衞生防護中心
Centre for Health Protection

Scientific Committee on AIDS and STI

Recommendations on STI Testing for MSM in Hong Kong

Purpose

The purpose of this document is to provide recommendations on sexually transmitted infections (STI) testing for men who have sex with men (MSM) in Hong Kong, in context of its implementation in STI/HIV services.

Goal

2. These clinical recommendations have been developed with a view to supporting early detection of STI, with special emphasis on HIV, 3 curable bacterial STI viz., syphilis, *Neisseria gonorrhoeae* (NG) and *Chlamydia trachomatis* (CT) infection and sexually acquired viral hepatitis in MSM, in conjunction with the adoption of a regular screening approach in the STI/HIV clinical services in Hong Kong.

Background

3. Sexual contact has continued to be the main route of HIV transmission in Hong Kong and internationally. STI in particular those presenting as genital ulcer such as syphilis are associated with an increased risk of sexual acquisition and transmission of HIV. As early in the 80's, World Health Organization (WHO) had proposed enhancing STI control as one of the strategies for improving sexual and reproductive health, and STI/HIV prevention.

4. WHO has highlighted 4 curable STI viz., syphilis, gonococcal, chlamydial and trichomonas genital infection as the major targets for disease control and epidemiological monitoring. Despite efforts in safer sex promotion and STI case management, the number of new cases of these 4 infections have remained above 300 million in each year. Given these backgrounds, WHO has reaffirmed its call for attention to the current STI situation and appealed to the public health authorities to enhance STI control especially in community subgroups like MSM.

5. In recent years, there has been a resurgence of STI among MSM in the Western countries [1,2], China Mainland [3,4] and Hong Kong. Most STI incidents are asymptomatic especially when the throat and anorectal canal are involved [5,6,7]. These cases would not only be missed by the persons who harbour the infection but also the health care professional providing care to them.

6. Given these observations, the WHO, US Centre for Disease Control and Prevention (USCDC), British Association for Sexual Health and HIV (BASHH), and Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (ASHM) have issued guidelines recommending more regular STI screening, and enhanced testing in relevant clinical encounters for MSM.

7. In 2019, the Scientific Committee on AIDS and STI (SCAS) has reviewed local STI data among MSM and the recommendations or practices on STI testing adopted in some of the more developed countries [8]. It was noted that the practice of STI screening, particularly that for the collection of samples from throat and anorectal regions for NG/CT testing in asymptomatic MSM had not been sufficiently standardised. There was strong support for the relevant services in Hong Kong to enhance testing and corresponding treatment in asymptomatic MSM. The current recommendation focuses on HIV, bacterial STI (syphilis, CT, NG), and sexually acquired viral hepatitis to achieve coherence in the implementation of the strategies.

STI prevalence and testing in MSM in Hong Kong

8. In the past decade, MSM has continued to account for a majority of all newly reported HIV in Hong Kong (www.aids.gov.hk). HIV/syphilis screening

has been implemented by Department of Health's Social Hygiene Clinics (SHC) ever since the beginning of the HIV epidemic. To enhance uptake, an opt-out approach has been adopted by SHC, which accounted for 16.6% of HIV infections reported in 2019. Analyses of SHC's attendance data revealed that there have been increases in the proportion of MSM among newly diagnosed cases of syphilis, the percentage of which was 26.9% and 44.3% in 2014 and 2018 respectively [9].

9. For NG and CT, a study conducted among MSM attendees from June 2014 to May 2015 in SHC showed that the prevalence of asymptomatic infections from any of the 3 sites of the oropharynx (OP), urethra and rectum was 19.6%. The highest detection rate of rectal CT at 11.4% was observed. Besides, younger age, lower educational level, history of soft drug use and unprotected anal sex within one month were associated with higher odds of NG and CT infections at any sites, and the median age of the subjects was 27 years old [10].

10. Further SHC data analyses revealed that there have been increases in the proportion of MSM in newly diagnosed cases of NG and CT infection in their attendees. The percentage of new NG cases being MSM was 13.9% and 21.7% in 2014 and 2018 respectively. The percentage of new CT cases being MSM was 7.6% and 18.0% in 2014 and 2018 respectively [8]. Analysis of laboratory data on oropharyngeal and rectal samples taken from male SHC attendees, who were presumably MSM, revealed that the prevalence of OP/rectal sample for NG increased from 4.0/10.5% to 8.5/13.7%, whereas the prevalence of pharyngeal/rectal sample for CT increased from 2.1/17.2% to 2.9/18.4% in 2015 and 2018 respectively [8].

11. Higher rates of NG and CT infection have been reported in HIV-positive MSM than in HIV-negative MSM [11,12]. A retrospective study conducted from October 2013 to April 2015 on HIV-infected MSM showed that the prevalence of asymptomatic NG or CT infections from any of genital and extragenital sites was 31%. The median age of tested HIV-positive MSM was 35 years old. The positive rate of NG or CT at OP and anorectum were higher than from urine sample [13].

