

Men who have sex with men (MSM), HIV and AIDS

MSM



KEY POINTS:

- There are biological, behavioural and legal factors which put men who have sex with men 24 times more at risk of HIV compared with the general population.
- Many countries have made significant progress in recognising the rights of LGBTQ people, while in other countries punitive laws and homophobia create additional barriers for men who have sex with men from accessing HIV prevention, testing and treatment services.
- Globally, more funding is required to support targeted HIV prevention, testing and treatment programmes for men who have sex with men.

Explore this page to find out more about [what factors put men who have sex with men at risk of HIV](#), [HIV prevention programmes](#), [HIV testing initiatives](#), [using technology](#), [access to antiretroviral treatment](#), [barriers to prevention](#) and [the way forward](#) for men who have sex with men.

Globally, men who have sex with men (sometimes referred to as MSM) are 24 times more likely to be living with HIV than the general population. New diagnoses among this group are increasing in some regions - with a 17% rise in Western and Central Europe and a rise of 8% in North America between 2010 and 2014.¹

In 2014, men who have sex with men accounted for 54% of new HIV infections in [Western Europe](#), 68% in [North America](#) and 30% in [Latin America and the Caribbean](#).² In Jamaica, one in three men who have sex with men are living with HIV.³

Some nations, have progressive attitudes and policies regarding homosexuality and the lesbian, gay, bisexual and transgender (LGBT) community. In [Latin America](#), [West Europe](#), [Central Europe and North America](#), many countries have made significant progress in recognising the rights of LGBTQ

people and allow marriage or civil unions between people of the same sex.^{4 5}

However, the majority of [Africa](#), along with the [Middle East](#) and [Russia](#), continues to ignore and abuse the human rights of men who have sex with men.⁶ Punitive laws in various countries drive this population underground, elevating their risk of HIV and preventing them from accessing healthcare including HIV services.

What factors put men who have sex with men at risk of HIV?

The fact that HIV prevalence among men who have sex with men is so high in many countries means that members of this group have an increased chance of being exposed to the virus, due to mainly having sex within this group.⁷ However, there are also other factors that put men who have sex with men at heightened risk of HIV.

Biological factors

One major reason for high vulnerability to HIV among this group is that unprotected anal sex carries a higher risk of transmission than vaginal sex. This is because the walls of the anus are thin and more easily torn, creating an entry point for HIV into the bloodstream.⁸

Having a sexually transmitted infection (STI) also makes a person more susceptible to HIV infection. Among men who have sex with men, HIV testing and sexual health check-up frequency has been found to be low (less than 55% across all regions in 2013). This means that many are living with an undiagnosed STI which may put them at higher risk of HIV.⁹

Men who have sex with men are often not aware of the particularly high risk of having unprotected sex with a person who has recently become infected. In London, [United Kingdom](#) (UK), a study reported that 27% of infections among men who have sex with men were from a partner recently infected with HIV.¹⁰

Behavioural factors

Having multiple sexual partners is more common among this community, and many men who have sex with men do not use condoms consistently. Many countries report lower levels of condom use among this group, with only three of 104 countries where data is available reporting greater than 90% condom use at last sexual intercourse. Data on other sexually transmitted infections among gay men and other men who have sex with men are further evidence of inconsistent use of condoms.¹¹

Likewise, access to HIV testing services is low among this group - ranging between 25% and 54% across the world.¹² A study in India found that only 30% of a cohort of more than 1,000 men who have sex with men living with HIV were aware of their HIV-positive status.¹³

Not testing for HIV, means that many men who have sex with men are unaware of their HIV status and may be unaware of the need to take protective measures to prevent onwards transmission to others.

Alcohol and drugs are a common part of socialising in some communities of men who have sex with men. Whenever drink and drugs are taken, it can make it more likely that people will have unprotected sex and a higher number of sexual partners, increasing the risk of HIV transmission.¹⁴

In the United Kingdom and the USA there is a growing trend for men who have sex with men to participate in group sex under the influence of psychoactive and performance enhancing drugs, most commonly known as 'chemsex' (but is sometimes referred to as party and play or PNP). The drugs of interest - namely GHB (gamma-hydroxybutyrate), methamphetamine and methedrone - are used to facilitate sexual sessions lasting many hours or even days with multiple partners.

