Ministry of Health
SAMOA

# 2018

# NATIONAL COMPREHENSIVE GUIDELINES ON STI DIAGNOSIS, TREATMENT & MANAGEMENT

This guideline is based on the WHO Consolidated Guidelines on the Management of STIs, and incorporating the recently released 2016 WHO Treatment Guidelines on Chlamydia, Gonorrhoea, and Syphilis. This supersedes all previous STI related guidelines developed and released in Samoa

UNDP

World Health Organization

# FOREWORD

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The Ministry of Health is proud to present Samoa's adapted WHO Guidelines for;

1. Use of Anti-retroviral Therapy
2. Preventing Mother to Child Transmission of HIV
3. HIV testing services
4. STI Diagnosis, Treatment and Management

This document is the adaptation of the 2016 WHO guidelines that have been contextualized for Samoa's healthcare system and clinicians. The health sector, stakeholders and partners were consulted in order to tailor these guidelines to better fit Samoa's resources, service delivery systems, multilateral partnerships, and ultimately the needs of patients.

Samoa, as well as the Pacific region as a whole, has long faced high rates of STI's, which are only projected to increase within the coming 5 years. Ensuring quality clinical case management of STI's is an absolutely essential part of the national response to these diseases. Linked to STI management is HIV Testing Services (HTS), which involves clinicians, laboratories, public health, and the communities themselves in detecting infections and connecting people to the services they need. Samoa has historically adopted a treat all approach to those that test positive for HIV, giving all people ART free of cost. It is therefore essential that providers in Samoa are fluent in the latest practices for treatment.

Additionally, Preventing Mother to Child Transmission (PMTCT) encompasses all services, interventions, care, protocols and standards to support patients in maintaining their health and preventing the spread of infection from parent to infant. Samoa has always demonstrated a firm commitment on improving maternal and child health through both the Millennium and the Sustainable Development Goals.

These guidelines serve to provide clinicians a reference for the latest in global best practices, as well as the local context for implementing them. Throughout the document are clinical notes labeled below.

"  "

These notes come from numerous consultations on the guidelines and how to implement the recommendations nationally. We hope that providers will find this useful in their practice.
We are grateful for all of the work from our national and international partners in health that has gone into the development of these guidelines.

Ma lo'u fa'aaloalo lava,

Leausa Toleafoa Dr. Take Naseri

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- Dr. Madeline Salva (WHO)
- Dr. Yadav Subhash (WHO)
- People living with HIV
- Private clinicians

## ACRONYMS

| | |
|---|---|
| AIDS | Acquired Immune Deficiency Syndrome |
| CBO | Community Based Organization |
| CSO | Civil Society Organization |
| FBO | Faith Based Organization |
| HIV | Human Immuno-deficiency Virus |
| HSV-2 | Herpes simplex virus -2 |
| M&E | Monitoring and Evaluation |
| MSM | Men having Sex with other Men |
| NAAT | Nucleic Acid Amplification Tests |
| PCR | Polymerase Chain Reaction |
| PEP | Post Exposure Prophylaxis |
| PPT | Periodic Presumptive Treatment |
| SPC | Pacific Community |
| STI | Sexually Transmitted Infection |
| TPHA | Treponema Pallidum Haemaglutination Assay |
| RPR | Rapid Plasma Reagin |
| UNAIDS | United Nations Joint Programme on HIV/AIDS |
| UNICEF | United Nations Children's Fund |
| VDRL | Venereal Disease Research Laboratory Test |
| WHO | World Health Organization |

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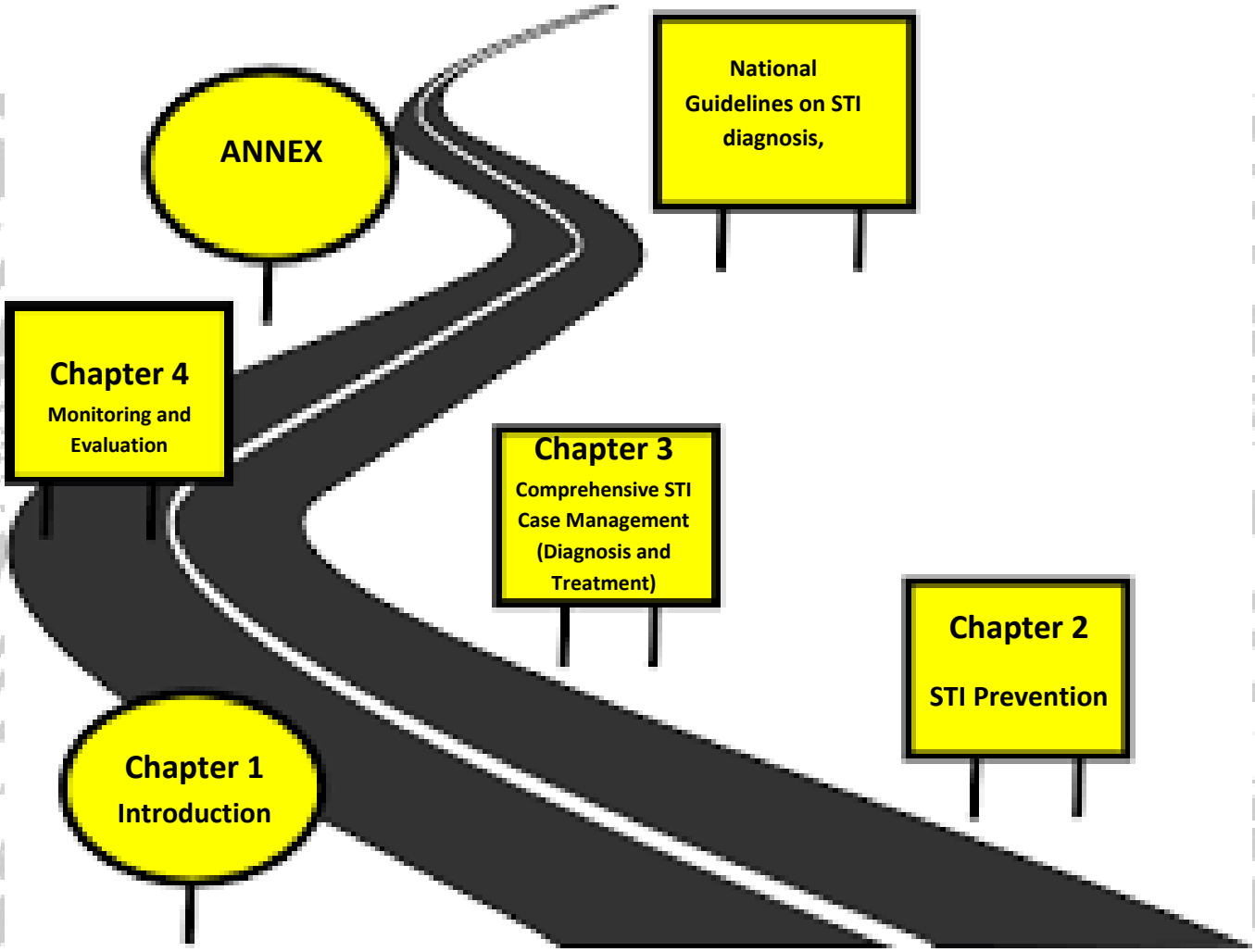
This guideline is divided into four main chapters, with an annex section.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# CHAPTER 1

# INTRODUCTION

# CHAPTER ONE: INTRODUCTION

## 1.1 Key Facts[1]

- More than 1 million sexually transmitted infections (STI) are acquired every day worldwide.
- Each year, there are an estimated 357 million infections with 1 of 4 STIs: chlamydia, gonorrhoea, syphilis and trichomoniasis.
- More than 500 million women people are estimated to have genital infection with herpes simplex virus (HSV).
- More than 290 million women have a human papillomavirus (HPV) infection.
- The majority of STIs have no symptoms or only mild sypmtoms that may not be recognized as an STI.
- STIs such as HSV type 2 and syphilis can increase the risk of HIV acquisition.
- Over 900 000 pregnant women were infected with syphilis resulting in approximately 350 000 adverse birth outcomes including stillbirth in 2012.
- In some cases, STIs can have serious reproductive health consequences beyond the immediate impact of the infection itself (e.g., infertility or mother-to-child transmission)
- Drug resistance, especially for gonorrhea, is a major threat to reducing the impact of STIs worldwide.

With this information, it is imperative that attention is given to prevention, proper diagnosis and management of STIs.

## 1.2 Scope of the problem

Samoa faces significant challenges in sexual health regarding Chlamydia, Gonorrhea, Syphilis, and Hepatitis B&C. Chlamydia is a major problem in Samoa, and the most prominent sexual health issue in terms of STI's. Chlamydia occurs at a high prevalence in pregnant women, who are supposed to be low risk for the disease. Of the 2,207 individuals tested at hospitals and health clinics in 2017, 22% had Chlamydia. The prevalence may be higher in rural areas with one study with women age 18-29 finding a prevalence of 36.7%. Ages 15-24 represented 40.7% of all Chlamydia infections in 2017, which suggests

[1] http://www.who.int/mediacentre/factsheets/fs110/en

youth are at particular risk. Chlamydia also has a low testing rate for the general population (only 1.1% in 2017). Chlamydia if left untreated can lead to sterility and blindness (for infants born to mothers with Chlamydia). Testing for Chlamydia has stopped due to lack of funding for testing kits in 2016, and resumed in 2017 with fewer tests. Therefore the reduction in prevalence between 2016 and 2017 is likely due to decreased testing leading to a reduction in detection of positive cases.

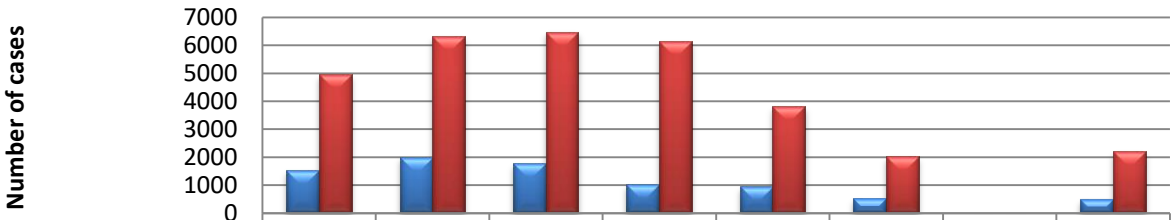
***Table 1. STI's from 2015-2017 (in order of prevalence)***

| STI | 2015 | 2016 | 2017 | Status |
|---|---|---|---|---|
| **Gonorrhoea** | *Not Tested* | *Not Tested* | *21.2%* | ***High prevalence*** |
| **Chlamydia** | *26%* | *Not Tested* | *20.7%* | ***Not significantly changed*** |
| **Hepatitis A** | *Not available* | *Not available* | *14.6%* | - |
| **Hepatitis B** | *2%* | *2.4%* | *2.3%* | *Not significantly changed* |
| **Syphilis** | *0.30%* | *0.4%* | *0.7%* | ***Increasing*** |
| **Hepatitis C** | *0.10%* | *0.5%* | *0.1%* | ***Decrease*** |
| **HIV** | *0%* | *0%* | *0%* | *0 incidence* |

Hepatitis A has the next largest prevalence compared to gonorrhoea and chlamydia, however testing to too low to produce accurate estimates of prevalence with only 103 recorded tests in 2017. Syphilis, though lower in prevalence, has been steadily increasing. Hepatitis B has not changed significantly in the past 3 years.

For most of the past 7 years, Chlamydia has persisted as a high prevalence STI from 31% in 2010 to 22% in 2017. Though the rates have slightly reduced in the past 7 years, so has testing. Testing in 2017 is among the lowest of all years since 2010. This means that the actual prevalence in the population is higher and has remained relatively unchanged since 2010. The reduction in the number of tests each year is also a concern, because it indicates that less positive patients are being linked to treatment services. Most of the gonorrhoea positive cases are actually co-infections with Chlamydia. Addressing the high rates of both Chlamydia and Gonorrhoea remains a top priority. There is a lack of evidence world-wide on what interventions are most effective at preventing Chlamydia infections and reducing prevalence rates. The pacific in generally has some of the highest rates of Chlamydia in the world. New, up-scaled, multi-sectoral and comprehensive initiatives are needed address these rates.

**Figure 1. Chlamydia Testing and Detected Cases in Samoa 2010-2017**




| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|
| Chlamydia Positives | 1537 | 2007 | 1787 | 1017 | 948 | 528 | 0 | 506 |
| Chlamydia Tests | 4969 | 6306 | 6481 | 6135 | 3823 | 2025 | 0 | 2207 |

Knowledge of Chlamydia transmission and prevention is severely lacking in both general and key populations in Samoa. The ICHAP 2017 Survey tested the knowledge of participants about key misconceptions about Chlamydia. The majority (74%) had low knowledge about Chlamydia.

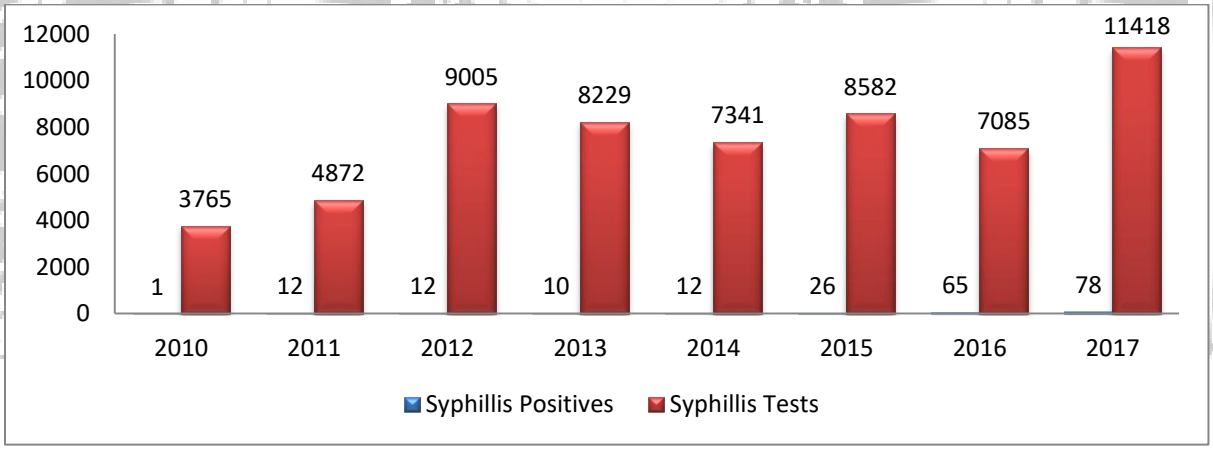
Less than 30% of people knew that Chlamydia may show no symptoms in both men and women. Only 43% knew that Chlamydia was curable, and only 50% knew that wearing condoms prevents infection. This shows some insight into why rates of Chlamydia infection are so high, and why many people don't access prevention and treatment. Only 33% knew Chlamydia could affect women's fertility and only 27% knew it could affect men's fertility. Additionally, only 23% knew that Chlamydia can cause eye infections if left untreated. This indicates that more education about the long term effects of infection is needed as well. All of these findings support the need for increased testing paired with prevention education to lower the rates, and link more people to treatment services. From a health education and communication perspective, messages need to focus on encouraging detection through testing in the absence of visible symptoms, how Chlamydia can be prevented and treated, and the effects on health that can occur if left untreated.

***Table 2. Chlamydia Knowledge of Respondents to the ICHAP Survey 2017***

| Statement | Answer | Correct Responses | Correct Percent |
|---|---|---|---|
| You can catch Chlamydia from toilet seats. | FALSE | 114 | 23.2% |
| Men with Chlamydia might not have symptoms. | TRUE | 69 | 14.1% |
| Most women will NOT develop symptoms of Chlamydia. | TRUE | 133 | 27.1% |
| Only women get Chlamydia. | FALSE | 252 | 51.3% |
| Chlamydia can affect men's fertility. | TRUE | 133 | 27.1% |
| Chlamydia can affect women's fertility. | TRUE | 160 | 32.6% |
| Chlamydia can cause eye infections. | TRUE | 115 | 23.4% |
| Once you get Chlamydia, you can't get rid of it. | FALSE | 210 | 42.8% |
| You can get Chlamydia more than once. | TRUE | 70 | 14.3% |
| Wearing a condom prevents Chlamydia. | TRUE | 249 | 50.7% |
| Birth control pills prevent Chlamydia. | FALSE | 143 | 29.1% |

Syphilis, in contrast to Chlamydia and gonorrhoea, has remained very low in prevalence over the years with similar testing coverage to HIV. However, cases are on the rise. The number of positive cases has tripled since 2015. This is due partly because of increased testing (especially in 2017). However in 2016, testing decreased, but the number of positive cases detected still rose significantly. This suggests that syphilis may be genuinely increasing in the population. This means prevention, testing and treatment need to be scaled up in order to respond.

***Figure 2. Syphilis Testing and Detected Cases in Samoa 2010-2017***




Multiple factors, including stigma around sexual health, low access to condoms, confidentiality concerns, and stigma around the prevention and treatment of STI's all pose challenges to addressing STI prevalence and encouraging regular testing. The Ministry has also documented low level of knowledge of STI prevention and transmission, particularly with regards to Chlamydia.

In addition to these factors, gender violence may also play a role in exacerbating the health burden of STI's. Many women in Samoa feel domestic violence is justified with 70% stating it is permissible for a husband to beat his wife if she is unfaithful to him, doesn't do housework, or disobeys him(State of Human Rights Report 2015). A multi-country study conducted by WHO from 2000-2003 found that in Samoa that 10% of all women who had ever been pregnant were beaten during at least one pregnancy. Among women that were ever physically abused in their lifetime, 24% reported the abuse occurred during pregnancy. In 96% of those cases, the perpetrator was the father of the child. In terms of the health of these women, abused women who had ever been pregnant were significantly more likely to have had stillborn children (16% versus 10%) and miscarriages (15% versus 8%).

STI's among antenatal women remain very prevalent with 26% of ANC women testing positive for Chlamydia in 2017. This is likely due to multiple barriers in linking male partners to testing and treatment. However there may also be a component of this that is related to the high prevalence of domestic violence, as women in abusive relationships are not able to demand condom use or STI treatment for fear of further violence. Accessing treatment services is also met with stigma. Despite the high prevalence of Chlamydia, the actual figure is likely higher, as only 4,825 out of an estimated 9,616 pregnant women (50.1%) reported for ANC visits and were screened for STI's in 2017 (MoH STI Surveillance 2017). This rate has increased from 46.9% of ANC females being screened for STI's in 2016, but this progress needs to be sustained and expanded.[2]Globally, the burden of morbidity and mortality worldwide resulting from STI compromises quality of life, as well as sexual and reproductive health and newborn and child health. STI indirectly facilitates HIV and cause cellular changes that precede some cancer.

It is estimated that annually there are 357 million new cases of four curable sexually transmitted infections among people aged 15–49 years: Chlamydia trachomatis (131 million), Neisseria gonorrhoeae (78 million), syphilis (6 million), or Trichomonas vaginalis (142 million). The prevalence of some viral sexually transmitted infections is similarly high, with an estimated 417 million people infected with herpes simplex type 2, and approximately 291 million women harbouring the human papillomavirus. The prevalence of these sexually transmitted infections varies by region and gender. These epidemics have a profound impact on the health and lives of, adolescents and adults worldwide[3]:

- Fetal and neonatal deaths – syphilis in pregnancy leads to over 300 000 fetal and neonatal deaths each year, and places an additional 215 000 infants at increased risk of early death;

[2] WHO Global Health Sector Strategy on STI 2016-2021.

[3]WHO Global Health Sector Strategy on STI 2016-2021

- Cervical cancer – the human papillomavirus infection is responsible for an estimated 530 000 cases of cervical cancer and 264 000 cervical cancer deaths each year;
- Infertility – sexually transmitted infections, such as gonorrhoea and chlamydia, are important causes of infertility worldwide;
- HIV risk – the presence of a sexually transmitted infection, such as syphilis, gonorrhoea, or herpes simplex virus infection, greatly increases the risk of acquiring or transmitting HIV infection (by two to three times, in some populations);
- The physical, psychological and social consequences of sexually transmitted infections severely compromise the quality of life of those infected.

* Most recent estimates are for 2012.

STIs have a profound impact on sexual and reproductive health worldwide.

More than 1 million STIs are acquired every day. Each year, there are estimated 357 million new infections with 1 of 4 STIs: chlamydia (131 million), gonorrhoea (78 million), syphilis (5.6 million) and trichomoniasis (143 million). More than 500 million people are living with genital HSV (herpes) infection. At any point in time, more than 290 million women have an HPV infection, one of the most common STIs.

STIs can have serious consequences beyond the immediate impact of the infection itself.

- STIs like herpes and syphilis can increase the risk of HIV acquisition three-fold or more.
- Mother-to-child transmission of STIs can result in stillbirth, neonatal death, low-birth-weight and prematurity, sepsis, pneumonia, neonatal conjunctivitis, and congenital deformities. Over 900 000 pregnant women were infected with syphilis resulting in approximately 350 000 adverse birth outcomes including stillbirth in 2012.
- HPV infection causes 528 000 cases of cervical cancer and 266 000 cervical cancer deaths each year.
- STIs such as gonorrhoea and chlamydia are major causes of pelvic inflammatory disease (PID) and infertility in women.

## 1.3 Purpose of the guidelines

Since the publication of the World Health Organization (WHO) Guidelines for the management of sexually transmitted infections in 2003, changes in the epidemiology of STIs and advancements in prevention, diagnosis and treatment necessitate changes in STI management.

Updated global guidance reflecting the most recent evidence and expert opinion is therefore needed to assist countries to incorporate new developments into an effective national approach to the prevention and treatment of STIs.[4]

In its aim to ensure that people from Samoa receives the quality of standards at par with the global recommendations, the Samoa Ministry of Health took a decision to update the national STI diagnosis and treatment guidelines in August 2017 to incorporate in particular the most recent recommendations from the 2016 WHO treatment guidelines on Chlamydia, Gonorrhea and Syphilis. This current version updates the Evidence based guidelines for the management of STI in Samoa that was developed in 2007 and the 2012 Pacific STI Guidelines released by SPC that was an adaptation of the 2009 WHO comprehensive syndromic STI case management guideline.

**The STI guideline is being promoted to ensure standard quality approach to STI case management (diagnosis and treatment)by all health care workers offering STI services.**

Specifically, the guidelines will assist health care workers dealing with patients with STIs to:

- Make a correct diagnosis;
- Provide effective treatment;
- Reduce/prevent future risk-taking behaviour;
- Advise on treatment compliance;
- Promote and provide male and female condoms as dual protection (STI and HIV and Family Planning);
- Ensure sexual partners are notified and appropriately treated; and
- Ensure information system is strengthened and data updated and used as evidence to inform prevention and treatment programmes.

The guideline is primarily designed for use by national public health officials and managers of the national HIV and STI programme, Non-Government Organizations (NGOs) including Community-Based

[4] http://apps.who.int/iris/bitstream/10665/246114/1/9789241549691-eng.pdf?ua=1

Organizations (CBO), Faith Based Organizations (FBO) and Civil Society Organizations (CSO), and health workers engaged in the provision of quality comprehensive STI case management.

Private practitioners and clinics will be encouraged to follow the same guideline in order to ensure standards of care are received by all people of Samoa regardless which service facilities they accessed the STI services.

Further, through this updated guidelines, Hepatitis Programme and its link to Immunization Programme (for both adults and adolescents) can be strengthened.

## 1.4 Guiding principles

### 1.4.1 Public health approach

Following the WHO's public health approach, this guideline was developed to prevent disease, promote health and ensure quality of life of the people in Samoa. It promotes the principles of Health in all policies. It aims to ensure widest possible access to high quality services at the population level, based on simplified and standardized interventions and services that can be easily scaled up.

### 1.4.2 Human rights based

The guideline is based on broad human rights principles reflected in a number of international agreements. This is particularly important in the context of social exclusion of key populations, for whom limited HIV and STI services are available and remain excluded from access to other health related services, or such access is hampered by pervasive stigma, discrimination and criminalization.

Implementation of this guideline will be anchored on setting systems that will allow better access of STI and HIV services by our key populations at higher risk.

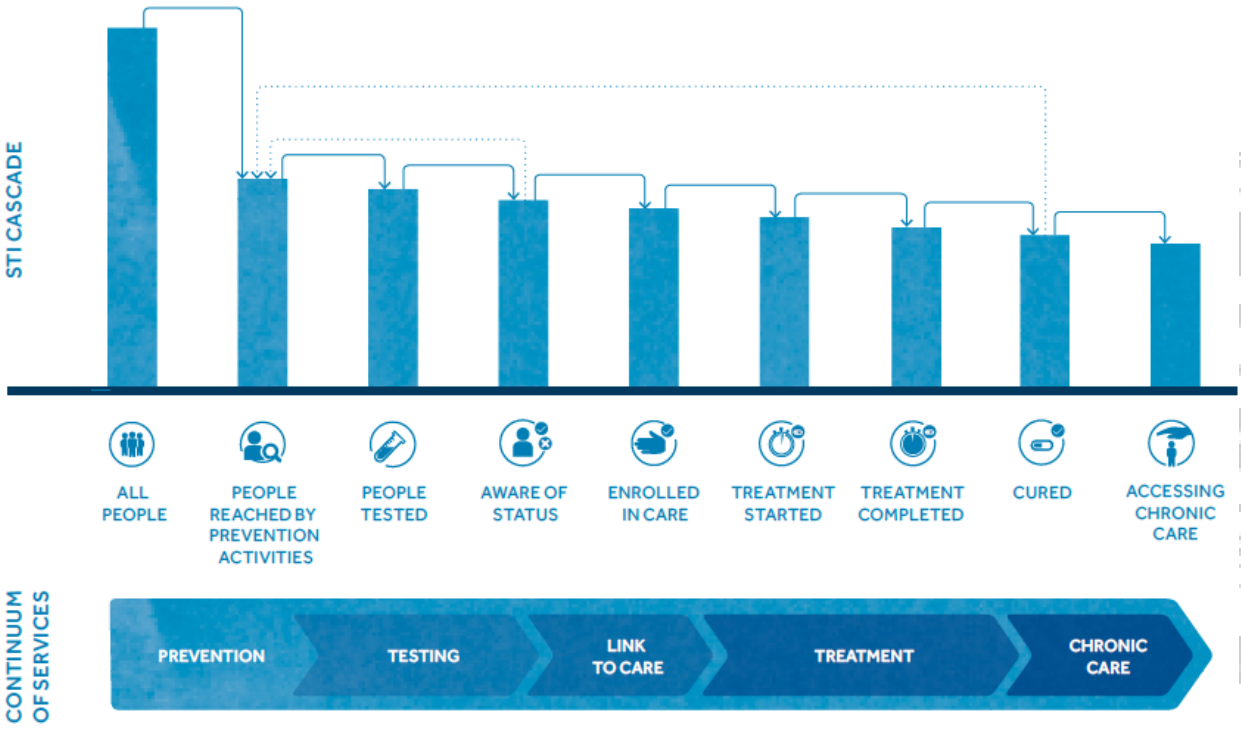
### 1.4.3 Gender equality

Over the years, the HIV epidemic has helped health systems to recognize that there are differences between sex and age manifestations of diseases and as such delivery of service should recognize these differences. Different populations may require different sets of interventions and different types of services. Comprehensive approaches should include, men, women, girls, boys, as well as, key populations at higher risk such as MSM, transgender people and sex workers.

### 1.4.4 Continuum of services

The health system should take into account the need for putting in place continuum of prevention, treatment, care and support services. In addition, it needs to explore most feasible means for integration of STI and HIV prevention, treatment, care and support services and activities into other related health services such as RMNCAH, TB, NCD and Hepatitis in order to ensure that total and complete "health for all" is provided, with strong consideration for funding availability from the government for these programmes.

***Fig 1.4.4.1: The continuum of sexually transmitted infection services and the cascade***




Source:GLOBAL HEALTH SECTOR STRATEGY ON SEXUALLY TRANSMITTED INFECTIONS 2016–2021 (Page 21)

### 1.4.5 Universal health coverage (UHC)

Reaching all populations with appropriate services means in addition to effectively meeting the needs of the general population, reaching specific populations in different settings and locations with the most appropriate interventions will be critical. Services need to be made available, accessible, acceptable and of good quality to everyone who needs it at the time they need it and without resulting to out-of-pocket expenses that depletes the family's income/resources.

# CHAPTER 2

# STI PREVENTION

# CHAPTER TWO: STI PREVENTION

## 2.1 Primary key prevention

Primary prevention activities are essentially the same for STIs and sexually transmitted HIV because the primary mode of transmission for both is sexual intercourse.

Two key prevention approaches are counselling and behavioural approaches and the use of barrier methods.

**1. Counseling and behavioural approaches include:**

- Comprehensive sexuality education, specifically for sexually active people and pre and post-test counselling
- Safer sex or risk reduction counselling and innovative condom promotion
- Interventions for impact that focus on key populations at higher risk, men having sex with men, transgender people, sex workers and people who inject drugs and the sexually active people
- Education and counselling tailored to the needs of young people

Counseling can also improve people's ability to recognize symptoms of STIs and increase likelihood to either seek care or encourage sexual partner to do so. However, lack of awareness and stigma surrounding STI remain as barriers in making this intervention more effective.

**2) Barrier method**

Correct and consistent uses of condoms offer one of the most effective methods of protection against sexual transmission of STI and HIV.

Male and female condom programming for dual protection of STI and unintended pregnancies is very important.

Information campaigns targeted on specific audience offer most benefits and generate better outcomes.

Most of the prevention messages will apply to both HIV and conventional STIs but the educational messages which specifically relate to STIs will include:

- Information about the different STIs
- Information that early treatment is necessary to avoid complications and permanent sequelae;

- Information that symptoms and signs may not be noticed, particularly in women, until complications appear;
- Description of recognizable signs and symptoms;
- List of places where STI diagnosis and management can be obtained, including link to HIV testing services;
- Assurance that wherever services are obtained in the public sector privacy, confidentiality and respect are guaranteed;
- Advice on assessing one's personal risk of having acquired an STI, and also that of sexual partner(s).

