, restrooms or private venue sex parties [115–117]. A combination of interventions at these venues should offer one or all of the following services: health promotion, condoms and lubricant provision, and HIV/STI-testing, hepatitis A and B vaccination. Key programmatic considerations include building alliances with community agencies and strong relationship between owners of the commercial sex venues and implementers of the intervention.

Sex venue-based interventions have been effective in reaching MSM with high sexual risk and in testing men who have previously not been tested for HIV/STIs [118]. High acceptability rates have been reported among MSM in different contexts [119, 120]. Sex venues are an important environment to provide services to hard-to-reach MSM who may have a particularly high risk of HIV and STI acquisition and transmission [121].

Intervention	Outcome	Strength of evidence (HASTE level)	Expert opinion
Sex venue-based interventions	UAI and uptake of HIV testing	Probable (2a)	Recommended

Internet and mobile phone-based interventions

While the internet or mobile-phone based applications are not physical intervention 'settings' they are increasingly important for HIV and STI prevention. The internet is now the most popular tool used by MSM to meet sexual partners [122]. It is increasingly common for MSM to meet their sexual partners online and available data indicate that persons with more use of online platforms tended to have higher partner numbers and more UAI [123, 124]. While the internet and mobile apps are increasingly key modalities through which to reach MSM, a 2015 ECDC-Terrence Higgins Trust project entitled 'Understanding the impact of smart phone applications on MSM sexual health and HIV/STI prevention in Europe' found that although the majority of HIV prevention organisations surveyed reported that they are doing prevention work online, only half reported that they are doing prevention work through mobile phone apps [102].

Table 2. Examples of ways internet or mobile-phone based interventions and tools

		Examples of types of tools/interventions
Examples of internet sites where interventions could take place	- Traditional webpages: from NGOs public health organisations, health care clinics, news, club owners etc. - Facebook/other social media like Pinterest - Wikipedia and forums - General dating sites - LGBTQ/MSM community sites and forums - Porn sites	- Banners - Sponsored content - Pop-ups or push messages (informing about testing services, outbreaks in a specific area) - Testing location services - Editorial messages - Peer-to-peer chat - Chat with health providers - Hashtags - Provision of content to feed social media (infographics, blogs, photos, meme, videos, playlists, etc) - Monitoring of social media, Wikipedia, news, etc.
Examples of mobile -based locations where interventions might take place	- Twitter/Instagram - Mobile-adjusted webpages - Apps like Grindr/Scruff - SMS-reminder - SMS-chat - GPS/maps interventions	

Adapted with permission from: Nicklas Dennermalm, Swedish Federation for Lesbian, Gay, Bisexual, Transgender and Queer Rights, Sweden

Delivering an effective intervention via the web or via a mobile application has many advantages. Importantly, it makes it possible to reach more people potentially increasing access to some populations of MSM who do not access other services [125]. Moreover, it affords individuals the opportunity to access the intervention confidentially, and potentially at critical moments when one is looking for new partners online. Some web- or mobile-based interventions require minimal staffing and can be easily replicated after development, while others require significant human resources and up-keep. Mobile-based HIV or STI testing reminder services, for example, are becoming more widely used by sexual health services in many countries. The internet and smart phone applications allow asynchronous communication, multiple ways to communicate, interactivity, customisation of contents, and flexibility [126]. Mobile phones or 'push notifications' can also be used to provide information or alerts to MSM about ongoing outbreaks in MSM in a specific geographic area (e.g. local cluster of syphilis). Interactive interventions can promote sexual health and provide individualised feedback while promoting active learning [127]. These programmes should be available directly to users and allow independent access without needing expert facilitation. Additional possible ways in which the internet and mobile phones might be used to promote sexual health among MSM are listed in Table 2.

Internet- and mobile phone-based interventions are a promising way in which to encourage and promote sexual health. However, so far efficacy data has been unclear, largely due to the lack of evaluation research carried out using internet- and mobile-phone based interventions. Different modes of internet and mobile-based interventions should be developed and evaluated for MSM in Europe.