Healthcare professionals are particularly concerned with the high-risk behaviours that these drugs induce; a lack of physical inhibition and awareness often means a participant is exposed to multiple partners without protection or to shared drug taking equipment which increases the risk of HIV transmission. In cases where sexual activity is prolonged there is also a concern that participants living with HIV may forget to take ART medication, or that those who are HIV negative will miss the 72-hour window to be eligible for receiving post-exposure prophylaxis (PEP) after suspected exposure to HIV. [15](#)

Men who have sex with men living with HIV often become HIV-positive while still young. Estimates suggest that 4.2% of young (under-25s) men who have sex with men are living with HIV. This is more common in countries where HIV prevalence among the whole men who have sex with men population is quite high.[16](#) One study carried out in Bangkok found HIV incidence was more than twice as high among men aged 18 to 21 years compared to men over 30 years of age.[17](#)

Young men who have sex with men often find it harder to access HIV services, due to age of consent laws or unsociable opening times. HIV testing and status awareness in 2014 was lower among young men who have sex with men (36%) than among this group as a whole (43%).[18](#)

Legal factors

As of May 2016, 73 countries still criminalise same-sex conduct, affecting the rights of men who have sex with men and other members of the LGBT community. In 13 countries including Iran, Sudan, Saudi Arabia, Yemen and parts of Nigeria and Somalia, homosexuality is punishable by the death penalty.[19](#) As a result, men who have sex with men are less likely to access HIV services for fear of their sexual orientation and identity being revealed.

In 17 countries 'homosexual propaganda' is banned or 'morality laws' actively target public promotion or expression of same-sex and trans realities. Such laws have been introduced in recent years in countries including Russia, Lithuania and Nigeria.[20](#) The exact meaning of these laws is confusing, and LGBT rights groups and non-governmental organisations (NGOs) working with this community have been punished under homosexual propaganda laws for helping 'promote' homosexuality.[21](#)

Russian-style propaganda laws are also being proposed in Ukraine, Belarus, Bulgaria, Latvia, Kazakhstan and Kyrgyzstan.[22](#)

Social and cultural factors

Many men who have sex with men have experienced homophobic stigma, discrimination and violence. This drives men who have sex with men to hide their identity and sexual orientation. Many fear a negative reaction from healthcare workers. As a result, men who have sex with men are less likely to access HIV services.[23](#)

Men who have sex with men are more likely to experience depression due to social isolation and disconnectedness from health systems. This can make it harder to cope with aspects of HIV such as adherence to medication.[24](#)

HIV prevention programmes for men who have sex with men

High HIV prevalence among men who have sex with men around the world is evidence that prevention strategies are failing to reach this group.

Reports from 20 countries in 2009 and 2013 show that the percentage of men who have sex with men reached by HIV prevention programmes fell from 59% to 40%. However, access varies greatly between regions and within countries. For example, men who have sex with men on a higher income are more likely to be able to afford, and therefore access prevention initiatives, than those on a low income.[25](#)

When men who have sex with men are targeted by HIV prevention campaigns they can be extremely effective. It is important that a combination of prevention programmes are available.

In recognition of this, in 2015, a group of international agencies and non-governmental organisations (NGOs) released a tool for use by public health officials, HIV and STI programmes officials, NGOs (both international and community-based) and health workers.²⁶

The tool, [Implementing Comprehensive HIV and STI Programmes with Men Who Have Sex with Men \[pdf\]](#), provides recommendations for HIV prevention, testing and treatment for men who have sex with men and is based on successful community-led approaches.

Condoms and lubricants

One of the most important prevention responses is to make high-quality condoms, along with water-based lubricants, available and accessible to men who have sex with men.