This guideline recommends that in order to provide realistic, acceptable and culturally appropriate STI messages, it is important to appreciate the knowledge, attitudes and practices of the audience. Simple research should be done to obtain information from communities including:

- Knowledge and perceptions of the importance of STIs;

*Available in the ICHAP 2017 Survey Report (http://www.health.gov.ws/component/content/article/106-health-surveys-statistics/201-integrated-community-health-approach-program-survey-2017-2?Itemid=437 )*

- *Health care seeking behaviour; and*
- *Constraints to seeking STI care.*

## 2.2 Secondary prevention

Secondary prevention entails the provision of treatment and care for infected and affected persons. The activities should include:

- Promotion of health care-seeking behaviour directed not only to those with symptoms of STIs, but also to those at increased risk of acquiring STIs, including HIV infection;
- The provision of clinical services that are available, accessible, acceptable and of good quality and which offer diagnosis and effective treatment for both symptomatic and asymptomatic patients with STIs, and their partners; and
- Support and counselling services for both STI and HIV clients

## 2.3 Prevention of STI from sexual assault

For STI prevention and treatment in the context of sexual assault and rape, treatment will depend on how soon after the incident the survivor presents to the health service point. Follow the steps in Part A if she presents within 72 hours of the incident; Part B is applicable to survivors who present more than 72 hours after the incident. Male survivors require the same vaccinations and STI treatment as female survivors.

*See HIV, AIDS, and STI Policy 2017-2022, Section 5 - Gender Based Violence and Sexual Reproductive Health Services*

**A) If the survivor presents within 72 hours from the incident:**

- Survivors of rape should be given antibiotics to treat gonorrhoea, chlamydial infection and syphilis.
- If evidence / data show that other STIs are prevalent in the area (such as trichomoniasis or chancroid), give preventive treatment for these infections as well.
- Give the shortest courses available in the local protocol, which are easy to take.
- Preventive STI regimens can start on the same day as emergency contraception and post-exposure prophylaxis for HIV(PEP), although the doses should be spread out (and taken with food) to reduce side-effects, such as nausea.
- Be aware that women who are pregnant should not take certain antibiotics, and modify the treatment accordingly (see WHO-recommended STI treatment regimens)

**B) If the survivor presents more than 72 hours after the incident:**

- If the laboratory screening for STIs reveals an infection, or if the person has symptoms of an STI, follow the same protocols for treatment.

Recommended STI prophylaxis / treatment regimens please refer to Treatment section of this guidelines, on **treatment of specific STI.**

# CHAPTER 3

# COMPREHENSIVE STI CASE MANAGEMENT (Diagnosis and Treatment)

## CHAPTER THREE: COMPREHENSIVE STI CASE MANAGEMENT

STI case management aims to provide rapid and effective treatment to patients presenting with symptoms in order to break the chain of infection.

Breaking the chain of infection means treating as many sexual partners of people with STI as can be identified.

Comprehensive STI case management should include the following services:

- Making a diagnosis of the STI
- Providing antibiotics for the infection
- Provision of education on treatment compliance, nature of infection, inter-relationships between STI and HIV infections, and ways in which to reduce the risk of becoming infected in the future
- Provision of counselling for behaviour change after carrying out an assessment of the patient's risk of infection and addressing risk reduction
- Promoting condom use, educating on the correct and consistent use of condoms, providing the patient with a supply of condoms and giving information on where condoms can be accessed. This applies to both male and female condoms
- Arranging for partners to be examined and treated
- Offering provider initiated testing and counseling for HIV
- Arranging for a follow-up examination

### 3.1 STI service delivery points

STI service delivery points are categorized into public sector and the private sector which both have to be regulated by standard guidelines for quality service provision.

The following will be the facilities where this treatment guideline will be implemented

**The public sector:**

- All dispensaries
- All health centers
- All hospitals
- All mobile clinics or community outreach events
- All facilities where VCCT services are offered
- Immigration health screenings
- Blood bank and donation facilities

**The private sector:**

- Private clinics and provider offices
- Civil society organizations
- faith-based organizations

# DIAGNOSIS

## 3.2 STI diagnosis approaches

Accurate diagnostic tests for STIs are widely used in high income countries. These are especially useful for the diagnosis of asymptomatic infections. However, in low-and middle income countries diagnostics tests are largely unavailable. Where testing is available, it is often expensive and geographically inaccessible (patients may either need to wait long time or need to come back to get the test results).

Thus, different approaches to STI diagnosis are considered based on country's health system capacity to deliver the services. Decision on which approach to apply depends on availability of resources, commodities and trained personnel.

- Clinical diagnosis
- Syndromic diagnosis
- Etiological diagnosis

**"Good history taking is essential to correct diagnosis"**

[5]**Regardless of what approach to STI diagnosis is used, it will all start with a good history taking. This needs to take into account the following:**

**#1 Setting**


- The layout of the consulting room can assist and facilitate establishing rapport with patients.
- Avoid having obstacles between attending service provider and the patient.
- Greet patient with a welcoming smile. Take care with the opening greeting, as this can set the scene for what follows. It may assist or inhibit rapport.
- Generally, it helps to be warm and welcoming so as to put the patient at ease.
- Good eye contact, shaking hands with the patient and showing an active interest in the patient should help to establish trust and encourage honest and open communication.

[5]http://patient.info/doctor/history-taking

- Take care not to let the computer intrude on the consultation. This can be difficult when there is useful information available on a screen. Make use of the time before and after consultations to obtain information from the computer.

**#2 Listening skills**

- Be genuinely interested and attentive to what the patient is saying. Give the patient a chance to tell you their pre-constructed narrative, rather than diving in with a series of questions to delineate detail

**#3 Type of questions**

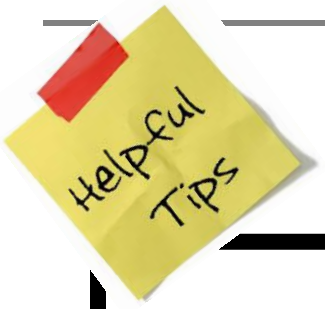
- Use open questions to allow patients to express what is on their mind. It is important not to suggest or prompt what is the right or expected answer.
- Questions with multiple answers should be used with care. This technique may lead to danger of getting the answer you wanted rather than what the patient meant.
- Leading questions should be avoided. They tend to lead the patient down an avenue that is framed by your own assumptions.

**#4 Summarizing**

- After taking the history, it is useful to give the patient a run-down of what they've told you as you understand it.
- If there is a nod of approval or expressed agreement with the story then it is fairly certain you're getting what the patient wanted to tell you.
- If not, then you may need to try another approach. This technique can avoid incorrect assumptions by the attending health service provider.

**#5 Sharing understanding**

- It is always a good idea to ask the patient if there is anything they want to ask you at the end of a consultation. This can help you to impart further information if there is something they have not understood and it can reveal something that has been troubling them that hasn't been touched upon or got to the bottom of. It is an opportunity to confirm that a shared understanding has been reached between attending service provider and patient.




In doing history taking, make sure that you elicit information on the following:

- ✓ What is the chief or presenting complaint?
- ✓ Get complete history of presenting complaint, including laboratory tests done, treatment and referrals already arranged and provided.
- ✓ Past medical history: significant past diseases/illnesses, surgery, including complications, trauma.
- ✓ Drug history: past, present or currently taking, prescribed and over-the-counter, allergies, adverse reactions
- ✓ Family history: especially parents, siblings and children.
- ✓ Social history: smoking, alcohol, drugs, accommodation and living arrangements, marital status, baseline functioning, occupation, pets and hobbies.
- ✓ Systems review: cardiovascular system, respiratory system, gastrointestinal system, nervous system, musculoskeletal system, genitourinary system.

In addition,

- ✓ Try to let patients tell you their story freely.
- ✓ When you use questions, try to keep them as open as possible.
- ✓ Use all your senses to listen.
- ✓ Check that what **you** think is wrong is what **your patient** thinks is wrong.
- ✓ Keep an open mind and always ask yourself if you are making assumptions.
- ✓ Be prepared to reconsider the causes of symptoms that you or a colleague has decided upon.

### 3.2.1 Clinical Diagnosis

This is the approach of using clinical experience to identify the symptoms typical to a specific STI. Clinical diagnosis is entirely dependent on the clinician making a decision on what the patient has. It is not a very reliable method as the patient may have more than one infection at a time.

**This section describes clinical diagnosis of three STIs only, Gonorrhoea, Chlamydia and Syphilis.**

The following should be noted when using this approach:

- The healthcare giver treats STIs based on the clinical presentation
- The diagnosis is influenced by the patient's complaints, the presenting symptoms, as well as the professional experience of the individual healthcare giver.
- A patient with multiple infections needs to be treated for each of them. It must be noted that different STIs cause similar symptoms, so the care giver may pick the wrong one to treat. Mixed infections are common and the care giver may diagnose only one of them when using this approach. Failure to treat one infection may lead to the development of complications and the continued transmission of that STI.

***Table 3.2.1.1: Clinical manifestations of gonococcal infections***

**Table 4.1: Clinical manifestations of gonococcal infections[a]**

| Uncomplicated gonorrhoea[a] | |
|---|---|
| Urethra | • Copious, purulent discharge<br>• Scant, clear discharge<br>• Dysuria |
| Cervix | • Red, friable cervical os<br>• Purulent discharge from os<br>• Dysuria<br>• Salpingitis<br>• Bilateral or unilateral lower abdominal tenderness |
| Rectum | • Copious, purulent discharge<br>• Burning/stinging pain<br>• Tenesmus<br>• Blood in stools |
| Pharynx | • Mild pharyngitis<br>• Mild sore throat<br>• Erythema |
| Conjunctiva | • Copious, purulent discharge<br>• Keratitis and corneal ulceration; perforation, extrusion of lens<br>• Scarring; opacification of lens<br>• Blindness |

| Complicated gonorrhoea[b] | |
|---|---|
| Male complications | • Penile oedema<br>• Tyson's glands abscess<br>• Cowper's glands abscess<br>• Seminal vesiculitis<br>• Epididymitis<br>• Infertility (rare) |
| Female complications | • Endometritis<br>• Salpingitis<br>• Bartholin abscess<br>• Lymphangitis<br>• Tubo-ovarian abscess<br>• Ectopic pregnancy<br>• Infertility |
| Disseminated gonococcal infection (DGI) | • Bacteremia<br>• Fever<br>• Dermatitis (skin lesions: macular, erythematous, pustular, necrotic, haemorrhagic)<br>• Tenosynovitis<br>• Joints; septic arthritis<br>• Endocarditis<br>• Meningitis |

[a] As noted above, gonococcal infection may be asymptomatic, particularly in women, and in the pharynx and rectum.
[b] Epidemiological and biological studies provide strong evidence that gonorrhoea significantly facilitates HIV transmission.

***Source: Laboratory diagnosis of sexually transmitted infections, including human immunodeficiency virus, Page 22***

***Table 3.2.1.2: Clinical manifestations of infection with C. trachomatis***

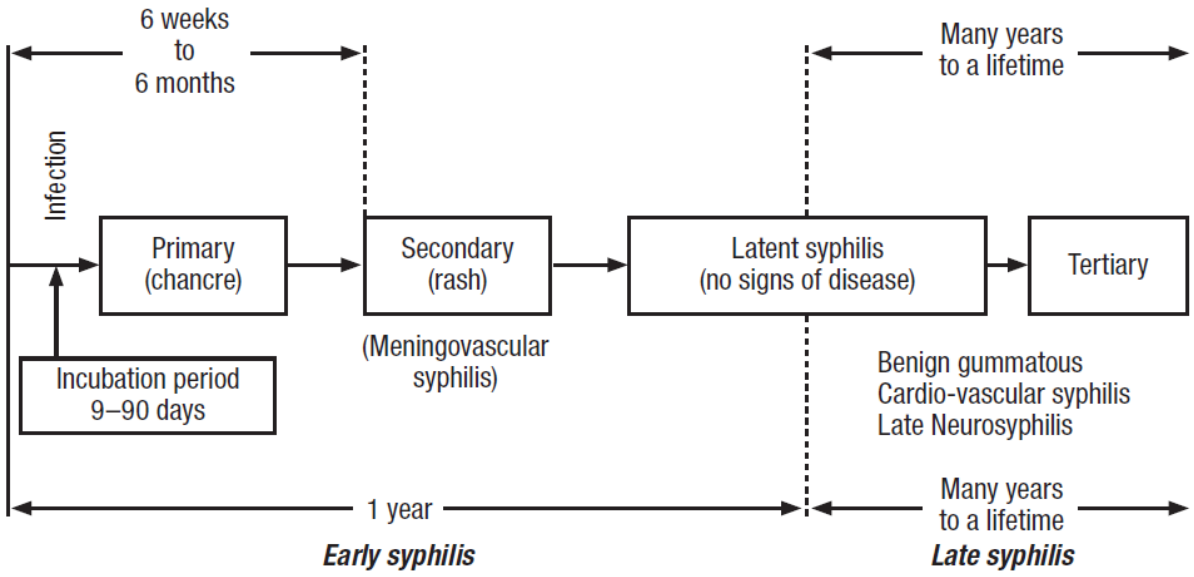
**Clinical manifestations of infection with *C. trachomatis***

| Genital infection | Primary | Sequelae |
|---|---|---|
| Women | Cervicitis, copious purulent discharge, firable cervix, dysuria, pelvic pain, cervical motion tenderness | Pelvic inflammatory disease, ectopic pregnancy, salpingitis, tubal factor infertility |
| Men | Urethral discharge, dysuria, testicular pain | Epididymitis, prostatitis |
| **Non-genital infections** | **Primary** | **Sequelae** |
| Rectal | Discharge, rectal pain, blood in stool | Proctitis |
| Oropharyngeal | Pharyngitis, mild sore throat | |
| Lymph nodes | Lymphatic inflammation | |
| Ocular | Conjunctivitis | Scarring, blinding trachoma |
| Neonatal pneumonia | Pneumonia | |

Note: Studies have provided evidence that *C. trachomatis* infection may facilitate HIV transmission; however, the odds ratios have been relatively low.

***Source: Laboratory diagnosis of sexually transmitted infections, including human immunodeficiency virus, Page 56***

***Figure 3.2.1.1 Clinical manifestation of Syphilis***




**Schematic representation of the course of untreated syphilis**

### 3.2.2 Syndromic Diagnosis

This is the approach of identifying the clinical pattern of signs and symptoms that a patient has, and putting these together as a syndrome. The patient is treated for all the common causes of that pattern of symptoms and signs. This approach is recommended for low resource settings with high STI burden such as Samoa.


**to note about this approach:**

- A syndromic diagnosis can only be made in persons presenting with symptoms and/or signs of STIs.
- The pattern of symptoms and signs is identified after taking a history from the patient and after examining the patient
- In persons with STIs, both Neisseria Gonorrhoea and Chlamydia trachomatis bacteria produce a similar set of signs and symptoms in both men and women. A common presentation of both these organisms is urethral discharge and/or dysuria in men, and vaginal discharge and/or dysuria in women
- Clinically it is not possible to differentiate between the signs and symptoms produced by Gonorrhoea and those produced by chlamydia. Hence it is advisable to treat patients with the discharge/dysuria syndrome for both Gonorrhoea and Chlamydia in the first instance.
- When it comes to vaginal discharge / dysuria syndrome, there are a number of other causes as well, and efforts should be made to try and exclude other causes.
- Patients will be treated for more than one infection each time

While the different approaches are mentioned in this guideline, Samoa will be implementing the STI Syndromic Case Management at all levels of the health care system, specifically in health facilities with limited capabilities for laboratory and/or etiologic diagnosis.

***Table 3.2.2.1: Signs and symptoms of STI syndromes and their causes***

| Syndrome | Flowchart(s) Reference | Symptoms | Signs | Most common causes |
|---|---|---|---|---|
| 1. Urethral discharge | FLOW CHART 3.3.1.1a: URETHRAL DISCHARGE<br>FLOW CHART 3.3.1.1b: Persistent/Recurrent URETHRAL DISCHARGE | Urethral discharge<br>Dysuria<br>Frequent urination | Urethral discharge (if necessary ask patient to milk urethra) | Gonorrhoea<br>Chlamydia |
| 2. Anorectal discharge or ulcer | FLOW CHART 3.3.1.2a: Anorectal Infections<br>FLOW CHART 3.3.1.2b: Persistent/Recurrent Anorectal Infections | Pain in anorectal area<br>Anal discharge | Anal discharge ulcer | Gonorrhoea<br>Chlamydia |
| | | Pain in anorectal area | Anorectal ulcer | LGV |
| 3. Genital ulcer | FLOW CHART 3.3.1.3 Genital Ulcer | Genital sore | Genital ulcer | Syphilis<br>Chancroid<br>Genital herpes |
| 4. Inguinal bubo | FLOW CHART 3.3.1.4 Inguinal bubo | Painful enlarged inguinal lymph nodes | Enlarged inguinal lymph nodes<br>Fluctuation<br>Abscesses or fistulae | LGV<br>Chancroid |
| 5. Scrotal swelling | FLOW CHART 3.3.1.5 Scrotal swelling | Scrotal pain and swelling | Scrotal swelling | Gonorrhoea<br>Chlamydia |
| 6. Vaginal discharge | FLOW CHART 3.3.1.6a Vaginal discharge<br>FLOW CHART 3.3.1.6b Vaginal discharge: Bimanual & Speculum, with or without Microscope<br>FLOW CHART 3.3.1.6c Vaginal discharge Bimanual & Speculum, and Microscope | Unusual vaginal discharge<br>Vaginal itching<br>Dysuria (pain on urination)<br>Dyspareunia (pain during sexual intercourse) | Abnormal vaginal discharge | VAGINITIS:<br>Trichomoniasis<br>Candidiasis<br>CERVICITIS:<br>Gonorrhoea<br>Chlamydia |
| 7. Lower abdominal pain | FLOW CHART 3.3.1.7 Lower Abdominal Pain | Lower abdominal pain<br>Dyspareunia | Vaginal discharge<br>Lower abdominal tenderness on | Gonorrhoea<br>Chlamydia<br>Mixed anaerobes |

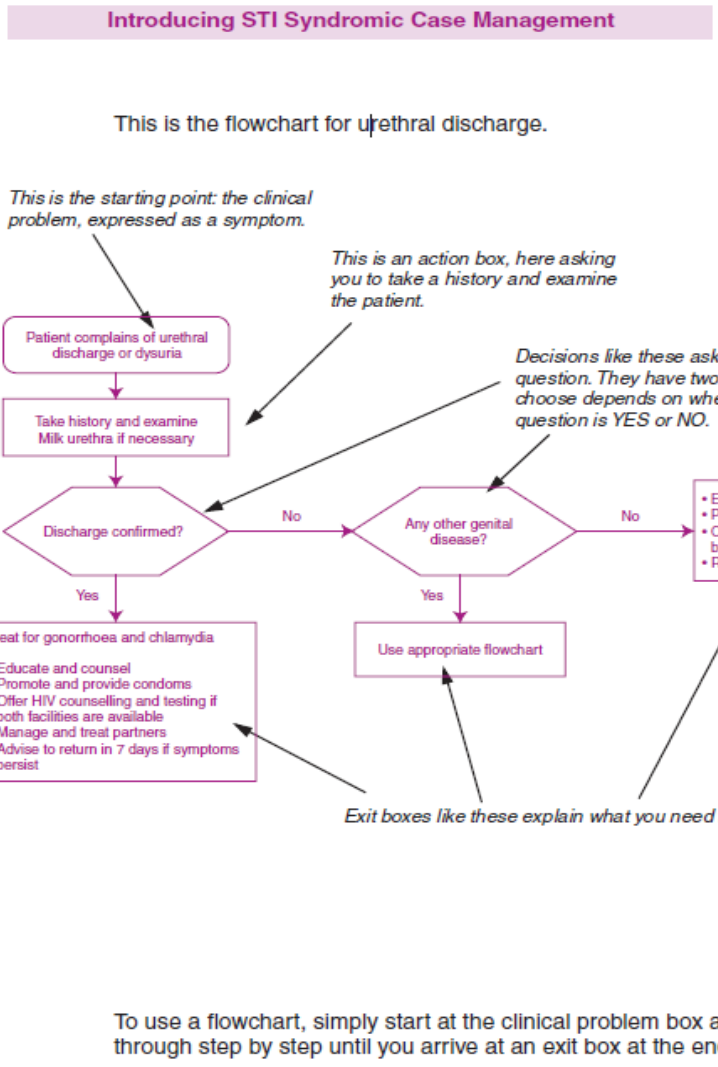
| | | | | |
|---|---|---|---|---|
| | | | palpation<br>Temperature >38 | |
| 8. Neonatal conjunctivitis | FLOW CHART 3.3.1.8 Neonatal conjunctivitis | Swollen eyelids<br>Discharge<br>Baby cannot open eyes | Oedema of the eyelids<br>Purulent discharge | Gonorrhoea<br>Chlamydia |

.

**The aim of syndromic management is to identify one of these syndromes and manage it accordingly**

**The STI Syndromic Case Management uses flowcharts that cover diagnosis, treatment and further management needed. In order to make a diagnosis, a specific flowchart should be followed. All flowcharts are shown under the Treatment Section.**

**Figure 3.2.2.1 Introduction to the use of flowchart:**




**Please refer to flowchart for specific syndrome under the Treatment Section (3.3.3. Treatment of Specific Syndrome)**

### 3.2.3 Etiologic (Laboratory confirmed) Diagnosis

This is the approach of using laboratory tests to identify the causative agent. It is the ideal approach in medicine as it accurately identifies the cause of the patient's symptoms and signs. It is also effective in screening and diagnosing asymptomatic infections, specifically among women.

**This section describes etiologic diagnosis of three STIs only, Gonorrhea, Chlamydia and Syphilis**

When using etiological diagnosis, the following must be considered:

- There must be skilled / trained personnel and consistent support and supplies. Since such resources are often not available in primary health care settings where most STI patients are seen, patients samples must be taken to facilities where testing is available.
- Treatment may not begin until the results are available. This usually requires patients to wait and revisit the health facility. In this situation, infected individuals may continue to transmit the infection to others and may be unwilling to return for follow-up. Therefore, it is recommended that in settings where laboratory tests are conducted, patients should be treated syndromically at first visit.
- Laboratory tests are recommended for asymptomatic persons especially pregnant women

**Some of the types of laboratory Tests for STIs**

While there are laboratory tests that are available in the market to diagnose specific STIs, not all tests are currently available in country. Some tests are either very expensive (Chlamydia test), some require sophisticated equipment and highly skilled staff to perform the tests. This guideline will however cover all existing types of laboratory tests, categorizing them into reliable laboratory tests that can be conducted at health centre level, and sophisticated laboratory tests that can only be conducted in higher facilities with sophisticated equipment and skilled personnel.

**The following are the reliable Rapid Diagnostic Tests that may be conducted at the health centre level, provided that testing kits and some equipment are available:**

1. Rapid test for anti-treponemal antibody for the diagnosis of Syphilis: This test may be carried out at the health centre while the patient waits for the result. A positive test result simply indicates the presence of anti-treponemal antibody and does not indicate how long ago the patient became infected. Therefore, a quanititative non-specific Syphilis test is required.

2. A microscopic examination of a gram stained smear of urethral secretions: Conducting a microscopic examination of a gram stained smear of urethral secretions obtained from men may show gram-negative intracellular diplococci, which are highly suggestive of gonococci, allowing a presumptive diagnosis of gonorrhoea to be made. However, a negative microscopic examination result does not exclude the diagnosis
3. A microscopic examination of wet mounts of vaginal discharge material may show live motile trichonomads, allowing a diagnosis of trichomoniasis to be made.
4. If wet mounts of vaginal discharge reveal clue cells, it suggests that the patient has bacterial vaginosis, or yeast and pseudohyphae, both of which are causative agents of reproductive tract infections.

**Some STI tests that require transferring specimens to a laboratory with alot more equipment and trained laboratory staff include the following:**

1. **Syphilis** - Treponema pallidum, the causal agent of syphilis may be visualised microscopically in freshly obtained material from genital ulcers using dark field microscopy. Serologic tests for syphilis include specific (or anti-treponemal antibody tests) such as the Treponema Pallidum Haemaglutination Assay (TPHA), and non-specific (reagin tests) such as the Venereal Disease Research Laboratory Test (VDRL) and the Rapid Plasma Reagin (RPR) test. Again, a negative result does not exclude the diagnosis.

2. **Gonorrhoea** - microscopic examination of gram stained smears of secretions, laboratory culture and isolation of the organisms, and identification of the cultured organisms using biomedical tests. Cultured organisms are also tested for their sensitivity to various antibiotics. The Nucleic Acid Amplification Tests (NAAT) such as the Polymerase Chain Reaction (PCR) and the gene probe assays can be performed on genital specimens.

3. **Chlamydial infection** - culture of organisms requires a laboratory where viral cultures can be done, as this organism can be cultured only on living cell lines. However there are a number of NAATs now available and these can be performed in the laboratory, provided the laboratory has the capacity to perform PCR testing and gene probe assays.

***Table 3.2.3.1: Common diagnostic tests (as of June 2012) for detection of N. gonorrhoeae***

| | Microscopy[a] | Culture | NAAT |
|---|---|---|---|
| **Specimen types** | | | |
| Endocervical swab | Yes[a] | Yes | Yes |
| Vaginal swab | No | Yes[b] | Yes (some assays) |
| Urine<br>Female<br>Male | <br>No<br>No | <br>No<br>No | <br>Yes[c]<br>Yes |
| Urethral swab | Yes[a] | Yes | Yes |
| Rectal swab | No | Yes | No[d] |
| Oropharyngeal swab | No | Yes | No[d] |
| Conjunctival swab | Yes | Yes | No[d] |
| **Performance** | | | |
| Sensitivity[e] | Low–high[a] | Moderate–high | Very high |
| Specificity[e] | Moderate–high[a] | Very high | Moderate–very high |
| **Other considerations** | | | |
| Cost | Low | Moderate | High–very high |
| Instrumentation | Microscope | Routine microbiology | Large footprint |
| Throughput/automation | Moderate/no | Moderate/no | High/possible |
| Technical complexity | Low | Moderate | High |
| Level of laboratory infrastructure | Peripheral | Peripheral–intermediate | Intermediate–central |
| Multiple pathogens from one sample | No | No | *C. trachomatis*, *T. vaginalis*, and HPV on some platforms |
| Other comments | | • Strict sample collection, transportation, and storage are crucial to maintaining viability<br>• This is the only method that allows antimicrobial susceptibility testing. | • NAATs generally have a superior sensitivity compared to culture, especially for pharyngeal and rectal samples. However, the specificity can be suboptimal, and confirmation using supplementary NAAT may be required. |

HPV, human papillomavirus; NAAT, nucleic acid amplification test.

[a] Microscopy has high sensitivity and specificity in symptomatic men (with urethritis), low sensitivity in asymptomatic men, and endocervical infections, and is not recommended for vaginal, urine, rectal, or pharyngeal specimens.

[b] Not an ideal specimen, mainly applied for prepubertal girls or women who have had a hysterectomy.

[c] Urine is not the ideal sample, due to suboptimal sensitivity, for detection of *N. gonorrhoeae* in women.

[d] There are no internationally licensed NAAT for use with extra-genital samples, but there is increasing evidence that NAATs are more sensitive than culture at these sites. It is recommended that a positive NAAT test for rectal and pharyngeal specimens be confirmed with a supplementary test (NAAT with another target sequence) to avoid false-positive results.

[e] Sensitivity and specificity estimates vary widely depending on the different sensitivity and specificity of assays of the same methodology as well as assays used for comparison (the "gold standard").

***Source: Laboratory diagnosis of sexually transmitted infections, including human immunodeficiency virus, Page 23***

***Table 3.2.3.2: Sample collection, transportation, and storage for N. gonorrhoeae***

| Anatomic site | Collection device | Sampling procedure | Microscopy | Culture | NAAT |
|---|---|---|---|---|---|
| Endocervix | Swab/plastic[a] (OR endocervical brush OR assay-specific collection kit for NAATs) | Use a vaginal speculum and clean the ectocervix. Insert swab 2–3 cm and rotate for 5–10 seconds. | Roll onto slide (thin layer) and air dry<br><br>The sensitivity for endocervical samples is suboptimal. | Bed-side inoculation should be performed on selective gonococcal medium and incubated immediately. If bed-side collection is not performed, gonococcal non-nutritive transport medium or nutritive transport medium should be used.[b]<br><br>Specimens in non-nutritive transport medium should be inoculated at laboratory as soon as possible and within 48 hours at the latest | Place into manufacturer's collection device. Transport and store according to manufacturer's instructions. If transport medium is not available from manufacturer, use appropriate transport medium stabilizing the nucleic acid, e.g. GeneLock tubes. |
| Urethra (collected ≥1 hour after last void) | Swab/ aluminium[c] (OR assay-specific collection kit for NAATs) | Collect discharge directly on a swab. Insert swab 2–3 cm into the urethra and gently rotate for 5–10 seconds. | Roll onto slide (thin layer) and air dry | Transportation and storage, see endocervical sample for culture. | Transportation and storage, see endocervical sample for NAAT. |
| Vagina | Swab/plastic[a] (OR assay-specific collection kit for NAATs) | Clinicians or patients can obtain samples. Rotate swab against all posterior vaginal walls for 5 seconds. | NA | Used for prepubertal girls or women who have had a hysterectomy.<br><br>Transportation and storage, see endocervical sample for culture. | Transportation and storage, see endocervical sample for NAAT.[d] |
| Urine (collected ≥1 hour after last void) | Sterile urine cup | Patient should not clean the genital area. Catch first void urine (less than 25 ml in general). | NA | NA | Transportation and storage, see endocervical sample for NAAT. |

*Source: Laboratory diagnosis of sexually transmitted infections, including human immunodeficiency virus, Page 26*

***Table 3.2.3.2: Sample collection, transportation, and storage for N. gonorrhoeae (continued)***

| Anatomic site | Collection device | Sampling procedure | Microscopy | Culture | NAAT |
|---|---|---|---|---|---|
| Rectum | Swab/plastic[a] (OR assay-specific collection kit for NAATs) | Insert swab 2–3 cm into the rectum and rotate it against all the rectal walls for 10 seconds. | NA | Transportation and storage, see endocervical sample for culture. | Transportation and storage, see endocervical sample for NAAT.[d] |
| Oropharynx | Swab/plastic[a] (OR assay-specific collection kit for NAATs) | Swab the posterior pharynx and the tonsillar crypts. | NA | Transportation and storage, see endocervical sample for culture. | Transportation and storage, see endocervical sample for NAAT.[d] |
| Conjunctiva | Swab/ aluminium[c] (OR assay-specific collection kit for NAATs) | Purulent discharge should be removed with a swab. Retract the inferior eyelid. Swab the surface of the inferior palpebral conjunctiva. | Roll onto slide (thin layer) and air dry<br><br>Mainly for neonates. | Transportation and storage, see endocervical sample for culture. | Transportation and storage, see endocervical sample for NAAT.[d] |

NA, not applicable; NAAT, nucleic acid amplification test.