Intervention	Outcome	Strength of evidence (HASTE level)	Expert opinion
Internet-based HIV prevention messages	UAI	Possible (2b)	Recommended

Match effective interventions to specific prevention needs

It is not possible to suggest a 'one size fits all' approach to achieve the 'right' balance of services to meet the HIV and STI prevention needs of MSM across all settings in Europe. However, it was recommended by the expert group that national and local public health planners direct prevention services for MSM according to the analysis of well-founded epidemiological data, so that services are targeted at the appropriate scale to those geographical and risk populations most at risk of HIV and STI infection. Given the diversity of MSM across Europe, this will differ by setting. However, it is suggested that in many settings in Europe, a strong programmatic focus on men who are active in the gay scene (bars, nightclubs and other meeting venues including via mobile dating apps) and who have multiple sexual partners will have a strong preventive impact. In many settings, men who sell sex, migrant MSM, and MSM with problem drug use may have enhanced needs, as it is clear that men with overlapping vulnerabilities are likely to have higher HIV risk [4]. In many countries, young MSM may be at particular risk as they negotiate and establish sexual health behaviours. The delivery of prevention and sexual health promotion services for MSM should be based on mapping and interventions, tailored geographically and socio-demographically to where MSM in need are located. It is also key to find ways to work with multiple language platforms and addressing interventions and tools to MSM of migrant and ethnic minority groups if there is evidence of need.

Monitoring and evaluation of programmes

Monitoring and evaluation is an essential component of any comprehensive HIV and STI prevention programme. The need to monitor and evaluate HIV and STI programmes, at national and sub-national levels, is becoming increasingly important as many countries in the EU/EEA are facing challenges in sustaining their prevention efforts due to cuts in public health spending. When done properly, monitoring and evaluation should provide the data needed to assess overall programme performance as well as the performance of the various interventions which make up that programme. Monitoring and evaluation can also help stakeholders identify and understand the strengths and weaknesses as well as the successes and failures of a programme. Monitoring and evaluation is also essential in guiding resource allocation and ensuring that funds are directed to those interventions that are most likely to have the biggest impact on curbing the HIV epidemic.

Some European collaborative projects are providing key information for monitoring and evaluation of HIV and STI prevention programmes in the EU/EEA. The EMIS survey broke important new ground in collecting data that can be used to assess and improve HIV and STI prevention programmes [28]. As an internet-based survey, it was able to efficiently and cost-effectively collect a wide range of primary data from a significantly larger population base. Future surveys, such as a repeat EMIS, while expanding to ensure sampling from groups that are underserved by the internet, will be important to monitor and inform HIV and STI programmes for MSM in Europe. The SIALON II project is a bio-behavioural survey among MSM that was implemented in 13 EU countries collecting both behavioural and biological information using the same time-location sampling and respondent-driven sampling, according to the local context. Estimates of HIV, syphilis, hepatitis B and C prevalence and of the undiagnosed infections in the MSM population will be available during 2015. This will help the countries in monitoring the epidemic and at the same time provide them with relevant information on risk factors in the MSM population.

Given the potential impact of early diagnosis and treatment on the epidemic, strategies aimed at increasing access to testing and linkage to care, as well as promoting test seeking behavioural patterns among MSM are crucial and need to be monitored. European projects such as COBATEST, EUROEDAT, and OptTest are developing and testing indicators and data collection instruments (including prospective follow up of testing services users) specific for the MSM population.

Given the challenges of collecting useful data on HIV and STI prevention programmes, including the seven key interventions suggested in this report, it is important to consider a range of existing resources available internationally that present suggested indicators. These resources include:

- The European Men-Who-Have-Sex-With-Men Internet Survey [http://www.emis-project.eu/sites/default/files/public/publications/emis-2010_european_msm_internet_survey_38_countries_v5.pdf]
- Dublin Declaration on Partnership to Fight HIV/AIDS in Europe and Central Asia: ECDC Questionnaire: MSM section
- UNAIDS Global AIDS Response Progress Reporting [http://www.unaids.org/en/media/unaids/contentassets/documents/document/2014/GARPR_2014_guidelines_en.pdf]

It is acknowledged that very little data or existing monitoring of policies and programmes on the performance of STI and hepatitis programmes for MSM, or on the care received and quality of life of MSM living with HIV exists. These are areas for further development for monitoring and evaluation at the European level.