In some countries, gay bars and other known meeting places for men who have sex with men, such as bathhouses, provide and promote condoms and lubricants. The Blue Sky Club is a civil society group in Vietnam that provides 'edutainment' events in local bars and clubs, combining HIV education and condom distribution with entertainment, which are well received by local men who have sex with men.²⁷ Providing condoms and lubricant in gay-friendly places is much more effective than expecting men who have sex with men to purchase them from pharmacies, or healthcare settings that they may be fearful of visiting.²⁸

Community empowerment

The most successful HIV programmes aimed at men who have sex with men empower this group and actively involve them in a community setting.

In sub-Saharan Africa, studies have shown how HIV services that are targeted at, and run by men who have sex with men, have seen the greatest response and uptake.²⁹ This avoids the necessity of attending general healthcare settings, where men who have sex with men risk identity and sexual orientation exposure that could be met with [stigma and discrimination](#).³⁰

Training peers who are part of the men who have sex with men population to educate others, provide prevention commodities and link people to MSM-friendly HIV services has been shown to effectively reach and engage this population. This prevention strategy works on the basis that there is an elevated sense of trust between members of the men who have sex with men population, whereby fear of stigma is eradicated.³¹ Organisations staffed by men who have sex with men are also more credible and accessible to recipients.³²

Case study: Peer training in the Philippines

In the Philippines, one initiative attempted to help civil society engage with local government in the HIV response. Eighteen community-based groups were set up and 200 men who have sex with men and transgender people were trained in sexual health and rights. After three years, community leadership led to dialogue with local government officials on HIV, gender and human rights issues. One outcome of this process was an anti-discrimination ordinance in the city of Cebu in 2012 which prohibits discrimination on the basis of sexual orientation, gender identity and health status (including HIV).³³

HIV testing initiatives

Two of the most effective ways to encourage HIV testing among men who have sex with men are to permit home-based testing, and provide community-based testing.

Home-based testing has the benefit of the user being able to avoid identification by healthcare workers.³⁴ The privacy of conducting an HIV test alone at home makes this an appealing option for many men who have sex with men. One study in [Brazil](#) found that 90% of men who have sex with men participants would use self-testing kits, although concerns included receiving the result alone and being able to read the result properly.³⁵

Another study conducted in Australia found that HIV self-testing doubled frequency of testing among men who have sex with men at high risk of HIV, and quadrupled the frequency among non-recent testers, compared with standard care. It also showed that the availability of self-testing kits did not reduce the frequency of facility-based HIV testing.³⁶

HIV self-testing should be made more widely available to help increase testing and earlier diagnosis. Men who have sex with men should be educated about the use of self-testing kits, to heighten their confidence in using one as an alternative to testing at regular healthcare settings.

Community-based testing at local pop-up clinics or mobile vans is also favoured among men who have sex with men. It means that they can access testing in a setting they are comfortable in, without having to travel to clinics where they may be seen or experience discrimination.³⁷

PrEP

[PrEP](#) is a single pill taken every day by people who are at risk of HIV exposure, such as men who have sex with men. Research has shown that pre-exposure prophylaxis (PrEP) can reduce HIV transmission among men who have sex with men by 92%. The World Health Organization (WHO) states that if its use is scaled up, an estimated 20% to 25% of new HIV infections among this population could be prevented.³⁸ Despite expanding evidence of its effectiveness in HIV prevention, access to PrEP remains limited. As of June 2016, PrEP had received regulatory approval in only seven countries, with further countries implementing or planning pilot projects to facilitate approval.^{39 40}

There are indications that, where individuals have been able to access it, PrEP has had considerable success in preventing new HIV infections among men who have sex with men, even in countries where it is not available within national healthcare systems. For example, sexual health clinics in London reported a 40% drop in the number of new HIV diagnoses among men who have sex with men in 2016. This has been attributed by several clinics to the purchasing of generic PrEP online, as the decline in new infections coincided with a rapid increase in the number of men buying PrEP online. I Want PrEP Now says that 2,000 men have been purchasing generic PrEP through its website, and services offered by several clinics to test for drug concentrations and adverse events related to PrEP have been well used. The decline in infections cannot with certainty be linked to PrEP, but the correlation of these factors is compelling.⁴¹

In order for PrEP to provide effective prevention it must be taken correctly and consistently.⁴² Men who have sex with men should be counselled and informed about the correct use of PrEP before it is offered. PrEP does not provide protection against STIs, and if not taken consistently is much less effective, so does not replace other prevention options like condoms.

