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England

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PHE West Midlands Sexually Transmitted Infection Outbreaks management plan

September 2019

Contributions from West Midlands British Association for Sexual Health and HIV and Association of Directors of Public Health West Midlands.

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Glossary

AMR	Antimicrobial resistance
ARC	Acute Response Centre
BAME	Black, Asian and Minority Ethnic
BASHH	British Association for Sexual Health and HIV
BBV	Blood Borne Virus
CCDC	Consultant in Communicable Disease Control
CCG	Clinical Commissioning Group
CE	Consultant Epidemiologist
CSW	Commercial Sex Workers
DHSC	Department of Health and Social Care
DPH	Director of Public Health
ESQ	Enhanced Surveillance Questionnaire
FS	Field Services
GDPR	General Data Protection Regulation
GUM	Genitourinary Medicine
GUMCAD	Genitourinary Medicine Clinic Activity Data
HNIG	Human Normal Immunoglobulin
LGV	Lymphogranuloma Venereum
MSM	Men who have Sex with Men
NAAT	Nucleic Acid Amplification Test
NCSP	National Chlamydia Screening Programme
NHSE	NHS England
NIS	National Infections Service
OCT	Outbreak Control Team
PHE	Public Health England
PN	Partner Notification
PWID	Persons who Inject Drugs
RE	Regional Epidemiologist
STEI	Sexually Transmitted Enteric Infection
STI	Sexually Transmitted Infection
VCS	Voluntary and Community Sector

Foreword

From 2016 to 2017 there was an overall decrease in new diagnoses of sexually transmitted infections and HIV in the West Midlands. However, there has been a rise in the rates of gonorrhoea and syphilis over the same time period. The West Midlands has also been affected by at least 6 outbreaks of sexually transmitted infections - syphilis, HIV and gonorrhoea - since 2015. Although we have had successes in improving the sexual health of our residents, it is clear that there is still much to be done by our multiagency partnerships.

The management of sexually transmitted infection outbreaks presents unique challenges. The fundamental approach is the same as that taken to manage other outbreaks of infectious diseases. However, factors such as the possible involvement of marginalised groups, the potential for stigmatisation of those affected, the complexity of sexual networks, confidentiality, and the extended period of time over which outbreaks may develop also influence the management of such outbreaks.

In the course of managing sexually transmitted infection outbreaks in the West Midlands we have identified the need for a coordinated multiagency approach across the region. The newly developed West Midlands Sexually Transmitted Infection Outbreaks Management Plan will support this. The plan is based on the national PHE operational guidance but has also been informed by a stakeholder workshop held with a wide range of partners, all of whom have a key role to play in the management of sexually transmitted infection outbreaks.

We are grateful to everyone who has contributed to the development of this plan and look forward to working with our partners to implement it across the West Midlands.



Dr Sue Ibbotson
Director
PHE West Midlands

Introduction

Scope

This outbreak management plan provides localised guidance on the response to STI outbreaks in the West Midlands. It has been informed by PHE's national guidance for managing outbreaks of STIs (1), another regional STI outbreak management plan (2) and consultation with key stakeholders, including GUM clinicians, public health professionals and epidemiologists.

The management of HIV outbreaks is included within the scope of this plan. Where there are considerations to be made for HIV that differ from other STIs, these are made clear.

Objectives

This plan supports the achievement of the following objectives in relation to the management of an STI outbreak:

- to identify, as early as possible, the existence of an outbreak
- to describe the outbreak epidemiologically (in relation to person, place and time), map sexual networks and carry out relevant investigations to identify causative factors
- to communicate with relevant stakeholders
- to implement control measures
- to learn and share learning from the outbreak to prevent recurrence
- to ensure the effective and efficient use of resources to manage an STI outbreak

Underlying principles

Infection characteristics

Although the basic principles underpinning the investigation of STI outbreaks are the same as for other infectious diseases, the differing nature of transmission of STIs must be considered when planning interventions and control strategies. STI epidemiology is driven by the structure of sexual networks, therefore outbreaks may develop over several months. STIs, particularly HIV, are often heavily stigmatised and concerns around the breach of patient confidentiality may create barriers to accessing data held in clinical settings and participation in PN. Treating patients and their sexual contact(s) is required to prevent reinfection and ongoing transmission. Interventions to achieve sustained behaviour change may be necessary to reduce incidence.

Sexual orientation and practices

Outbreak management is a key part of maintaining the population's health and wellbeing. Some STIs disproportionately affect groups who are already marginalised in society and such groups may fear judgement and discrimination if they come forward for testing and treatment. It should be ensured that no judgement or discrimination based on a person's sexual practices, sexuality or other protected characteristics occurs during the management of an STI outbreak (3).

Confidentiality

Maintaining patient confidentiality is paramount in the management of STIs. The following legislation and guidance allow the sharing of patient information with other health professionals in the interests of controlling spread, including during an outbreak:

- the National Health Service (Venereal Diseases) Regulations 1974 (4)
- disclosing patient's personal information: a framework (5)
- disclosing information about serious communicable diseases (6)

According to GDPR personal data can be "collected for specified, explicit and legitimate purposes" (7). Should there be any concerns relating to the processing of confidential patient data the local Caldicott guardian should be consulted (1).

Safeguarding

Any concerns that children and/or vulnerable adults are linked to the sexual network driving the outbreak must be raised immediately with local authority senior management, including the DsPH and safeguarding professionals (1).

Outbreak identification and notification

The first steps in managing an outbreak are to identify a change in the normal picture and notify appropriately.