Implications for future research

There are several key areas in which robust data or evidence on the effectiveness of interventions for MSM is lacking and where additional documented implementation data from the European setting would be of added value to guide public health decision-making.

The systematic review of interventions among MSM performed to support this guidance, found that four of the 24 interventions reviewed could be assigned a HASTE grade 1, equal to strong evidence. Another four interventions could be assigned grade 2a, equal to probable evidence, while an additional seven interventions were assigned grade 2b, a possible recommendation [39]. This indicates that there remains a lack of robust efficacy and implementation data for a number of key interventions.

Future efficacy research in the European setting is recommended to inform HIV and STI prevention decision-making and programme planning in a number of areas including early initiation of ART, HPV vaccination for MSM, PEP, and voluntary anonymous partner notification, sex-venue based interventions, internet-based interventions, training for healthcare providers, and interventions that address alcohol and drug use. Additional documented implementation data on peer-led group interventions, social marketing interventions, and campaigns to reduce stigma would help guide programme design and increase the level of evidence for these intervention modalities.

In addition to the intervention areas mentioned, key questions remain with regard to the implementation of PrEP, including the cost-effectiveness across various settings in Europe, optimal care delivery models in various European settings, and the effect of PrEP on condom use and STI transmission/acquisition over the long term in a non-survey environment. These areas will need to be reviewed and considered in future updates of this guidance.

Increased understanding of the efficacy of mobile-phone/app based interventions as well as documented implementation data is needed. Greater qualitative and networks data from MSM using these applications in Europe would improve the understanding of the role of such apps in disease transmission and HIV and STI prevention, and their potential for the promotion of health and prevention of infections.

Finally, with regard to better understanding the epidemiological situation, additional data on hepatitis C prevalence among HIV-negative MSM would help guide testing recommendations. Consensus on size estimates for MSM populations in various settings in Europe, and better measurement of HIV and STI incidence, alongside behavioural data for MSM are needed in many settings in Europe. This information could help to plan preventive services and to better interpret HIV and STI case reporting data.

Conclusions

While prevention interventions for MSM have long been available in Europe in some form or another, in some settings they have been unevenly provided, poorly accessed and have relied on a relatively narrow range of interventions. To date, these have not been enough to substantially reduce the incidence of HIV and STIs among MSM in most settings in Europe.

Immediate and sustained attention to guaranteeing the scale-up of sustainable HIV and STI prevention structures for MSM is needed to enable and empower communities of men to access the services and information needed to maximise their sexual health and to reduce HIV and STI acquisition and transmission. In addition to the provision of the combination of interventions recommended in this guidance, national activities will be most effective if implemented alongside the underlying values addressed in this document regarding the elimination of structural barriers, the reduction of stigma and discrimination, and involvement of the men that the services intend to reach.

As many countries in Europe experience constrained public health budgets, it is more important than ever to implement targeted and evidence-based measures that address the groups most affected by the HIV epidemic as well as those most at-risk for disease acquisition and transmission. The promotion of sexual health using positive message framed in an empowering environment in relation to individual needs, will ensure greater effectiveness of the disease prevention efforts, hopefully resulting in risk reduction and decreasing trends in the new infections of HIV and other STI in Europe.

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Annex 1. Interventions, strength of evidence, and expert opinion