[a] Dacron or rayon swabs on a plastic shaft.

[b] Appropriate *N. gonorrhoeae* non-nutritive transport medium such as Amies or Stuart (stored at 4°C before transport), or nutritive (growth) transport medium like Jembec, Transgrow, Gono-Pak, or InTray GC system (stored at 36±1°C before transport) should be used.

[c] Dacron or rayon swabs on an aluminium shaft.

[d] No gonococcal NAATs are approved yet by the United States of America Food and Drug Administration (FDA) for extra-genital samples; however, for rectal and oropharyngeal specimens, appropriate NAATs have proven more sensitive than culture (*4–6*), and these may be used if appropriate validation data exists.

*Source: Laboratory diagnosis of sexually transmitted infections, including human immunodeficiency virus, Page 27*

***Table 3.2.3.3: Sample collection, transportation, and storage (C. trachomatis)***

| Site | Collection device | Sampling procedure | NAAT | Culture | DFA | POC |
|---|---|---|---|---|---|---|
| Endocervix | Swab/ plastic,[a] liquid cytology brush or broom | Use a cleaning swab to remove excess mucus prior to sample collection. Broom collection is valid for NAAT only. Insert collection device 2–3 cm and rotate swab 360° in the endocervical os. Collection of endocervical cells is critical to DFA procedure. | Place into manufacturer's collection device or use liquid cytology medium. Store and transport according to package insert directions. | Place directly into appropriate chlamydia transport medium (e.g. SPG buffer with antimicrobial inhibitors). Maintain at 4°C for inoculation within 24 h or –70°C for longer storage. | Roll onto slide (thin layer) and air dry. | Place into kit extraction buffer and follow package insert directions. |
| Urethra | Swab/ aluminium[b] | Insert swab 2–3 cm into the urethra and rotate 360°. Collection of cuboidal epithelial cells is critical for DFA. | Place into manufacturer's collection device. Store and transport according to package insert directions. | Place directly into appropriate chlamydia transport medium (e.g. SPG buffer with antimicrobial inhibitors). Maintain at 4°C for inoculation within 24 h or –70°C for longer storage | Roll onto slide (thin layer) and air dry. | Place into kit extraction buffer and follow package insert directions. |

***Source: Laboratory diagnosis of sexually transmitted infections, including human immunodeficiency virus, Page 58***

***Table 3.2.3.3: Sample collection, transportation, and storage C. trachomatis (continued)***

| Site | Collection device | Sampling procedure | NAAT | Culture | DFA | POC |
|---|---|---|---|---|---|---|
| Urine | Sterile urine cup | Do not have patient clean the genital area. Obtain first portion of the void (less than 25 ml in general). | Place into manufacturer's collection device. Store and transport according to package insert directions. | NA | NA | NA |
| Vagina | Swab/ plastic[a] | Clinicians or patients can obtain samples. Rotate the swab to come into contact with the vaginal walls on all sides. | Place into manufacturer's collection device. Store and transport according to package insert directions. Many assays can support "dry swabs" received in no medium. | NA | NA | Follow package insert directions.[c] |
| Rectum | Swab/ plastic[a] | Insert swab 2–3 cm into the rectum and rotate 360°. | No manufacturer currently has a claim for this sample type.[d] Treat as an endocervical sample. Samples may be sent with no media if the assay in use can support this sample type for endocervical specimens. | Place directly into appropriate chlamydia transport medium (e.g. SPG buffer with antimicrobial inhibitors). Maintain at 4°C for inoculation within 24 h or –70°C for longer storage. | Roll onto slide (thin layer) and air dry | NA |

***Source: Laboratory diagnosis of sexually transmitted infections, including human immunodeficiency virus, Page 59***

***Table 3.2.3.3: Sample collection, transportation, and storage C. trachomatis (continued)***

| Site | Collection device | Sampling procedure | NAAT | Culture | DFA | POC |
|---|---|---|---|---|---|---|
| Oropharynx | Swab/ plastic[a] | Swab the posterior pharynx and the tonsillar crypt. | No manufacturer currently has a claim for this sample type.[d] Treat as an endocervical sample. Samples may be sent with no media if the assay in use can support this sample type for endocervical specimens. | Place directly into appropriate chlamydia transport medium (e.g. SPG buffer with antimicrobial inhibitors). | Roll onto slide (thin layer) and air dry | NA |
| Nasopharynx (for suspected cases of neonatal pneumonia) | Swab/ aluminium[b] | Swab the nasopharynx or take tracheobronchial aspirate. | NA | Place directly into appropriate chlamydia transport medium (e.g. SPG buffer with antimicrobial inhibitors). Maintain at 4°C for inoculation within 24 h or –70°C for longer storage. | NA | NA |
| Conjunctiva | Swab/ aluminium[b] | Swab the surface of the inferior palpebral conjunctiva. | NA | Place directly into appropriate chlamydia transport medium (e.g. SPG buffer with antimicrobial inhibitors). Maintain at 4°C for inoculation within 24 h or –70°C for longer storage. | Roll onto slide (thin layer) and air dry | NA |

DFA, direct immunofluorescence assays; NA, not applicable; NAAT, nucleic acid amplification test; POC, point-of-care; SPG, sucrose-phosphate-glutamate.

[a] Dacron or rayon swabs on a plastic shaft.

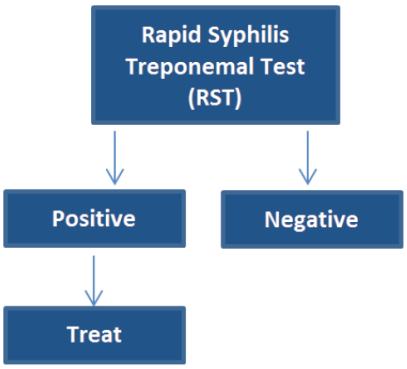
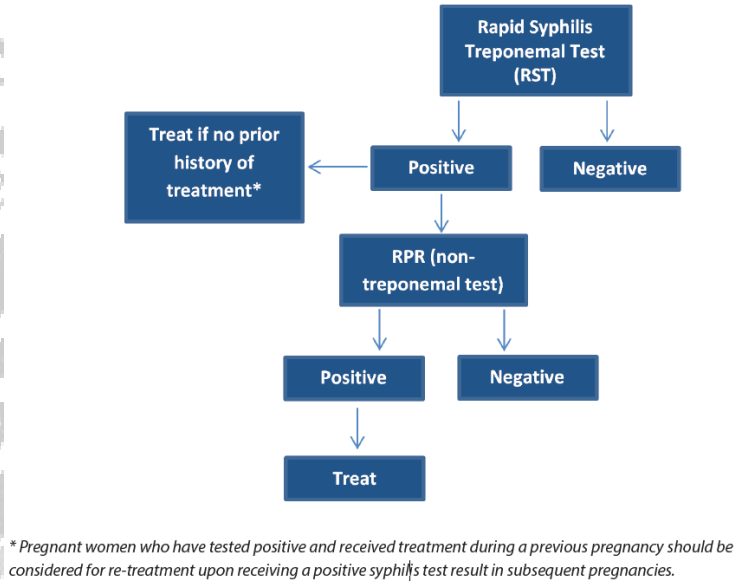
[b] Dacron or rayon swabs on an aluminium shaft.

[c] Only some POC tests are licensed for vaginal specimens.

[d] Data indicate that appropriate NAATs perform well for these sample types, but no manufacturer has a claim for extra-genital specimens.

***Source: Laboratory diagnosis of sexually transmitted infections, including human immunodeficiency virus, Page 60***

***Figure 3.2.3.1: Rapid testing strategy for syphilis***[6]

| WHO interim recommended syphilis testing and treatment strategy for **low prevalence setting** – **below 5%** | WHO interim recommended syphilis testing and treatment strategy for **high prevalence setting** – **above 5%** |
|---|---|
|  |  |



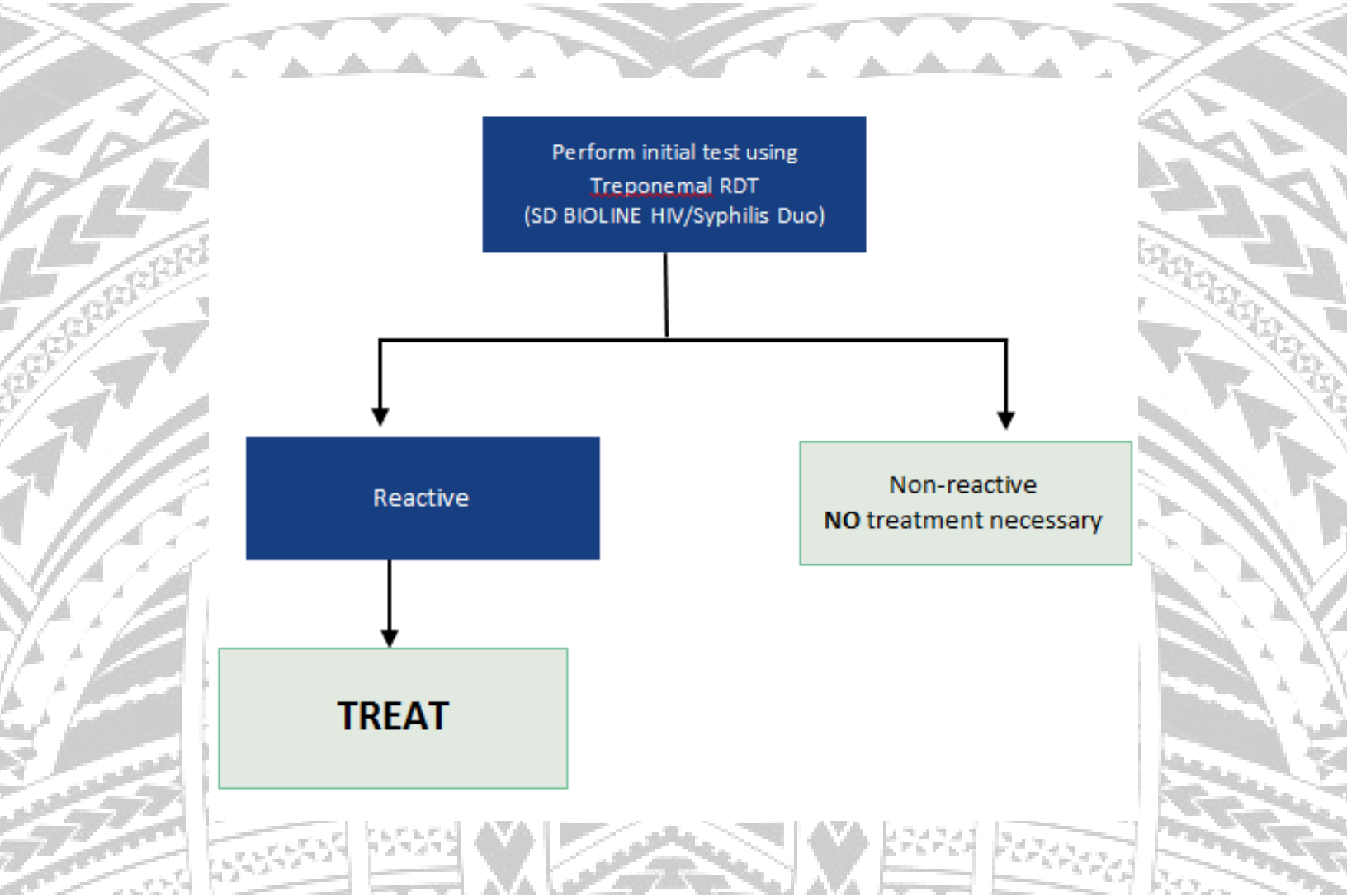


[6] WHO Information Note Information on the use of dual HIV/Syphilis Rapid Diagnostic Test, January 2017 http://apps.who.int/iris/bitstream/10665/252849/1/WHO-RHR-17.01-eng.pdf

*Figure 3.2.3.2: Rapid testing algorithm for syphilis*

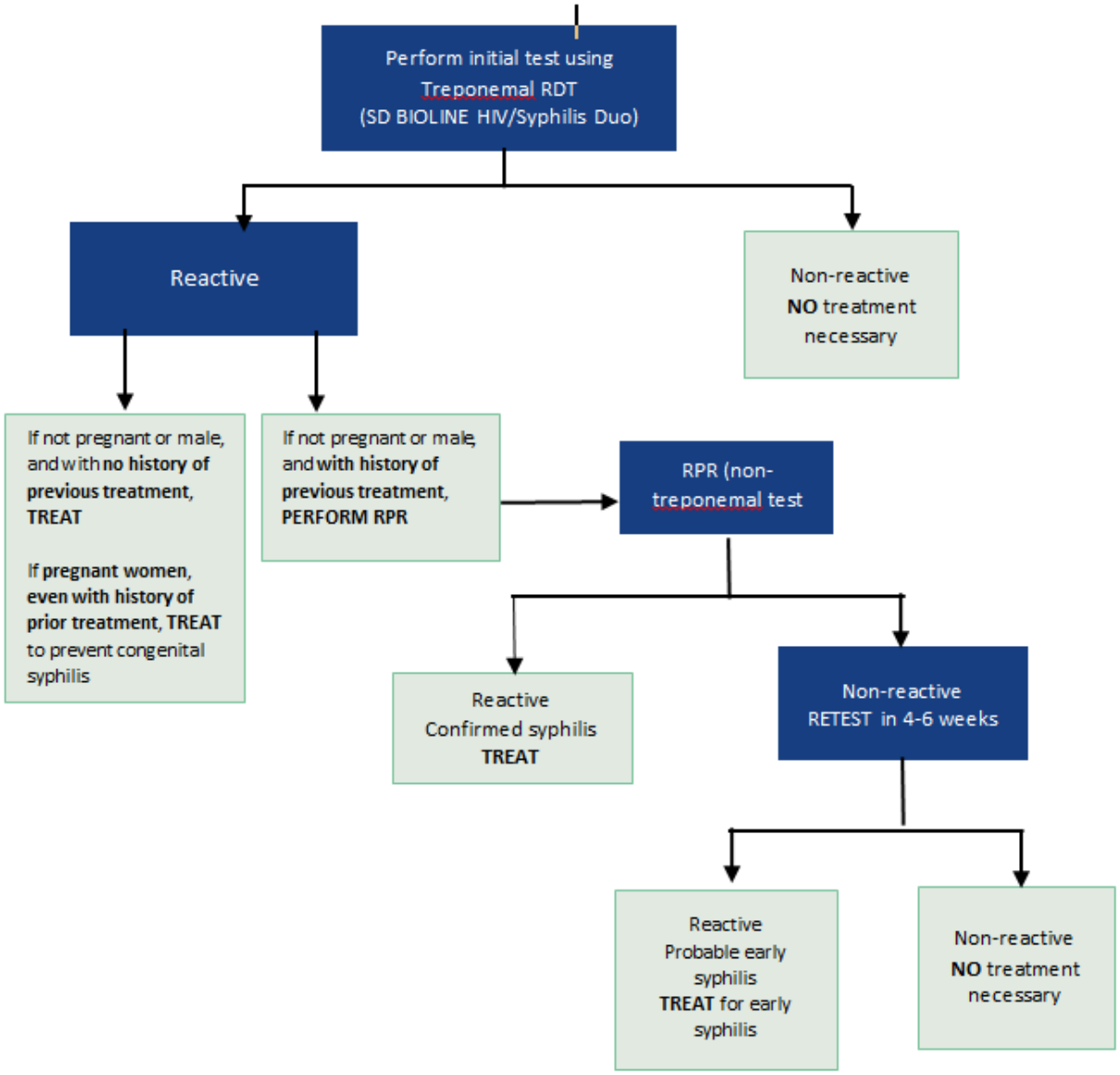
**Figure 3.2.3.2a: Recommended testing algorithm for diagnosis and treatment of Syphilis in PICs with low prevalence (below 5%)**

- through use of SD BIOLINE HIV/Syphilis Duo as the Treponemal RDT.



**3.2.3.2b: Recommended testing algorithm for diagnosis and treatment of Syphilis in PICs with high prevalence (above 5%)**

- through use of SD BIOLINE HIV/Syphilis Duo as the Treponemal RDT and followed by use of Rapid Plasma Reagin (RPR) to confirm early or recent infection.[7]




[7]Pacific Regional Technical Working Group Recommendation , HIV and Syphilis Testing Strategy and Algorithm for diagnosis of HIV and Syphilis in PICs, June 2017.

# TREATMENT


**Drugs selected for treating STI should meet the following criteria:**

- ☑ high efficacy (at least 95%)
- ☑ low cost
- ☑ acceptable toxicity and tolerance
- ☑ organism resistance unlikely to develop or likely to be delayed
- ☑ single dose
- ☑ oral administration
- ☑ not contraindicated for pregnant or lactating women.

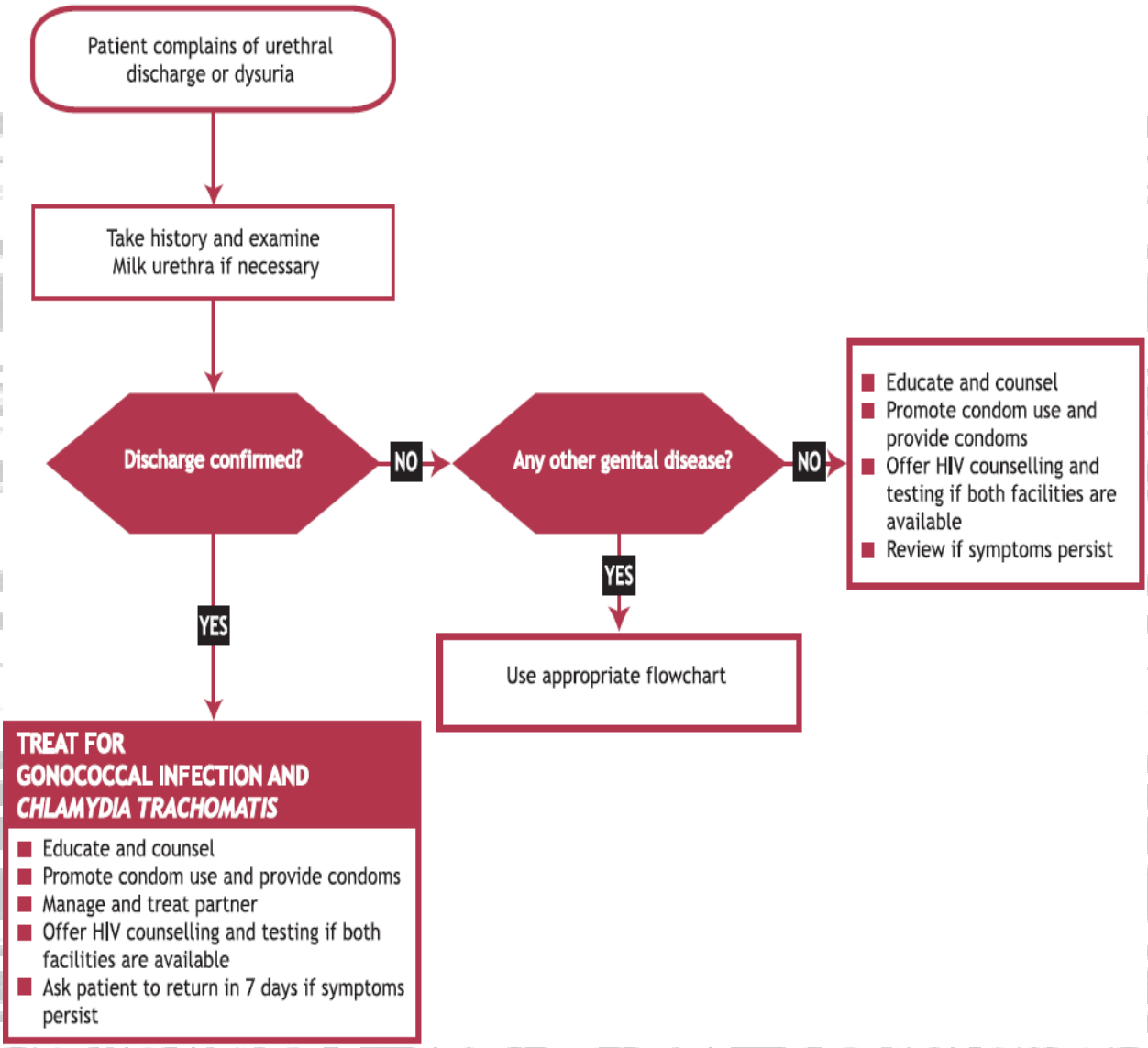
Appropriate drugs should be included in the national essential drugs list and in choosing drugs, consideration should be given to the capabilities and experience of health personnel.

# Treatment of STI-Associated Syndromes

## 3.3 Treatment

### 3.3.1 Treatment of STI-associated syndromes

**FLOW CHART3.3.1.1a: URETHRAL DISCHARGE**




**Checking for urethral and anorectal discharge, and oral secretions should be done to complete the diagnosis of STI syndromes among men having sex with men and transgender people or any person who engaged in anal and/or oral sex.**

**Note: Refer to this Treatment Section, 3.3.2.1.2 for management of patient with oropharyngeal secretions.**

## TREAT for Gonococcal and Chlamydial Infections

### 1. Genital (urethral) gonococcal infections

Based on the 2016 WHO Guidelines for the Treatment of Neiserria gonorrhea (Gonorrhea), page 3

**Recommendation 1(**Based on the 2016 WHO Guidelines for the Treatment of Neiserria gonorrhea)

The WHO STI guideline recommends that local resistance data should determine the choice of therapy (both for dual therapy and single therapy). In settings where local resistance data are not available, the WHO STI guideline suggests **dual therapy over single therapy** for people with genital or anorectal gonorrhoea.

The WHO STI guideline suggests the following options:

***Dual therapy***(one of the following):

- **Ceftriaxone 250 mg intramuscular (IM) as a single dose PLUS Azithromycin 1 g orally as a single dose**
- **Cefixime 400 mg orally as a single dose PLUS Azithromycin 1 g orally as a single dose.**

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Single therapy***(one of the following, based on recent local resistance data confirmingsusceptibility to the antimicrobial):

- **Ceftriaxone 250 mg IM as a single dose**
- **Cefixime 400 mg orally as a single dose**
- **Spectinomycin 2 g IM as a single dose.**

***Remarks***: Because of the emerging resistance data for gonococcal infections and reduced effectiveness of some medicines, good practice dictates that the choice of treatment depends on reliable local data on antimicrobial susceptibility. Alternative single-medicine therapies, such as gentamicin or kanamycin, have not been suggested due to lack of surveillance data. Guidance for surveillance of antimicrobial resistance in *N. gonorrhoeae* is available from WHO.

## 2. Uncomplicated genital (urethral) Chlamydia

Based on the 2016 WHO Guidelines for the Treatment of *Chlamydia trachomatis, page 3*

**Recommendation 1**(Based on the 2016 WHO Guidelines for the Treatment of Chlamydia trachomatis)

The WHO STI guideline suggests treatment with one of the following options:

- **Azithromycin 1 g orally as a single dose**
- **Doxycycline 100 mg orally twice a day for 7 days**

**or one of these alternatives:**

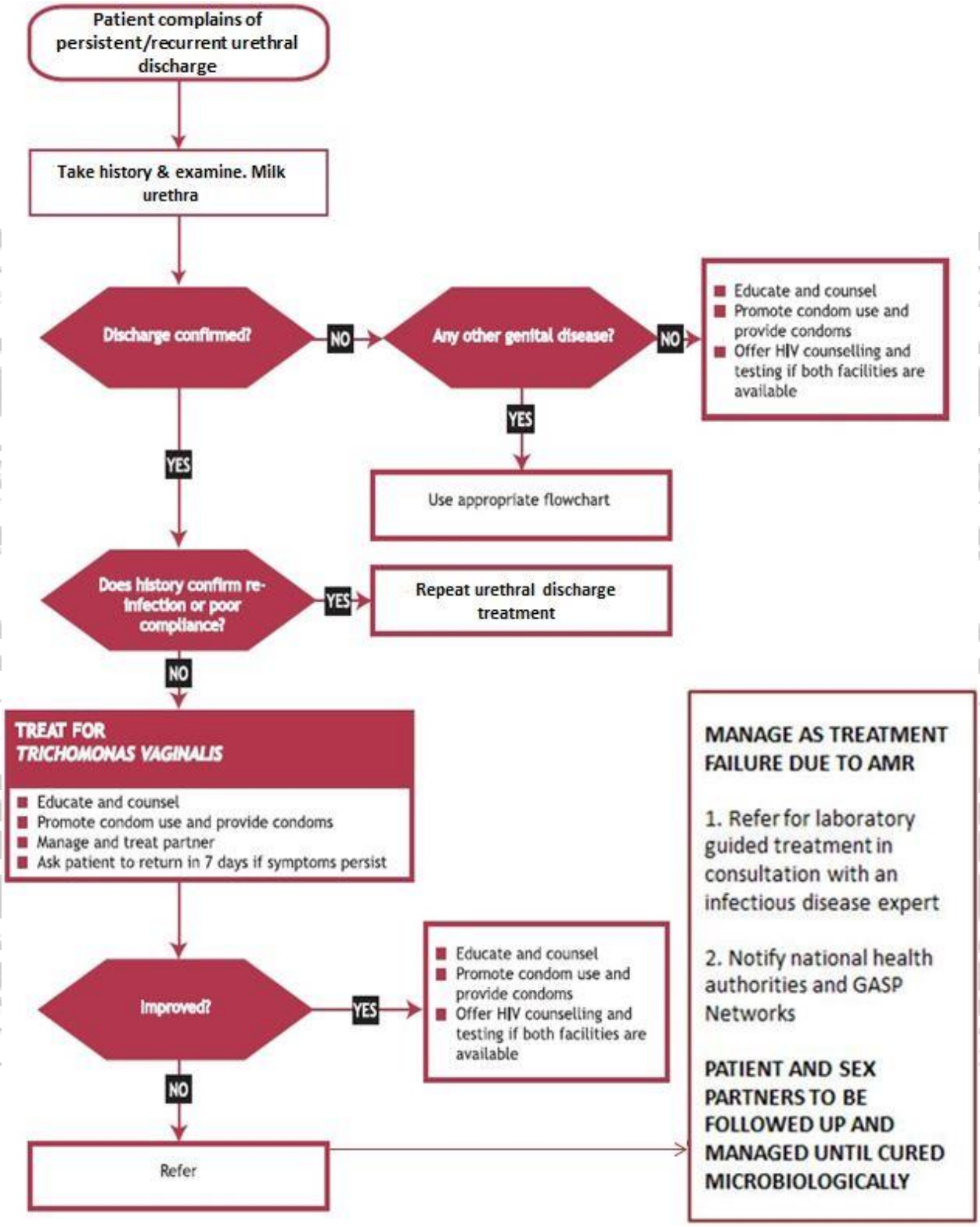
- **Tetracycline 500 mg orally four times a day for 7 days**
- **Erythromycin 500 mg orally twice a day for 7 days**
- **Ofloxacin 200–400 mg orally twice a day for 7 days.**

 ***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks:*** While good practice based on evidence of large net benefit dictates that patients should be treated for chlamydial infection, the choice of treatment may depend on the convenience of dosage, the cost and quality of the medicines in different settings, and equity considerations. When high value is placed on reducing costs, doxycycline in a standard dose may be the best choice; when high value is placed on convenience, Azithromycin in a single dose may be the best choice.

A delayed-release doxycycline formulation may be an alternative to twice daily dosing of doxycycline, but the high cost of the delayed-release formulation may prohibit its use.

## FLOW CHART 3.3.1.1b: PERSISTENT/RECURRENT URETHRAL DISCHARGE IN MEN




**N.B. This flowchart assumes effective therapy for Gonorrhea and Chlamydia to have been received and taken by the patient prior to this consultation.**

**TREAT for Trichomonas vaginalis**

**Urethral infections**
Based on WHO Guidelines for the Management of STI, 2003, page 54

**Recommended regimen**

- Metronidazole, 400 mg or 500 mg orally, twice daily for 7 days

**OR**

- Tinidazole, 500 mg orally, twice daily for 5 days

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

## REPEAT Treatment for Urethral discharge

### 1) Retreatment of gonococcal infections after treatment failure

**Recommendation 3 (**Based on the 2016 WHO Guidelines for the Treatment of Neiserria gonorrhea)

In people with gonococcal infections who have failed treatment, the WHO STI guideline suggests the following options.

- If **reinfection is suspected**, re-treat with a WHO-recommended regimen, reinforce sexual abstinence or condom use, and provide partner treatment.
- If **treatment failure occurred after treatment with a regimen not recommended by WHO**, re-treat with a WHO-recommended regimen.
- If **treatment failure occurred and resistance data are available**, re-treat according to susceptibility.
- If **treatment failure occurred after treatment with a WHO-recommended single therapy**, re-treat with WHO-recommended dual therapy.
- If **treatment failure occurred after a WHO-recommended dual therapy**, re-treat with one of the following dual therapies:
  - **Ceftriaxone 500 mg IM as a single dose PLUS Azithromycin 2 g orally as a single dose**
  - **Cefixime 800 mg orally as a single dose PLUS Azithromycin 2 g orally as a single dose**
  - **Gentamicin 240 mg IM as a single dose PLUS Azithromycin 2 g orally as a single dose**
  - **Spectinomycin 2 g IM as a single dose (if not an oropharyngeal infection) PLUS Azithromycin 2 g orally as a single dose**.