Organisations involved in managing STI outbreaks

The diversity of STIs and the risk groups they affect, impact on how, when and by whom outbreaks are detected. Local intelligence is essential for outbreak detection. Clinicians or health protection teams may observe changes in the numbers of clinical and demographic presentations of cases (1). PHE has tools which can supplement local intelligence and support outbreak detection (1). The responsibility for the identification and notification of STI outbreaks can therefore lie with multiple agencies.

The agency that identifies the suspected outbreak should notify PHE directly via the ARC, which receives all notifications of acute health protection issues. If PHE is notified of the same (or what appears to be the same) suspected outbreak by multiple agencies, it is their responsibility to pull together this information. It is recommended that the DPH of the affected local authority area(s) should be copied into the notification.

Specialist sexual health services

The possibility of outbreaks should be discussed regularly at clinical meetings. Specialist sexual health services should be aware of data trends, which may provide the first sign of a problem. Specialist sexual health services send regular data on new STI diagnoses to PHE via the GUMCAD mandatory surveillance system and may hold their own data on infection episodes.

Outbreaks may be associated with a particular area or person, and if small, may not be easily identified through an increase in disease rates. Intelligence should be discussed regularly, and health advisers should be included in these conversations. Where local intelligence indicates a potential issue, the local PHE team should be informed through communication with the relevant CCDC on the health protection team. Intelligence should be shared across clinics where this can help to identify issues that cross catchment areas.

PHE

Increased incidence of diseases may be identified at a national, regional or local level. Evidence of an apparent increase should be compared with other data sources, and discussion with the relevant GUM physician(s) should take place. PHE uses exceedance reporting tools which can identify an increase in diagnoses above the

expected level and support local intelligence. Such tools use national surveillance data from laboratory reports (1). PHE receives data from specialist sexual health clinics on STI diagnoses via GUMCAD. It is hoped that more timely production of GUMCAD data can be achieved to increase its use in outbreak detection (1).

The data is analysed nationally and regionally then shared as reports with local health protection teams for further dissemination.

Primary care organisations

Primary care organisations may, through the services they commission, identify or be informed about STI outbreaks. For example, there is a GP surgery in Birmingham that provides primary care services to homeless people, some of whom may also be PWID and therefore at increased risk of contracting BBVs.

Microbiology and Virology

Microbiology and virology departments may identify a rise in diagnoses of less common infections, particular subtypes, or resistant organisms.

Local authority

The local authority may become aware of changes in risk behaviours or areas of risk activity through the specialist sexual health services they commission.

VCS organisations

The VCS is likely to be particularly important where marginalised groups, such as PWID, MSM and CSW, are involved.

Outbreak definition

PHE uses the following definitions of an outbreak or incident (1):

- two or more people experiencing a similar illness that are linked in time or place
- a greater than expected rate of infection compared with the usual background rate for the place and time
- a single case for certain rare diseases

In the case of STIs the following scenarios should prompt discussion with the health protection team about the possibility of an incident or outbreak (2):

- a suspected increase in a particular diagnosis at one clinic above the expected level
- epidemiological evidence of an increase in case reports at clinic, primary care or regional level above the expected level in the population
- evidence of multiple STI cases being linked to a particular exposure site (for example, a residential address) or activity (for example, chemsex) or person
- emergence of a new sexually transmitted pathogen
- changes in the virulence or transmission pattern of an existing pathogen
- changes in the resistance patterns of an existing pathogen beyond what is normal for the area's resistance profile

These criteria should consider what is normal for the local area, acknowledging that departure from this may constitute an incident or outbreak.

Outbreak investigation and control

Collaboration and co-ordination

The response to a suspected outbreak should be coordinated by an OCT to enable close collaboration between key partners (specialist sexual health services, microbiology/virology, VCS, CCDCs, DsPH, PHE Colindale and FS in particular) and joint decision making on important issues.

Professional responsibilities within the multidisciplinary team

Effective control of STI outbreaks relies on adequately commissioned specialist sexual health services. However, in the case of BBV outbreaks (HIV, hepatitis B and hepatitis C) the main route of transmission may not be sexual intercourse but, for example, the use of contaminated needles among PWID. In such cases, effective outbreak control relies more on the provision of adequately commissioned drug and alcohol and needle exchange services.

Multiple agencies and professionals have an important role in controlling outbreaks. These may include GUM and HIV physicians, health advisers, public health professionals, local authority sexual health commissioners, STI epidemiologists and NIS leads, commissioners and providers of drug and alcohol services and the VCS. The local VCS is particularly important for the engagement of marginalised groups such as MSM, PWID, homeless people, CSW, and people from BAME backgrounds. Environmental health may be involved in STEI outbreaks.

Where there are adult or child safeguarding concerns, the appropriate safeguarding representatives from the local authority and/or other relevant services should be involved.

Intervention phases and objectives

A flowchart illustrating the management of STI outbreaks can be found in appendix 1.

Phase 1: preliminary investigation

Is it an outbreak?

In the event of a suspected incident, such as an outbreak, an incident team should be convened to conduct a preliminary assessment. This should include consideration of alternative explanations for the changes identified (for example, data error or changes in

reporting). The team may consist of representation from PHE, GUM, FS, microbiology and the local authority among others. If it is considered that an outbreak has occurred or is occurring, it should be declared and arrangements for investigation and management implemented.

