Self-evaluation

1. Genital herpes is curable.

   True False

2. Chlamydia is a viral infection.

   True False

3. Most sexually transmitted infections (STIs) result in recognizable symptoms and signs.

   True False

4. Women are more vulnerable to STIs than men.

   True False

5. STIs cause infertility in women but not in men.

   True False

6. Non-ulcerative STIs do not facilitate HIV transmission.

   True False

7. Effective treatment of STIs can reduce the incidence of HIV infection in a population.

   True False

8. Conflict may have an immediate or a delayed impact on the spread of STIs.

   True False

9. Population movements usually have little effect on the spread of STIs.

   True False

10. HIV prevalences among military personnel are often significantly higher than in the general population.

    True False

11. The rate of spread of an STI depends on the probability that an exposed person will acquire the infection, the rate of exposure, and the duration of infectiousness in an infected person.

    True False

12. Secondary prevention aims to reduce illness and complications.

True False

13. Syndromic case management involves treatment aimed at a single pathogen.

True False

14. The syndromic approach can be used to screen for asymptomatic STIs.

True False

15. Laboratory testing has an important role in public health decision-making for the control of STIs.

True False

16. Minimal laboratory expertise is required to conduct STI prevalence surveys.

True False

17. STI prevalence in women attending antenatal clinics may be used as a proxy for prevalence in the sexually active general population.

True False

18. Routine syndromic case reporting for STIs should be based upon urethral discharge syndrome (UDS) in men and genital ulcer syndrome (GUS) in men and women.

True False

19. Examination of the external genitalia is not always necessary for effective STI case management.

True False

20. Routine syphilis testing should be available to all pregnant women and all STI clients.

True False

21. Inadequate dosage and duration of treatment contribute to the development of antimicrobial resistance.

True False

Self-evaluation cont'd

22. Efforts to improve STI care should focus only on the public sector.

True False

23. In-service training, monitoring and supervision contribute significantly to the quality of STI care.

True False

24. STI-related information should only be provided within a clinic-based setting.

True False

25. Interventions targeting core groups have a greater impact on an epidemic when the prevalence is low in the general population.

True False

Answers to self-evaluation

1. False	10. True	19. False
2. False	11. True	20. True
3. False	12. True	21. True
4. True	13. False	22. False
5. False	14. False	23. True
6. False	15. True	24. False
7. True	16. False	25. True
8. True	17. True	
9. False	18. True	

Field evaluation form

1. Please describe the context in which you are working.

2. Did you find the guidelines useful?

3. Which parts of the guidelines did you find most useful?

4. Which parts of the guidelines did you find least useful?

5. In terms of style and content, reading the guidelines was:

Very easy Fairly easy Difficult Very difficult

6. Which categories of staff in your organization are likely to find these guidelines useful?

7. What suggestions do you have for improving the content, style or format?

Please complete the following information (optional): Your name, organization, address, tel., fax, email.

Thank you for reviewing the guidelines. We greatly appreciate your feedback.

Please return the completed form to:

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Annex 1 Glossary

Anonymous unlinked testing
Blood samples are stripped of all identifying markers and cannot be traced back to the individual. As the test is anonymous, consent is not required and people do not receive their results.

Asymptomatic
Without symptoms.

Bridging groups
Groups linking sub-populations at higher risk of infection (core groups) with the general population.

Case reproduction rate (Ro)
The number of new cases of an infection generated by an infected person. Represents the rate of spread of an infection.

Cervicitis
Inflammation of the cervix.

Core groups
Sub-populations that have high rates of partner exchange and thus a higher probability of acquiring and transmitting infections than the general population.

Ectopic pregnancy
The fetus develops outside the uterus (womb), for example, in a fallopian tube or in the abdominal cavity. The fetus is not viable. This is a life-threatening condition for the mother.

Emergency phase
Doubling of the baseline crude mortality rate (CMR), or one or more deaths per 10,000 population per day when the baseline CMR is unknown.

Epithelial / Epithelium
Upper layers of cells in skin or mucous membranes.

Etiology
The factor(s) causing the disease, for example, a particular species of bacteria.