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks*:** Before retreatment, reinfection should be distinguished from treatment failure, resistance data should be obtained when possible, and the WHO-recommended regimens should be used.

## 2. Genital (urethral) Chlamydia

Based on the 2016 WHO Guidelines for the Treatment of *Chlamydia trachomatis, page 3*

**Recommendation 1**(Based on the 2016 WHO Guidelines for the Treatment of Chlamydia trachomatis)

The WHO STI guideline suggests treatment with one of the following options:

- **Azithromycin 1 g orally as a single dose**
- **Doxycycline 100 mg orally twice a day for 7 days**

**or one of these alternatives:**

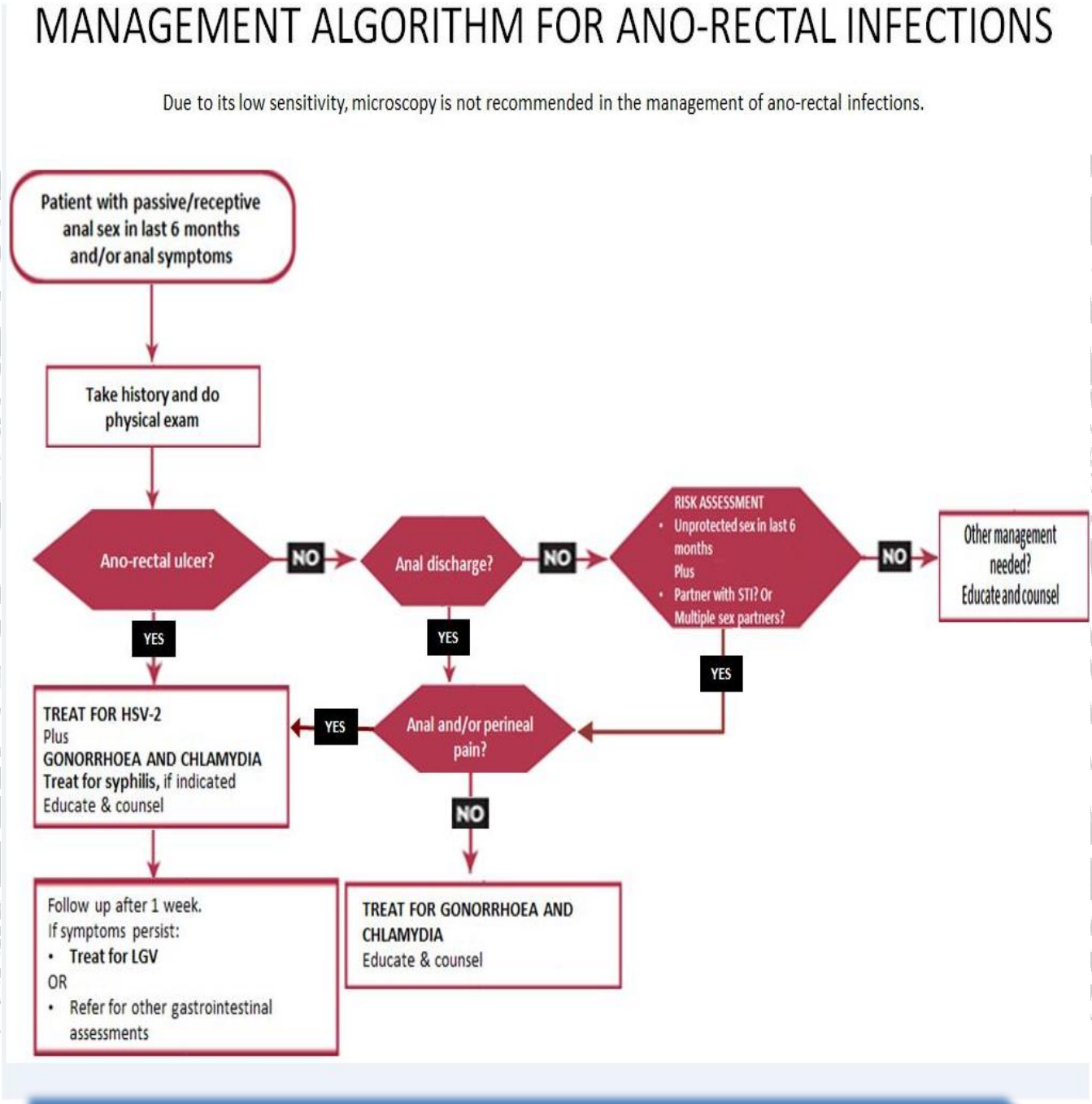
- **Tetracycline 500 mg orally four times a day for 7 days**
- **Erythromycin 500 mg orally twice a day for 7 days**
- **Ofloxacin 200–400 mg orally twice a day for 7 days.**

 ***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks:*** While good practice based on evidence of large net benefit dictates that patients should be treated for chlamydial infection, the choice of treatment may depend on the convenience of dosage, the cost and quality of the medicines in different settings, and equity considerations. When high value is placed on reducing costs, doxycycline in a standard dose may be the best choice; when high value is placed on convenience, Azithromycin in a single dose may be the best choice.

A delayed-release doxycycline formulation may be an alternative to twice daily dosing of doxycycline, but the high cost of the delayed-release formulation may prohibit its use.

## FLOW CHART 3.3.1.2a: ANO-RECTAL INFECTIONS




**Checking for anorectal dischargeand oral secretions should be done to complete the diagnosis of STI syndromes among men having sex with men, transgender people, sexworkers or any person who engaged in anal and/or oral sex (even females).**

**Note: Refer to this Treatment Section, 3.3.2.1.2 for management of patient with oropharyngeal secretions.**

## TREAT for Gonococcal and Chlamydial Infections

### 1) Anorectal Gonococcal infections

Based on the 2016 WHO Guidelines for the Treatment of Neiserria gonorrhea (Gonorrhea), page 3

**Recommendation 1(**Based on the 2016 WHO Guidelines for the Treatment of Neiserria gonorrhea)

The WHO STI guideline recommends that local resistance data should determine the choice of therapy (both for dual therapy and single therapy). In settings where local resistance data are not available, the WHO STI guideline suggests **dual therapy over single therapy** for people with genital or anorectal gonorrhoea.

The WHO STI guideline suggests the following options:

***Dual therapy***(one of the following):

- **Ceftriaxone 250 mg intramuscular (IM) as a single dose PLUS Azithromycin 1 g orally as a single dose**
- **Cefixime 400 mg orally as a single dose PLUS Azithromycin 1 g orally as a single dose.**

***Single therapy***(one of the following, based on recent local resistance data confirming susceptibility to the antimicrobial):

- **Ceftriaxone 250 mg IM as a single dose**
- **Cefixime 400 mg orally as a single dose**
- **Spectinomycin 2 g IM as a single dose.**

 ***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks***: Because of the emerging resistance data for gonococcal infections and reduced effectiveness of some medicines, good practice dictates that the choice of treatment depends on reliable local data on antimicrobial susceptibility. Alternative single-medicine therapies, such as gentamicin or kanamycin, have not been suggested due to lack of surveillance data. Guidance for surveillance of antimicrobial resistance in *N. gonorrhoeae* is available from WHO.

**Note:** Based on the **2016 WHO Guidelines for the Treatment of Neisseria gonorrhea, page 3**– This **recommendation applies to pregnant women**, who should be monitored for complications.

### 2) Anorectal Chlamydial infection

**Recommendation 2**(Based on the 2016 WHO Guidelines for the Treatment of Chlamydia trachomatis)

The WHO STI guideline suggests treatment with **doxycycline 100 mg orally twice a day for 7 days over Azithromycin 1 g orally as a single dose.**

*Remarks:* This recommendation applies to people with known anorectal infection and to people with suspected anorectal infections with genital co-infection. **Clinicians should ask men, key populations (e.g. men who have sex with men, transgender persons and female sex workers) about anal sex and treat accordingly**.

**Note:** Based on the **2016 WHO Guidelines for the Treatment of Chlamydia trachomatis, page 4** – **Doxycycline should not be used in pregnant women** because of adverse effects (**Refer below for** treatment of Genital Chlamydial infection in pregnant women,***Recommendations 3a–3c) will also be used for pregnant women with anorectal infections.***

### 3) Genital Chlamydial infection in pregnant women(also for pregnant with anorectal infections)

Based on the 2016 WHO Guidelines for the Treatment of Chlamydia trachomatis, page 4

**Recommendation 3a**

The WHO STI guideline recommends treatment with Azithromycin over Erythromycin.

**Recommendation 3b**

The WHO STI guideline suggests treatment with Azithromycin over Amoxicillin.

**Recommendation 3c**

The WHO STI guideline suggests treatment with Amoxicillin over Erythromycin.

**Dosages:**

- **Azithromycin 1 g orally as a single dose, or**
- **Amoxicillin 500 mg orally three times a day for 7 days, or**
- **Erythromycin 500 mg orally twice a day for 7 days.**

***Remarks***: Azithromycin is the first choice of treatment but may not be available in some settings. Azithromycin is less expensive than Erythromycin and since it is provided as a single dose, may result in better adherence and therefore better outcomes

If **with ulcer**, TREAT for Gonorrhea and Chlamydia **PLUS**

**TREAT for Herpes Simplex Virus 2 (HSV2)**
Based on the new WHO guidelines for the Treatment of genital herpes infections

**1) First clinical episode**

**Recommendation 1**(Based on the new WHO guidelines for the Treatment of genital herpes infections)
For adults and adolescents with a first clinical episode of genital HSV infection, the WHO STI guideline **recommends treatment over no treatment**.
***Remarks***: This recommendation also applies to people living with HIV, people who are immune compromised, people with a severe episode and pregnant women.

**Recommendation 2**(Based on the new WHO guidelines for the Treatment of genital herpes infections)
For adults and adolescents with a first clinical episode of genital HSV infection, the WHO STI guideline suggests a **standard dose of Aciclovir over ValAciclovir or Famciclovir**.

**Dosages:**

- **Aciclovir 400 mg orally thrice daily for 10 days (standard dose)**
- **Aciclovir 200 mg orally five times daily for 10 days**
- **ValAciclovir 500 mg orally twice daily for 10 days**
- **Famciclovir 250 mg orally thrice daily for 10 days**

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks***: Given that follow-up visits may not be possible during the course of treatment and symptoms of the first clinical episode may be prolonged, therapy is provided for 10 days. Although the benefits of the medicines are probably similar, the costs of ValAciclovir and Famciclovir are higher than Aciclovir, and therefore Aciclovir is preferred. The choice of medicine may also depend on compliance considerations. **This recommendation also applies to people living with HIV, people who are immune compromised, people with a severe episode and pregnant women**.

**Note:** Based on the **2016 WHO Guidelines for the Treatment of Genital herpes infection recommendations 1-4 applies to pregnant women**, as well as, to **people living with HIV, people who are immune compromised, and people with a severe episode**.

### 2) Recurrentclinical episode of genital HSV infection (episodic therapy)

**Recommendation3**(Based on the new WHO guidelines for the Treatment of genital herpes infections)
For adults and adolescents with a recurrent clinical episode of genital HSV infection, the WHO STI guideline **suggests treatment over no treatment**.

***Remarks***: Treatment should be given within the first 24 hours of the onset of symptoms or during the prodromal phase. This recommendation also applies to people living with HIV, people who are immune compromised and pregnant women.

**Recommendation4**
For adults and adolescents with a recurrent clinical episode of genital HSV infection, the WHO STI guideline suggests the **use of Aciclovir over ValAciclovir or Famciclovir**.

**Dosages for adults, adolescents and pregnant women:**

- **Aciclovir 400 mg orally thrice daily for 5 days, 800 mg twice daily for 5 days, or 800 mg thrice daily for 2 days**
- **ValAciclovir 500 mg orally twice daily for 3 days**
- **Famciclovir250 mg twice daily for 5 days**

 ***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

**Dosages for people living with HIV and people who are immune compromised:**

- **Aciclovir 400 mg orally thrice daily for 5 days**
- **ValAciclovir 500 mg orally twice daily for 5 days**
- **Famciclovir 500 mg orally twice daily for 5 days**

***Remarks***: Although the benefits of the medicines are probably similar, the costs of ValAciclovir and Famciclovir are higher than Aciclovir, and therefore Aciclovir is preferred. The choice of dosage may depend on compliance considerations. Treatment should be given within the first 24 hours of the onset of symptoms or during the prodromal phase.

**If after 1 week, follow-up made, and symptoms persisted**

**TREAT for Lymphogranuloma venereum (LGV)**

**Recommendation 4**(Based on the 2016 WHO Guidelines for the Treatment of *Chlamydia trachomatis)*
The WHO STI guideline suggests **treatment with doxycycline 100 mg orally twice daily for 21 days over Azithromycin 1 g orally, weekly for 3 weeks**.

*Remarks:* Good practice dictates effective treatment of LGV, in particular for men who have sex with men and for people living with HIV. When doxycycline is contraindicated, Azithromycin should be provided. When neither treatment is available, Erythromycin 500 mg orally four times a day for 21 days is an alternative. **Doxycycline should not be used in pregnant women because of adverse effects (see recommendations 3a–3c)**.

**Note:** Based on the **2016 WHO Guidelines for the Treatment of Chlamydia trachomatis (that included treatment for LGV), page 4** – **Doxycycline should not be used in pregnant women**because of adverse effects (**Refer below for** treatment of Genital Chlamydial infection in pregnant women,***Recommendations 3a–3c) will also be used for pregnant women with anorectal infections.***

## TREAT for Syphilis (if indicated)

Based on the 2016 WHO guidelines for the Treatment of Treponema pallidum, page 3

### 1. Early syphilis (primary, secondary and early latent syphilis of not more than two years' duration)

### 1.1 Adults and adolescents

**Recommendation 1**
In adults and adolescents with early syphilis, the WHO STI guideline recommends **Benzathine penicillin G 2.4 million units once intramuscularly over no treatment.**

**Recommendation 2**
In adults and adolescents with early syphilis, the WHO STI guideline suggests using **Benzathine penicillin G 2.4 million units once intramuscularly over procaine penicillin G 1.2 million units 10–14 days intramuscularly.**

When **benzathine or procaine penicillin cannot be used (e.g. due to penicillin allergy) or are not available** (e.g. due to stock-outs), the WHO STI guideline suggests using **doxycycline 100 mg twice daily orally for 14 days or ceftriaxone 1 g intramuscularly once daily for 10–14 days, or, in special circumstances, Azithromycin 2 g once orally.**
***Remarks:*** Doxycycline is preferred over ceftriaxone due to its lower cost and oral administration. Doxycycline should not be used in pregnant women (see recommendations 3 and 4 for pregnant women). Azithromycin is an option in special circumstances only when local susceptibility to Azithromycin is likely. If the stage of syphilis is unknown, follow recommendations for people with late syphilis.

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

### 1.2 Pregnant women

Based on the 2016 WHO guidelines for the Treatment of Treponema pallidum, page 4

**Recommendation 3**
In pregnant women with early syphilis, the WHO STI guideline recommends **Benzathine penicillin G 2.4 million units once intramuscularly over no treatment.**

**Recommendation 4**
In pregnant women with early syphilis, the WHO STI guideline suggests using **Benzathine penicillin G 2.4 million units once intramuscularly over procaine penicillin 1.2 million units intramuscularly once daily for 10 days.**

**When benzathine or procaine penicillin cannot be used (e.g. due to penicillin allergy where penicillin desensitization is not possible) or are not available** (e.g. due to stock-outs), the

WHO STI guideline suggests **using, with caution, Erythromycin 500 mg orally four times daily for 14 days or ceftriaxone 1 g intramuscularly once daily for 10–14 days or Azithromycin 2 g once orally.**

***Remarks:*** Although Erythromycin and Azithromycin treat the pregnant women, they do not cross the placental barrier completely and as a result the fetus is not treated. It is therefore necessary to treat the newborn infant soon after delivery (see recommendations 9 and 10 for congenital syphilis). Ceftriaxone is an expensive option and is injectable. **Doxycycline should not be used in pregnant women**. Because syphilis during pregnancy can lead to severe adverse complications to the fetus or newborn, stock-outs of benzathine penicillin for use in antenatal care should be avoided.

## 2. Late syphilis (infection of more than two years' duration without evidence of treponemal infection)

Based on the 2016 WHO guidelines for the Treatment of Treponema pallidum, page 4

### 2.1 Adults and adolescents

**Recommendation 5**

In adults and adolescents with late syphilis or unknown stage of syphilis, the WHO STI guideline recommends **Benzathine penicillin G 2.4 million units intramuscularly once weekly for three consecutive weeks over no treatment**.

***Remarks:*** The interval between consecutive doses of benzathine penicillin should not exceed 14 days.

**Recommendation 6**

In adults and adolescents with late syphilis or unknown stage of syphilis, the WHO STI guideline suggests **Benzathine penicillin G 2.4 million units intramuscularly once weekly for three consecutive weeks over procaine penicillin 1.2 million units once daily for 20 days.**

When **benzathine or procaine penicillin cannot be used (e.g. due to penicillin allergy where penicillin desensitization is not possible) or are not available**(e.g. due to stock-outs), the WHO STI guideline suggests using **Doxycycline 100 mg twice daily orally for 30 days**.

***Remarks:*** Doxycycline should not be used in pregnant women (see recommendations 7 and 8 for pregnant women).

### 2.2 Pregnant women

Based on the 2016 WHO guidelines for the Treatment of Treponema pallidum, page 5

**Recommendation 7**

In pregnant women with late syphilis or unknown stage of syphilis, the WHO STI guideline recommends **Benzathine penicillin G 2.4 million units intramuscularly once weekly for three**

**consecutive weeks over no treatment**.

***Remarks:*** The interval between consecutive doses of Benzathine penicillin should not exceed 14 days.

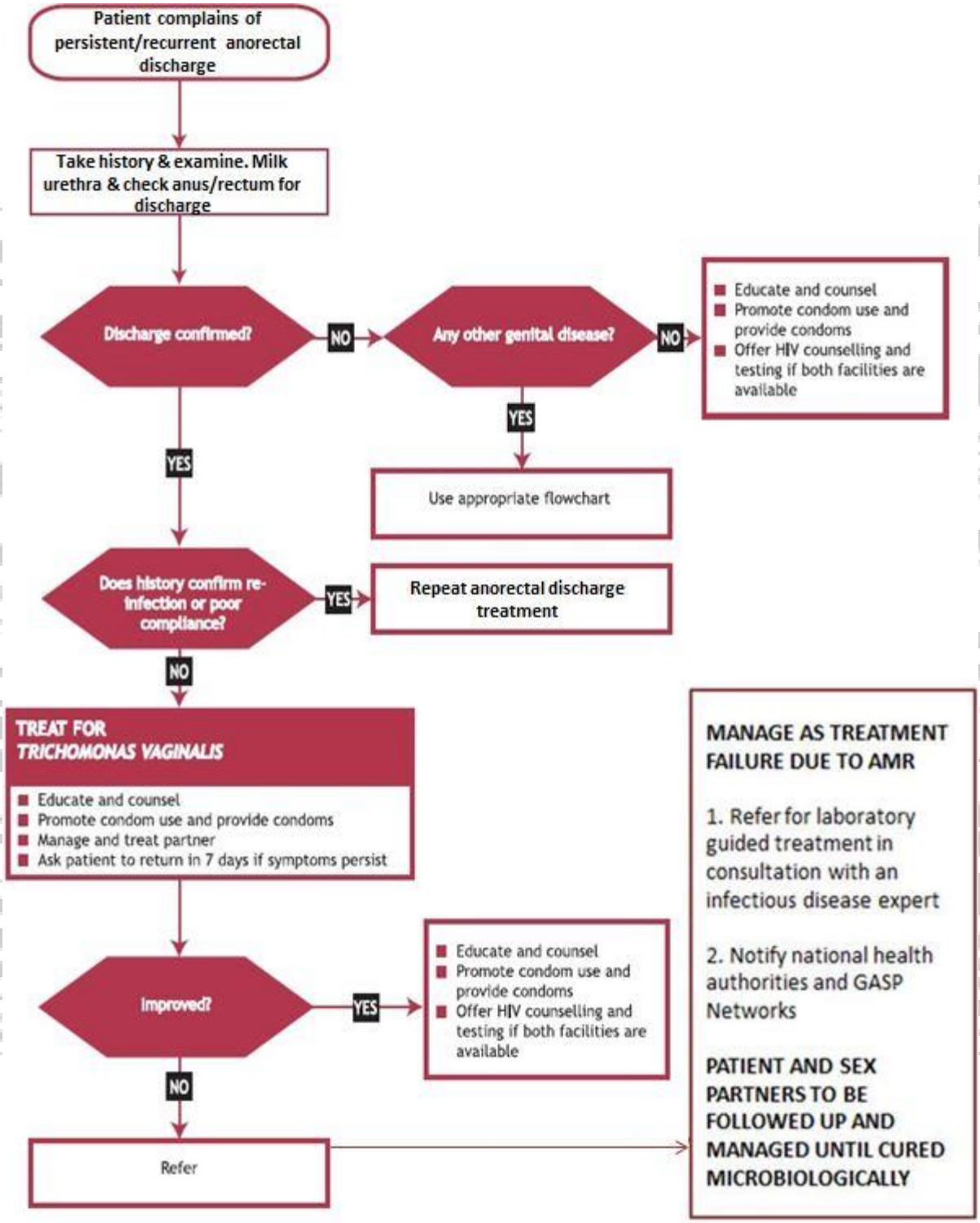
**Recommendation 8**

In pregnant women with late syphilis or unknown stage of syphilis, the WHO STI guideline suggests **Benzathine penicillin G 2.4 million units intramuscularly once weekly for three consecutive weeks over Procaine penicillin 1.2 million units intramuscularly once a day for 20 days**.

When **Benzathine or Procaine penicillin cannot be used (e.g. due to penicillin allergy where penicillin desensitization is not possible) or are not available** (e.g. due to stock-outs), the WHO STI guideline suggests using, with caution, **Erythromycin 500 mg orally four times daily for 30 days**.

Remarks:Although Erythromycin treats the pregnant women, it does not cross the placental barrier completely and as a result the fetus is not treated. It is therefore necessary to treat the newborn infant soon after delivery (see recommendations 9 and 10 for congenital syphilis). Doxycycline should not be used in pregnant women. Because syphilis during pregnancy can lead to severe adverse complications to the fetus or newborn, stock-outs of benzathine penicillin for use in antenatal care should be avoided.

## FLOW CHART 3.3.1.2b: PERSISTENT/RECURRENT ANORECTAL DISCHARGE IN MEN




**N.B. This flowchart assumes effective therapy for Gonorrhea and Chlamydia to have been received and taken by the patient prior to this consultation.**

**TREAT for Trichomonas vaginalis**

### Anal infections

Based on WHO Guidelines for the Management of STI, 2003, page 54

**Recommended regimen**

- Metronidazole, 400 mg or 500 mg orally, twice daily for 7 days

**OR**

- Tinidazole, 500 mg orally, twice daily for 5 days

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

## REPEAT Treatment for Anorectal Gonococcal and Chlamydial Infections

### 1) Retreatment of gonococcal infections after treatment failure

**Recommendation 3**

In people with gonococcal infections who have failed treatment, the WHO STI guideline suggests the following options.

- If **reinfection is suspected**, re-treat with a WHO-recommended regimen, reinforce sexual abstinence or condom use, and provide partner treatment.
- If **treatment failure occurred after treatment with a regimen not recommended by WHO**, re-treat with a WHO-recommended regimen.
- If **treatment failure occurred and resistance data are available**, re-treat according to susceptibility.
- If **treatment failure occurred after treatment with a WHO-recommended single therapy**, re-treat with WHO-recommended dual therapy.
- If **treatment failure occurred after a WHO-recommended dual therapy**, re-treat with one of the following dual therapies:
  - **Ceftriaxone 500 mg IM as a single dose PLUS Azithromycin 2 g orally as a single dose**
  - **Cefixime 800 mg orally as a single dose PLUS Azithromycin 2 g orally as a single dose**
  - **Gentamicin 240 mg IM as a single dose PLUS Azithromycin 2 g orally as a single dose**
  - **Spectinomycin 2 g IM as a single dose (if not an oropharyngeal infection) PLUS Azithromycin 2 g orally as a single dose**.

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks*:** Before retreatment, reinfection should be distinguished from treatment failure, resistance data should be obtained when possible, and the WHO-recommended regimens should be used.

### 2) Anorectal Chlamydial infection

## Recommendation 2

The WHO STI guideline suggests treatment with **doxycycline 100 mg orally twice a day for 7 days over Azithromycin 1 g orally as a single dose.**

*Remarks:* This recommendation applies to people with known anorectal infection and to people with suspected anorectal infections with genital co-infection. **Clinicians should ask men, key populations (e.g. men who have sex with men and transgender persons) about anal sex and treat accordingly**.

**Note:**Based on the **2016 WHO Guidelines for the Treatment of Chlamydia trachomatis (that included treatment for LGV), page 4** – **Doxycycline should not be used in pregnant women** because of adverse effects (**Refer below for** treatment of Genital Chlamydial infection in pregnant women,***Recommendations 3a–3c) will also be used for pregnant women with anorectal infections.***

### 3) Genital Chlamydial infection in pregnant women(also for pregnant with anorectal infections)

Based on the 2016 WHO Guidelines for the Treatment of Chlamydia trachomatis, page 4

**Recommendation 3a**

The WHO STI guideline recommends treatment with Azithromycin over Erythromycin.

**Recommendation 3b**

The WHO STI guideline suggests treatment with Azithromycin over Amoxicillin.

**Recommendation 3c**

The WHO STI guideline suggests treatment with Amoxicillin over Erythromycin.

**Dosages:**

- **Azithromycin 1 g orally as a single dose, or**
- **Amoxicillin 500 mg orally three times a day for 7 days, or**
- **Erythromycin 500 mg orally twice a day for 7 days.**

***Remarks***: Azithromycin is the first choice of treatment but may not be available in some settings. Azithromycin is less expensive than Erythromycin and since it is provided as a single dose, may result in better adherence and therefore better outcomes

If **with ulcer**, TREAT for Gonorrhea and Chlamydia **PLUS**

**TREAT for Herpes Simplex Virus 2 (HSV2)**
Based on the new WHO guidelines for the Treatment of genital herpes infections

### 1) First clinical episode

**Recommendation 1**(Based on the new WHO guidelines for the Treatment of genital herpes infections)
For adults and adolescents with a first clinical episode of genital HSV infection, the WHO STI guideline **recommends treatment over no treatment**.

***Remarks***: This recommendation also applies to people living with HIV, people who are immune compromised, people with a severe episode and pregnant women.

**Recommendation 2**(Based on the new WHO guidelines for the Treatment of genital herpes infections)
For adults and adolescents with a first clinical episode of genital HSV infection, the WHO STI guideline suggests a **standard dose of Aciclovir over ValAciclovir or Famciclovir**.
**Dosages:**

- **Aciclovir 400 mg orally thrice daily for 10 days (standard dose)**
- **Aciclovir 200 mg orally five times daily for 10 days**
- **ValAciclovir 500 mg orally twice daily for 10 days**
- **Famciclovir 250 mg orally thrice daily for 10 days**

 ***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks***: Given that follow-up visits may not be possible during the course of treatment and symptoms of the first clinical episode may be prolonged, therapy is provided for 10 days. Although the benefits of the medicines are probably similar, the costs of ValAciclovir and Famciclovir are higher than Aciclovir, and therefore Aciclovir is preferred. The choice of medicine may also depend on compliance considerations. **This recommendation also applies to people living with HIV, people who are immune compromised, people with a severe episode and pregnant women**.

**Note:** Based on the **2016 WHO Guidelines for the Treatment of Genital herpes infection recommendations 1-4 applies to pregnant women**, as well as, to **people living with HIV, people who are immune compromised, and people with a severe episode**.

### 2) Recurrent clinical episode of genital HSV infection (episodic therapy)

**Recommendation3**(Based on the new WHO guidelines for the Treatment of genital herpes infections)
For adults and adolescents with a recurrent clinical episode of genital HSV infection, the WHO STI guideline **suggests treatment over no treatment**.

***Remarks***: Treatment should be given within the first 24 hours of the onset of symptoms or during the prodromal phase. This recommendation also applies to people living with HIV, people who are immune compromised and pregnant women.

**Recommendation4**
For adults and adolescents with a recurrent clinical episode of genital HSV infection, the WHO STI guideline suggests the **use of Aciclovir over ValAciclovir or Famciclovir**.

**Dosages for adults, adolescents and pregnant women:**

- **Aciclovir 400 mg orally thrice daily for 5 days, 800 mg twice daily for 5 days, or 800 mg thrice daily for 2 days**
- **ValAciclovir 500 mg orally twice daily for 3 days**
- **Famciclovir250 mg twice daily for 5 days**

**Dosages for people living with HIV and people who are immune compromised:**

- **Aciclovir 400 mg orally thrice daily for 5 days**
- **ValAciclovir 500 mg orally twice daily for 5 days**
- **Famciclovir 500 mg orally twice daily for 5 days**

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks***: Although the benefits of the medicines are probably similar, the costs of ValAciclovir and Famciclovir are higher than Aciclovir, and therefore Aciclovir is preferred. The choice of dosage may depend on compliance considerations. Treatment should be given within the first 24 hours of the onset of symptoms or during the prodromal phase.

**If after 1 week, follow-up made, and symptoms persisted**

**TREAT for Lymphogranuloma venereum (LGV)**

**Recommendation 4**(Based on the 2016 WHO Guidelines for the Treatment of *Chlamydia trachomatis)*
The WHO STI guideline suggests **treatment with doxycycline 100 mg orally twice daily for 21 days over Azithromycin 1 g orally, weekly for 3 weeks**.

*Remarks:* Good practice dictates effective treatment of LGV, in particular for men who have sex with men and for people living with HIV. When doxycycline is contraindicated, Azithromycin should be provided. When neither treatment is available, Erythromycin 500 mg orally four times a day for 21 days is an alternative. **Doxycycline should not be used in pregnant women because of adverse effects (see recommendations 3a–3c)**.