PEP

Post-exposure prophylaxis (PEP) is taken after potential exposure to HIV. WHO recommends offering PEP to men who have sex with men as part of a package of prevention options. It must also be coupled with counselling about the importance of finishing the treatment course. One study found that only 67% of men who have sex with men on average completed the 28-day course, limiting the effectiveness of PEP.⁴³



Using technology

Due to the preference for anonymity when it comes to accessing healthcare, some studies have shown that technology, messaging, and social media have helped to provide HIV prevention information to men who have sex with men.

One study in [South Africa](#) found that sending text messages to men who have sex with men over a period of time encouraged men to test for HIV.⁴⁴ The Adam's Love organisation based in [Thailand](#) targets men who have sex with men and transgender women through an HIV educational website, eCounseling platforms and integrated social media networks. Since its launch in September 2011, Adam's Love has had more than 2.8 million website visitors. Nearly 17,500 individuals received real-time counselling at Adam's Love eCounseling platforms and were successfully linked to relevant clinical services, for example, HIV and sexually transmitted infection testing, treatment, and care and post-exposure prophylaxis (PEP).⁴⁵

Case study: Online outreach in a hostile environment

A UNAIDS-supported project to address the vulnerabilities of gay men and other men who have sex with men in Egypt helped to achieve significant growth in reach and geographical coverage of related services from 2013. Innovations included outreach to men in slum areas through community-based organisations and awareness outreach and prevention services for the female sexual partners of gay men and other men who have sex with men.

Online outreach proved to be particularly effective for the project, as police action against this population had intensified, making street outreach more challenging. Following online outreach, meetings are arranged with participants to deliver condoms and lubricants; the project also facilitates access to good-quality, stigma-free health services and psychosocial and legal support.

In the period 2014- 2015 in Alexandria, the project reached around 1,000 people, distributed more than 3,100 condoms and packs of lubricant and facilitated 300 visits to project services. In Gharbya governorate, to which the project was expanded in 2015, nearly 300 people were reached and over 500 preventive packages were distributed.⁴⁶

These types of programmes should be further explored as an avenue to engage men who have sex with men in the HIV response and their own healthcare.⁴⁷



Access to antiretroviral treatment for men who have sex with men

Currently, data on HIV treatment access among men who have sex with men is very limited. Worldwide, only 40% of men who have sex with men living with HIV are thought to be accessing treatment. Reasons cited for such low access include homophobia, stigma and discrimination. These can cause men who have sex with men to delay, interrupt or avoid treatment altogether. Experiencing these reactions from healthcare workers is also given as a predominant reason.⁴⁸

Likewise, information on treatment retention rates is scarce. However, one study that recruited 6,095 men who have sex with men from 145 countries reported a drop-off at every point along the treatment cascade. Drop-off was particularly dramatic among young men who have sex with men and men who have sex with men in lower-income countries. This was due to a lack of investment and youth-friendly services. By contrast, comfort with provider, more community engagement and better accessibility of ART were associated with higher retention rates in care.⁴⁹

Barriers to HIV prevention programmes for men who have sex with men

High-risk sexual behaviour

Due to widespread stigma, many men who have sex with men want to keep their sexual orientation secret, and may also continue to have heterosexual relationships and even get married. In Asia and the Pacific between 2003 and 2007, 21% to 42% of men who have sex with men were married.⁵⁰ Many men who have sex with men have a low risk perception of HIV as a result of not being reached with HIV prevention initiatives and the subject not being included in sex education classes in school. Having multiple partners is also more common among this community, with alcohol and drug abuse increasing high-risk sexual behaviour such as not using a condom.⁵¹

One internet survey found that 32% of men reported having unprotected anal sex with someone of the opposite HIV status to themselves, therefore risking HIV transmission or being exposed to HIV.