Outbreak control team

Once an outbreak has been declared an OCT should be convened as early as possible. The core membership, roles and responsibilities of the OCT are summarised in appendix 2. Members of the OCT must have clear roles and responsibilities to avoid confusion and duplication; and the team should have clear terms of reference (an example is given in appendix 3). The group is usually chaired by the CCDC although this should be determined by the local context. Where marginalised communities are affected the VCS should be involved. The objectives of the OCT are to:

- reaffirm that there is an outbreak or incident and determine the level at which it is to be managed (ie standard or enhanced)
- establish a case definition and develop a hypothesis
- determine the steps needed to identify cases and contacts
- plan and coordinate communications to relevant stakeholders
- plan and implement control measures to manage the outbreak

Descriptive epidemiology

A descriptive report of the epidemiology of the outbreak should be developed. This should include the numbers affected, case characteristics and an epidemic curve, where appropriate.

It may be appropriate to conduct enhanced surveillance and an ESQ should be developed to do so. This should be a collaborative process between the PHE health protection team, FS, specialist sexual health services, the PHE sexual health lead and other key stakeholders.

Active case finding and surveillance

Active case finding and enhanced surveillance may be carried out to improve understanding of the outbreak and guide its management. Activities may include:

- increased STI testing (including BBVs) in relevant services
- collection of detailed case information through ESQs
- case interviews
- investigating social and sexual networks
- monitoring the effectiveness of PN

Enhanced surveillance, instigated during the preliminary phase, should continue throughout the outbreak investigation. The process through which this is carried out can be adapted throughout the investigation as appropriate.

Case definition and hypothesis

The descriptive epidemiology will support the development of a hypothesis on the possible infection source and transmission, and a case definition. These are based on the characteristics of those identified as being primarily affected, and the potential route(s) of transmission.

Communications

Given the sensitive nature of STI outbreaks and the risk of stigmatising those involved, communication must be carefully managed, particularly where there are small numbers.

A communications lead should be involved from the outset and should be responsible for:

- developing a communications plan and campaigns
- drafting media messages in collaboration with appropriate colleagues
- getting communications signed off by the OCT chair
- liaising with the communications managers of the key stakeholder organisations involved in the outbreak
- liaising with the national PHE press office if there is likely to be national media interest in the outbreak

Where appropriate, a dedicated subgroup of the OCT should be set up to manage the communications for the outbreak. This may include representation from PHE communications, the PHE health protection team, the PHE health and wellbeing team, specialist sexual health services and other service providers (for example, drug and alcohol services and primary care) and other stakeholders (for example, prisons). The remit of this subgroup includes developing a communications strategy for the outbreak which should incorporate:

- determining the most appropriate channels for communicating with the at-risk population, the general public and professionals
- developing key messages and resources for external communications
- challenging misinformation
- monitoring and evaluating the impact of communications

Where outbreaks affect multiple areas it may be appropriate for the OCT to prepare a PHE Briefing Note, working with CEs and microbiologists at the NIS and PHE

communications. In close collaboration with PHE communications, the non-confidential aspects of the note should be shared with BASHH, policy leads for sexual health and antimicrobial resistance at the DHSC, sexual health commissioners and relevant public health staff in the devolved administrations (1).

Collaboration across local authority boundaries

Sexual health services are open access therefore individuals can and do use services outside of their local authority. In addition, sexual networks may span different geographical areas. In the case of an STI outbreak collaboration across local authority boundaries may be required to understand the full nature and extent of the outbreak. In most cases this should be coordinated through one OCT; the PHE area predominantly affected will normally lead.

Phase 2: control

Control measures are implemented to prevent and reduce ongoing transmission of the infection.

Primary prevention

Primary prevention initiatives should be developed with input from the sexual health lead in the PHE health and wellbeing team and/or the local authority public health team to ensure consistency of messaging and to avoid duplication. Activities may include:

Education and awareness campaigns – such campaigns may be universal or targeted specifically at the at-risk population. Where appropriate, this may involve making use of the media (for example, local press or radio) and social media to deliver public health messages. These typically include information on the infection, how to avoid acquisition and transmission, promotion of safer behaviour, and signposting to services and further information.

Outreach – this should target key populations and venues.

Condom provision – these can be supplied at specialist sexual health clinics and venues frequented by the target population to encourage safer sex.

Signposting to relevant services (for example, specialist sexual health services) – in the case of BBV outbreaks signposting to needle-exchange services may be appropriate.

Secondary prevention

Secondary prevention involves finding and treating cases to prevent onward transmission. Initiatives include the following (1,2):

Partner notification – early PN is crucial to successfully limiting spread. However, it can be challenging due to the nature of an STI outbreak where there may be a high number of anonymous sexual partners. In addition, due to stigma surrounding STIs, individuals may be reluctant to engage in the PN process for fear of their confidentiality being breached. The PN process can be particularly difficult for HIV and is less commonly used (8).

Venue-based screening – many of those affected by STI outbreaks are from marginalised groups and may not access traditional health services. It may therefore be appropriate to carry out targeted screening in venues frequently attended by the target group. Appropriate stakeholders should be engaged early on to support this process.

Screening in antenatal services and congenital syphilis – an increase in cases of infectious syphilis among women of reproductive age should prompt consideration of screening in the third trimester as well as the first trimester. The performance of the first trimester screening programme should also be evaluated. Where cases of congenital syphilis are identified, clinicians should establish whether this represents poor access to services or a failure of care.

Gonorrhoea screening – in the case of a gonorrhoea outbreak, dual NAAT testing for chlamydia and gonorrhoea in the NCSP in the affected local authorities may be considered.

Increasing provision of clinic sessions – it is important that clinics have sufficient capacity to manage an increase in demand for testing, treatment and PN during an outbreak.