**Note:** Based on the **2016 WHO Guidelines for the Treatment of Chlamydia trachomatis (that included treatment for LGV), page 4** – **Doxycycline should not be used in pregnant women** because of adverse effects. **Refer** to **treatment of Genital Chlamydial infection in pregnant women**, ***Recommendations 3a–3c,*** same recommendations for pregnant women with anorectal infections and LGV where use of Doxycycline is contraindicated**.**

## TREAT for Syphilis (if indicated)

Based on the 2016 WHO guidelines for the Treatment of Treponema pallidum, page 3

### 1. Early syphilis (primary, secondary and early latent syphilis of not more than two years' duration)

### 1.1 Adults and adolescents

**Recommendation 1**
In adults and adolescents with early syphilis, the WHO STI guideline recommends **Benzathine penicillin G 2.4 million units once intramuscularly over no treatment.**

**Recommendation 2**
In adults and adolescents with early syphilis, the WHO STI guideline suggests using **Benzathine penicillin G 2.4 million units once intramuscularly over procaine penicillin G 1.2 million units 10–14 days intramuscularly.**

When **benzathine or procaine penicillin cannot be used (e.g. due to penicillin allergy) or are not available** (e.g. due to stock-outs), the WHO STI guideline suggests using **doxycycline 100 mg twice daily orally for 14 days or ceftriaxone 1 g intramuscularly once daily for 10–14 days, or, in special circumstances, Azithromycin 2 g once orally.**
***Remarks:*** Doxycycline is preferred over ceftriaxone due to its lower cost and oral administration. Doxycycline should not be used in pregnant women (see recommendations 3 and 4 for pregnant women). Azithromycin is an option in special circumstances only when local susceptibility to Azithromycin is likely. If the stage of syphilis is unknown, follow recommendations for people with late syphilis.

### 1.2 Pregnant women

Based on the 2016 WHO guidelines for the Treatment of Treponema pallidum, page 4

**Recommendation 3**
In pregnant women with early syphilis, the WHO STI guideline recommends **Benzathine penicillin G 2.4 million units once intramuscularly over no treatment.**

**Recommendation 4**
In pregnant women with early syphilis, the WHO STI guideline suggests using **Benzathine penicillin G 2.4 million units once intramuscularly over procaine penicillin 1.2 million units intramuscularly once daily for 10 days.**

**When benzathine or procaine penicillin cannot be used (e.g. due to penicillin allergy where penicillin desensitization is not possible) or are not available** (e.g. due to stock-outs), the WHO STI guideline suggests **using, with caution, Erythromycin 500 mg orally four times daily for 14 days or ceftriaxone 1 g intramuscularly once daily for 10–14 days or Azithromycin 2 g once orally.**

***Remarks:*** Although Erythromycin and Azithromycin treat the pregnant women, they do not cross the placental barrier completely and as a result the fetus is not treated. It is therefore necessary to treat the new-born infant soon after delivery (see recommendations 9 and 10 for congenital syphilis). Ceftriaxone is an expensive option and is injectable. **Doxycycline should not be used in pregnant women**. Because syphilis during pregnancy can lead to severe adverse complications to the fetus or new-born, stock-outs of benzathine penicillin for use in antenatal care should be avoided.

### 2. Late syphilis (infection of more than two years' duration without evidence of treponemal infection)

Based on the 2016 WHO guidelines for the Treatment of Treponema pallidum, page 4

### 2.1 Adults and adolescents

**Recommendation 5**

In adults and adolescents with late syphilis or unknown stage of syphilis, the WHO STI guideline recommends **Benzathine penicillin G 2.4 million units intramuscularly once weekly for three consecutive weeks over no treatment**.

***Remarks:*** The interval between consecutive doses of benzathine penicillin should not exceed 14 days.

**Recommendation 6**

In adults and adolescents with late syphilis or unknown stage of syphilis, the WHO STI guideline suggests **Benzathine penicillin G 2.4 million units intramuscularly once weekly for three consecutive weeks over procaine penicillin 1.2 million units once daily for 20 days.**

When **benzathine or procaine penicillin cannot be used (e.g. due to penicillin allergy where penicillin desensitization is not possible) or are not available**(e.g. due to stock-outs), the WHO STI guideline suggests using **Doxycycline 100 mg twice daily orally for 30 days**.

***Remarks:*** Doxycycline should not be used in pregnant women (see recommendations 7 and 8 for pregnant women).

### 2.2 Pregnant women

Based on the 2016 WHO guidelines for the Treatment of Treponema pallidum, page 5

**Recommendation 7**

In pregnant women with late syphilis or unknown stage of syphilis, the WHO STI guideline recommends **Benzathine penicillin G 2.4 million units intramuscularly once weekly for three consecutive weeks over no treatment**.

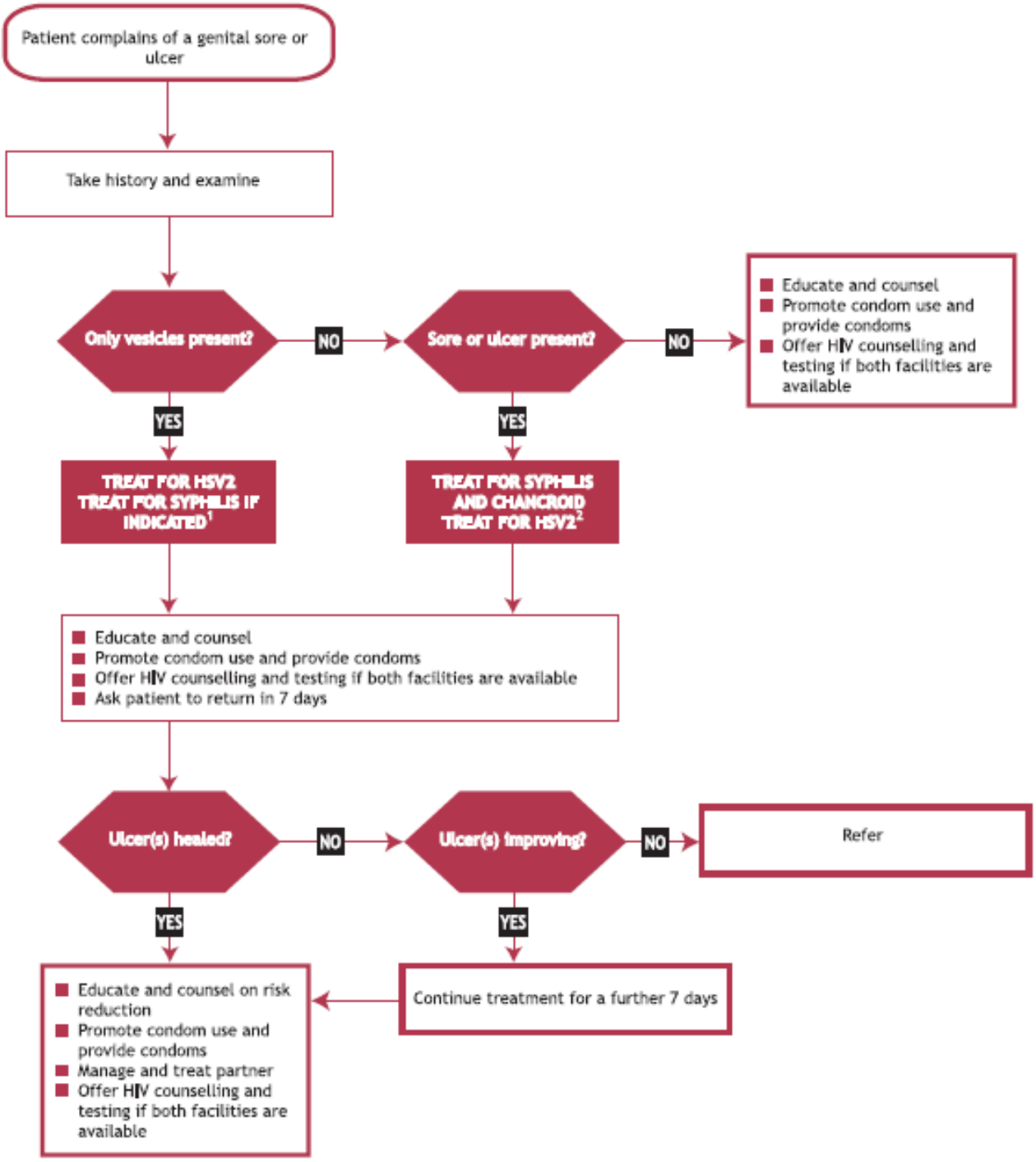
***Remarks:*** The interval between consecutive doses of Benzathine penicillin should not exceed 14 days.

**Recommendation 8**
In pregnant women with late syphilis or unknown stage of syphilis, the WHO STI guideline suggests **Benzathine penicillin G 2.4 million units intramuscularly once weekly for three consecutive weeks over Procaine penicillin 1.2 million units intramuscularly once a day for 20 days**.

When **Benzathine or Procaine penicillin cannot be used (e.g. due to penicillin allergy where penicillin desensitization is not possible) or are not available** (e.g. due to stock-outs), the WHO STI guideline suggests using, with caution, **Erythromycin 500 mg orally four times daily for 30 days**.

Remarks: Although Erythromycin treats the pregnant women, it does not cross the placental barrier completely and as a result the fetus is not treated. It is therefore necessary to treat the new-born infant soon after delivery (see recommendations 9 and 10 for congenital syphilis). Doxycycline should not be used in pregnant women. Because syphilis during pregnancy can lead to severe adverse complications to the fetus or new-born, stock-outs of benzathine penicillin for use in antenatal care should be avoided.

## FLOW CHART 3.3.1.3: GENITAL ULCERS



## TREAT for Herpes Simplex Virus 2 (HSV2)

Based on the new WHO guidelines for the Treatment of genital herpes infections

### 1) First clinical episode

**Recommendation 1**(Based on the new WHO guidelines for the Treatment of genital herpes infections)
For adults and adolescents with a first clinical episode of genital HSV infection, the WHO STI guideline **recommends treatment over no treatment**.

***Remarks***: This recommendation also applies to people living with HIV, people who are immune compromised, people with a severe episode and pregnant women.

**Recommendation 2**(Based on the new WHO guidelines for the Treatment of genital herpes infections)
For adults and adolescents with a first clinical episode of genital HSV infection, the WHO STI guideline suggests a **standard dose of Aciclovir over ValAciclovir or Famciclovir**.
**Dosages:**

- **Aciclovir 400 mg orally thrice daily for 10 days (standard dose)**
- **Aciclovir 200 mg orally five times daily for 10 days**
- **ValAciclovir 500 mg orally twice daily for 10 days**
- **Famciclovir 250 mg orally thrice daily for 10 days**

 ***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks***: Given that follow-up visits may not be possible during the course of treatment and symptoms of the first clinical episode may be prolonged, therapy is provided for 10 days. Although the benefits of the medicines are probably similar, the costs of ValAciclovir and Famciclovir are higher than Aciclovir, and therefore Aciclovir is preferred. The choice of medicine may also depend on compliance considerations. **This recommendation also applies to people living with HIV, people who are immune compromised, people with a severe episode and pregnant women**.

**Note:** Based on the **2016 WHO Guidelines for the Treatment of Genital herpes infection recommendations 1-4 applies to pregnant women**, as well as, to **people living with HIV, people who are immune compromised, and people with a severe episode**.

### 2) Recurrentclinical episode of genital HSV infection (episodic therapy)

**Recommendation3**(Based on the new WHO guidelines for the Treatment of genital herpes infections)
For adults and adolescents with a recurrent clinical episode of genital HSV infection, the WHO STI guideline **suggests treatment over no treatment**.

***Remarks***: Treatment should be given within the first 24 hours of the onset of symptoms or during the prodromal phase. This recommendation also applies to people living with HIV, people who are immune compromised and pregnant women.

**Recommendation4**
For adults and adolescents with a recurrent clinical episode of genital HSV infection, the WHO STI guideline suggests the **use of Aciclovir over ValAciclovir or Famciclovir**.

**Dosages for adults, adolescents and pregnant women:**
- **Aciclovir 400 mg orally thrice daily for 5 days, 800 mg twice daily for 5 days, or 800 mg thrice daily for 2 days**
- **ValAciclovir 500 mg orally twice daily for 3 days**
- **Famciclovir250 mg twice daily for 5 days**

**Dosages for people living with HIV and people who are immune compromised:**
- **Aciclovir 400 mg orally thrice daily for 5 days**
- **ValAciclovir 500 mg orally twice daily for 5 days**
- **Famciclovir 500 mg orally twice daily for 5 days**

 ***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks***: Although the benefits of the medicines are probably similar, the costs of ValAciclovir and Famciclovir are higher than Aciclovir, and therefore Aciclovir is preferred. The choice of dosage may depend on compliance considerations. Treatment should be given within the first 24 hours of the onset of symptoms or during the prodromal phase.

## TREAT for Syphilis

Based on the 2016 WHO guidelines for the Treatment of Treponema pallidum, page 3

### 1. Early syphilis (primary, secondary and early latent syphilis of not more than two years' duration)

### 1.1 Adults and adolescents

**Recommendation 1**
In adults and adolescents with early syphilis, the WHO STI guideline recommends **Benzathine penicillin G 2.4 million units once intramuscularly over no treatment.**

**Recommendation 2**
In adults and adolescents with early syphilis, the WHO STI guideline suggests using **Benzathine penicillin G 2.4 million units once intramuscularly over procaine penicillin G 1.2 million units 10–14 days intramuscularly.**

When **benzathine or procaine penicillin cannot be used (e.g. due to penicillin allergy) or are not available** (e.g. due to stock-outs), the WHO STI guideline suggests using **doxycycline 100 mg twice daily orally for 14 days or ceftriaxone 1 g intramuscularly once daily for 10–14 days, or, in special circumstances, Azithromycin 2 g once orally.**

***Remarks:*** Doxycycline is preferred over ceftriaxone due to its lower cost and oral administration. Doxycycline should not be used in pregnant women (see recommendations 3 and 4 for pregnant women). Azithromycin is an option in special circumstances only when local susceptibility to Azithromycin is likely. If the stage of syphilis is unknown, follow recommendations for people with late syphilis.

### 1.2 Pregnant women

Based on the 2016 WHO guidelines for the Treatment of Treponema pallidum, page 4

**Recommendation 3**
In pregnant women with early syphilis, the WHO STI guideline recommends **Benzathine penicillin G 2.4 million units once intramuscularly over no treatment.**

**Recommendation 4**
In pregnant women with early syphilis, the WHO STI guideline suggests using **Benzathine penicillin G 2.4 million units once intramuscularly over procaine penicillin 1.2 million units intramuscularly once daily for 10 days.**

**When benzathine or procaine penicillin cannot be used (e.g. due to penicillin allergy where penicillin desensitization is not possible) or are not available** (e.g. due to stock-outs), the WHO STI guideline suggests **using, with caution, Erythromycin 500 mg orally four times daily for 14 days or ceftriaxone 1 g intramuscularly once daily for 10–14 days or Azithromycin 2 g once orally.**

***Remarks:*** Although Erythromycin and Azithromycin treat the pregnant women, they do not cross the placental barrier completely and as a result the fetus is not treated. It is therefore necessary to treat the new-born infant soon after delivery (see recommendations 9 and 10 for congenital syphilis). Ceftriaxone is an expensive option and is injectable. **Doxycycline should not be used in pregnant women**. Because syphilis during pregnancy can lead to severe adverse complications to the fetus or new-born, stock-outs of benzathine penicillin for use in antenatal care should be avoided.

### 2. Late syphilis (infection of more than two years' duration without evidence of treponemal infection)

Based on the 2016 WHO guidelines for the Treatment of Treponema pallidum, page 4

### 2.1 Adults and adolescents

**Recommendation 5**

In adults and adolescents with late syphilis or unknown stage of syphilis, the WHO STI guideline recommends **Benzathine penicillin G 2.4 million units intramuscularly once weekly for three consecutive weeks over no treatment**.

***Remarks:*** The interval between consecutive doses of benzathine penicillin should notexceed 14 days.

**Recommendation 6**

In adults and adolescents with late syphilis or unknown stage of syphilis, the WHO STI guideline suggests **Benzathine penicillin G 2.4 million units intramuscularly once weekly for three consecutive weeks over procaine penicillin 1.2 million units once daily for 20 days.**

When **benzathine or procaine penicillin cannot be used (e.g. due to penicillin allergy where penicillin desensitization is not possible) or are not available**(e.g. due to stock-outs), the WHO STI guideline suggests using **Doxycycline 100 mg twice daily orally for 30 days**.

***Remarks:*** Doxycycline should not be used in pregnant women (see recommendations 7 and 8 for pregnant women).

### 2.2 Pregnant women

Based on the 2016 WHO guidelines for the Treatment of Treponema pallidum, page 5

**Recommendation 7**

In pregnant women with late syphilis or unknown stage of syphilis, the WHO STI guideline recommends **Benzathine penicillin G 2.4 million units intramuscularly once weekly for three consecutive weeks over no treatment**.

***Remarks:*** The interval between consecutive doses of Benzathine penicillin should not exceed 14

days.

**Recommendation 8**
In pregnant women with late syphilis or unknown stage of syphilis, the WHO STI guideline suggests **Benzathine penicillin G 2.4 million units intramuscularly once weekly for three consecutive weeks over Procaine penicillin 1.2 million units intramuscularly once a day for 20 days**.

When **Benzathine or Procaine penicillin cannot be used (e.g. due to penicillin allergy where penicillin desensitization is not possible) or are not available** (e.g. due to stock-outs), the WHO STI guideline suggests using, with caution, **Erythromycin 500 mg orally four times daily for 30 days**.

Remarks: Although Erythromycin treats the pregnant women, it does not cross the placental barrier completely and as a result the fetus is not treated. It is therefore necessary to treat the new-born infant soon after delivery (see recommendations 9 and 10 for congenital syphilis). Doxycycline should not be used in pregnant women. Because syphilis during pregnancy can lead to severe adverse complications to the fetus or new-born, stock-outs of benzathine penicillin for use in antenatal care should be avoided.

**TREAT for Chancroid**

Based on WHO Guidelines for the Management of STI, 2003, page 46

**Recommended regimen**

- **Erythromycin base, 500 mg orally, 4 times daily for 7 days**

**OR**

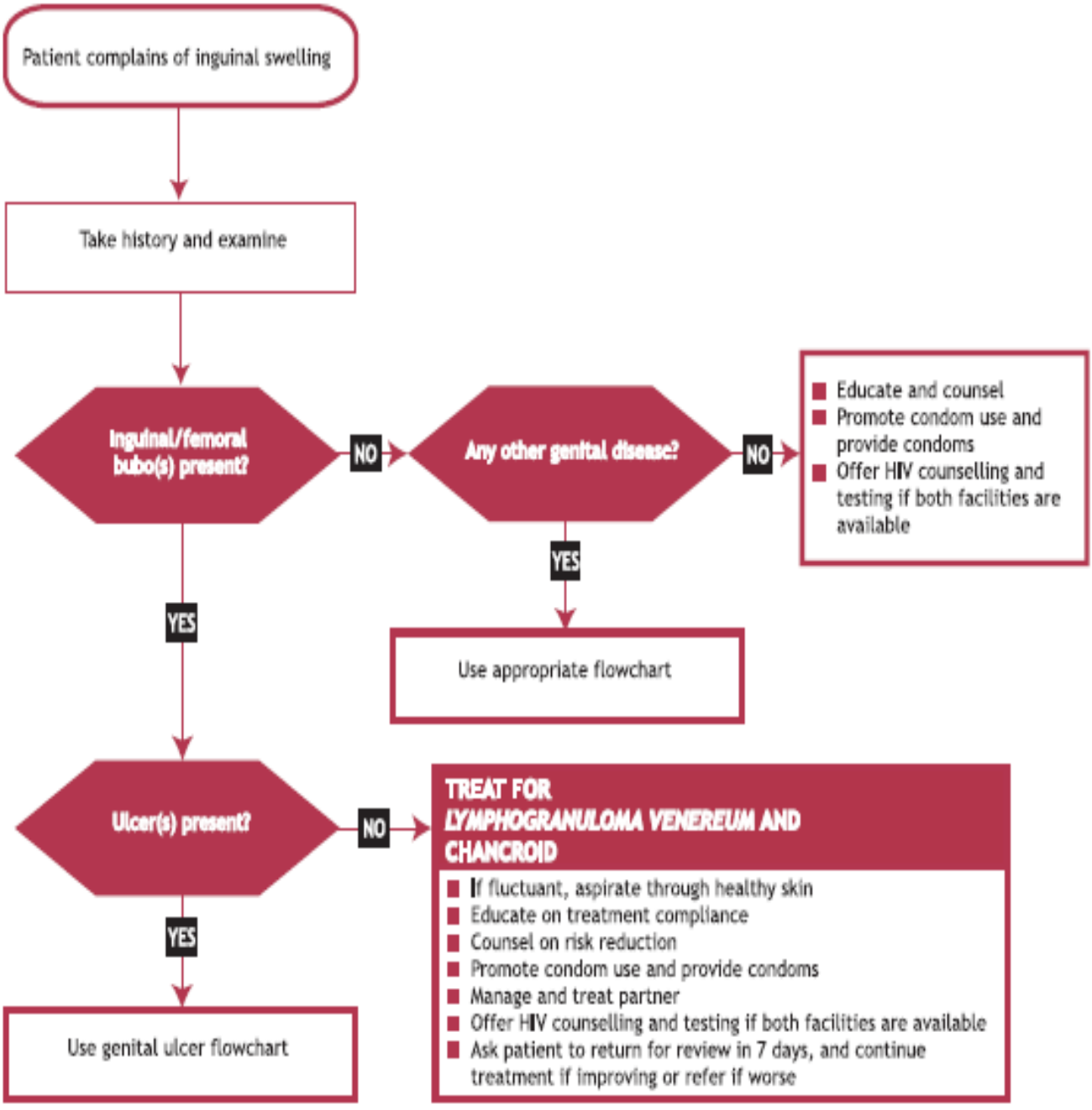
- **Azithromycin, 1 g orally, as a single dose**

**Alternative regimen**

- **Ceftriaxone, 250 mg by intramuscular injection, as a single dose**

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

### FLOW CHART3.3.1.4:INGUINAL BUBO



**TREAT for Chancroid**

Based on WHO Guidelines for the Management of STI, 2003, page 46

**Recommended regimen**

- **Erythromycin base, 500 mg orally, 4 times daily for 7 days**

**OR**

- **Azithromycin, 1 g orally, as a single dose**

**Alternative regimen**

- **Ceftriaxone, 250 mg by intramuscular injection, as a single dose**

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

**TREAT for Lymphogranuloma venereum (LGV)**

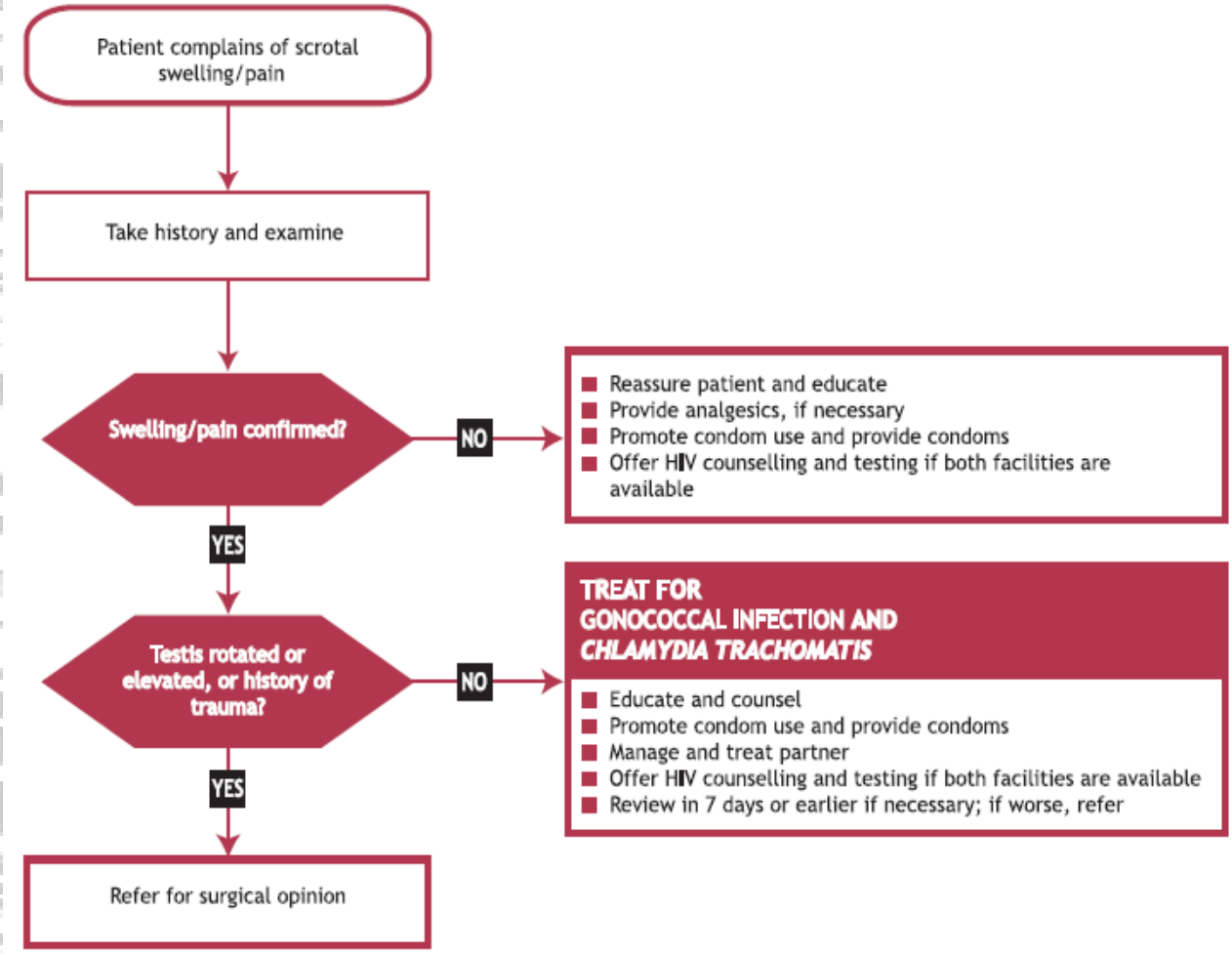
**Recommendation 4**(Based on the 2016 WHO Guidelines for the Treatment of *Chlamydia trachomatis)*

The WHO STI guideline suggests **treatment with doxycycline 100 mg orally twice daily for 21 days over Azithromycin 1 g orally, weekly for 3 weeks**.

*Remarks:* Good practice dictates effective treatment of LGV, in particular for men who have sex with men and for people living with HIV. When doxycycline is contraindicated, Azithromycin should be provided. When neither treatment is available, Erythromycin 500 mg orally four times a day for 21 days is an alternative. **Doxycycline should not be used in pregnant women because of adverse effects (see recommendations 3a–3c)**.

**Note:** Based on the **2016 WHO Guidelines for the Treatment of Chlamydia trachomatis (that included treatment for LGV), page 4 – Doxycycline should not be used in pregnant women** because of adverse effects. **Refer** to **treatment of Genital Chlamydial infection in pregnant women**, ***Recommendations 3a–3c,*** same recommendations for pregnant women with anorectal infections and LGV where use of Doxycycline is contraindicated**.**

## FLOW CHART3.3.1.5:SCROTAL SWELLING



## 2. Uncomplicated genital Chlamydia

Based on the 2016 WHO Guidelines for the Treatment of *Chlamydia trachomatis, page 3*

**Recommendation 1**(Based on the 2016 WHO Guidelines for the Treatment of Chlamydia trachomatis)

The WHO STI guideline suggests treatment with one of the following options:

- **Azithromycin 1 g orally as a single dose**
- **Doxycycline 100 mg orally twice a day for 7 days**

**or one of these alternatives:**

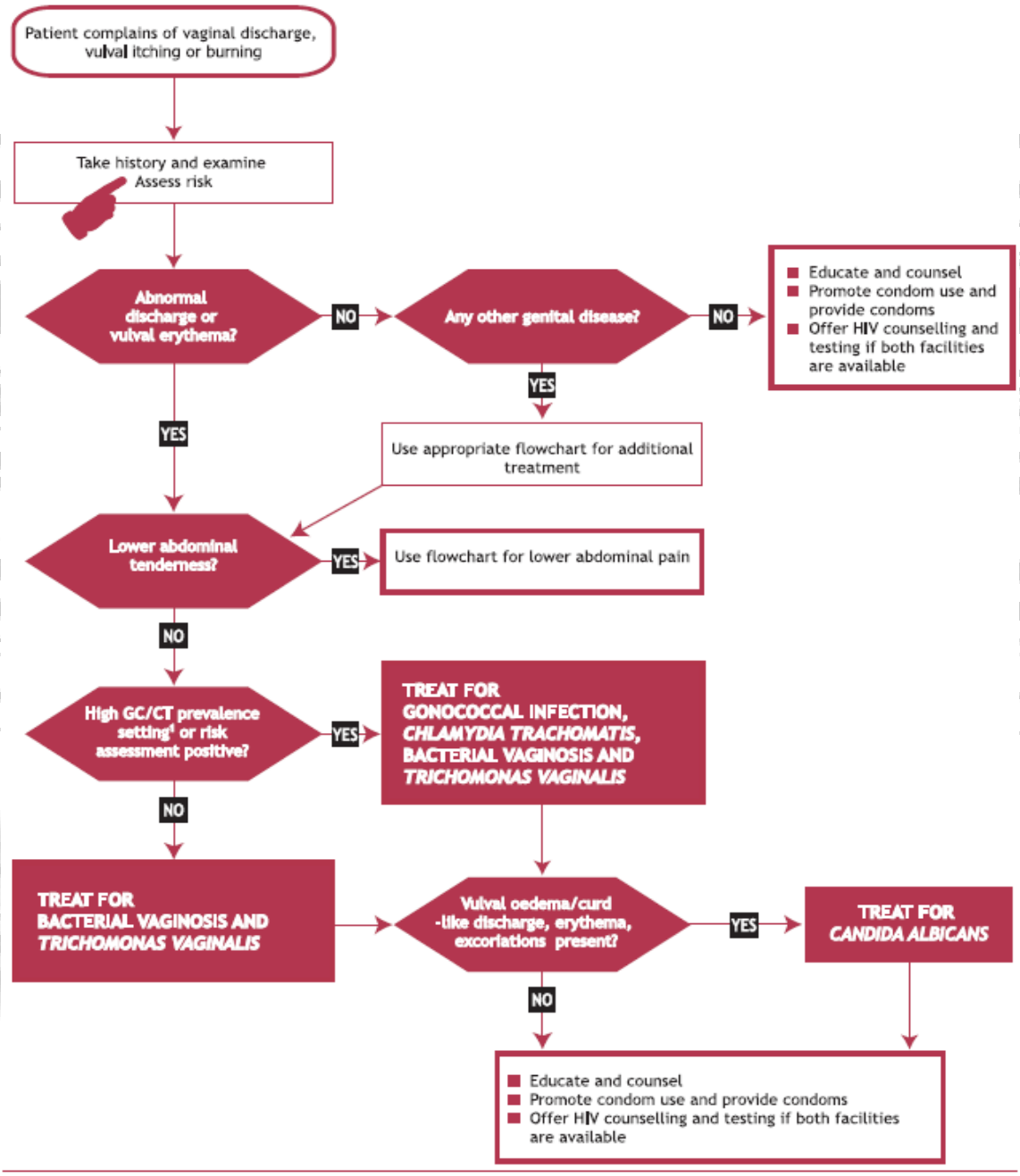
- **Tetracycline 500 mg orally four times a day for 7 days**
- **Erythromycin 500 mg orally twice a day for 7 days**
- **Ofloxacin 200–400 mg orally twice a day for 7 days.**

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks:***While good practice based on evidence of large net benefit dictates that patients should be treated for chlamydial infection, the choice of treatment may depend on the convenience of dosage, the cost and quality of the medicines in different settings, and equity considerations. When high value is placed on reducing costs, doxycycline in a standard dose may be the best choice; when high value is placed on convenience, Azithromycin in a single dose may be the best choice.