Incidence
The incidence of a disease is the number of new cases occurring in a defined population during a defined time interval.

Perinatal
The perinatal period extends from 22 completed weeks of pregnancy to 7 completed days after birth.

Post-emergency phase
Less than a doubling of the baseline CMR, or less than one death per 10,000 per day when the baseline CMR is unknown.

Prevalence
The prevalence of a disease is the proportion or percentage of individuals in a defined population who have the disease at a specific point in time.

Reliability
Reliability is the ability of a test or a research tool (e.g., questionnaire) or an algorithm to perform consistently under different circumstances. For example, a laboratory test with high reliability will give the same result on the same specimen when performed by a number of different technicians. A reliable questionnaire will produce consistent results when used by different interviewers.

Sensitivity
The sensitivity of a diagnostic test or algorithm is its ability to identify all cases of an infection. The higher the sensitivity, the fewer cases the test will miss (false negatives). For example, if the sensitivity of a test is 90% and 100 infected people are tested, 90 will have positive test results and 10 will have negative test results, even though they are infected (false negatives).

Seroconversion
The stage in the course of a disease at which the immune system manufactures sufficient antibodies for detection on laboratory testing.

Specificity
The specificity of a diagnostic test or algorithm is its ability to correctly identify individuals who are not infected. The higher the specificity, the lower the number cases incorrectly identified as positive (false positives). For example, if the specificity of a test is 95% and 100 people who are not infected are tested, 95 will have negative test results and 5 will have positive test results, even though they are not infected (false positives).

Sensitivity and specificity provide an indication of how well a diagnostic test or algorithm works (i.e., how valid it is). Ideally a test should have 100% sensitivity and 100% specificity. Low sensitivity means that some infected individuals are missed and thus do not receive treatment. Low specificity means that some individuals are being treated unnecessarily. From a public health perspective, high sensitivity is more important than high specificity: the more infected cases that are detected and treated, the fewer infections are spread into the population.

Surveillance
Monitoring of the incidence and prevalence of diseases in a population over time.

Syndrome
A syndrome refers to a group of symptoms and signs which can all be part of the same underlying medical condition.

Vaginitis
Inflammation of the vagina.

Validity
Validity represents the combination of sensitivity and specificity of a test or algorithm compared with those of the gold standard. The gold standard is the best available diagnostic test for a disease.

Viral load
Measure of the number of viruses in the blood.

Selected STI syndromic case definitions:[1]

Urethral discharge syndrome (UDS)
Urethral discharge in men with or without dysuria. (This syndrome is most commonly caused by Neisseria gonorrhea and Chlamydia trachomatis; other infectious agents associated with urethral discharge include Trichomonas vaginalis, Ureaplasma urealyticum and Mycoplasma species.)

Vaginal discharge syndrome
Abnormal vaginal discharge (indicated by amount, color and odor) with or without lower abdominal pain or specific symptoms or specific risk factors. (This syndrome is most commonly caused by BV, vulvo-vaginal candidiasis and trichomoniasis; it is less frequently caused by gonococcal or chlamydial infection.)

Genital ulcer syndrome (GUS) – non-vesicular
Ulcer on penis, scrotum or rectum in men and on labia, vagina or rectum in women, with or without inguinal lymphadenopathy. (This syndrome can be caused by syphilis, chancroid, lymphogranuloma venereum, granuloma inguinale or atypical cases of genital herpes.)

Genital ulcer syndrome – vesicular
Genital or anal vesicles in men or women. (This syndrome is typically caused by genital herpes simplex virus (HSV) infection.)

Lower abdominal pain in women / Pelvic inflammatory disease (PID)
Symptoms of lower abdominal pain and pain during sexual intercourse with examination showing vaginal discharge, lower abdominal tenderness or temperature >38C. (This syndrome, which is suggestive of pelvic inflammatory disease, may be caused by gonococcal, chlamydial or anaerobic infection.)

[1] UNAIDS/WHO. Guidelines for Sexually Transmitted Infections Surveillance. 1999

Annex 2

Clinical notes on selected sexually transmitted infections

Treatment regimens are provided for uncomplicated ano-genital infections and are adapted from the WHO Guidelines for the management of sexually transmitted infections, 2003.