12. Conventionally, sexually acquired viral hepatitis is not classified under STI. Hepatitis B virus (HBV) infection is endemic in Hong Kong. Epidemiological data in the past two decades confirmed the increasing circulation of hepatitis C virus (HCV) in the MSM community internationally, with clusters concentrated in HIV-Positive MSM.[14] Similar upsurge of acute HCV infection was noted in Asia Pacific, with distinctive molecular pattern observed in Hong Kong[15]. In 2017, an outbreak of hepatitis A virus (HAV) infection was reported in Hong Kong affecting largely MSM especially those HIV infected.[16]

Guiding Principles of the recommended practice

13. HIV and STI like CT/NG in MSM are commonly asymptomatic. Testing of asymptomatic MSM to achieve early case finding and treatment is the most effective approach to break the transmission chain and reduce disease burden in the community. STI screening for MSM should in principle focus on HIV, syphilis, CT/NG and selected viral hepatitis. Herpes genitalis, trichmonas and mycoplasma are not covered, the testing of which should be as clinically indicated.

14. Enhanced testing is needed to ameliorate the main current deficiencies in STI control, which are: (a) insufficient frequency of testing; (b) incomplete clinical sample collection and especially for NG and CT from extra-genital sites in MSM; (c) neglect for sexually acquired viral hepatitis.

15. Testing packages covering different STI and involving samples from multiple anatomical sites would be the best approach for targeting MSM in a screening programme. Syphilitic serological testing, and collection of clinical samples from urogenital tract, OP and anorectum for NG and CT nucleic acid amplification test (NAT) should be included as part of routine screening for MSM in the STI/HIV services in Hong Kong. For HIV-positive MSM, STI screening is most effectively run as part of the regular monitoring for HIV therapies.

Recommendations (Appendix A) with Rationale

I. HIV, syphilitic serological testing, and clinical sampling from urogenital tract, oropharynx and anorectum for NG and CT NAT should be offered in STI screening of MSM.

16. HIV antibody testing, syphilitic serological testing, and the collection of clinical samples for NG and CT NAT should be performed as part of routine protocol for MSM in the STI/HIV services in Hong Kong. There is no place for compulsory STI testing. Individual MSM should fully be informed and allowed to opt-out. Appropriate assessment, information provision, discussion and counselling should be conducted relevant to the clinical setting.

17. Recognising that NATs are significantly more sensitive than culture in the detection of NG and CT, particularly in extra-genital sites, STI testing for MSM should include NAT testing for NG and CT from throat, urine and rectum. Though anterior urethral sampling for early on-site diagnosis and treatment in symptomatic cases is widely practised in SHC, first-void urine is the specimen of choice for genital sampling for NAT in asymptomatic cases. There is evidence to suggest that self-collected pharyngeal and rectal swabs are highly acceptable to MSM and perform as well as clinician-taken swabs from both sites, and so can be offered as an alternative to provider collected swabs even in clinic settings [17].

18. In Hong Kong, the case detection rate of syphilis, NG and CT was high in MSM attending the public STI/HIV clinical services. In order to avoid the deterrent effects of various structural and social disadvantages of the MSM to have STI testing, routine STI screening need not include anatomical examination in asymptomatic MSM, a strategy that has already been recommended by BASHH [14].

II. Regular STI screening for MSM should be provided, at intervals informed by risk assessment, and streamlined for facilitating adherence.

19. STI screening should be offered to MSM on a minimum of an annual basis. This applies generally to MSM who are not sexually active or in stable monogamous relationships with a single partner. The practice is in line with similar international guidance from the USA, Australia and the UK.

20. MSM who have had any type of sex with another man i.e. other than a stable monogamous relationship, should be tested more frequently than annually. In practice, 3-monthly testing should be offered for sexually active MSM with higher risk behaviours, especially if there have been multiple or anonymous partners, unprotected sexual contact (oral, genital or anal) with a new partner, and chemfun (sexualised use of drug) since last tested, as have been recommended by BASHH [14]. A cost-effectiveness analysis in Canada suggested that three-monthly syphilis screening in high risk (above 0.5 per 100 person-years) MSM living with HIV was cost effective [18].

21. Clinical services should best use the opportunity of regular (say, 3 monthly) HIV testing adopted by sexually active MSM to have STI testing incorporated, the latter including syphilis, CT and NG screening. Such strategy is founded on the prevailing practice of high risk sexual behaviour and substance use, i.e. chemfun reported in the local MSM [19,20].