A delayed-release doxycycline formulation may be an alternative to twice daily dosing of doxycycline, but the high cost of the delayed-release formulation may prohibit its use**.**

## FLOW CHART3.3.1.6a:VAGINAL DISCHARGE




Risk factors need adaptation to local social, behavioural and epidemiological situation.

1 The determination of high prevalence levels needs to be made locally.

## TREAT for Gonococcal and Chlamydial Infections

### 1. Genital gonococcal infections

Based on the 2016 WHO Guidelines for the Treatment of Neiserria gonorrhea (Gonorrhea), page 3

**Recommendation 1(**Based on the 2016 WHO Guidelines for the Treatment of Neiserria gonorrhea)
The WHO STI guideline recommends that local resistance data should determine the choice of therapy (both for dual therapy and single therapy). In settings where local resistance data are not available, the WHO STI guideline suggests **dual therapy over single therapy** for people with genital or anorectal gonorrhoea.

The WHO STI guideline suggests the following options:

***Dual therapy***(one of the following):

- **Ceftriaxone 250 mg intramuscular (IM) as a single dose PLUS Azithromycin 1 g orally as a single dose**
- **Cefixime 400 mg orally as a single dose PLUS Azithromycin 1 g orally as a single dose.**

***Single therapy***(one of the following, based on recent local resistance data confirmingsusceptibility to the antimicrobial):

- **Ceftriaxone 250 mg IM as a single dose**
- **Cefixime 400 mg orally as a single dose**
- **Spectinomycin 2 g IM as a single dose.**

 ***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks***: Because of the emerging resistance data for gonococcal infections and reduced effectiveness of some medicines, good practice dictates that the choice of treatment depends on reliable local data on antimicrobial susceptibility. Alternative single-medicine therapies, such as gentamicin or kanamycin, have not been suggested due to lack of surveillance data. Guidance for surveillance of antimicrobial resistance in *N. gonorrhoeae* is available from WHO.

## 2. Uncomplicated genital Chlamydia

Based on the 2016 WHO Guidelines for the Treatment of *Chlamydia trachomatis, page 3*

**Recommendation 1**(Based on the 2016 WHO Guidelines for the Treatment of Chlamydia trachomatis)

The WHO STI guideline suggests treatment with one of the following options:

- **Azithromycin 1 g orally as a single dose**
- **Doxycycline 100 mg orally twice a day for 7 days**

**or one of these alternatives:**

- **Tetracycline 500 mg orally four times a day for 7 days**
- **Erythromycin 500 mg orally twice a day for 7 days**
- **Ofloxacin 200–400 mg orally twice a day for 7 days.**

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks:*** While good practice based on evidence of large net benefit dictates that patients should be treated for chlamydial infection, the choice of treatment may depend on the convenience of dosage, the cost and quality of the medicines in different settings, and equity considerations. When high value is placed on reducing costs, doxycycline in a standard dose may be the best choice; when high value is placed on convenience, Azithromycin in a single dose may be the best choice.

A delayed-release doxycycline formulation may be an alternative to twice daily dosing of doxycycline, but the high cost of the delayed-release formulation may prohibit its use.

**Note:**Based on the **2016 WHO Guidelines for the Treatment of Chlamydia trachomatis, page 4** – **Doxycycline should not be used in pregnant women** because of adverse effects (**Refer below for** treatment of Genital Chlamydial infection in pregnant women,***Recommendations 3a–3c) will also be used for pregnant women with anorectal infections.***

### 3) Genital Chlamydial infection in pregnant women(also for pregnant with anorectal infections)

Based on the 2016 WHO Guidelines for the Treatment of Chlamydia trachomatis, page 4

**Recommendation 3a**

The WHO STI guideline recommends treatment with Azithromycin over Erythromycin.

**Recommendation 3b**

The WHO STI guideline suggests treatment with Azithromycin over Amoxicillin.

**Recommendation 3c**

The WHO STI guideline suggests treatment with Amoxicillin over Erythromycin.

**Dosages:**

- **Azithromycin 1 g orally as a single dose, or**
- **Amoxicillin 500 mg orally three times a day for 7 days, or**
- **Erythromycin 500 mg orally twice a day for 7 days.**

***Remarks:*** Azithromycin is the first choice of treatment but may not be available in some settings. Azithromycin is less expensive than Erythromycin and since it is provided as a single dose, may result in better adherence and therefore better outcomes

## TREATfor Trichomonas vaginalis infection

Based on WHO Guidelines for the Management of STI, 2003, page 54

### 1) Vaginal infections

**Recommended regimen**

- **Metronidazole, 2 g orally, in a single dose**

**OR**

- **Tinidazole, 2 g orally, in a single dose**

**Note**

- The reported cure rate in women ranges from 82% to 88% but may be increased to 95% if sexual partners are treated simultaneously.

**Alternative regimen**

- **Metronidazole, 400 mg or 500 mg orally, twice daily for 7 days**

**OR**

- **Tinidazole, 500 mg orally, twice daily for 5 days**

**Note**

- Other 5-nitroimidazoles are also effective, both in single and in multiple dose regimen.
- Patients taking metronidazole or other imidazoles should be cautioned not to consume alcohol while they are taking the drug, and up to 24 hours after taking the last dose.
- Metronidazole is generally not recommended for use in the first trimester of pregnancy

(see text above).

- Asymptomatic women with Trichomoniasis should be treated with the same regimen as symptomatic women.

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

### 2) Trichomoniasis in Pregnancy

*T. vaginalis* infection has been shown to be associated with adverse pregnancy outcomes, particularly premature rupture of membranes, pre-term delivery andlow birth weight. This association is particularly important in symptomatic women.

Further studies are needed to demonstrate the impact of treating trichomoniasis on the prevention of adverse pregnancy outcomes.

**Recommended regimen**

Although **Metronidazole is not recommended for use in the first trimester of pregnancy**, **treatment may be given where early treatment has the best chance of preventing adverse pregnancy outcomes**. In this instance a lower dose should be used (**Metronidazole 2 g single oral dose** rather than a long course). Studies and meta-analyses have not demonstrated a consistent association between metronidazole use during pregnancy and teratogenic or mutagenic effects in newborns.

## TREAT for Bacterial vaginosis

(not an STI, but a Reproductive Tract Infection- an endogenous infection)

Based on WHO Guidelines for the Management of STI, 2003, page 56

### 1) Recommended regimen

**Metronidazole, 400 m g or 500 mg orally, twice daily for 7 days**

Note: Patients taking metronidazole should be cautioned not to consume alcohol while they are taking the drug and up to 24 hours after taking the last dose.

**Alternative regimen**
**Metronidazole, 2 g orally, as a single dose**
**OR**
**Clindamycin 2% vaginal cream, 5 g intravaginally, at bedtime for 7 days**
**OR**
**Metronidazole 0.75% gel, 5 g intravaginally, twice daily for 5 days**

**OR**
**Clindamycin, 300 mg orally, twice daily for 7 days**

Follow-up: Patients should be advised to return if symptoms persist as re-treatment may be needed.

### 2) Recommended regimen for pregnant women

There is evidence that BV is associated with an increased incidence of adverse pregnancy outcomes (e.g. premature rupture of membranes, preterm delivery and low birth weight). Symptomatic pregnant women should be treated, and those with a history of previous pre-term delivery should be screened to detect asymptomatic infections. Pregnant women with recurrence of symptoms should be re-treated.
Screening of asymptomatic pregnant women without a prior history of preterm delivery is not recommended. Metronidazole is not recommended for use in the first trimester of pregnancy, but it may be used during the second and third trimesters. If treatment has to be given during the first trimester, then in order to reduce the risks of any adverse effects, lower doses are recommended.

- **Metronidazole, 200 or 250 mg orally, 3 times daily for 7 days, after first trimester**
- **Metronidazole 2 g orally, as a single dose, if treatment is imperative during the first trimester of pregnancy (see text above)**

**Alternative regimen**
- **Metronidazole, 2 g orally, as a single dose**

**OR**
- **Clindamycin, 300 mg orally, twice daily for 7 days**

**OR**
- **Metronidazole 0.75% gel, 5 g intravaginally, twice daily for 7 days**

## TREAT for Candidiasis

(not an STI, but a Reproductive Tract Infection- an endogenous infection)

Based on WHO Guidelines for the Management of STI, 2003, page 58

### Vulvo-vaginal candidiasis

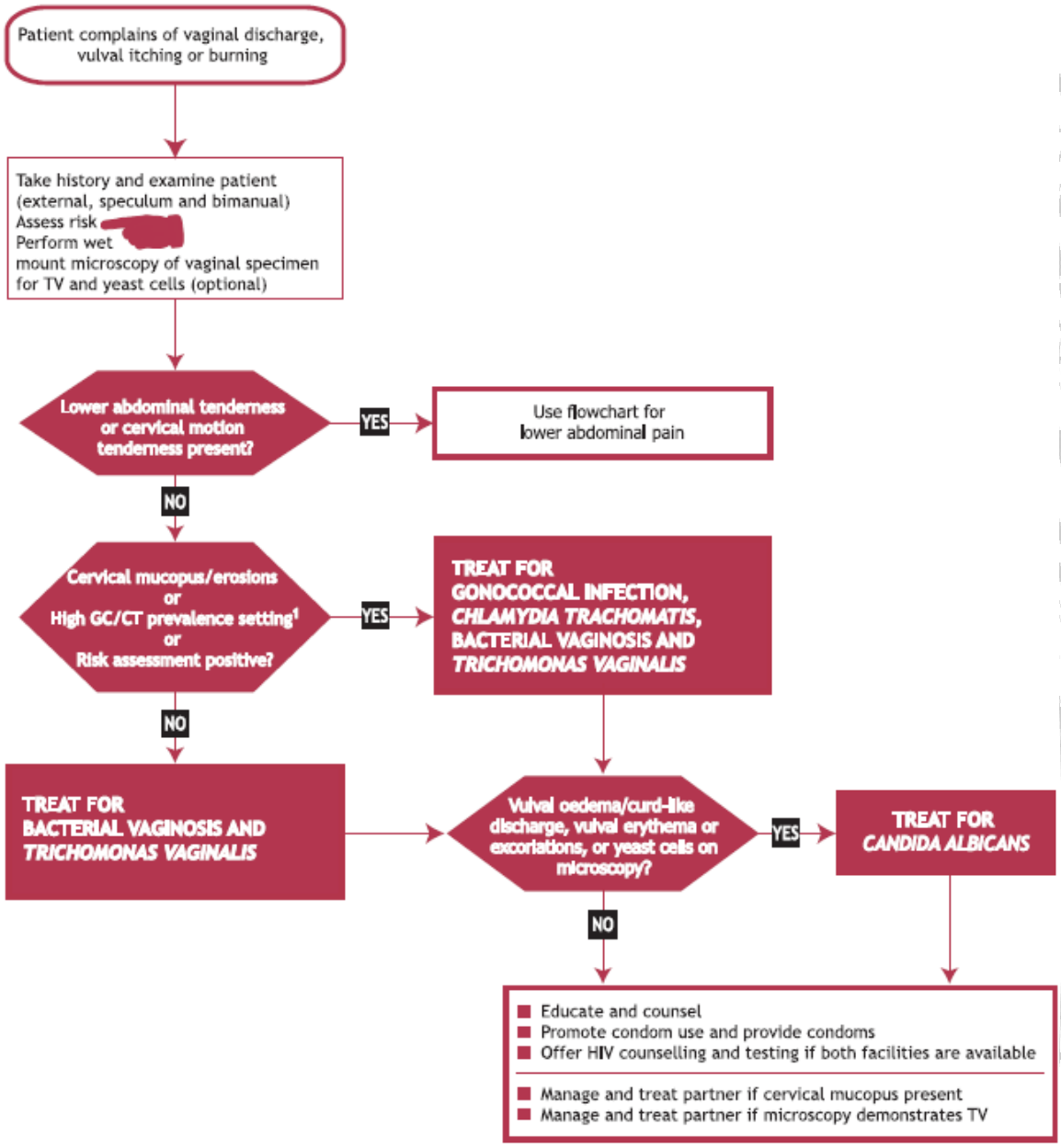
**Recommended regimen**
- **Miconazole or Clotrimazole, 200 mg intravaginally, daily for 3 days**

**OR**
- **Clotrimazole, 500 mg intravaginally, as a single dose**

**OR**
- **Fluconazole, 150 mg orally, as a single dose**

**Alternative regimen**
- **Nystatin, 100 000 IU intravaginally, daily for 14 days**

## FLOW CHART 3.3.1.6b Vaginal Discharge: Bimanual and Speculum, with or without Microscope




Risk factors need adaptation to local social, behavioural and epidemiological situation.

1 The determination of high prevalence levels needs to be made locally.

## TREATfor Gonococcal and Chlamydial Infections

### 1. Genital gonococcal infections

Based on the 2016 WHO Guidelines for the Treatment of Neiserria gonorrhea (Gonorrhea), page 3

**Recommendation 1(**Based on the 2016 WHO Guidelines for the Treatment of Neiserria gonorrhea)
The WHO STI guideline recommends that local resistance data should determine the choice of therapy (both for dual therapy and single therapy). In settings where local resistance data are not available, the WHO STI guideline suggests **dual therapy over single therapy** for people with genital or anorectal gonorrhoea.

The WHO STI guideline suggests the following options:

***Dual therapy***(one of the following):

- **Ceftriaxone 250 mg intramuscular (IM) as a single dose PLUS Azithromycin 1 g orally as a single dose**
- **Cefixime 400 mg orally as a single dose PLUS Azithromycin 1 g orally as a single dose.**

***Single therapy***(one of the following, based on recent local resistance data confirming susceptibility to the antimicrobial):

- **Ceftriaxone 250 mg IM as a single dose**
- **Cefixime 400 mg orally as a single dose**
- **Spectinomycin 2 g IM as a single dose.**

 ***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks***: Because of the emerging resistance data for gonococcal infections and reduced effectiveness of some medicines, good practice dictates that the choice of treatment depends on reliable local data on antimicrobial susceptibility. Alternative single-medicine therapies, such as gentamicin or kanamycin, have not been suggested due to lack of surveillance data. Guidance for surveillance of antimicrobial resistance in *N. gonorrhoeae* is available from WHO.

## 2. Uncomplicated genital Chlamydia

Based on the 2016 WHO Guidelines for the Treatment of *Chlamydia trachomatis, page 3*

**Recommendation 1**(Based on the 2016 WHO Guidelines for the Treatment of Chlamydia trachomatis)

The WHO STI guideline suggests treatment with one of the following options:

- **Azithromycin 1 g orally as a single dose**
- **Doxycycline 100 mg orally twice a day for 7 days**

**or one of these alternatives:**

- **Tetracycline 500 mg orally four times a day for 7 days**
- **Erythromycin 500 mg orally twice a day for 7 days**
- **Ofloxacin 200–400 mg orally twice a day for 7 days.**

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks:*** While good practice based on evidence of large net benefit dictates that patients should be treated for chlamydial infection, the choice of treatment may depend on the convenience of dosage, the cost and quality of the medicines in different settings, and equity considerations. When high value is placed on reducing costs, doxycycline in a standard dose may be the best choice; when high value is placed on convenience, Azithromycin in a single dose may be the best choice.

A delayed-release doxycycline formulation may be an alternative to twice daily dosing of doxycycline, but the high cost of the delayed-release formulation may prohibit its use.

**Note:**Based on the **2016 WHO Guidelines for the Treatment of Chlamydia trachomatis, page 4** – **Doxycycline should not be used in pregnant women** because of adverse effects (**Refer below for** treatment of Genital Chlamydial infection in pregnant women,***Recommendations 3a–3c) will also be used for pregnant women with anorectal infections.***

### 3) Genital Chlamydial infection in pregnant women(also for pregnant with anorectal infections)

Based on the 2016 WHO Guidelines for the Treatment of Chlamydia trachomatis, page 4

**Recommendation 3a**
The WHO STI guideline recommends treatment with Azithromycin over Erythromycin.

**Recommendation 3b**
The WHO STI guideline suggests treatment with Azithromycin over Amoxicillin.

**Recommendation 3c**
The WHO STI guideline suggests treatment with Amoxicillin over Erythromycin.

**Dosages:**
**• Azithromycin 1 g orally as a single dose, or**
**• Amoxicillin 500 mg orally three times a day for 7 days, or**
**• Erythromycin 500 mg orally twice a day for 7 days.**

***Remarks:*** Azithromycin is the first choice of treatment but may not be available in some settings. Azithromycin is less expensive than Erythromycin and since it is provided as a single dose, may result in better adherence and therefore better outcomes

## TREAT for Trichomonas vaginalis infection

Based on WHO Guidelines for the Management of STI, 2003, page 54

### 1) Vaginal infections

**Recommended regimen**

- **Metronidazole, 2 g orally, in a single dose**

**OR**

- **Tinidazole, 2 g orally, in a single dose**

**Note**

- The reported cure rate in women ranges from 82% to 88% but may be increased to 95% if sexual partners are treated simultaneously.

**Alternative regimen**

- **Metronidazole, 400 mg or 500 mg orally, twice daily for 7 days**

**OR**

- **Tinidazole, 500 mg orally, twice daily for 5 days**

**Note**

- Other 5-nitroimidazoles are also effective, both in single and in multiple dose regimen.
- Patients taking metronidazole or other imidazoles should be cautioned not to consume alcohol while they are taking the drug, and up to 24 hours after taking the last dose.
- Metronidazole is generally not recommended for use in the first trimester of pregnancy (see text above).
- Asymptomatic women with Trichomoniasis should be treated with the same regimen as symptomatic women.

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

### 2) Trichomoniasis in Pregnancy

*T. vaginalis* infection has been shown to be associated with adverse pregnancy outcomes, particularly premature rupture of membranes, pre-term delivery andlow birth weight. This association is particularly important in symptomatic women.

Further studies are needed to demonstrate the impact of treating trichomoniasis on the prevention of adverse pregnancy outcomes.

**Recommended regimen**

Although **Metronidazole is not recommended for use in the first trimester of pregnancy**, **treatment may be given where early treatment has the best chance of preventing adverse pregnancy outcomes**. In this instance a lower dose should be used (**Metronidazole 2 g single oral dose** rather than a long course). Studies and meta-analyses have not demonstrated a consistent association between metronidazole use during pregnancy and teratogenic or mutagenic effects in newborns.

## TREAT for Bacterial vaginosis

(not an STI, but a Reproductive Tract Infection- an endogenous infection)

Based on WHO Guidelines for the Management of STI, 2003, page 56

### 1) Recommended regimen

**Metronidazole, 400 mg or 500 mg orally, twice daily for 7 days**

Note: Patients taking metronidazole should be cautioned not to consume alcohol while they are taking the drug and up to 24 hours after taking the last dose.

**Alternative regimen**
**Metronidazole, 2 g orally, as a single dose**

**OR**

**Clindamycin 2% vaginal cream, 5 g intravaginally, at bedtime for 7 days**

**OR**

**Metronidazole 0.75% gel, 5 g intravaginally, twice daily for 5 days**

**OR**

**Clindamycin, 300 mg orally, twice daily for 7 days**

Follow-up: Patients should be advised to return if symptoms persist as re-treatment may be needed.

### 2) Recommended regimen for pregnant women

There is evidence that BV is associated with an increased incidence of adverse pregnancy outcomes (e.g. premature rupture of membranes, preterm delivery and low birth weight). Symptomatic pregnant women should be treated, and those with a history of previous pre-term delivery should be screened to detect asymptomatic infections. Pregnant women with recurrence of symptoms should be re-treated.

Screening of asymptomatic pregnant women without a prior history of preterm delivery is not recommended. Metronidazole is not recommended for use in the first trimester of pregnancy, but it may be used during the second and third trimesters. If treatment has to be given during the first trimester, then in order to reduce the risks of any adverse effects, lower doses are recommended.

- **Metronidazole, 200 or 250 mg orally, 3 times daily for 7 days, after first trimester**
- **Metronidazole 2 g orally, as a single dose, if treatment is imperative during the first trimester of pregnancy (see text above)**

**Alternative regimen**

- M**etronidazole, 2 g orally, as a single dose**

**OR**

- **Clindamycin, 300 mg orally, twice daily for 7 days**

**OR**

- **Metronidazole 0.75% gel, 5 g intravaginally, twice daily for 7 days**

**TREAT for Candidiasis**
(not an STI, but a Reproductive Tract Infection- an endogenous infection)

Based on WHO Guidelines for the Management of STI, 2003, page 58

**Vulvo-vaginal candidiasis**

**Recommended regimen**

- **Miconazole or Clotrimazole, 200 mg intravaginally, daily for 3 days**

**OR**

- **Clotrimazole, 500 mg intravaginally, as a single dose**

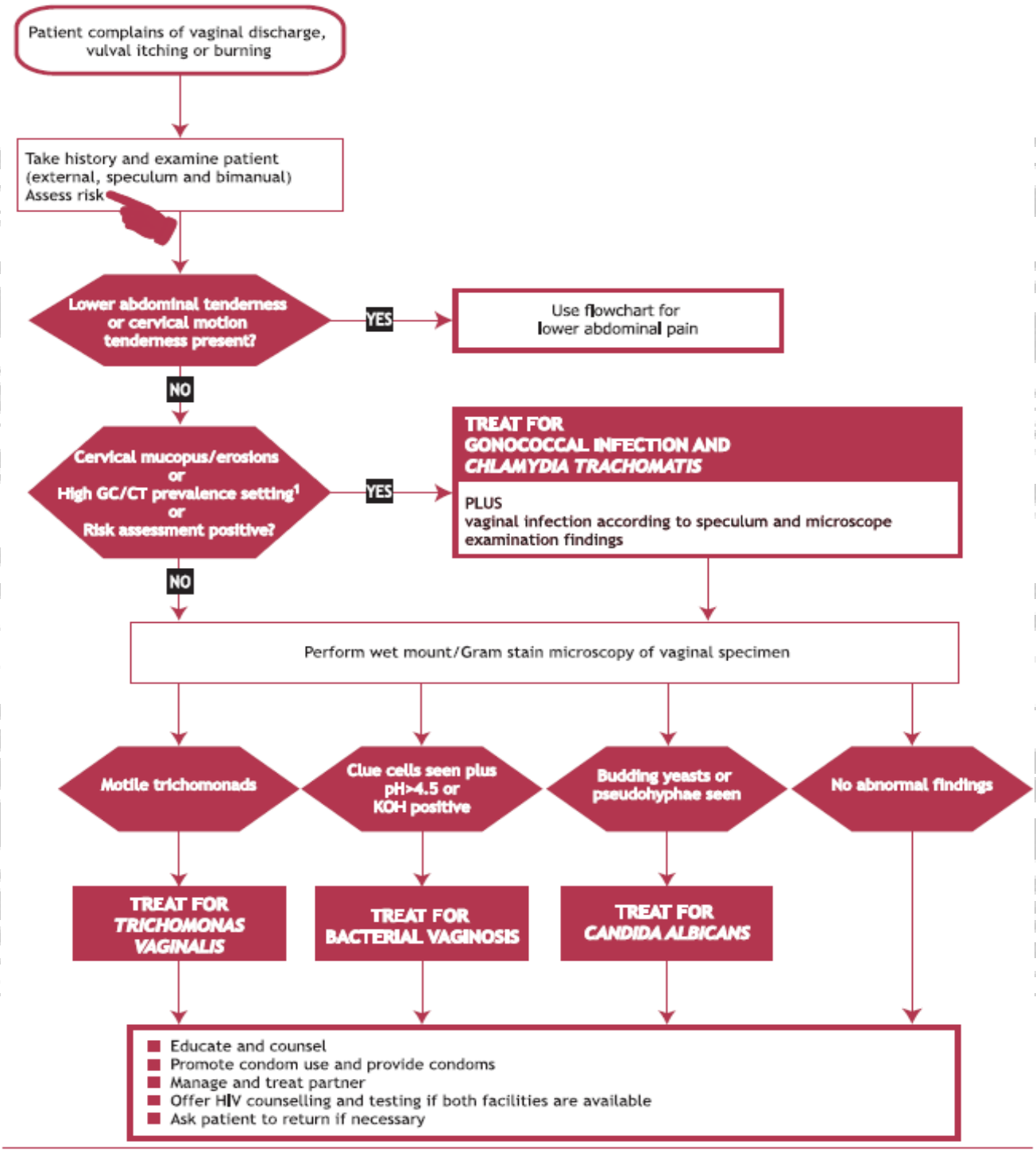
**OR**

- **Fluconazole, 150 mg orally, as a single dose**

**Alternative regimen**

- **Nystatin, 100 000 IU intravaginally, daily for 14 days**

## FLOW CHART 3.3.1.6c Vaginal Discharge: Bimanual and Speculum, and Microscope




Risk factors need adaptation to local social, behavioural and epidemiological situation.

1 The determination of high prevalence levels needs to be made locally.

## TREAT for Gonococcal and Chlamydial Infections

### 1. Genital gonococcal infections

Based on the 2016 WHO Guidelines for the Treatment of Neiserria gonorrhea (Gonorrhea), page 3

**Recommendation 1(**Based on the 2016 WHO Guidelines for the Treatment of Neiserria gonorrhea)
The WHO STI guideline recommends that local resistance data should determine the choice of therapy (both for dual therapy and single therapy). In settings where local resistance data are not available, the WHO STI guideline suggests **dual therapy over single therapy** for people with genital or anorectal gonorrhoea.

The WHO STI guideline suggests the following options:

***Dual therapy***(one of the following):

- **Ceftriaxone 250 mg intramuscular (IM) as a single dose PLUS Azithromycin 1 g orally as a single dose**
- **Cefixime 400 mg orally as a single dose PLUS Azithromycin 1 g orally as a single dose.**

***Single therapy***(one of the following, based on recent local resistance data confirming susceptibility to the antimicrobial):

- **Ceftriaxone 250 mg IM as a single dose**
- **Cefixime 400 mg orally as a single dose**
- **Spectinomycin 2 g IM as a single dose.**

 ***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks***: Because of the emerging resistance data for gonococcal infections and reduced effectiveness of some medicines, good practice dictates that the choice of treatment depends on reliable local data on antimicrobial susceptibility. Alternative single-medicine therapies, such as gentamicin or kanamycin, have not been suggested due to lack of surveillance data. Guidance for surveillance of antimicrobial resistance in *N. gonorrhoeae* is available from WHO.

## 2. Uncomplicated genital Chlamydia

Based on the 2016 WHO Guidelines for the Treatment of *Chlamydia trachomatis, page 3*

**Recommendation 1**(Based on the 2016 WHO Guidelines for the Treatment of Chlamydia trachomatis)

The WHO STI guideline suggests treatment with one of the following options:

- **Azithromycin 1 g orally as a single dose**
- **Doxycycline 100 mg orally twice a day for 7 days**

**or one of these alternatives:**

- **Tetracycline 500 mg orally four times a day for 7 days**
- **Erythromycin 500 mg orally twice a day for 7 days**
- **Ofloxacin 200–400 mg orally twice a day for 7 days.**

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks:*** While good practice based on evidence of large net benefit dictates that patients should be treated for chlamydial infection, the choice of treatment may depend on the convenience of dosage, the cost and quality of the medicines in different settings, and equity considerations. When high value is placed on reducing costs, doxycycline in a standard dose may be the best choice; when high value is placed on convenience, Azithromycin in a single dose may be the best choice.

A delayed-release doxycycline formulation may be an alternative to twice daily dosing of doxycycline, but the high cost of the delayed-release formulation may prohibit its use.

**Note:**Based on the **2016 WHO Guidelines for the Treatment of Chlamydia trachomatis, page 4** – **Doxycycline should not be used in pregnant women** because of adverse effects (**Refer below for** treatment of Genital Chlamydial infection in pregnant women,***Recommendations 3a–3c) will also be used for pregnant women with anorectal infections.***

### 3) Genital Chlamydial infection in pregnant women (also for pregnant with anorectal infections)

Based on the 2016 WHO Guidelines for the Treatment of Chlamydia trachomatis, page 4

**Recommendation 3a**

The WHO STI guideline recommends treatment with Azithromycin over Erythromycin.

**Recommendation 3b**

The WHO STI guideline suggests treatment with Azithromycin over Amoxicillin.