Gonorrhea

Gonorrhea is caused by a bacterium, *Neisseria gonorrhoea*. Gonorrhea is transmitted through vaginal, anal and oral sex. It may also be transmitted from mother to baby during delivery.

Presentation

Up to 80 percent of women and 10 percent of men infected with gonorrhea may be asymptomatic. Symptoms usually appear two to seven days after infection, but can take up to 30 days. Early symptoms are often mild and non-specific.

In women, symptoms may include:

- Pain or burning on urination
- Unusual vaginal discharge
- Bleeding between menstrual periods
- Bleeding after sexual intercourse

In men, symptoms may include:

- Burning on urination
- Discharge from penis
- Painful or swollen testicles

In men and women, symptoms of rectal infection (proctitis) may include:

- Anal discharge or bleeding
- Anal itching or pain
- Painful bowel movements

Infections in the throat have few symptoms but may cause a sore throat.

Complications:

Untreated gonorrhea can result in serious and permanent complications in men, women and infants.

In women, untreated gonorrhea can spread past the cervix and infect the uterus, fallopian tubes and ovaries, leading to pelvic inflammatory disease (PID).

In men, gonorrhea can cause epididymitis, which may lead to infertility if left untreated. Gonorrhea can also affect the prostate and can lead to scarring and stricture (narrowing) of the urethra, resulting in problems with urination.

In about 0.5 - 1 percent of all infections[1], gonorrhea spreads into the blood, and may result in septicemia, arthritis, skin lesions, endocarditis and meningitis. These conditions may be life threatening. Arthritis can cause permanent joint damage. In both women and men, the presence of gonorrhea infection increases the risk of acquiring or transmitting HIV.

In infants, gonorrhea infection can cause eye infections, joint infection or life-threatening septicemia. Conjunctivitis usually occurs during the first week after birth and may lead to corneal ulceration, perforation and blindness. Historical data have shown that around 3 percent of neonates with gonococcal ophthalmia will develop complete blindness if untreated, and 20 percent will have some degree of corneal damage.[2]

Treatment of gonorrhea

Gonorrhea can easily be cured using effective antibiotics. However, antimicrobial resistance is a significant problem globally. Effective treatment ends infectiousness within hours, but untreated infections may persist for months. Patients should refrain from unprotected sex for seven days after treatment.

Recommended regimen:

ciprofloxacin 500mg orally as a single dose
or
ceftriaxone 125mg im as a single dose
or
cefixime 400mg orally as a single dose
or
spectinomycin 2g im as a single dose

Ciprofloxacin is contraindicated in pregnancy and is not recommended for use in children and adolescents.

Chlamydia

Chlamydial infection is caused by a bacterium, *Chlamydia trachomatis*. Chlamydia is transmitted through vaginal, anal or oral sex. Young women are especially susceptible to chlamydia because of the characteristics of the cells lining the cervical canal. Chlamydia may be transmitted from mother to baby during delivery.

Presentation:

About 75 percent of women and 50 percent of men infected with chlamydia are asymptomatic.[3] Symptoms, if present, usually appear one to three weeks after infection.

In women, symptoms may include:

- Unusual vaginal discharge
- Bleeding after intercourse
- Bleeding between menstrual periods
- Abdominal pain

In men, symptoms may include:

- Discharge from the penis
- Burning or itching around the meatus (opening) of the penis
- Burning with urination
- Swollen and/or painful testicles

Chlamydia can infect the rectal lining during anal sex, causing proctitis. Chlamydia can also be found in the throats of women and men after having oral sex with an infected partner.

Note: Lymphogranuloma venereum is also caused by chlamydia, but by a different serotype.