Intervention	Outcome	Strength of evidence	Expert opinion
VACCINATION			
Provision of hepatitis A & B vaccination	Vaccine efficacy	Strong (1)	Recommended
Provision of HPV vaccination	Vaccine efficacy to prevent anal intraepithelial neoplasia	Pending (2c)	Recommended as per national guidelines,
Vaccines for PLHIV	Not reviewed for this guidance; EACS guidelines (54) recommend		Recommended, based on clinical judgement
CONDOMS			
Condom use	HIV incidence	Strong (1)	Recommended
Condom-compatible lubricant use	Condom failure	Probable (2a)	Recommended
HIV & STI TESTING			
HIV testing	Condom use	Probable (2a)	Recommended
Regular STI screening of asymptomatic MSM	STI incidence	Probable (2a)	Recommended
Voluntary anonymous partner referral	HIV incidence	Pending (2c)	Recommended, stressing that participation should be both voluntary and anonymous
TREATMENT*			
Treatment for HIV, hepatitis B and C, and other sexually transmitted diseases	Efficacy not reviewed for this guidance and clinical guidelines are referred to		Recommended
HIV treatment as prevention	HIV incidence	Strong (1)	Recommended, stressing that the primary reason for treatment should be for the good of the individual HIV-positive man in need of treatment
Post-exposure prophylaxis (PEP)	HIV incidence	Probable (2a)	Recommended
Pre-exposure prophylaxis (PrEP)	HIV incidence	Possible (2b)**	Recommended, implementation considerations need revisiting as PrEP expands outside of trial settings in Europe
HEALTH PROMOTION			
Peer-led group interventions	UAI (unprotected anal intercourse)	Strong (1)	Recommended
Peer outreach	UAI	Strong (1)	Recommended
Social marketing media campaigns	Uptake of HIV testing	Probable (2b)	Recommended
Sex venue-based interventions	UAI and uptake of HIV testing	Probable (2a)	Recommended
Individual counselling for MSM	UAI	Possible (2b)	Recommended
Internet-based HIV prevention messages	UAI	Possible (2b)	Recommended
Campaigns for Lesbian, Gay, Bisexual and Trans equality	Self-reported stigma towards LGBTI	Pending (2c)	Recommended
DELIVERY OF MSM-COMPETENT HEALTH SERVICES			
MSM-competent clinics	No intervention studies found	Pending (2c)	Recommended
Training for health care providers to offer comprehensive care for MSM	No intervention studies found	Pending, Grade (2c)	Recommended
TARGETED CARE FOR MSM LIVING WITH HIV			
Individual counselling for MSM living with HIV	UAI	Probable Grade (2a)	Recommended
Peer-led group interventions targeting MSM living with HIV	UAI	Probable Grade (2a)	Recommended

**Treatment of HIV and other sexually transmitted infections and viral hepatitis was not reviewed for efficacy, rather national and European treatment guidelines should be followed. Other aspects of treatment provision were included in the review.*

***This review was carried out and grading performed prior to release of UK PROUD Study (McCormack et al, CROI 2015) and Ipergay (Molina et al CROI 2015) studies. Taking these into account, the strength of evidence and recommendation for PrEP would increase further.*

Interventions reviewed which were not included in the guidance due to strength of evidence and expert opinion

Intervention	Outcome	Strength of evidence	Expert opinion
Voluntary medical male circumcision	HIV incidence	Possible (2b) ** evidence of reduced incidence for MSM who are only or mostly insertive during intercourse*	Not recommended due to lack of evidence for efficacy for receptive anal sex; perceived unacceptability to the target group
Avoid semen in the mouth/unprotected oral sex	HIV incidence	Insufficient (3)	Not recommended
Avoiding nitrate inhalants/poppers during intercourse	No studies retrieved	Insufficient (3)	No recommendation made due to insufficient evidence for reduction of HIV transmission; members of the expert group noted that use of stimulants affect individuals' decision-making capacity with regard to sexual risk behaviour
Serosorting	HIV incidence	Insufficient (3)	Not recommended
Interventions to reduce alcohol binge-drinking	UAI	Insufficient (3)	No recommendation made due to insufficient evidence for reduced HIV/STI transmission; members of the expert group noted that alcohol affects individuals' decision-making capacity with regard to sexual risk behaviour
Female condom use for anal sex	Condom failure	Pending (2c)	While biologically plausible, it was deemed that the product needed to be adjusted for anal sex in order to be used by MSM. It was the opinion of the expert group that this intervention is rarely used among MSM