**Recommendation 3c**

The WHO STI guideline suggests treatment with Amoxicillin over Erythromycin.

**Dosages:**

- **Azithromycin 1 g orally as a single dose, or**
- **Amoxicillin 500 mg orally three times a day for 7 days, or**
- **Erythromycin 500 mg orally twice a day for 7 days.**

***Remarks:*** Azithromycin is the first choice of treatment but may not be available in some settings. Azithromycin is less expensive than Erythromycin and since it is provided as a single dose, may result in better adherence and therefore better outcomes

## TREATfor Trichomonas vaginalis infection

Based on WHO Guidelines for the Management of STI, 2003, page 54

### 1) Vaginal infections

**Recommended regimen**

- **Metronidazole, 2 g orally, in a single dose**

**OR**

- **Tinidazole, 2 g orally, in a single dose**

**Note**

- The reported cure rate in women ranges from 82% to 88% but may be increased to 95% if sexual partners are treated simultaneously.

**Alternative regimen**

- **Metronidazole, 400 mg or 500 mg orally, twice daily for 7 days**

**OR**

- **Tinidazole, 500 mg orally, twice daily for 5 days**

 ***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

**Note**

- Other 5-nitroimidazoles are also effective, both in single and in multiple dose regimen.
- Patients taking metronidazole or other imidazoles should be cautioned not to consume alcohol while they are taking the drug, and up to 24 hours after taking the last dose.
- Metronidazole is generally not recommended for use in the first trimester of pregnancy (see text above).
- Asymptomatic women with Trichomoniasis should be treated with the same regimen as symptomatic women.

### 2) Trichomoniasis in Pregnancy

*T. vaginalis* infection has been shown to be associated with adverse pregnancy outcomes, particularly premature rupture of membranes, pre-term delivery and low birth weight. This association is particularly important in symptomatic women.

Further studies are needed to demonstrate the impact of treating trichomoniasis on the prevention of adverse pregnancy outcomes.

## Recommended regimen

Although **Metronidazole is not recommended for use in the first trimester of pregnancy**, **treatment may be given where early treatment has the best chance of preventing adverse pregnancy outcomes**. In this instance a lower dose should be used (**Metronidazole 2 g single oral dose** rather than a long course). Studies and meta-analyse shave not demonstrated a consistent association between metronidazole use during pregnancy and teratogenic or mutagenic effects in newborns.

## TREAT for Bacterial vaginosis

(not an STI, but a Reproductive Tract Infection- an endogenous infection)

Based on WHO Guidelines for the Management of STI, 2003, page 56

### 1) Recommended regimen

**Metronidazole, 400 mg or 500 mg orally, twice daily for 7 days**

Note: Patients taking metronidazole should be cautioned not to consume alcohol while they are taking the drug and up to 24 hours after taking the last dose.

## Alternative regimen

**Metronidazole, 2 g orally, as a single dose**

**OR**

**Clindamycin 2% vaginal cream, 5 g intravaginally, at bedtime for 7 days**

**OR**

**Metronidazole 0.75% gel, 5 g intravaginally, twice daily for 5 days**

**OR**

**Clindamycin, 300 mg orally, twice daily for 7 days**

Follow-up: Patients should be advised to return if symptoms persist as re-treatment may be needed.

### 2) Recommended regimen for pregnant women

There is evidence that BV is associated with an increased incidence of adverse pregnancy outcomes (e.g. premature rupture of membranes, preterm delivery and low birth weight). Symptomatic pregnant women should be treated, and those with a history of previous pre-term delivery should be screened to detect asymptomatic infections. Pregnant women with recurrence of symptoms should be re-treated.

Screening of asymptomatic pregnant women without a prior history of preterm delivery is not recommended. Metronidazole is not recommended for use in the first trimester of pregnancy, but it may be used during the second and third trimesters. If treatment has to be given during the first trimester, then in order to reduce the risks of any adverse effects, lower doses are recommended.

- **Metronidazole, 200 or 250 mg orally, 3 times daily for 7 days, after first trimester**
- **Metronidazole 2 g orally, as a single dose, if treatment is imperative during the first trimester of pregnancy (see text above)**

**Alternative regimen**

- **Metronidazole, 2 g orally, as a single dose**

**OR**

- **Clindamycin, 300 mg orally, twice daily for 7 days**

**OR**

- **Metronidazole 0.75% gel, 5 g intravaginally, twice daily for 7 days**

**TREAT for Candidiasis**
(not an STI, but a Reproductive Tract Infection- an endogenous infection)

Based on WHO Guidelines for the Management of STI, 2003, page 58

**Vulvo-vaginal candidiasis**

**Recommended regimen**

- **Miconazole or Clotrimazole, 200 mg intravaginally, daily for 3 days**

**OR**

- **Clotrimazole, 500 mg intravaginally, as a single dose**

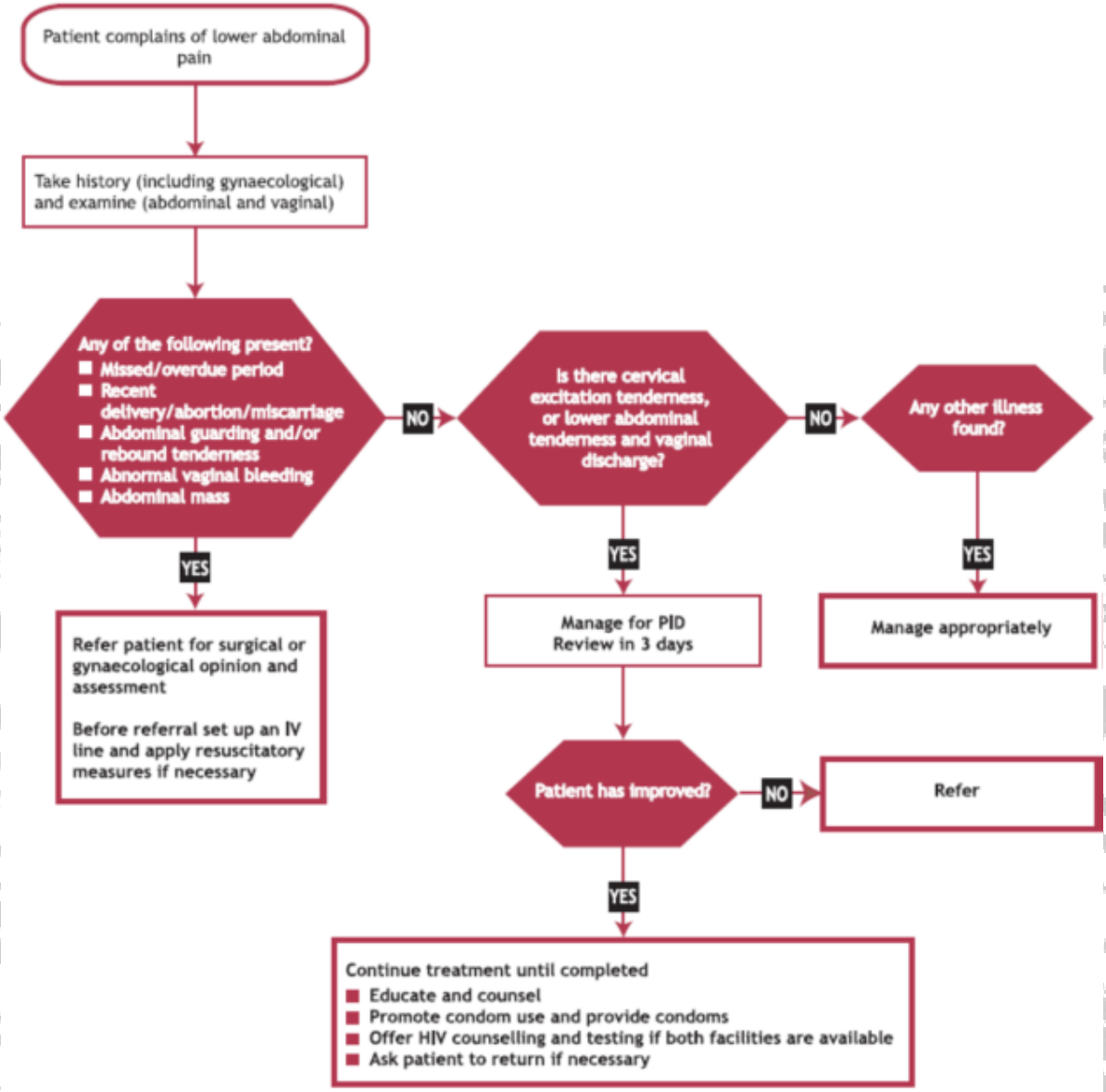
**OR**

- **Fluconazole, 150 mg orally, as a single dose**

**Alternative regimen**

- **Nystatin, 100 000 IU intravaginally, daily for 14 days**

## FLOW CHART 3.3.1.7:LOWER ABDOMINAL PAIN


Patient complains of lower abdominal pain
Take history (including gynaecological) and examine (abdominal and vaginal)
Any of the following present?
Missed/overdue period
Recent delivery/abortion/miscarriage
Abdominal guarding and/or rebound tenderness
Abnormal vaginal bleeding
Abdominal mass
NO
Is there cervical excitation tenderness, or lower abdominal tenderness and vaginal discharge?
NO
Any other illness found?
YES
Refer patient for surgical or gynaecological opinion and assessment
Before referral set up an IV line and apply resuscitatory measures if necessary
YES
Manage for PID
Review in 3 days
YES
Manage appropriately
Patient has improved?
NO
Refer
YES
Continue treatment until completed
Educate and counsel
Promote condom use and provide condoms
Offer HIV counselling and testing if both facilities are available
Ask patient to return if necessary

**TREAT Pelvic Inflammatory Disease for uncomplicated Gonorrhea, Chlamydia, Bacterial vaginosis**

**Outpatient Therapy**

**Recommended syndromic treatment:**

- ***Dual therapy***(one of the following):

**• Ceftriaxone 250 mg intramuscular (IM) as a single dose PLUS Azithromycin 1 g orally as a single dose**
**• Cefixime 400 mg orally as a single dose PLUS Azithromycin 1 g orally as a single dose.**

**OR**

- ***Single therapy***(one of the following, based on recent local resistance data confirming susceptibility to the antimicrobial):

**• Ceftriaxone 250 mg IM as a single dose**
**• Cefixime 400 mg orally as a single dose**
**• Spectinomycin 2 g IM as a single dose**

**PLUS**

- **Doxycycline, 100 mg orally, twice daily, or tetracycline, 500 mg orally, 4 times daily for 14 days**

**PLUS**

- **Metronidazole, 400–500 mg orally, twice daily for 14 days**

**Note**
Patients taking metronidazole should be cautioned to avoid alcohol.

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

## Adjuncts to therapy: removal of intrauterine device (IUD)

If PID should occur with an IUD in place, treat the PID using appropriate antibiotics. There is no evidence that removal of the IUD provides any additional benefit. Thus, if the individual should wish to continue its use, it need not be removed. If she does not want to keep the IUD, removal of the IUD is recommended after antimicrobial therapy has been commenced. When the IUD is removed, contraceptive counselling is necessary.

**Follow-up** Outpatients with PID should be **followed up after 72 hours and admitted if their condition has not improved**.

**Inpatient Therapy**

**Recommended syndromic treatment options for PID**

- **Ceftriaxone, 250 mg by intramuscular injection, once daily**

**PLUS**

- **Doxycycline, 100 mg orally or by intravenous injection, twice daily**

**PLUS**

- **Metronidazole, 400–500 mg orally or by intravenous injection, twice daily**

**Note:**

- Regimen, therapy should be continued until at least two days after the patient has improved and should then be followed by either doxycycline, 100 mg orally, twice daily for 14 days
- Patients taking metronidazole should be cautioned to avoid alcohol.

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

**Note:**Based on the **2016 WHO Guidelines for the Treatment of Chlamydia trachomatis, page 4** – **Doxycycline should not be used in pregnant women**because of adverse effects. **Refer below for** treatment for infection in pregnant women where Doxycycline use is contraindicated, ***Recommendations 3a–3c).***

## Substitute for Doxycycline use in pregnant women

Based on the 2016 WHO Guidelines for the Treatment of Chlamydia trachomatis, page 4

**Recommendation 3a**

The WHO STI guideline recommends treatment with Azithromycin over Erythromycin.

**Recommendation 3b**

The WHO STI guideline suggests treatment with Azithromycin over Amoxicillin.

**Recommendation 3c**

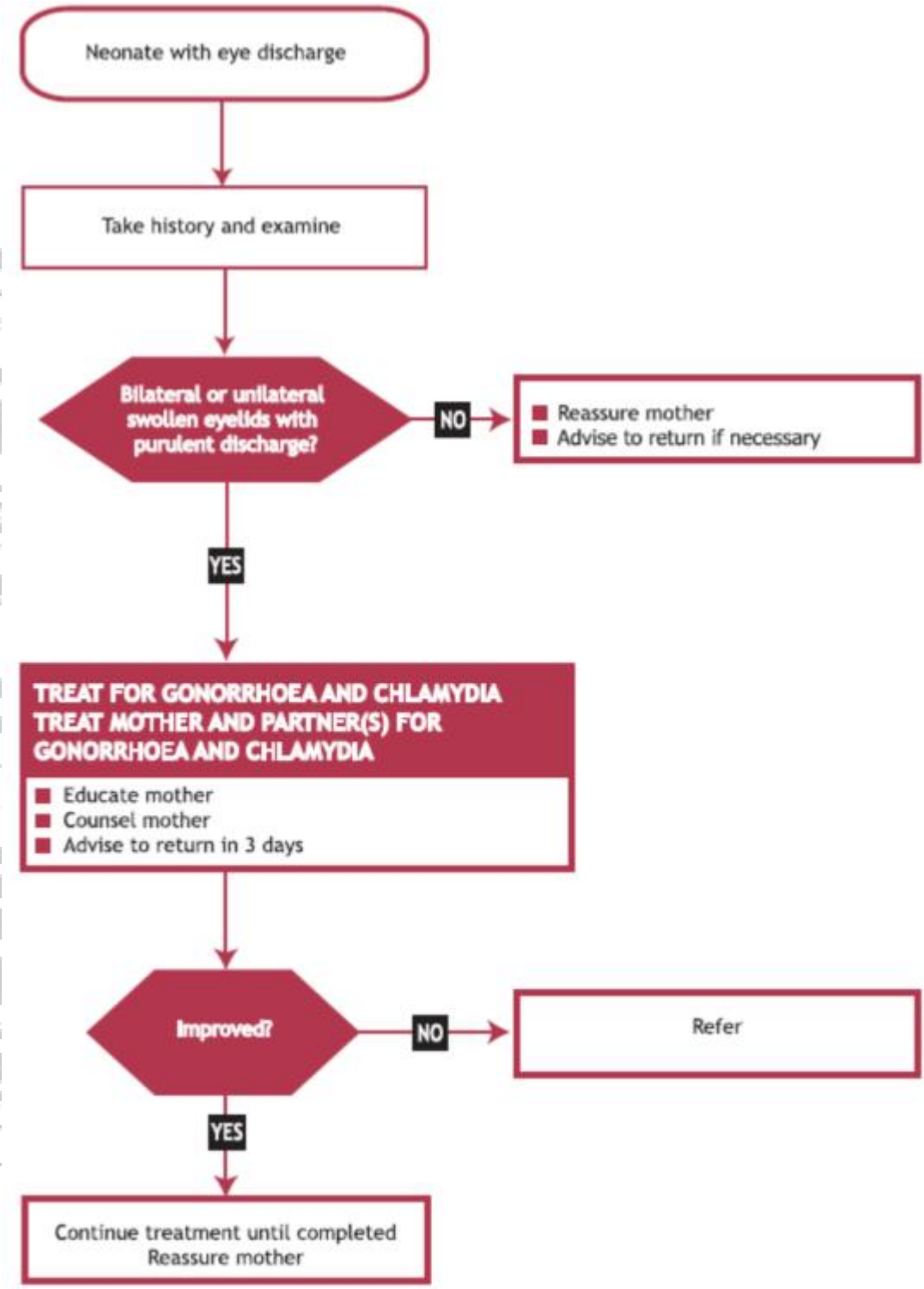
The WHO STI guideline suggests treatment with Amoxicillin over Erythromycin.

**Dosages:**

- **Azithromycin 1 g orally as a single dose, or**
- **Amoxicillin 500 mg orally three times a day for 7 days, or**
- **Erythromycin 500 mg orally twice a day for 7 days.**

***Remarks:*** Azithromycin is the first choice of treatment but may not be available in some settings. Azithromycin is less expensive than Erythromycin and since it is provided as a single dose, may result in better adherence and therefore better outcomes

## FLOW CHART 3.3.1.8: NEONATAL CONJUNCTIVITIS/OPHTHALMIA NEONATORUM



**TREAT for Gonococcal and Chlamydial Infections**

## 1) Gonococcal Neonatal conjunctivitis/Ophthalmia neonatorum

Based on the 2016 WHO Guidelines for the Treatment of Neisseria gonorrhea (Gonorrhea), page 5

**Recommendation 4**

In neonates with gonococcal conjunctivitis, the WHO STI guideline suggests one of the following treatment options:

- **Ceftriaxone 50 mg/kg (maximum 150 mg) IM as a single dose**
- **Kanamycin 25 mg/kg (maximum 75 mg) IM as a single dose**
- **Spectinomycin 25 mg/kg (maximum 75 mg) IM as a single dose.**

 ***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks*: Due to the large net benefit with treatment, good practice dictates that neonates should be treated for gonococcal conjunctivitis. The choice of treatment may depend on the cost and quality of the medicine in different settings and on equity considerations. Side-effects should be monitored in neonates.**

**Recommendation 5**

For all neonates, the WHO STI guideline recommends topical ocular prophylaxis for the prevention of gonococcal and chlamydial ophthalmia neonatorum.

**Recommendation 6**

For ocular prophylaxis, the WHO STI guideline suggests one of the following options for topical application to both eyes immediately after birth:

- **Tetracycline hydrochloride 1% eye ointment**
- **Erythromycin 0.5% eye ointment**
- **Povidone iodine 2.5% solution (water-based)**
- **Silver nitrate 1% solution**
- **Chloramphenicol 1% eye ointment.**

 ***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks*: Recommendations 5 and 6 apply to the prevention of both chlamydial and gonococcal ophthalmia neonatorum. Cost and local resistance to erythromycin, tetracycline and chloramphenicol in gonococcal infection may determine the choice of medication. Caution**

should be taken to avoid touching eye tissue when applying the topical treatment and to provide a water-based solution of povidone iodine.
**DO NOT USE ALCOHOL-BASED POVIDONE IODINE SOLUTION.**

### 2) Chlamydial Neonatal conjunctivitis/Ophthalmia neonatorum

**Recommendation 5**

In neonates with chlamydial conjunctivitis, the WHO STI guideline recommends treatment with azithromycin 20 mg/kg/day orally, one dose daily for 3 days, over erythromycin 50 mg/kg/day orally, in four divided doses daily for 14 days.

*Remarks:* This is a strong recommendation given the potential for the risk of pyloric stenosis with the use of erythromycin in neonates. In some settings, azithromycin suspension is not available and therefore erythromycin may be used. Side-effects should be monitored with the use of either medication.

**Recommendation 6**

For all neonates, the WHO STI guideline recommends topical ocular prophylaxis for the prevention of gonococcal and chlamydial ophthalmia neonatorum.

**Recommendation 7**

For ocular prophylaxis, the WHO STI guideline suggests one of the following options for topical application to both eyes immediately after birth:

- **Tetracycline hydrochloride 1% eye ointment**
- **Erythromycin 0.5% eye ointment**
- **Povidone iodine 2.5% solution**
- **Silver nitrate 1% solution**
- **Chloramphenicol 1% eye ointment.**

***Remarks:*** Recommendations 6 and 7 apply to the prevention of both chlamydial and gonococcal ophthalmia neonatorum. Cost and local resistance to erythromycin, tetracycline and chloramphenicol in gonococcal infection may determine the choice of medication. Caution should be taken to avoid touching eye tissue when applying the topical treatment and to provide a water-based solution of povidone iodine.

**DO NOT USE ALCOHOL-BASED POVIDONE IODINE SOLUTION.**

# Treatment of specific infections

## 3.3.2 Treatment of specific infections

### 3.3.2.1 Treatment of Neiserria gonorrhea (Gonorrhea)

Based on the 2016 WHO Guidelines for the Treatment of Gonorrhea

#### 3.3.2.1.1 Genital and anorectal gonococcal infections

Based on the 2016 WHO Guidelines for the Treatment of Neiserria gonorrhea (Gonorrhea), page 3

**Recommendation 1**

The WHO STI guideline recommends that local resistance data should determine the choice of therapy (both for dual therapy and single therapy). In settings where local resistance data are not available, the WHO STI guideline suggests dual therapy over single therapy for people with genital or anorectal gonorrhoea.

The WHO STI guideline suggests the following options:

***Dual therapy***(one of the following):

- **Ceftriaxone 250 mg intramuscular (IM) as a single dose PLUS Azithromycin 1 g orally as a single dose**
- **Cefixime 400 mg orally as a single dose PLUS Azithromycin 1 g orally as a single dose.**

***Single therapy*** (one of the following, based on recent local resistance data confirming susceptibility to the antimicrobial):

- **Ceftriaxone 250 mg IM as a single dose**
- **Cefixime 400 mg orally as a single dose**
- **Spectinomycin 2 g IM as a single dose.**

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks***: Because of the emerging resistance data for gonococcal infections and reduced effectiveness of some medicines, good practice dictates that the choice of treatment depends on reliable local data on antimicrobial susceptibility. Alternative single-medicine therapies, such as gentamicin or kanamycin, have not been suggested due to lack of surveillance data. Guidance for surveillance of antimicrobial resistance in *N. gonorrhoeae* is available from WHO.**This recommendation applies to pregnant women, who should be closely monitored for complications**.

Based on the 2016 WHO Guidelines for the Treatment of Neisseria gonorrhea (Gonorrhea), page 4

### 3.3.2.1.2 Oropharyngeal gonococcal infections

**Recommendation 2**

In adults and adolescents with gonococcal oropharyngeal infections, the WHO STI guideline suggests dual therapy over single therapy.

The WHO STI guideline suggests the following options:

***Dual therapy***(one of the following):

- **Ceftriaxone 250 mg intramuscular (IM) as a single dose PLUS Azithromycin 1 g orally as a single dose**
- **Cefixime 400 mg orally as a single dose PLUS Azithromycin 1 g orally as a single dose.**

***Single therapy***(based on recent local resistance data confirming susceptibility to the antimicrobial)

- **Ceftriaxone 250 mg IM as single dose.**

 ***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks*:** Treatment failures have been observed after single therapy for gonococcal oropharyngeal infections and therefore dual therapy is suggested over single therapy. **This recommendation applies to pregnant women, who should be closely monitored for complications**.

### 3.3.2.1.3 Retreatment of gonococcal infections after treatment failure

**Recommendation 3**

In people with gonococcal infections who have failed treatment, the WHO STI guideline suggests the following options.

- If reinfection is suspected, re-treat with a WHO-recommended regimen, reinforce sexual abstinence or condom use, and provide partner treatment.
- If treatment failure occurred after treatment with a regimen not recommended by WHO, re-treat with a WHO-recommended regimen.
- If treatment failure occurred and resistance data are available, re-treat according to susceptibility.
- If treatment failure occurred after treatment with a WHO-recommended single therapy, re-treat with WHO-recommended dual therapy.
- If treatment failure occurred after a WHO-recommended dual therapy, re-treat with one of the following dual therapies:

  - **Ceftriaxone 500 mg IM as a single dose PLUS Azithromycin 2 g orally as a single dose**
  - **Cefixime 800 mg orally as a single dose PLUS Azithromycin 2 g orally as a single dose**
  - **Gentamicin 240 mg IM as a single dose PLUS Azithromycin 2 g orally as a single**

**dose**

- **Spectinomycin 2 g IM as a single dose (if not an oropharyngeal infection) PLUS Azithromycin 2 g orally as a single dose**.

 ***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks*:** Before retreatment, reinfection should be distinguished from treatment failure, resistance data should be obtained when possible, and the WHO-recommended regimens should be used.

### 3.3.2.1.4Gonococcal ophthalmia neonatorum

Based on the 2016 WHO Guidelines for the Treatment of Neisseria gonorrhea (Gonorrhea), page 5

**Recommendation 4**

In neonates with gonococcal conjunctivitis, the WHO STI guideline suggests one of the following treatment options:

- **Ceftriaxone 50 mg/kg (maximum 150 mg) IM as a single dose**
- **Kanamycin 25 mg/kg (maximum 75 mg) IM as a single dose**
- **Spectinomycin 25 mg/kg (maximum 75 mg) IM as a single dose.**

 ***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks*:** Due to the large net benefit with treatment, good practice dictates that neonates should be treated for gonococcal conjunctivitis. The choice of treatment may depend on the cost and

quality of the medicine in different settings and on equity considerations. Side-effects should be monitored in neonates.

**Recommendation 5**

For all neonates, the WHO STI guideline recommends topical ocular prophylaxis for the prevention of gonococcal and chlamydial ophthalmia neonatorum.

**Recommendation 6**

For ocular prophylaxis, the WHO STI guideline suggests one of the following options for topical application to both eyes immediately after birth:

- **Tetracycline hydrochloride 1% eye ointment**
- **Erythromycin 0.5% eye ointment**
- **Povidone iodine 2.5% solution (water-based)**
- **Silver nitrate 1% solution**
- **Chloramphenicol 1% eye ointment.**

 ***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks***: Recommendations 5 and 6 apply to the prevention of both chlamydial and gonococcal ophthalmia neonatorum. Cost and local resistance to Erythromycin, tetracycline and chloramphenicol in gonococcal infection may determine the choice of medication. Caution should be taken to avoid touching eye tissue when applying the topical treatment and to provide a water-based solution of povidone iodine.

**DO NOT USE ALCOHOL-BASED POVIDONE IODINE SOLUTION.**

### 3.3.2.2 Treatment of Chlamydia trachomatis (Chlamydia)

Based on the 2016 WHO Guidelines for the Treatment of *Chlamydia trachomatis*

Based on the 2016 WHO Guidelines for the Treatment of *Chlamydia trachomatis, page 3*

#### 3.3.2.2.1 Uncomplicated genital chlamydia

**Recommendation 1**

The WHO STI guideline suggests treatment with one of the following options:

- **Azithromycin 1 g orally as a single dose**
- **Doxycycline 100 mg orally twice a day for 7 days**

**or one of these alternatives:**

- **Tetracycline 500 mg orally four times a day for 7 days**
- **Erythromycin 500 mg orally twice a day for 7 days**
- **Ofloxacin 200–400 mg orally twice a day for 7 days.**

***Remarks:*** While good practice based on evidence of large net benefit dictates that patients should be treated for chlamydial infection, the choice of treatment may depend on the convenience of dosage, the cost and quality of the medicines in different settings, and equity considerations. When high value is placed on reducing costs, doxycycline in a standard dose may be the best choice; when high value is placed on convenience, Azithromycin in a single dose may be the best choice.

A delayed-release doxycycline formulation may be an alternative to twice daily dosing of doxycycline, but the high cost of the delayed-release formulation may prohibit its use**. *Note that Doxycycline, Tetracycline and Ofloxacin are contraindicated in pregnant women(see Treatment* 3.3.2.2.3** Genital Chlamydial infection in pregnant women ***Recommendations 3a–3c).***

### 3.3.2.2.2 Anorectal chlamydial infection

**Recommendation 2**

The WHO STI guideline suggests treatment with doxycycline 100 mg orally twice a day for 7 days over Azithromycin 1 g orally as a single dose.

*Remarks:* This recommendation applies to people with known anorectal infection and to people with suspected anorectal infections with genital co-infection. **Clinicians should ask men, women and key populations (e.g. men who have sex with men, transgender persons and female sex workers) about anal sex and treat accordingly**. ***Doxycycline should not be used in pregnant women because of adverse effects (see Treatment*** **3.3.2.2.3** Genital Chlamydial infection in pregnant women ***Recommendations 3a–3c).***

### 3.3.2.2.3 Genital chlamydial infection in pregnant women

Based on the 2016 WHO Guidelines for the Treatment of Chlamydia trachomatis, page 4

**Recommendation 3a**

The WHO STI guideline recommends treatment with Azithromycin over Erythromycin.

**Recommendation 3b**

The WHO STI guideline suggests treatment with Azithromycin over Amoxicillin.

**Recommendation 3c**

The WHO STI guideline suggests treatment with Amoxicillin over Erythromycin.

**Dosages:**

- **Azithromycin 1 g orally as a single dose**
- **Amoxicillin 500 mg orally three times a day for 7 days**
- **Erythromycin 500 mg orally twice a day for 7 days.**

***Remarks:*** Azithromycin is the first choice of treatment but may not be available in some settings. Azithromycin is less expensive than Erythromycin and since it is provided as a single dose, may result in better adherence and therefore better outcomes.

### 3.3.2.2.4Lymphogranuloma venereum (LGV)

**Recommendation 4**

The WHO STI guideline suggests treatment with doxycycline 100 mg orally twice daily for 21 days over Azithromycin 1 g orally, weekly for 3 weeks.

*Remarks:* Good practice dictates effective treatment of LGV, in particular for men who have sex with men and for people living with HIV. When doxycycline is contraindicated, Azithromycin should be provided. When neither treatment is available, Erythromycin 500 mg orally four times a day for 21 days is an alternative. Doxycycline should not be used in pregnant women because of adverse effects (see recommendations 3a–3c).

### 3.3.2.2.5Ophthalmia neonatorum

**Recommendation 5**

In neonates with chlamydial conjunctivitis, the WHO STI guideline recommends treatment with Azithromycin 20 mg/kg/day orally, one dose daily for 3 days, over Erythromycin 50 mg/kg/day orally, in four divided doses daily for 14 days.

*Remarks:* This is a strong recommendation given the potential for the risk of pyloric stenosis with the use of Erythromycin in neonates. In some settings, Azithromycin suspension is not available and therefore Erythromycin may be used. Side-effects should be monitored with the use of either medication.

**Recommendation 6**

For all neonates, the WHO STI guideline recommends topical ocular prophylaxis for the prevention of gonococcal and chlamydial ophthalmia neonatorum.