Complications:

Untreated chlamydia can result in serious and permanent complications in men, women and infants. In 40 percent of women with untreated chlamydia, the infection will progress to PID.[4]

In men, chlamydia causes urethral infection, which may spread to the epididymis, resulting in pain, fever, chronic infection and, potentially, infertility. In both men and women, the presence of a chlamydial infection can increase the risk of acquiring or transmitting HIV. There is evidence that chlamydial infections can lead to premature delivery. If a mother delivers while infected with chlamydia, the infection may be passed to the baby and can result in neonatal conjunctivitis and pneumonia. Conjunctivitis usually develops after 5-12 days but may develop up to 30 days after birth. The baby may also develop chlamydial pneumonia at one to three months of age.

Treatment of chlamydia

Chlamydia can be easily cured with appropriate antibiotics.

Recommended regimen:

doxycycline 100mg orally twice a day for 7 days

or

azithromycin 1g orally in a single dose

Alternative regimens:

amoxycillin 500mg orally 3 times a day for 7 days

or

erythromycin 500mg orally 4 times a day for 7 days

or

ofloxacin 300mg orally twice a day for 7 days

or

tetracycline 500mg orally 4 times a day for 7 days

Doxycycline and other tetracyclines are contra-indicated during pregnancy and lactation.

In pregnancy:

amoxycillin 500mg orally 3 times a day for 7 days

or

erythromycin 500mg orally 4 times a day for 7 days

Erythromycin estolate is contra-indicated during pregnancy. Only erythromycin base or erythromycin ethylsuccinate should be used.

Patients should refrain from unprotected sex for seven days after single dose treatment, or for the duration of treatment of a seven-day course. The period of infectiousness without treatment is not known.

Trichomoniasis

Trichomoniasis is caused by a protozoan parasite, *trichomonas vaginalis*. Trichomoniasis is transmitted through vaginal sexual contact.

Trichomoniasis in the most common curable STI worldwide. Prevalence studies among pregnant women in Africa have shown rates varying from 9.9 percent in Central African Republic to 41.4 percent in South Africa.[5]

Presentation:

Most men with trichomonas infection are asymptomatic. Approximately 50 percent of infected women experience symptoms. Symptoms usually appear within 5 to 28 days after infection.

Symptoms in women may include:

- Unusual vaginal discharge
- Itching or burning of the vagina and vulva
- Discomfort during intercourse or urination

Symptoms in men may include:

- Irritation inside the penis
- Discharge from the penis
- Burning with urination

Complications:

Trichomonas infections have no systemic complications but there is evidence that suggests that vaginal trichomonas infection facilitates the acquisition and transmission of HIV infection. Trichomoniasis is also associated with adverse birth outcomes such as premature delivery, premature rupture of membranes and low birth weight.

Treatment of trichomoniasis

Trichomoniasis is easily cured with antibiotics. In men, symptoms usually disappear within a few weeks even without treatment. However, they remain infectious until treated. Many people may be symptom-free carriers for years.

Recommended regimens for vaginal infections:

metronidazole 2g orally in a single dose

or

tinidazole 2g orally in a single dose

Alternative regimens:

metronidazole 400 or 500mg orally twice daily for 7 days

or

tinidazole 500mg orally twice daily for 5 days

Metronidazole is not recommended for use in the first trimester of pregnancy.

Recommended regimens for urethral infections:

metronidazole 400 or 500mg orally twice daily for 7 days

or

tinidazole 500mg orally twice daily for 5 days

Bacterial vaginosis

BV develops when there is a change in the environment of the vagina, resulting in an imbalance in the normal vaginal bacteria. Lactobacillus species are replaced by anaerobic bacteria, such as gardnerella species and mycoplasma species. The causes of the microbial changes are not fully understood.

BV is the most common cause of vaginal discharge worldwide. BV is a reproductive health tract infection (RTI), not an STI. Any woman can develop BV, although it is more common among sexually active women and in women with a new sexual partner. BV is also associated with having multiple partners and with vaginal douching.

Presentation:

50 percent of women with BV may be asymptomatic.

Symptoms:

- Itching or tingling in the genital area
- Unusual vaginal discharge
- Burning with urination

Complications:

BV is associated with pre-term labor, premature rupture of membranes, postpartum endometritis and PID. BV also increases the risk of HIV transmission.