Increasing awareness – campaigns to increase awareness can encourage those at risk to come forward to be screened.

Treatment as prevention – successful treatment of the infection prevents onward transmission. Treatment as prevention is a recognised strategy to prevent HIV transmission; anti-viral medication, if taken appropriately, can reduce the viral load to undetectable levels meaning that the infection cannot be transmitted.

Phase 3: evaluation

Process and outcome evaluations must be carried out to determine the effectiveness of the control measures implemented.

Key process measures

Key process measures should be agreed at the start of the investigation. These may include (1):

- number of STI tests offered and taken up
- number, range, coverage and type of health promotion interventions
- awareness and knowledge among the target population of harm reduction methods and health interventions
- intervention frequency and coverage
- proportion of the target population engaging with an intervention
- number of staff undergoing training
- awareness and knowledge among frontline staff about harm reduction methods and health interventions

Primary outcome measure: a reduction in the number of reported cases

It should be determined by the OCT at the start how the primary outcome will be measured. The number of reported cases could be assessed through enhanced surveillance, routine laboratory reports, or reference laboratory reports. Exceedance reporting tools may also be used to establish whether the number of cases has returned to baseline.

It may be hard to determine the reason for a decline in the number of cases and any change must be interpreted in the context of the control measures implemented. For some outbreaks the number of cases may never return to baseline. This may be due to an overall increase in the number of cases in the general population or endemicity of the infection in the target population.

End of the outbreak

Declaring the outbreak over

The OCT is responsible for declaring the outbreak over. This should be done in consultation with the relevant DsPH and provided in writing.

Situations that may indicate the end of an outbreak include (1):

- stabilisation and/or decline in outbreak case reports (although STIs with an endemic phase may develop at a higher level than previously seen)
- decline in case reports to baseline
- decrease in reports to levels which can be managed within existing resources
- high coverage of interventions, such as screening and vaccination, in target groups
- high awareness and uptake of intervention(s) among target groups

Outbreak debrief

The OCT should meet for a debriefing session to review the management of the outbreak, identifying what was done well and what could have been done better; develop recommendations for future outbreaks; and determine whether any further preventative action is required.

Writing the outbreak report

A report, including the lessons learnt, should be prepared by the OCT at the end of the outbreak. Reports should be stored centrally, and the key findings and evaluation of the outbreak management should be published in a suitable peer reviewed journal (where appropriate). This ensures that learning can be shared and used to improve the management of future outbreaks.