Criminalisation

Where there are laws that criminalise same-sex sexual relations, governments are unlikely to promote any sort of HIV interventions aimed at men who have sex with men. As a result, men who have sex with men living in these countries are unaware of their risk of HIV, can be turned away from HIV services, are fearful of accessing HIV testing, and find it difficult to get hold of condoms and lubricants.⁵³

They are also unlikely to participate in research or prevention initiatives:

...certain states would rather publicise their diplomatic distaste for atypical bodies, genders and sexualities instead of endorsing the protection of human rights and wellbeing of everyone.

- *Gloria Carega & Azusa Yamashita* ⁵⁴

Stigma, discrimination and violence

A huge proportion of men who have sex with men worldwide have reported experiencing violence due to their sexual orientation. This is especially evident in machismo cultures, and patriarchal societies such as those in Latin America.⁵⁵

In some areas, it is public officials or even healthcare workers that are committing these offences. The fear of being identified as homosexual deters many men from accessing HIV services, avoiding healthcare check-ups and treatment in order to keep their orientation secret.⁵⁶

Lack of research

Although some statistics give an indication of the impact that HIV is having on men who have sex with men, data is still extremely scarce in many countries. This is largely due to the fact that men who have sex with men are often simply counted as part of the general population.

It is also due to the reluctance of many governments to acknowledge men who have sex with men, and monitor this group. As a result, data about HIV among men who have sex with men is sparse, especially in regions like Eastern Europe and Central Asia. This reflects the punitive laws that criminalise same-sex behaviour in the region, and an unwillingness of governments to accept that there is a disproportionate epidemic emerging among this population.⁵⁷ Seventy-three countries failed to report on HIV prevalence among men who have sex with men in 2013.

It has been suggested that in settings where men who have sex with men are a particularly stigmatised group, collaborations between the government and NGOs are the most effective way to reach this population.⁵⁸

The frightening truth is that, in many parts of the world, we simply do not know how bad the epidemics among MSM groups may be... transmission among MSM is still not tracked in most countries, resulting in a significant research gap. More research is

urgently needed to inform more effective HIV prevention efforts.

- Dr. Chris Beyrer, Director of the Johns Hopkins Fogarty AIDS International Training and Research Program [59](#)

Lack of funding

Apart from a handful of countries such as Brazil and Cuba, the majority of funding for HIV services targeted at men who have sex with men comes from international sources rather than domestic funding. In 2013, only 11% was domestically sourced worldwide.[60](#)

Between 2005 and 2013, 38 countries did not report on their budget for men who have sex with men programming at all, suggesting no money was allocated for this key population. In sub-Saharan Africa, 30 of the 45 countries reporting in 2013 reported no spending on men who have sex with men programming.[61](#)

Even in countries where the rights of men who have sex with men are legally respected, there is generally a greater need for more funding from donors and governments, as the amount of money put towards campaigns is often inadequate compared to the scale of the problem.[62](#)

The way forward

The evidence shows that providing HIV and AIDS services to those who are most at risk can be hugely beneficial to a whole country's approach to HIV and AIDS. It is important that governments and international donors address the current neglect of the HIV epidemic among men who have sex with men and acknowledge the situation.[63](#)

Not only is funding needed to provide HIV prevention, testing and treatment for men who have sex with men, but it's also needed to generate research and data to inform effective programming. Without allocated funding for research and programme delivery, high HIV prevalence and incidence among men who have sex with men will remain.

Stigma and cultural opposition to same-sex relations are often largely to blame for rising epidemics. Until these issues are addressed, it will be difficult to reduce HIV infection levels among men who have sex with men.[64](#) National and community level leadership is required worldwide to end the stigma and discrimination around homosexuality.[65](#)

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Tools and resources:

United Nations Population Fund (UNPF) (2015) [Implementing Comprehensive HIV and STI Programmes with Men Who Have Sex with Men: Practical Guidance for Collaborative Interventions](#) [pdf]

International HIV and AIDS Alliance (2016) ['Resources for Action for HIV and health programming with and for MSM'](#)

- [1. UNAIDS \(2016\) 'Prevention Gap Report'](#)[pdf]