Treatment of BV

Recommended regimen:

metronidazole 400 or 500mg orally twice a day for 7 days

Alternative regimens:

metronidazole 2g orally as a single dose
or
clindamycin 2% vaginal cream 5g intravaginally at bedtime for 7 days
or
metronidazole 0.75% gel 5g intravaginally twice daily for 5 days
or
clindamycin 300mg orally twice daily for 7 days

In pregnancy:

metronidazole 200 or 250mg orally three times daily for 7 days, after the first trimester.

Alternative regimens

metronidazole 2g orally as a single dose
or
metronidazole 0.75% gel 5g intravaginally twice daily for 7 days
or
clindamycin 300mg orally twice daily for 7 days

Routine treatment of sex partners is not recommended as this has not been shown to reduce the risk of reinfection. It is recommended that vaginal douching be avoided.

Candidiasis

Candidiasis is caused by a yeast, *Candida albicans*. Rarely, other candida species are involved.

Vulvo-vaginal candidiasis (VVC) is an RTI, not an STI. VVC occurs when the normal environment in the vagina changes. Women with immune system disorders, such as diabetes or HIV, are predisposed to VVC. VVC may also occur in relation to antibiotic use. In most women however, the reason for the infection is unclear. VVC is often referred to as a "yeast infection."

About 75 percent of women will have at least one episode of VVC in their life. Some women have recurrent VVC.

10-20 percent of women with candida are asymptomatic. Although VVC is not considered an STI, a minority of male partners may have mild balanitis (inflammation of the glans).

Presentation:

In women:

- Internal and external genital itching
- Redness of the vulva
- Vaginal discharge: thick curd-like is characteristic, but may not always be present
- Pain with sexual intercourse
- Burning with urination

In men:

Redness and irritation of the glans penis

Complications:

Vaginal yeast infections have no systemic complications but are associated with increased HIV transmission.

Treatment of candidiasis

Recommended regimen:

miconazole or clotrimazole 200mg intravaginally daily for 3 days

or

clotrimazole 500mg intravaginally as a single dose

or

fluconazole 150mg orally as a single dose

Alternative regimen:

nystatin 100,000 IU intravaginally daily for 14 days

Treatment of male partner is not recommended except in women with recurrent VVC.

Syphilis

Syphilis is caused by a spirochaete bacterium, *treponema pallidum*. Syphilis is transmitted through vaginal, anal or oral sex as a result of direct contact with syphilis sores, which mainly occur in the genital area, or contact with the semen, vaginal fluids, saliva or blood of infected persons. Transmission can also occur through blood transfusion. Mother-to-child transmission can occur during pregnancy or delivery.

Presentation:

Syphilis is a complex disease, causing a variety of symptoms at different stages of the infection. The infection can invade any part of the body. The clinical picture for men and women is similar. Symptoms may appear within ten days to three months, but usually appear about three weeks after infection.

Primary syphilis - one to three months:

The first sign of syphilis infection is usually a small painless ulcer (chancre) in the area of sexual contact (penis, vagina, anus, rectum or mouth). The ulcer may appear on the cervix or in the rectum and may thus not be evident. The ulcer usually disappears within four to six weeks, even without treatment. If no treatment is given, the disease progresses to the second stage.

Secondary syphilis - one to three months:

In about one-third of untreated cases, as the ulcer heals, a generalized skin rash appears which may include the palms of the hands and soles of the feet or mucosal surfaces. Condylomata lata are painless raised skin lesions occurring on the perineum. The rashes resolve even without treatment. The individual may also experience tiredness, sore throat, patchy hair loss, muscle aches, swollen lymph nodes and fever. These symptoms disappear within a few weeks to 12 months. Even though the initial symptoms of syphilis disappear spontaneously, the syphilis infection remains in the body if not treated.

Latent syphilis - two to fifty years:

When the secondary symptoms disappear, the latent (hidden) stage of syphilis begins. Even though there are no symptoms, the infection begins to damage the musculo-skeletal, cardiovascular and nervous systems. Of all untreated syphilis cases, 30 percent progress to the tertiary stage, while 70 percent have life-time latency.