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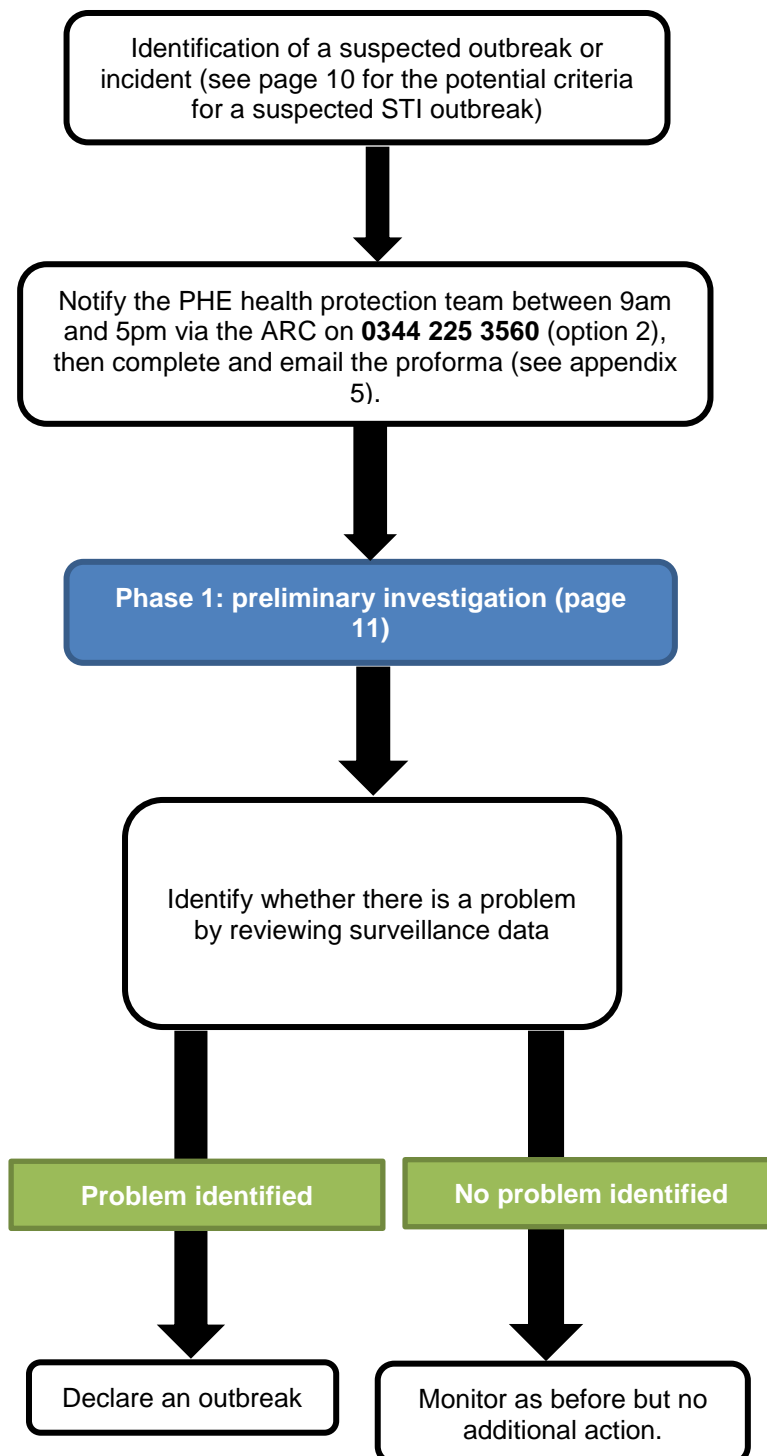
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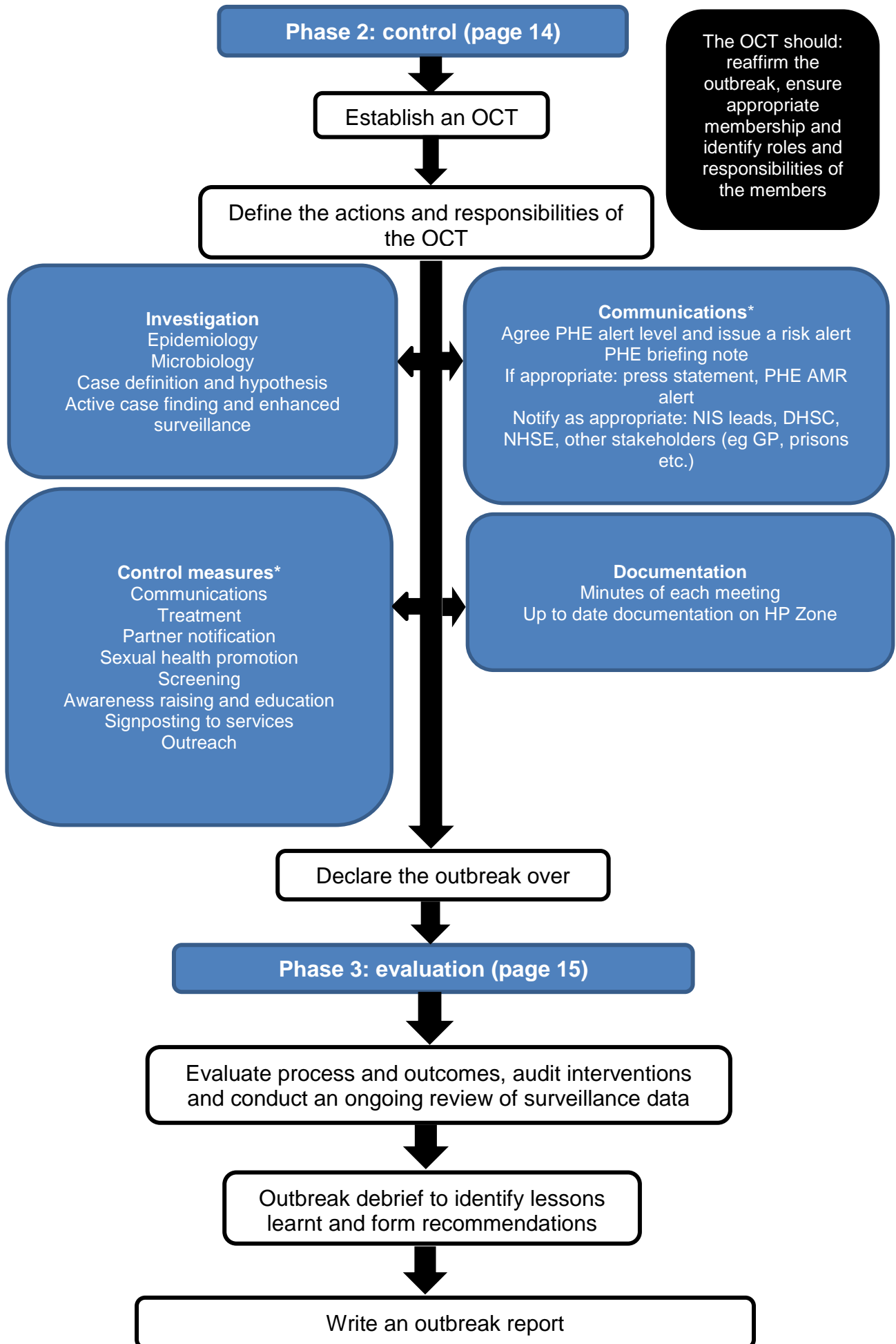
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Appendices

Appendix 1: Flowchart for managing STI outbreaks





Appendix 2: Core roles and responsibilities in the management of an STI outbreak

Below is a list of those who would be expected to form the core membership of the OCT, and their roles and responsibilities (1). Additional agencies/staff groups (for example, prison healthcare, primary care, CCG, NHSE, drug and alcohol services, environmental health and members of the local authority public health and communications teams) may also be involved depending on the nature of the outbreak.