- 2. UNAIDS (2016) '[Prevention Gap Report](#)'[pdf]
- 3. Jamaica Ministry of Health (2014) '[Jamaica Country Progress Report](#)'[pdf]
- 4. UNAIDS (2016) '[Prevention Gap Report](#)'[pdf]
- 5. ILGA (2016) '[Sexual orientation laws](#)'[pdf]
- 6. International Lesbian Gay Bisexual Trans and Intersex Association (ILGA) (2016) '[State-sponsored Homophobia: A world survey of sexual orientation laws: Criminalisation, protection and recognition](#)'[pdf]
- 7. CDC (2015) '[HIV Among Gay and Bisexual Men](#)'
- 8. CDC (2015) '[HIV Transmission](#)'
- 9. UNAIDS (2014) '[The Gap Report](#)'[pdf]
- 10. Sullivan, P. S. et al (2012, July) '[Successes and challenges of HIV prevention in men who have sex with men](#)' The Lancet '[HIV in men who have sex with men](#)'
- 11. UNAIDS (2016) '[Prevention Gap Report](#)'[pdf]
- 12. UNAIDS (2014) [The Gap Report](#) [pdf]
- 13. Beyrer, C., et al (2016) [The global response to HIV in men who have sex with men](#), The Lancet, Volume 388, Pages 198-206
- 14. Bourne, A. & Harm Reduction International (2012) '[Drug use among men who have sex with men: Implications for harm reduction](#)'
- 15. The British Medical Journal (3 November 2015) '[What is chemsex and why does it matter?](#)'
- 16. WHO (2015) '[HIV and young men who have sex with men: A technical brief](#)'[pdf]
- 17. UNAIDS (2016) '[Prevention Gap Report](#)' [pdf]
- 18. WHO (2015) '[HIV and young men who have sex with men: A technical brief](#)'[pdf]
- 19. International Lesbian Gay Bisexual Trans and Intersex Association (ILGA) (2016) '[State-sponsored Homophobia: A world survey of sexual orientation laws: Criminalisation, protection and recognition](#)'[pdf]
- 20. International Lesbian Gay Bisexual Trans and Intersex Association (ILGA) (2016) '[State-sponsored Homophobia: A world survey of sexual orientation laws: Criminalisation, protection and recognition](#)'[pdf]
- 21. International Lesbian Gay Bisexual Trans and Intersex Association (ILGA) (2014) '[State-sponsored Homophobia Report 2014](#)'[pdf]
- 22. International Lesbian Gay Bisexual Trans and Intersex Association (ILGA) (2016) '[State-sponsored Homophobia: A world survey of sexual orientation laws: Criminalisation, protection and recognition](#)'[pdf]
- 23. UNAIDS (2014) [The Gap Report](#) [pdf]
- 24. WHO (2011) '[Prevention and treatment of HIV and other sexually transmitted infections among men who have sex with men and transgender people](#)'
- 25. UNAIDS (2014) [The Gap Report](#) [pdf]
- 26. UNPF (2015) [Implementing Comprehensive HIV and STI Programmes with Men Who Have Sex with Men](#)[pdf]
- 27. UNDP (2011) [Towards Universal Access: Examples of Municipal HIV Programming for Men who have Sex with Men and Transgender People in Six Asian Cities](#)
- 28. PEPFAR (2011) [Technical Guidance on Combination Prevention](#) [pdf]
- 29. MSMGF (2013) '[MSM in Sub-Saharan Africa: Health, Access & HIV](#)'
- 30. AIDSTAR-one (2011), '[Human rights considerations in addressing HIV among men who have sex with men](#)'
- 31. PEPFAR (2011) '[Technical Guidance on Combination HIV Prevention](#)'[pdf]
- 32. Trapence G. et al (2012, July) '[From personal survival to public health: community leadership by men who have sex with men in the response to HIV](#)'. The Lancet, '[HIV in men who have sex with men](#)'
- 33. United Nations Population Fund (UNPF) (2015) '[Implementing Comprehensive HIV and STI Programmes with Men Who Have Sex with Men: Practical Guidance for Collaborative Interventions](#)'[pdf]
- 34. UNAIDS (2014) '[The Gap Report](#)'[pdf]
- 35. Lippman, SA (2014) '[Acceptability of self-conducted home-based HIV testing among men who have sex with men in Brazil: data from an online survey](#)', Cadernos de saude publica, Vol 30(4) Pages724-34