Tertiary (late) syphilis:

The internal damage which started during the latent stage becomes evident in the tertiary stage. Lesions called gummas may develop in the skin, internal organs, bone or mucosal surfaces. Symptoms of tertiary syphilis include coordination problems, paralysis, numbness, gradual blindness, dementia, joint damage and heart disease. This damage may be serious enough to result in death.

Complications:

Syphilis increases the risk of HIV acquisition and transmission. Pregnancy wastage (abortion, premature delivery and stillbirth) occurs in about one-third of pregnancies in women with untreated syphilis. A further one-third will deliver infants with congenital syphilis. Most infants with congenital syphilis are asymptomatic at birth. Manifestations begin to appear in the third to eighth week after birth and may include snuffles, palmar and plantar bullae, splenomegaly, pallor, joint swelling with or without pseudoparalysis, jaundice, skin rashes and failure to thrive.

Treatment of syphilis

Adequate treatment with penicillin ends infectivity in 24-48 hours. The period of communicability without treatment is variable and may be indefinite.

Early syphilis (primary, secondary or latent syphilis of not more than two years duration):

Recommended regimen:

benzathine benzylpenicillin 2.4 million IU im divided into two injections given at separate sites

Alternative regimen:

procaine benzylpenicillin 1.2 million IU daily im for 10 consecutive days

Alternative regimens for penicillin-allergic non-pregnant patients:

doxycycline 100mg orally twice daily for 14 days

or

tetracycline 500mg orally four times daily for 14 days

Alternative regimen for penicillin-allergic pregnant patients:

erythromycin 500mg orally 4 times daily for 14 days

Late latent syphilis:

benzathine benzylpenicillin 2.4 million IU im once a week for three consecutive weeks

Alternative regimen:

procaine benzylpenicillin 1.2 million IU daily im for 20 consecutive days

Alternative regimens for penicillin-allergic non-pregnant patients:

doxycycline 100mg orally twice daily for 30 days

or

tetracycline 500mg orally four times daily for 30 days

Alternative regimen for penicillin-allergic pregnant patients:

erythromycin 500mg orally four times daily for 30 days

Chancroid

Chancroid is caused by a bacterium, *Haemophilus ducreyi*. Transmission is through direct contact with ulcers on or around the genitals, anus, rectum and mouth or with discharges from ulcers and lymph nodes.

Presentation:

Symptoms usually appear within three to five days after infection, but may take up to 14 days to appear. Asymptomatic infections may occur in women.

Symptoms:

- Painful ulcers with ragged edges on or around genitals
- Painful swelling of lymph glands
- Ulceration of lymph glands

Complications:

There are no systemic complications.

Treatment of chancroid

Recommended regimen:

ciprofloxacin 500mg orally twice daily for 3 days

or

erythromycin base 500mg orally 4 times daily for 7 days

or

azithromycin 1g orally as a single dose

Alternative regimen:

ceftriaxone 250mg im as a single dose

Fluctuant nodes should be aspirated through healthy skin.

Improvement may be seen within one week, although larger ulcers may require up to two weeks. Lymph nodes take longer to heal. Without treatment, ulcers and enlarged glands may persist for several weeks or months. The individual remains infectious as long as there are open sores or glands discharging pus.

Genital herpes

Genital herpes is caused by two types of herpes simplex virus, HSV-1 and HSV-2. HSV-2 is more commonly implicated in genital herpes. Herpes is transmitted through vaginal, anal or oral sexual contact or through kissing. The virus is spread through contact with ulcers or secretions, but most transmission occurs through unrecognized lesions or asymptomatic shedding of the virus. Herpes can be transmitted from mother to infant during pregnancy and delivery.

Presentation:

60-70 percent of infected individuals do not experience symptoms.[6] Symptoms may appear 2 to 12 days after infection.

Symptoms:

- Blisters or ulcers (sores) on the mouth, lips, genitals, anus or surrounding areas
- Burning or pain with urination
- Itching or tingling in the affected area

The initial (primary) infection may be accompanied by flu-like symptoms, such as headache, fever, malaise, muscle aches and enlarged glands in the groin. Blisters form ulcers which may be extremely painful. The ulcers of the primary infection usually crust over and heal within 1 to 3 weeks.