Annex 2. Links and related guidance

Title	Link
International Union against Sexually Transmitted Infections: Current European Guidelines (IUSTI 2015)	http://www.iusti.org/regions/Europe/euroguidelines.htm
European AIDS Clinical Society: Guidelines Version 7.1 (EACS 2014)	http://www.eacsociety.org/files/guidelines_english_71_141204.pdf
Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection. (WHO 2013)	http://www.who.int/hiv/pub/guidelines/arv2013/en/index.html
Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations. (WHO 2014)	http://apps.who.int/iris/bitstream/10665/128048/1/9789241507431_eng.pdf?ua=1
EASL clinical practice guidelines: management of hepatitis C virus infection. (EASL 2015)	http://www.easl.eu/research/our-contributions/clinical-practice-guidelines/detail/management-of-hepatitis-c-virus-infection-revised-version
EASL clinical practice guidelines: management of chronic hepatitis B (EASL 2012)	http://www.easl.eu/medias/cpg/issue8/Report.pdf
ECDC Guidance: HIV testing: increasing uptake and effectiveness in the European Union. (ECDC 2010)	http://www.ecdc.europa.eu/en/publications/Publications/101129_GUI_HIV_testing.pdf
ECDC Guidance: Introduction of HPV vaccines in European Union countries – an update. (ECDC 2012)	http://ecdc.europa.eu/en/publications/publications/20120905_gui_hpv_vaccine_update.pdf http://ecdc.europa.eu/en/activities/sciadvice/_layouts/forms/Review_DispForm.aspx?List=a3216f4c-f040-4f51-9f77-a96046dbfd72&ID=758
The European Men-who-have-sex-with-men survey. (EMIS (2014)	http://www.emis-project.eu/journal-articles http://www.emis-project.eu/sites/default/files/public/publications/emis-2010_european_msm_internet_survey_38_countries_v5.pdf
European Union Lesbian, Gay, Bisexual and Transgender Survey: main results. (EU FRA 2013)	http://fra.europa.eu/en/publication/2014/eu-lgbt-survey-european-union-lesbian-gay-bisexual-and-transgender-survey-main
Increasing the uptake of HIV testing among men who have sex with men. (NICE 2011)	https://www.nice.org.uk/guidance/ph34/resources/guidance-increasing-the-uptake-of-hiv-testing-among-men-who-have-sex-with-men-pdf
SIALON I and II	http://www.sialon.eu/en/
EUROSUPPORT: Developing a training and resource package for improving sexual and reproductive health of people living with HIV	http://www.eurosupportstudy.net/euro_support.htm
COBATEST project: A guide to do it better in our CBVCT services and Acceptability and feasibility of introducing the HIV rapid oral test in CBVCTs	https://eurohivedat.eu/
HIV Community-based testing practices in Europe Voluntary Counselling and Testing Project (COBATEST)	https://eurohivedat.eu/
OptTEST	http://www.cphiv.dk/Collaborations/HIV-in-Europe/OptTEST
Operational knowledge to improve HIV early diagnosis and treatment among vulnerable groups in Europe (Euro HIV EDAT)	https://eurohivedat.eu/
Mapping of behavioural surveillance for HIV and STI (ECDC 2009)	http://ecdc.europa.eu/en/publications/Publications/0909_TER_Mapping_of_HIV_STI_Behavioural_Surveillance_in_Europe.pdf

Title	Link
Comprehensive approach to HIV/STI prevention in the context of sexual health in the EU/EEA (ECDC 2013)	http://www.ecdc.europa.eu/en/publications/Publications/HVI-STI-prevention-comprehensive-approach-in-the-context-of-sexual-health-EU-EEA.pdf
The Global Forum on MSM & HIV	http://www.msmgf.org/index.cfm/id/81/Publications/
STI and HIV prevention among men who have sex with men in Europe (ECDC 2013)	http://ecdc.europa.eu/en/publications/Publications/STI-HIV-prevention-MSM-in-Europe-21-Feb-2013.pdf
Rainbow Europe Map and Index (ILGA 2012)	http://rainbow-europe.org/
FEMP 2011 – Conference of the future of the European prevention among men who have sex with men (SMI 2011)	http://www.folkhalsomyndigheten.se/pagefiles/12841/femp-2011-future-european-prevention-men-have-sex-with-men.pdf
Consolidated strategic information guidelines for HIV in the health sector (WHO 2015)	http://www.who.int/hiv/pub/guidelines/strategic-information-guidelines/en/

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