- 36. Jamil, MS. Et al (2017) 'Effect of availability of HIV self-testing on HIV testing frequency in gay and bisexual men at high risk of infection (FORTH): a waiting-list randomised controlled trial', The Lancet
- 37. PEPFAR (2011) 'Technical Guidance on Combination HIV Prevention'[pdf]
- 38. WHO (2014) 'People most at risk of HIV are not getting the health services they need
- 39. UNAIDS (2016) 'Prevention Gap Report' [pdf]
- 40. Beyrer, C., et al (2016) The global response to HIV in men who have sex with men, The Lancet, Volume 388, Pages 198-206
- 41. The Lancet HIV (2017) 'The costs of inaction on PrEP', Volume 4 , Issue 2 , e51
- 42. Grant, RM., et al (2010) 'Preexposure chemoprophylaxis for HIV prevention in men who have sex with men', The New England Journal of Medicine, 363(27) pages 2587-99
- 43. Ford, N., et al (2014) 'Adherence to postexposure prophylaxis: a systematic review and meta-analysis', AIDS Journal, Volume 28, Issue 18, Pages 2721-2727
- 44. de Tolly, K., (2012) 'Investigation into the use of short message services to expand uptake of human immunodeficiency virus testing, and whether content and dosage have impact' Telemedicine journal and e-health 18(1):18-23
- 45. Anand, T. et al, (2017) 'A novel Online-to-Offline (O2O) model for pre-exposure prophylaxis and HIV testing scale up', Journal of International AIDS Society
- 46. UNAIDS (2016) 'Prevention Gap Report'
- 47. AIDS-Star One (2013) 'Meeting Report: Innovative uses of communication technology for HIV programming for MSM & TG populations'[pdf]
- 48. MSMGF (2013) 'Access Challenges for HIV Treatment Among People Living with HIV and Key Populations in Middle-Income Countries'[pdf]
- 49. Ayala, G. et al (2014) 'HIV Treatment Cascades that Leak: Correlates of Drop-off from the HIV Care Continuum among Men who have Sex with Men Worldwide' Journal of AIDS & Clinical Research 5:331
- 50. UNAIDS (2014) 'The Gap Report'
- 51. UNAIDS (2014) 'The Gap Report'[pdf]
- 52. ECDC, Technical Report EMIS (2010) 'The European Men-Who-Have-Sex-With-Men Internet Survey'[pdf]
- 53. UNAIDS (2014) 'The Gap Report'[pdf]
- 54. International Lesbian Gay Bisexual Trans and Intersex Association (ILGA) (2014) 'State-sponsored Homophobia Report 2014'[pdf]
- 55. UNAIDS (2014) 'Guidance Note: Services for gay men and other men who have sex with men' [pdf]
- 56. UNAIDS (2014) 'The Gap Report'[pdf]
- 57. UNAIDS (2014) 'The Gap Report'[pdf]
- 58. Mumtaz G. et al (2011) 'Are HIV Epidemics among Men Who Have Sex with Men Emerging in the Middle East and North Africa?' PLoS Medicine, 8 (8)
- 59. Medical News Today (2007, July) 'Global Initiative Launched To Combat Increasing Spread Of HIV Among MSM In Developing Countries'
- 60. UNAIDS (2014) 'The Gap Report'[pdf]
- 61. UNAIDS (2014) 'The Gap Report'[pdf]
- 62. Roehr B. (2008, 29th November), 'The invisible epidemic' BMJ 337(7681)
- 63. Beyrer C. et al (2012, July) 'A call to action for comprehensive HIV services for men who have sex with men'. The Lancet, 'HIV in men who have sex with men'
- 64. UNAIDS (2009) 'UNAIDS Action Framework: Universal Access for Men who have Sex with Men and Transgender People'
- 65. UNAIDS (2014) 'The Gap Report'

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