Complications:

Once an individual is infected with herpes, the virus is carried for life. The virus often remains latent and does not cause symptoms for long periods of time. Asymptomatic shedding of the virus may persist between outbreaks and can thus be transmitted to sexual partners. Some people experience recurrent outbreaks. Itching and tingling are often a warning sign that an outbreak will occur soon. The frequency and severity of outbreaks vary from person to person. A number of outbreaks may occur during the first year after infection but the frequency usually decreases over time. During recurrent outbreaks, ulcers usually heal in 3 to 7 days and are not as painful as during the primary infection. People with suppressed immune systems may have severe, persistent ulcers. Oral herpes infections may result in encephalitis.

Genital herpes can be transmitted from mother to baby during pregnancy and delivery. Primary infection during pregnancy may result in miscarriage, fetal growth retardation and preterm labor. The potential for transmission is greatest if a primary infection occurs close to the time of delivery. About 30-50 percent of infants delivered vaginally to a mother with primary infection will be infected with the herpes virus. Of babies born to women experiencing recurrent herpes at delivery, 1-4 percent will be infected. Of infants infected with herpes at birth, 30-60 percent die within the first month of life. Survivors may be left with long-term complications such as mental retardation and seizures.[7] Caesarean section is indicated if a mother has a herpes outbreak at the time of delivery.

Treatment of genital herpes

There is no cure for herpes. Antiviral medications may reduce the formation of new lesions, the severity of the symptoms and the duration of the outbreak. Viral shedding may also be decreased. Medication should be started as soon as possible after the onset of symptoms. In patients with HIV, the dose and duration of treatment may need to be increased.

Recommended regimens for first clinical episode:

acyclovir 200mg orally 5 times daily for 7 days
or
acyclovir 400mg orally 3 times daily for 7 days
or
famciclovir 250mg orally 3 times daily for 7 days
or
valaciclovir 1g twice daily for 7 days

Recommended regimens for recurrent infection:

acyclovir 200mg orally 5 times daily for 5 days
or
acyclovir 400mg orally 3 times daily for 5 days
or
acyclovir 800mg orally twice daily for 5 days
or
famciclovir 125mg orally twice daily for 5 days
or
valaciclovir 500g twice daily for 5 days

Daily suppressive therapy may be considered for individuals with frequent recurrences. This reduces the frequency of recurrence and also reduces asymptomatic shedding.

Recommended regimens for suppressive therapy:
acyclovir 400mg orally twice daily continuously
or
famciclovir 250mg orally twice daily
or
valaciclovir 500mg or 1g orally once daily

Suppressive therapy may have important implications for HIV control but would rarely be feasible in resource-poor settings.

Pelvic inflammatory disease

Many different organisms can cause PID, but most cases are associated with gonorrhea and chlamydia. It is estimated that 10 to 80 percent of women with either of these untreated STIs will develop symptomatic PID.[8]

PID may have no symptoms, or mild to severe symptoms including:
- Abdominal pain
- Lower back pain
- Pain during sexual intercourse
- Bleeding between periods
- Fever
- Nausea

PID can be a serious condition and requires immediate treatment. PID may result in irreversible damage to the genital tract, leading to abscess formation, chronic pelvic pain, infertility and an increased risk of ectopic pregnancy (which is potentially fatal). After one episode of PID, a woman has an estimated 15 percent risk of infertility. After two episodes, the risk is approximately 35 percent, and after three, the risk is nearly 75 percent.[9]

Many experts recommend that all patients with PID should be admitted to hospital for treatment. Hospitalization should seriously be considered when:
- the diagnosis is uncertain
- surgical emergencies such as ectopic pregnancy or appendicitis cannot be excluded
- a pelvic abscess is suspected
- the patient is severely ill
- the patient is pregnant
- the patient is unable to follow or tolerate an outpatient regimen
- the patient has failed to respond to outpatient therapy

Treatment of pelvic inflamatory disease

Outpatient therapy – recommended syndromic treatment:

Single dose therapy for uncomplicated gonorrhea

PLUS

doxycycline 100mg orally twice daily, or tetracycline 500mg orally 4 times daily, for 14 days