**Recommendation 7**

For ocular prophylaxis, the WHO STI guideline suggests one of the following options for topical

application to both eyes immediately after birth:

- **Tetracycline hydrochloride 1% eye ointment**
- **Erythromycin 0.5% eye ointment**
- **Povidone iodine 2.5% solution**
- **Silver nitrate 1% solution**
- **Chloramphenicol 1% eye ointment.**

***Remarks:*** Recommendations 6 and 7 apply to the prevention of both chlamydial and gonococcal ophthalmia neonatorum. Cost and local resistance to Erythromycin, tetracycline and chloramphenicol in gonococcal infection may determine the choice of medication. Caution should be taken to avoid touching eye tissue when applying the topical treatment and to provide a water-based solution of povidone iodine.

**DO NOT USE ALCOHOL-BASED POVIDONE IODINE SOLUTION.**

### 3.3.2.3Treatment of Treponema pallidum (Syphilis)

Based on the 2016 WHO guidelines for the Treatment of Treponema pallidum

Based on the 2016 WHO guidelines for the Treatment of Treponema pallidum, page 3

#### 3.3.2.3.1 Early syphilis (primary, secondary and early latent syphilis of not more than two years' duration)

#### 3.3.2.3.1a Adults and adolescents

**Recommendation 1**

In adults and adolescents with early syphilis, the WHO STI guideline recommends **Benzathine penicillin G 2.4 million units once intramuscularly over no treatment.**

**Recommendation 2**

In adults and adolescents with early syphilis, the WHO STI guideline suggests using **Benzathine penicillin G 2.4 million units once intramuscularly over procaine penicillin G 1.2 million units 10–14 days intramuscularly.**

When **benzathine or procaine penicillin cannot be used (e.g. due to penicillin allergy) or are not available** (e.g. due to stock-outs), the WHO STI guideline suggests using **doxycycline 100 mg twice daily orally for 14 days or ceftriaxone 1 g intramuscularly once daily for 10–14 days, or, in special circumstances, Azithromycin 2 g once orally.**

***Remarks:*** Doxycycline is preferred over ceftriaxone due to its lower cost and oral administration. **Doxycycline should not be used in pregnant women (see recommendations 3 and 4 for pregnant women).** Azithromycin is an option in special circumstances only when local susceptibility to Azithromycin is likely. If the stage of syphilis is unknown, follow recommendations for people with late syphilis.

### 3.3.2.3.1b Pregnant women

Based on the 2016 WHO guidelines for the Treatment of Treponema pallidum, page 4

**Recommendation 3**

In pregnant women with early syphilis, the WHO STI guideline recommends **Benzathine penicillin G 2.4 million units once intramuscularly over no treatment.**

**Recommendation 4**

In pregnant women with early syphilis, the WHO STI guideline suggests using **Benzathine penicillin G 2.4 million units once intramuscularly over procaine penicillin 1.2 million units intramuscularly once daily for 10 days.**

**When benzathine or procaine penicillin cannot be used (e.g. due to penicillin allergy where**

**penicillin desensitization is not possible) or are not available** (e.g. due to stock-outs), the WHO STI guideline suggests **using, with caution, Erythromycin 500 mg orally four times daily for 14 days or ceftriaxone 1 g intramuscularly once daily for 10–14 days or Azithromycin 2 g once orally.**

***Remarks:*** Although Erythromycin and Azithromycin treat the pregnant women, they do not cross the placental barrier completely and as a result the fetus is not treated. It is therefore necessary to treat the new-born infant soon after delivery (see recommendations 9 and 10 for congenital syphilis). Ceftriaxone is an expensive optionand is injectable. **Doxycycline should not be used in pregnant women**. Because syphilis during pregnancy can lead to severe adverse complications to the fetus or new-born, stock-outs of benzathine penicillin for use in antenatal care should be avoided.

3.3.2.3.2Late syphilis (infection of more than two years' duration without evidence of treponemal infection)

Based on the 2016 WHO guidelines for the Treatment of Treponema pallidum, page 4

### 3.3.2.3.2aAdults and adolescents

**Recommendation 5**

In adults and adolescents with late syphilis or unknown stage of syphilis, the WHO STI guideline recommends **Benzathine penicillin G 2.4 million units intramuscularly once weekly for three consecutive weeks over no treatment**.

***Remarks:*** The interval between consecutive doses of benzathine penicillin should not exceed 14 days.

**Recommendation 6**

In adults and adolescents with late syphilis or unknown stage of syphilis, the WHO STI guideline suggests **Benzathine penicillin G 2.4 million units intramuscularly once weekly for three consecutive weeks over procaine penicillin 1.2 million units once daily for 20 days.**

When **benzathine or procaine penicillin cannot be used (e.g. due to penicillin allergy where penicillin desensitization is not possible) or are not available**(e.g. due to stock-outs), the WHO STI guideline suggests using **Doxycycline 100 mg twice daily orally for 30 days**.

***Remarks:*** Doxycycline should not be used in pregnant women (see recommendations 7 and 8 for pregnant women).

### 3.3.2.3.2b Pregnant women

Based on the 2016 WHO guidelines for the Treatment of Treponema pallidum, page 5

**Recommendation 7**

In pregnant women with late syphilis or unknown stage of syphilis, the WHO STI guideline recommends **Benzathine penicillin G 2.4 million units intramuscularly once weekly for three consecutive weeks over no treatment**.

***Remarks:*** The interval between consecutive doses of Benzathine penicillin should not exceed 14 days.

**Recommendation 8**

In pregnant women with late syphilis or unknown stage of syphilis, the WHO STI guideline suggests **Benzathine penicillin G 2.4 million units intramuscularly once weekly for three consecutive weeks over Procaine penicillin 1.2 million units intramuscularly once a day for 20 days**.

When **Benzathine or Procaine penicillin cannot be used (e.g. due to penicillin allergy where penicillin desensitization is not possible) or are not available** (e.g. due to stock-outs), the WHO STI guideline suggests using, with caution, **Erythromycin 500 mg orally four times daily for 30 days**.

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks:*** Although Erythromycin treats the pregnant women, it does not cross the placental barrier completely and as a result the fetus is not treated. It is therefore necessary to treat the new-born infant soon after delivery (see recommendations 9 and 10 for congenital syphilis). Doxycycline should not be used in pregnant women. Because syphilis during pregnancy can lead to severe adverse complications to the fetus or new-born, stock-outs of benzathine penicillin for use in antenatal care should be avoided.

#### 3.3.2.3.3 Congenital syphilis

Based on the 2016 WHO guidelines for the Treatment of Treponema pallidum, page 5

**Infants**

**Recommendation 9**

In infants with confirmed congenital syphilis or infants who are clinically normal, but whose mothers had untreated syphilis, inadequately treated syphilis (including treatment within 30 days of delivery) or syphilis that was treated with non-penicillin regimens, the WHO STI guideline suggests **Aqueous benzyl penicillinor procaine penicillin**.

**Dosages:**

- **Aqueous benzyl penicillin 100 000–150 000 U/kg/day intravenously for 10–15 days**
- **Procaine penicillin 50 000 U/kg/day single dose intramuscularly for 10–15 days**

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks:*** If an experienced venipuncturist is available, aqueous benzyl penicillin may

be preferred instead of intramuscular injections of procaine penicillin.

**Recommendation 10**

In infants who are clinically normal and whose mothers had syphilis that was adequately treated with no signs of reinfection, the WHO STI guideline **suggests close monitoring of the infants**.

***Remarks:*** The risk of transmission of syphilis to the fetus depends on a number of factors, including maternal titres from non-treponemal tests (e.g. RPR), timing of maternal treatment and stage of maternal infection, and therefore this recommendation is conditional. If treatment is provided, Benzathine penicillin G 50 000 U/kg/day single dose intramuscularly is an option.

### 3.3.2.4Chancroid

Caused by Hemophylus ducreyi

Based on WHO Guidelines for the Management of STI, 2003, page 46

**Recommended regimen**

- **Erythromycin base, 500 mg orally, 4 times daily for 7 days**

**OR**

- **Azithromycin, 1 g orally, as a single dose**

**Alternative regimen**

- **Ceftriaxone, 250 mg by intramuscular injection, as a single dose**

 ***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

### 3.3.2.5Granuloma inguinale (Donovanosis)

Caused by Klebsiella granulomatis, (previously known as Calymmatobacterium granulomatis)

Based on WHO Guidelines for the Management of STI, 2003, page, 47

**Recommended regimen**

- Azithromycin, 1 g orally on fi rst day, then 500 mg orally, once a day

**OR**

- doxycycline, 100 mg orally, twice daily

**Alternative regimen**

- **Erythromycin, 500 mg orally, 4 times daily**

**OR**

- **Tetracycline, 500 mg orally, 4 times daily**

**OR**

- **Trimethoprim 80 mg/sulfamethoxazole 400 mg, 2 tablets orally, twice daily for aminimum of 14 days**

**Note**

- **The addition of a parenteral aminoglycoside such as gentamicin should be carefully considered for treating HIV-infected patients.**

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

### 3.3.2.6 Genital herpes infections

Based on the new WHO guidelines for the Treatment ofgenital herpes infections

Genital herpes is caused by herpes simplex virus type 2 (HSV2) infection

### 3.3.2.6.1 First clinical episode

**Recommendation 1**

For adults and adolescents with a first clinical episode of genital HSV infection, the WHO STI guideline **recommends treatment over no treatment**.

***Remarks***: This recommendation also applies to people living with HIV, people who are immunocompromised, people with a severe episode and pregnant women.

**Recommendation 2**

For adults and adolescents with a first clinical episode of genital HSV infection, the WHO STI guideline suggests a **standard dose of Aciclovir over ValAciclovir or Famciclovir**.

**Dosages:**

- **Aciclovir 400 mg orally thrice daily for 10 days (standard dose)**
- **Aciclovir 200 mg orally five times daily for 10 days**
- **ValAciclovir 500 mg orally twice daily for 10 days**
- **Famciclovir 250 mg orally thrice daily for 10 days**

 ***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks***: Given that follow-up visits may not be possible during the course of treatment and symptoms of the first clinical episode may be prolonged, therapy is provided for 10 days. Although the benefits of the medicines are probably similar, the costs of ValAciclovir and Famciclovir are higher than Aciclovir, and therefore Aciclovir is preferred. The choice of

medicine may also depend on compliance considerations**. This recommendation also applies to people living with HIV, people who are immunocompromised, people with a severe episode and pregnant women**.

#### 3.3.2.6.2 Recurrent clinical episode of genital HSV infection (episodic therapy)

**Recommendation 3**

For adults and adolescents with a recurrent clinical episode of genital HSV infection, the WHO STI guideline **suggests treatment over no treatment**.

***Remarks***: Treatment should be given within the first 24 hours of the onset of symptoms or during the prodromal phase. **This recommendation also applies to people living with HIV, people who are immunocompromised and pregnant women.**

**Recommendation 4**

For adults and adolescents with a recurrent clinical episode of genital HSV infection, the WHO STI guideline suggests the **use of Aciclovir over ValAciclovir or Famciclovir**.

**Dosages for adults, adolescents and pregnant women:**

- **Aciclovir 400 mg orally thrice daily for 5 days, 800 mg twice daily for 5 days, or 800 mg thrice daily for 2 days**
- **ValAciclovir 500 mg orally twice daily for 3 days**
- **Famciclovir250 mg twice daily for 5 days**

 ***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

**Dosages for people living with HIV and people who are immunocompromised:**

- **Aciclovir 400 mg orally thrice daily for 5 days**
- **ValAciclovir 500 mg orally twice daily for 5 days**

- **Famciclovir 500 mg orally twice daily for 5 days**

 ***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

***Remarks***: Although the benefits of the medicines are probably similar, the costs of ValAciclovir and Famciclovir are higher than Aciclovir, and therefore Aciclovir is preferred. The choice of dosage may depend on compliance considerations. Treatment should be given within the first 24 hours of the onset of symptoms or during the prodromal phase

### 3.3.2.7 Venereal (genital) warts

Caused by Human Papilloma Virus (HPV)

Based on WHO Guidelines for the Management of STI, 2003, page51

**Recommended regimen**

**A. Chemical**

**<u>Self-applied by patient</u>**

- **Podophyllotoxin 0.5% solution or gel, twice daily for 3 days, followed by 4 days of no treatment, the cycle repeated up to 4 times (total volume of podophyllotoxin should not exceed 0.5 ml per day)**

**OR**

- **Imiquimod 5% cream applied with a finger at bedtime, left on overnight, 3 times a week for as long as 16 weeks. The treatment area should be washed with soap and water 6–10 hours after application. Hands must be washed with soap and water**

**immediately after application.**

**Note**

- The safety of both podophyllotoxin and imiquimod during pregnancy has not been established.

**<u>Provider-administered</u>**

- **Podophyllin 10–25% in compound tincture of benzoin, applied carefully to the warts, avoiding normal tissue. External genital and perianal warts should be washed thoroughly 1–4 hours after the application of podophyllin. Podophyllin applied to warts on vaginal or anal epithelial surfaces should be allowed to dry before the speculum or anoscope is removed. Treatment should be repeated atweekly intervals**
- **where available, podophyllotoxin 0.5%, one of the active constituents of podophyllin resin, is recommended. Its effi cacy is equal to that of podophyllin, but it is less toxic and appears to cause less erosion**
- **some experts advise against the use of podophyllin for anal warts. Large amounts of podophyllin should not be used because it is toxic and easily absorbed. Its use during pregnancy and lactation is contraindicated**

**OR**

- **TCA 80–90%, applied carefully to the warts, avoiding normal tissue, followed by powdering of the treated area with talc or sodium bicarbonate (baking soda) to remove unreacted acid. Repeat application at weekly intervals .**

**B. Physical**

- **cryotherapy with liquid nitrogen, solid carbon dioxide, or a cryoprobe. Repeat applications every 1–2 weeks**

**OR**

- **electrosurgery**

**OR**

- **surgical removal**

#### 3.3.2.7.1 Vaginal warts

Based on WHO Guidelines for the Management of STI, 2003, page 53

**Recommended regimen**

- **Cryotherapy with liquid nitrogen**

**OR**

- **Podophyllin 10–25%. Allow to dry before removing speculum**

**OR**

- **TCA 80–90%**

#### 3.3.2.7.2 Cervical warts

Based on WHO Guidelines for the Management of STI, 2003, page 53

**Recommended regimen**

- **Management should include consultation with an expert**
- **Pap smear**
- **No TCA or podophyllin**

#### 3.3.2.7.3 Meatal and urethral warts

Based on WHO Guidelines for the Management of STI, 2003, page 53

**Recommended regimen**

- **Cryotherapy or Podophyllin 10-25%**

### 3.3.2.8 Trichomonas vaginalis infection

Based on WHO Guidelines for the Management of STI, 2003, page 54

#### 3.3.2.8.1 Vaginal infections

**Recommended regimen**

- **Metronidazole, 2 g orally, in a single dose**

**OR**

- **Tinidazole, 2 g orally, in a single dose**

**Note**

- The reported cure rate in women ranges from 82% to 88% but may be increased to 95% if sexual partners are treated simultaneously.

**Alternative regimen**

- **Metronidazole, 400 mg or 500 mg orally, twice daily for 7 days**

**OR**

- **Tinidazole, 500 mg orally, twice daily for 5 days**

**Note**

- Other 5-nitroimidazoles are also effective, both in single and in multiple dose regimen.
- Patients taking metronidazole or other imidazoles should be cautioned not to consume alcohol while they are taking the drug, and up to 24 hours after taking the last dose.
- Metronidazole is generally not recommended for use in the first trimester of pregnancy (see text above).
- Asymptomatic women with Trichomoniasis should be treated with the same regimen as symptomatic women.

#### 3.3.2.8.2 Urethral infections

**Recommended regimen**

- Metronidazole, 400 mg or 500 mg orally, twice daily for 7 days

**OR**

- Tinidazole, 500 mg orally, twice daily for 5 days

#### 3.3.2.8.3 Neonatal infections

**Recommended regimen**

- Metronidazole, 5 mg/kg orally, 3 times daily for 5 days

**Note**

- Infants with symptomatic trichomoniasis or with urogenital colonization persisting past the fourth month of life should be treated with metronidazole.

***Some of these WHO recommended regimens that are not consistently available via donor procurement. WHO and UNDP need to support procurement and availability of recommended regimens. Clinical equivalent regimens should be used as alternatives.***

#### 3.3.2.8.4 Trichomoniasis in Pregnancy

*T. vaginalis* infection has been shown to be associated with adverse pregnancy outcomes, particularly premature rupture of membranes, pre-term delivery and low birth weight. This association is particularly important in symptomatic women.

Further studies are needed to demonstrate the impact of treating trichomoniasis on the prevention of adverse pregnancy outcomes.

**Recommended regimen**

Although **Metronidazole is not recommended for use in the first trimester of pregnancy**, **treatment may be given where early treatment has the best chance of preventing adverse pregnancy outcomes**. In this instance a lower dose should be used (**Metronidazole 2 g single oral dose** rather than a long course). Studies and meta-analyses have not demonstrated a consistent association between metronidazole use during pregnancy and tetatogenic or mutagenic effects in newborns.

### 3.3.2.9 Scabies

Caused by Sarcoptes scabiei

Based on WHO Guidelines for the Management of STI, 2003, page 60

#### 3.3.2.9.1 Scabies in adults, adolescents and older children

**Recommended regimen**

- **Lindane 1% lotion or cream, applied thinly to all areas of the body from the neck down and washed off thoroughly after 8 hours**

**OR**

- **Permethrin cream 5%**

**OR**

- **Benzyl benzoate 25% lotion, applied to the entire body from the neck down, nightly for 2 nights; patients may bathe before reapplying the drug and should bathe 24 hours after the fi nal application**

**OR**

- **Crotamiton 10% lotion, applied to the entire body from the neck down nightly for 2 nights and washed off thoroughly 24 hours after the second application; an extension to 5 nights is necessary in some geographical areas (Crotamiton has the advantage of an antipruritic action)**

**OR**

- **Sulphur 6% in petrolatum, applied to the entire body from the neck down nightly for 3 nights; patients may bathe before reapplying the product and should bathe 24 hours after the final application**

**Note**

- Lindane is not recommended for pregnant or lactating women.
- Resistance to lindane has been reported in some areas.

#### 3.3.2.9.2 Scabies in infants, children under 10 years of age, pregnant or lactating women

**Recommended regimen**

- **Crotamiton 10%, as above**

**OR**

- **Sulphur 6%, as above**

**OR**

- **Permethrin 5% cream, applied in the same way as the sulphur regimen described above**

**Contacts** Sexual contacts and close household contacts should be treated as above.

### 3.3.2.10 Pubic Lice

Caused by Phthirus pubis

Based on WHO Guidelines for the Management of STI, 2003, page 63

**Recommended regimen**

- **Lindane 1% lotion or cream, rubbed gently but thoroughly into the infested area and adjacent hairy areas and washed off after 8 hours; as an alternative, lindane 1% shampoo, applied for 4 minutes and then thoroughly washed off.**

**OR**

- **Pyrethrins plus piperonyl butoxide, applied to the infested and adjacent hairy areas and washed off after 10 minutes; retreatment is indicated after 7 days if lice are found or eggs are observed at the hair-skin junction. Clothing or bed linen that may have been contaminated by the patient in the two days prior to the start of treatment should be washed and dried well, or dry-cleaned.**

**OR**

- **Permethrin 1%, as above**

**Note**

- Lindane is not recommended for pregnant or lactating women.

**Special considerations**

Infestation of the eyelashes should be treated by the application of an occlusive ophthalmic ointment to the eyelid margins daily for 10 days to smother lice and nits. The ointment should not be applied to the eyes.

**3.3.2.11 Bacterial vaginosis** (not an STI, but a Reproductive Tract Infection- an endogenous infection)

Caused by Lactobacillus sp (Gardnerella vaginalis and Mycoplasma hominis)

Based on WHO Guidelines for the Management of STI, 2003, page 56

**Recommended regimen**

- **Metronidazole, 400 mg or 500 mg orally, twice daily for 7 days**

**Note:** Patients taking metronidazole should be cautioned not to consume alcohol while they are taking the drug and up to 24 hours after taking the last dose.

**Alternative regimen**

- **Metronidazole, 2 g orally, as a single dose**

**OR**

- **Clindamycin 2% vaginal cream, 5 g intravaginally, at bedtime for 7 days**

**OR**

- **Metronidazole 0.75% gel, 5 g intravaginally, twice daily for 5 days**

**OR**

- **Clindamycin, 300 mg orally, twice daily for 7 days**

**Follow-up:** Patients should be advised to return if symptoms persist as re-treatment may be needed.

**Recommended regimen for pregnant women**

There is evidence that BV is associated with an increased incidence of adverse pregnancy outcomes (e.g. premature rupture of membranes, preterm delivery and low birth weight). Symptomatic pregnant women should be treated, and those with a history of previous pre-term

delivery should be screened to detect asymptomatic infections. Pregnant women with recurrence of symptoms should be re-treated.

Screening of asymptomatic pregnant women without a prior history of preterm delivery is not recommended. **Metronidazole is not recommended for use in the first trimester of pregnancy, but it may be used during the second and third trimesters. If treatment has to be given during the first trimester, then in order to reduce the risks of any adverse effects, lower doses are recommended**.

- **Metronidazole, 200 or 250 mg orally, 3 times daily for 7 days, after first trimester**
- **Metronidazole 2 g orally, as a single dose, if treatment is imperative during the first trimester of pregnancy (see text above)**

**Alternative regimen**

- M**etronidazole, 2 g orally, as a single dose**

**OR**

- **Clindamycin, 300 mg orally, twice daily for 7 days**

**OR**

- **Metronidazole 0.75% gel, 5 g intravaginally, twice daily for 7 days**

### 3.3.2.12 Candidiasis (not an STI, but a Reproductive Tract Infection- an endogenous infection)

Caused by Candida albicans

Based on WHO Guidelines for the Management of STI, 2003, page 58

#### 3.3.2.12.1 Vulvo-vaginal candidiasis

**Recommended regimen**

- **Miconazole or Clotrimazole, 200 mg intravaginally, daily for 3 days**

**OR**

- **Clotrimazole, 500 mg intravaginally, as a single dose**

**OR**

- **Fluconazole, 150 mg orally, as a single dose**

**Alternative regimen**

- **Nystatin, 100 000 IU intravaginally, daily for 14 days**

#### 3.3.2.12.2 Balanoposthitis b(inflammation of the glans penis and foreskin)

**Recommended topical application regimen**

- **Clotrimazole 1% cream, twice daily for 7 days**

**OR**

- **Miconazole 2% cream, twice daily for 7 days**

**Alternative regimen**

- **Nystatin cream, twice daily for 7 days**

### 3.4 STI services for key populations at higher risk, vulnerable and marginalized groups and people with disabilities

Putting into action the advocacy that no one should be left behind translates to STI and HIV work as making services available for the key populations at higher risk (sex workers, men having sex with men and the transgender people), vulnerable and marginalized groups and people with disabilities.

- Screening, diagnosis and treatment of STIs are crucial parts of a comprehensive response to HIV; this includes services for key populations. STI management should accord with existing WHO guidance and be adapted to the national context. Also, it should be confidential and free from coercion, and patients must give informed consent for treatment.
- Periodic screening of people from key populations for asymptomatic STIs is recommended (conditional recommendation, low quality of evidence).
- In the absence of laboratory tests, symptomatic people from key populations should be managed syndromically in line with national STI management guidelines.

**Some points for consideration:**

1. **Stop** interventions and approaches that do not yield desired results.
2. **Sustain** efforts that are adherent to international standards and address specific context in Samoa.
3. Begin to **set-up** mechanisms that ensure delivery of services to where it is needed the most such as investing on mobile one-stop shop services that can cater to after-hour needs. It helps bring services nearer the people who will need them, and creates a de-stigmatizing environment for people to access STI and HIV related services.
4. **Scale up** interventions that are working in locations where populations at higher risk were identified and new infections reported.
5. **Support** consistencies in related national laws/policies such as the Pharmacy Law of Samoa, Penal Code, Samoa Family Protection Act of 2009, and cross-programme collaboration with the RMNCAH Programme, Antimicrobial Resistance Monitoring.

# CHAPTER 4

# MONITORING & EVALUATION

# CHAPTER FOUR: MONITORING AND EVALUATION

## 4.1 Rationale

Monitoring that includes surveillance, supervision and evaluation should be considered as a continuous process for the purpose of maintaining and improving the delivery of efficient and high quality STI services.

Managers need information for planning and implementing effective programmes for the prevention and care of STIs. Effective monitoring and evaluation will provide a process for describing successes, identifying problems and indicating potential solutions.

Additional breakdown by age and gender will provide valuable information for subsequent intervention strategies. This combination of information can be more useful to programme managers than individual items in focusing on key problems and pointing to solutions.

## 4.2 Components of STI M&E

### 4.2.1 Monitoring

The purpose of monitoring is to ensure that work is progressing as planned and to anticipate or detect problems in implementation. Monitoring provides managers with information about the level of achievement measured according to standards of performance, and allows them to assess implementation by comparing actual progress to expenditure. Monitoring will help to validate results of outcome evaluation.

Monitoring focuses on implementation (adequacy of supplies, appropriateness of training, performance of service providers) rather than on intermediate outcomes (changes in knowledge or behaviour, changes in health systems) or impact (decreases in morbidity and mortality, improvement in health).

### 4.2.2 Surveillance

Surveillance traditionally describes trends and patterns of disease in a given population over time. This information is necessary to managers in order to concentrate efforts and resources where there is the greatest need.

A surveillance system provides the information for estimating the size of the problem, its frequency and distribution and antimicrobial susceptibility of STI pathogens. Surveillance enables managers to reinforce and improve programme management. For example, surveillance of syphilis, chlamydial infection or gonorrhoea may reflect trends in condom use or the most appropriate selection of drugs for STI treatment.

Experience has shown that universal reporting for surveillance purposes is seldom sustainable and it is recommended that routine surveillance activities are confined to a number of sentinel sites and to periodic surveys for additional information on disease patterns and antimicrobial susceptibility. The sentinel sites can be promoted and strengthened to ensure compliance and efficiency.

#### 4.2.3 Supervision

Supervision is one of the most important aspects of monitoring in that it assesses performance and outputs in the light of the situation and the resources available. Effective supervision narrows the margin between what exists and what potentially can be achieved through allocating resources and training on the basis of the needs of individual facilities or health care workers.

Supervision is a way of ensuring competence through observation, discussion, support and guidance.

#### 4.2.4 Quality Assurance

Quality assurance needs to be conducted to check whether services being rendered are meeting specific requirements and that the systematic process to do this checking is functional

#### 4.2.5 Evaluation

The purpose of evaluation is to assess progress towards programme objectives and targets at a given point in time. Evaluation focuses on the periodic review and use of information to improve health programmes and guide allocation of resources. It assembles information from surveillance, monitoring and supervision to determine whether planned outcomes are being achieved.

## 4.3 STI reporting

### 4.3.1 Selection of programme indicators

Before implementing activities, targets which reflect the priorities of the programme must be carefully selected.

The national HIV and STI programmes adopted the UNAIDS Global AIDS Response Progress Report (GARPR) indicators, now Global AIDS Monitoring (GAM) which include:

- Percentage of women accessing antenatal care (ANC) services who were tested for syphilis at first ANC visit
- Percentage of antenatal care attendees who were positive for syphilis
- Percentage of antenatal care attendees positive for syphilis who received treatment
- Percentage of ANC male partners/contacts who were tested for syphilis
- Percentage of ANC male partners/contacts who were positive for syphilis
- Percentage of ANC male partners/contacts who were positive for syphilis who received treatment
- Percentage of sex workers with active syphilis
- Percentage of men who have sex with men (MSM) with active syphilis
- Percentage of transgender women with active syphilis
- Number of adults reported with syphilis (primary/secondary and latent) during the reporting period
- Number of reported congenital syphilis cases (live births and stillbirth) during the reporting period
- Percentage of women accessing antenatal care (ANC) services who were tested for syphilis at first ANC visit
- Percentage of antenatal care attendees with gonorrhea during the reporting period
- Percentage of antenatal care attendees with gonorrhea who received treatment during the reporting period
- Percentage of ANC male partners/contacts with gonorrhea during the reporting period
- Percentage of ANC male partners/contacts with gonorrhea who received treatment during the reporting period
- Number of sexworkers with gonorrhea during the reporting period
- Number of men who have sex with men (MSM) with gonorrhea during the reporting period
- Number of transgender women with gonorrhea during the reporting period
- Number of men reported with gonorrhoea during the reporting period
- Number of sexworkers with chlamydia during the reporting period
- Number of men who have sex with men (MSM) with chlamydia during the reporting period
- Number of transgender women with chlamydia during the reporting period
- Number of men reported with urethral discharge during the reporting period

 ***Syndromic surveiilance currently not available*. Case reporting, urethral discharge, and genital ulcers will be incorporated into STI surveillance once capacity is developed.**

- Number of females reported with genital ulcer disease during the reporting period
- Number of males reported with genital ulcer disease during the reporting period
- Number of newborns with conjunctivitis

### 4.3.2 STI data requirements

The minimum data on individuals required for reporting by clinical syndrome are:

- Sex of patient
- Age or date of birth of patient
- Address and contact number
- Code of patient
- Facility where diagnosed
- Type of syndrome
- Treatment given

The minimum data to be collected in diagnoses made etiologically are:

- Patient identifier /name or code
- Sex of patient
- Age or date of birth of patient
- Address and contact number
- Facility where test is taken from
- Type of tests done
- Type of specimen collected
- Test result

# ANNEX

## Annex 1: Health Service delivery Points in Samoa 2018

- Faleolo Health Centre
- Foailalo Health Centre
- Lalomanu District Health Centre
- Leulumoega District Health Centre
- Lufilufi District Health Centre
- MT2 Hospital Savai'i
- Poutasi District Health Centre
- Private Clinics
- Saanapu District Health Centre
- Safotu Health Centre
- Samoa Family Health Association
- Samoa Red Cross Society
- Sataua District Health Centre
- TTM Hospital Apia
- TTM Laboratory Services