OCT chair

This would usually be the DPH or CCDC but will be decided at the initial meeting. The chair's role is to:

- direct and co-ordinate management of the outbreak
- chair the OCT
- ensure the appropriate membership of the OCT and that all members understand their role
- provide consultation and advice throughout the outbreak
- work with the communications lead to ensure timely communication between members of the OCT and other organisations
- ensure that any safeguarding issues are dealt with appropriately through liaison with the safeguarding lead
- decide with the OCT to declare the outbreak over
- ensure that there is an accurate recording of all meetings of the OCT and any subgroups
- lead the production of an outbreak debrief and report, and ensure that lessons learnt are shared appropriately (for example, through publication in a peer reviewed journal)

PHE CCDC:

- provides expert advice on identifying potential outbreaks
- provides epidemiological support
- informs PHE centre directors of the progress of the investigation and seeks support as needed
- communicates the importance of the outbreak to commissioners and liaises with them to identify additional resources, as necessary, to manage the outbreak
- works with PHE FS to maintain increased surveillance of the infection to evaluate the effectiveness of control measures
- facilitates collaboration between key stakeholders
- audits the management of the outbreak
- identifies lessons learnt and develops training materials as necessary

PHE FS:

- monitors routine surveillance data to identify possible outbreaks
- provides epidemiological expertise to the OCT in the analysis and interpretation of data
- summarises the epidemiological data in a report
- supports enhanced surveillance where appropriate, including the development of an ESQ
- supports the conduct of audits

GUM/sexual health physicians, nurses and health advisers:

- inform the relevant CCDC in the PHE health protection team and/or the sexual health lead in the PHE health and wellbeing team of an identified increase in cases of STIs
- provide clinical advice to the OCT on infection presentation and management
- support the collection and provision of local data
- support the development of an ESQ where appropriate
- provide information to the OCT on patterns of sexual behaviour and use of specialist sexual health services
- assess the capacity of local specialist sexual health services to respond to the outbreak
- support the development and implementation of control measures

PHE HIV and STI Department, NIS:

- provides specialist advice and context on STI epidemiology and at-risk populations
- provides expert advice on the interpretation of the epidemiological data (for example, is the rise in cases an outbreak or a data artefact)
- provides scientific information/resources to inform the OCT and advise on potential research studies
- assists in the development of investigative tools
- provides personnel/expertise to assist with specialist microbiological or epidemiological investigation
- supports the OCT to develop methods to evaluate control measures

Consultant microbiologist and/or virologist:

- identifies an increase in STI diagnoses or cases of rare infection and informs the CCDC and/or sexual health lead
- provides specialist advice to the OCT on interpreting microbiological data, investigative methods, specimen collection and infection control
- facilitates prompt analysis of clinical samples and reporting of diagnostic results

- provides advice on the use of specialist diagnostic methods
- facilitates specialist testing of samples in reference labs where necessary

PHE sexual health lead, health and wellbeing team:

- liaises with the chair of the OCT on the management of the outbreak
- advises on behaviour change methods and health promotion activities, tools and resources to inform management of the outbreak
- liaises with commissioners to identify commissioning tools to support the implementation of control measures
- provides expertise to support the development of health promotion materials

Service commissioners:

- ensure sufficient funding, where possible, to support increased service capacity and/or changes in service delivery recommended by the OCT to manage the outbreak
- ensure that relevant service contracts include a requirement to provide preventative activities, as necessary, to manage the outbreak
- ensure that there are contingency plans in place to enable the commissioning of prevention activities, as necessary, to manage the outbreak
- depending on contractual arrangements, use the findings and lessons learnt from the outbreak to inform future sexual health needs assessments and promotion activities

Communications manager

Senior communications input may come from any of the key organisations depending on the context of the outbreak. The role of the communications manager includes:

- working with the OCT to ensure timely communication with external stakeholders
- leading on determining the most appropriate form of media for communications
- drafting media messages in collaboration with appropriate colleagues, and ensuring sign off by the OCT chair
- liaising with the communications managers of the key stakeholder organisations involved in the outbreak
- liaising with the national PHE communications team leading on sexual health, reproductive health and HIV if there is likely to be national media interest
- drafting a reactive statement that can be issued if there is media interest in the outbreak
- advising on social media use

VCS and other organisations providing specialist support to the target group:

- provide a key link to the target population, particularly if the population is part of a marginalised group
- provide insight into the target population to improve understanding among the members of the OCT
- represent the views and interests of the target population
- facilitate communication between health services and the target population
- provide advice on behaviour change and health promotion methods, appropriate for the target group, to manage the outbreak

Appendix 3: Draft terms of reference for the outbreak control team

Purpose and key functions

The role of the OCT is to determine the purpose of the outbreak investigation and establish the lead organisation with accountability for the management of the outbreak and ownership of the data. The OCT is responsible for declaring the outbreak and for determining when it has ended. The team will ensure that joint decisions are made on the key issues of the outbreak.

The OCT will:

- agree membership of the group and identify additional expertise where required
- determine the necessary commitment of personnel and resources
- assign specific responsibilities to named individuals in the team
- meet regularly during the outbreak and ensure that there is a written record of each meeting that is shared with all members
- oversee the activities of the control measures and communications subgroups
- investigate the source and cause of the outbreak
- determine the case definition
- protect and maintain confidentiality, sharing information only where it is required to prevent the spread of infection or support its treatment
- determine and declare the end of the outbreak, based on ongoing risk assessment
- evaluate the overall experience of controlling the outbreak, and implement the lessons learnt
- produce a comprehensive outbreak management report

Appendix 4: Infection-specific considerations in STI outbreaks

Sexually Transmitted Infections

Gonorrhoea

During outbreaks consideration may be given to introducing dual NAATs for chlamydia and gonorrhoea as part of the NCSP in the areas that are affected [by the outbreak], to improve identification of cases (9). It should be noted however that there is a high possibility of false positives when prevalence is low, so supplementary testing using a different nucleic acid target should be used to confirm the result (9). The implications of introducing additional testing should be carefully considered by the OCT, and it should ensure that there are appropriate care pathways in place to manage the potential increase in positive results. Where there is a sudden rise in gonorrhoea diagnoses in the local area, this should be investigated to determine whether it represents a true increase and is not the result of the introduction of dual NAATs. Where it is found to be associated with the use of dual NAATs a review of testing practice and a look back of diagnoses should be conducted to find out whether they were confirmed by supplementary testing (1).