22. For HIV-positive MSM, the offering of STI testing could be streamlined as appropriate to tie in the regular clinical follow-up schedule of HIV management. This would be in line with the current practice of 3-6 monthly follow-up blood sampling for CD4 and viral load monitoring. Apart from syphilis screening which is already commonly performed, the strategy should be supplemented by regular or opportunistic screening of NG and CT following behavioural risk assessment.

III. Viral hepatitis screening for MSM should be provided, at intervals informed by risk assessment.

23. Sexually active MSM should be screened for anti-HCV, HBsAg/anti-HBs and anti-HAV at baseline when attending a clinical STI/HIV service for the first time as baseline. HCV RNA and HBV DNA testing should be considered on clinical indication, and following corresponding serology results.

24. HIV-positive MSM without HCV infection and non-immune to HAV/HBV should be offered anti-HCV, HBsAg/anti-HBs and anti-HAV testing annually. Frequency of testing for HIV-negative MSM should be determined on a case-by-case basis after behavioural risk assessment, and/or in conjunction with STI screening.

25. Opportunistic testing should also be considered for sexually active MSM from time to time, especially when there has been potential exposure to any of the hepatitis virus as a result of high risk behaviours including unprotected sex and chemfun.

IV. Partner notification (PN) counselling for all MSM identified to have syphilis or NG/CT should form part of the clinic consultation procedure.

26. Partner notification (PN) of STI should form part of the STI testing service for MSM. Previously referred as contact tracing, PN is the process by which partners of individuals with an infectious STI are notified, advised of their exposure and offered treatment. Dating back as early to 1937 in US, PN was regarded as an important element of syphilis control which enabled further transmission to be aborted and so "breaking the chain of transmission" [21,22]. PN and partner counselling and treatment is widely practised in STI/HIV clinical services in many countries, which is extended to services for MSM with effectiveness supported by small scale and modelling studies [23, 24, 25].

27. PN can take different methodological forms. Four major forms have been distinguished: (1) provider referral in which sexual partners are notified directly by the STI care providers or through the public health office; (2) patient referral in which the index case is advised and directly responsible for notifying the sexual partners; (3) contract referral in which sexual partners are, as agreed by the index case, initially notified through patient referral within a predetermined period, but failing that proceeded by provider referral; (4) network notification in which (identifiable or unidentifiable) sexual partners are notified anonymously at the physical location, or online/social media sexual networks.

28. In Hong Kong, there is no legal provision to mandate PN nor is there a designated public health office to execute PN by provider referral. The means of PN should tie in with the procedural arrangement of the individual STI/HIV service.

29. Good evidence to support specific recommendations on looking back period is lacking in the literature. Based on the known information on incubation period and estimated duration of infectiousness, the looking back periods are arbitrated and consolidated in guidelines like the BASHH recommendations. The recommendations are modified and summarised in the table in **Appendix B**.

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Appendix A

Summary of recommendations on STI screening for MSM

Pathogen focus	**MSM (HIV non-infected)**	**HIV-positive MSM**
HIV antibody test	Minimum of annual testing; 3-monthly for sexually active MSM with other than a stable monogamous relationship	NA
Syphilis serology, multisite CT/NG by NAT	Minimum of annual testing; 3-monthly for sexually active MSM with other than a stable monogamous relationship	3-monthly or in conjunction with regular viral load monitoring, depending on behavioural risk
Viral hepatitis	Determine anti-HAV status and advise on vaccination for non-immune	Annual anti-HAV if non-immune; vaccination advice for non-immune
	Determine HBsAg/Anti-HBs status and advise on vaccination for non-immune	Annual HBsAg/Anti-HBs if negative serology; vaccination advice for non-immune
	Test for anti-HCV, for annual screening for those with behavioural risk like chemfun and potential exposure	Annual anti-HCV

CT: *Chlamydia trachomatis*
NG: *Neisseria gonorrhoea*
NAT: nucleic acid amplification test

Appendix B

Summary of partners to be notified by sexually transmitted infection (STI) index cases

STI of index case	Partners to be notified
Syphilis	
Primary syphilis	All sexual partners within the last 3 months
Secondary syphilis, clinical relapse or early latent syphilis	All sexual partners within the last 2 years
Other stages of syphilis	Sex partners with stable relationship for the relevant period of time
Neisseria gonorrhoeae	
Symptomatic urethral infection	All partners within the preceding 2 weeks (or the last partner if longer than 2 weeks ago)
Infection at other sites including oropharynx or anorectum or asymptomatic infection	All partners within the preceding 3 months
Chlamydia trachomatis	
Symptomatic urethral infection	All partners within the preceding 4 weeks (or the last partner if longer than 4 weeks ago)
Infection at other sites including oropharynx or anorectum or asymptomatic infection	All partners within the preceding 6 months

NB. As both NG and CT NAT are performed in a sample collected from either sites of viz., urethral, oropharynx or anorectum, the looking back period for CT is applicable to those who have infection by both NG and CT.

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