HIV

HIV may be diagnosed in settings other than specialist sexual health clinics. Individuals may present with signs and symptoms of an acute seroconversion illness at A&E departments, Medical Assessment Units or GP. Cases may also be identified in prisons and drug and alcohol services. It is important that these settings have strong links with specialist sexual health clinics to ensure facilitation of new diagnoses into specialist services for treatment.

HIV outbreaks may not be driven predominantly by sex. For example, they may be associated more with injecting drug use. In such cases it is important for relevant stakeholders, such as drug and alcohol services, to take on a leading role in increasing testing to identify cases and help prevent onward transmission. This may require support from those who commission the services.

Where transmission is thought to have been from a healthcare worker the UK Advisory Panel on Healthcare Workers Infected with Bloodborne Viruses should be contacted for advice (10).

Lymphogranuloma venereum

LGV is caused by one of 3 invasive serovars of *Chlamydia trachomatis* (L1, 2 and 3) (11). Following an outbreak in 2003 in the Netherlands the number of cases in the UK has increased (11). LGV predominantly affects MSM, and those who are HIV positive are particularly susceptible (11). Consequently, where LGV is diagnosed individuals should be screened for HIV and other STIs (11).

Syphilis

Between 2008 and 2017 there was a 144% increase in new diagnoses of syphilis in England (12). Outbreaks of infectious syphilis have been observed as part of this increase, mostly in MSM but also in young heterosexuals (13).

Diagnosis of the infection should be made based on microbiological tests (such as serology and polymerase chain reaction) and clinical presentation (1). Such an approach will support accurate staging of the infection which will provide insight into the timing of the outbreak (1). A single serological test should not be relied upon for a diagnosis due to the variation in testing methods and interpretation of results between laboratories (1), and the possibility of false positives (14).

The proportions of primary, secondary and early latent syphilis relative to one another provide an indication of the stage of an outbreak (1). Where the cases of primary and secondary syphilis are high compared with early latent syphilis, the outbreak is in the relatively early stages and most cases are being identified and treated by sexual health services (1). Where the relative proportion of early latent syphilis is higher, the outbreak is well established in the area and there is scope for further case finding and treatment (1).

Congenital syphilis

Where cases of congenital syphilis are identified, clinicians should establish whether this represents poor access to services or a failure of care (1).

Sexually transmitted enteric infections and hepatitis

MSM are disproportionately affected by STEIs and hepatitis A, B and C. MSM with symptoms of an STEI may not present to a specialist sexual health service, but to another healthcare setting such as A&E or GP (1). It is important that clinicians are appropriately trained to consider STEIs as a diagnosis in MSM with indicative signs and symptoms, and sensitively elicit a comprehensive sexual history (1).

Shigella

Shigella is a bacterial intestinal infection that may present with diarrhoea +/- blood, fever and abdominal pain (15). It may also be asymptomatic. Transmission is faeco-oral, including via sexual contact. MSM have been shown to be at increased risk of sexual transmission of *S. flexneri* which has a poorer outcome in HIV positive individuals. Previous investigation into a Shigella outbreak in 2011 showed an association between *S. flexneri* serotype 3a in MSM and being white, born in the UK and HIV positive (16). Those affected were part of dense sexual networks with a lot of partners (16). Many had also had condomless sex and chemsex (16). Antimicrobial resistant strains of *S. flexneri* and *S. sonnei* have been observed in MSM (15).

Identification of STEI outbreaks may be difficult due to a lack of knowledge of the sexual history of those affected (1). The ESQ for Shigella requests details of sexual contacts during the period when transmission may have occurred. Analysis of the gender ratio in an outbreak among adult cases that are not associated with foreign travel can also provide insight into the likelihood of sexual transmission (1). An excess of cases among men may be evidence of transmission in MSM and should be investigated further (1). In addition to standard public health advice, MSM diagnosed with Shigella should be advised on abstaining from sex, PN, STI screening and sexual risk-taking (1).

Hepatitis A, B and C

MSM are more likely to be infected with hepatitis A, B and C compared with the general population (1).

In addition to specialist sexual health services, individuals with hepatitis A, B and C are likely to be diagnosed in a range of other settings such as GP, A&E, drug and alcohol services and prisons (1). It is also likely that individuals will feel less comfortable talking about their sexual history in such settings. Specialist sexual health services should have good links with these other settings and the OCT to ensure appropriate diagnosis and management (including post exposure prophylaxis), PN and/or any other expert advice (1).

Messaging may be tailored to specific groups depending on the population affected by the outbreak. This should include information on the importance and availability of vaccines for hepatitis A and B, and testing and treatment for hepatitis C.

Where transmission is thought to have been from a healthcare worker the UK Advisory Panel on Healthcare Workers Infected with Bloodborne Viruses should be contacted for advice (10).

Hepatitis A

In the case of an outbreak, the first dose of the vaccination should not be delayed waiting for the results of testing (17). MSM should all be offered hepatitis A vaccination at their first attendance at a specialist sexual health service unless there is evidence of immunity or previous vaccination. Where possible, asymptomatic individuals at risk of hepatitis A (such as MSM, PWID and individuals positive for hepatitis B, hepatitis C and/or HIV) should be screened for evidence of previous hepatitis A infection by specialist sexual health services prior to vaccination (17).

Vaccination should be offered to contacts of hepatitis A as post exposure prophylaxis; and HNIG can be offered alongside vaccination for those at risk of severe disease (for example, those with hepatitis B, hepatitis C or HIV) (17).

Hepatitis B

Individuals at risk of hepatitis B should be offered vaccination, if not already immune, by specialist sexual health services. These include MSM, CSW, PWID and sexual partners of people with acute or chronic infection or who are at high risk (for example, those from endemic countries) (17,18).

Hepatitis C

Risk of sexual transmission of hepatitis C is generally low, except in MSM who are HIV positive (17). Specialist sexual health services should offer testing for hepatitis C to asymptomatic individuals at risk, including those who are HIV positive, PWID, MSM eligible for 3 monthly testing, those eligible for or taking PrEP, sexual partners of people with hepatitis C, and ex-prisoners (17). There is no vaccination available for hepatitis C and individuals who test positive should be referred to a hepatologist and provided with advice on preventing transmission.

Appendix 5: Template for notifying suspected outbreaks

Date and time of notification	
Name, role and organisation of the person notifying	
Telephone number and email address of the person notifying	
Name and role of the person notified in the PHE Health Protection Team	
Infection (eg syphilis, HIV, gonorrhoea)	
Location of the suspected outbreak (please provide as much detail as possible) (eg geographical area, venue)	
Date of the first case (as accurately as is known)	
How the suspected outbreak was identified	
Number of people known to be affected	
Population(s) affected (eg MSM, CSW)	

<p>Possible source of suspected outbreak (eg a sex party at a private venue)</p>	
<p>Suspected primary route of transmission (eg condomless sex, injecting drug use)</p>	
<p>Measures taken (if any) to control transmission (eg partner notification, increased condom provision)</p>	
<p>Any other relevant information</p>	
<p>Signed by:</p>	
<p>Please email this form to phe.wmarc@nhs.net with 'suspected STI outbreak' and the full name of the person notified in the subject header.</p>	

Appendix 6: Draft agenda for outbreak control team meeting (to be tailored according to outbreak/incident)

Title of meeting:

Date:

Time:

Venue:

Review of evidence:

- update on the incident
- epidemiological report
- microbiological report
- environmental report

Case definition and hypothesis

Control measures

Agreed actions including named responsible persons and timescales

Any other business

Date of next meeting

Appendix 7: Draft outline for outbreak report

The following is a suggested outline for an outbreak report (19). This can be amended depending on the nature of the outbreak.

Terms and abbreviations

Summary

Introduction

Background:

- population demographics
- background rates of relevant infection
- recognition of the outbreak

Methods of investigation:

- epidemiological
- microbiological
- environmental

Investigation findings:

- descriptive epidemiology
- microbiological findings

Outbreak control:

- coordination and management of outbreak
- advice
- control measures

Communications

Discussion and lessons learnt

Conclusions and recommendations

References

Appendices:

- chronology of events
- general background on relevant infection
- membership and terms of reference of the outbreak control team
- detailed epidemiology

Appendix 8: Definitions

Below are some definitions that individuals who do not routinely work in the field of sexual health may come across in the management of STI outbreaks.

Chemsex (20)	Describes the use of drugs before or during planned sexual activity to sustain, enhance, disinhibit or facilitate the experience. The most commonly used drugs are mephedrone, GHB/GBL and crystal methamphetamine. Drugs are often used together, facilitating sex over several days with multiple partners. Associated with MSM.
Cisgender (21)	Describes someone whose gender identity is the same as the sex they were assigned at birth. May also be referred to as non-trans.
Geospatial networking apps (22)	Describe apps that enable users to use the global positioning system (GPS) of smartphones to locate and network with other users who are in a nearby physical location. They have been used increasingly by MSM to meet sexual partners.
On-premises club (23)	Describes a sex club used by heterosexual swingers for non-commercial sexual activity.
Non-street based sex work (24)	Describes commercial sex work that takes place in entertainment establishments.
Public sex environments (23)	Public areas where people go for consensual sexual contact (both same sex and opposite sex).
Sero-sorting (24)	Describes the following strategies:

	<p>people restricting sex to people with their own HIV status.</p> <p>people restricting unprotected sex to people with their own HIV status.</p> <p>HIV-positive people restricting sex to other people with HIV.</p> <p>HIV-positive people restricting unprotected sex to other people with HIV.</p> <p>people whose last test was HIV-negative restricting sex to other people who have tested HIV-negative.</p> <p>people whose last test was HIV-negative restricting unprotected sex to other people who have tested HIV-negative.</p>
Sex on premises venues (25)	Refers to commercial venues where MSM meet to have casual, usually anonymous, sex.
Street-based sex work (26)	Describes commercial sex work that takes place on the streets and other public places.
Trans (21)	Describes those people whose gender is different from, or doesn't sit comfortably with, the sex they were assigned at birth. People who are trans may describe themselves as one or more of, but not limited to, the following: transgender, transsexual, gender-queer, gender-fluid, non-binary, gender-variant, crossdresser, genderless, agender, non-gender, third gender, two-spirit, bi-gender, trans man, trans woman, trans masculine, trans feminine and neutrois.
Transgender man (21)	Describes someone who is assigned female at birth but identifies and lives

as a man. May also be referred to as female-to-male or trans man.

Transgender woman (21)

Describes someone who is assigned male at birth but identifies and lives as a woman. May also be referred to as male-to-female or trans woman.