PLUS

metronidazole 400-500mg orally twice daily for 14 days

Inpatient therapy – recommended syndromic treatment options:

ceftriaxone 250mg im once daily

PLUS

doxycycline 100mg orally or IV twice daily, or tetracycline 500mg orally 4 times daily

PLUS

metronidazole 400-500mg orally or IV twice daily, or chloramphenicol 500mg orally or IV 4 times daily

OR

clindamycin 900mg IV every 8 hours

PLUS

gentamycin 1.5mg/kg IV every 8 hours

OR

ciprofloxacin 500mg orally twice daily, or spectinomycin 1g im 4 times daily

PLUS

doxycycline 100mg orally or IV twice daily, or tetracycline 500mg orally 4 times daily

PLUS

metronidazole 400-500mg orally or IV twice daily, or chloramphenicol 500mg orally or IV 4 times daily

For all three regimens, therapy should be continued until at least two days after the patient has improved and should be followed by oral doxycycline or tetracycline for 14 days.

[1] Benenson AS. (Ed.) Control of Communicable Diseases Manual. Amercian Public Health Association, Washington. 1995.
[2] WHO. Global prevalence and incidence of selected sexually transmitted infections. 2001.
[3] Centers for Disease Control and Prevention. Fact sheet. Chlamydia. 2001.
[4] Ibid.
[5] WHO. Global prevalence and incidence of selected sexually transmitted infections. 2001.
[6] Mindel A. Genital Herpes- How much of a public-health problem? Lancet. 1998; 351: 16-18.
[7] Centers for Disease Control and Prevention. Fact sheet. Genital herpes. 2001.
[8] Centers for Disease Control and Prevention. Fact sheet. Pelvic inflammatory disease. 2001.
[9] EngenderHealth. STI online course. www.engenderhealth.org. 2002.

Annex 3

Discussion of Mwanza and Rakai trials

Possible explanations for the differences between the outcomes of the Mwanza and Rakai trials[1]

- At the time of the studies, the HIV prevalence in Mwanza was low (4 percent), while the Rakai study was carried out in the setting of a mature HIV epidemic (16 percent). In the early stages of an HIV epidemic, the virus is concentrated in core groups of individuals with high rates of partner exchange, such as commercial sex workers and their clients. These groups also have high incidences and prevalences of STIs. At any stage of an HIV epidemic, the presence of an STI increases the risk of HIV transmission between two individuals. Treatment of STIs in high risk groups in the early stages of an epidemic may thus significantly reduce the spread of the virus. However, as the proportion of individuals in the population who are carrying the HIV virus increases, HIV transmission increasingly takes place independently of factors such as STIs. Thus, treatment of STIs in mature HIV epidemics, while still important in reducing HIV transmission at individual level, will have less of an impact on the spread of HIV at population level, compared with early epidemics.

- The prevalence of genital herpes was higher in Rakai than in Mwanza. HSV-2 has been shown to be a significant cofactor for HIV transmission.

- The Mwanza trial targeted symptomatic STIs. As a result of the greater inflammatory response associated with symptomatic STIs, these may present a higher risk for HIV transmission. Therefore, focusing on symptomatic infections may be a very effective way to target STI treatment interventions.

- Continuously available STI services, such as in Mwanza, may have a greater effect on reducing STI transmission than intermittent mass treatment,[2] as people may be re-infected soon after treatment and need to be treated again.

As a result of the debate generated by these two trials, WHO/UNAIDS convened an expert consultation to review the findings. The consultation concluded:

> "On the basis of the collective evidence reviewed in this report, the Consultation considers that STI management continues to be an essential component of HIV prevention programmes and should continue to be a key component for AIDS control programmes, especially in areas where STIs are highly prevalent. There are sufficient scientific data pointing to the importance of STI control and the impact this can have on HIV transmission. Although it has been suggested that impact often depends on the epidemiology of STIs in the community and the stage of the HIV epidemic, studies…show that even in mature epidemics, interventions can have a significant impact…"[3]

1 Flemming DT, Wasserheit JN. From epidemiological synergy to public health policy and practice: the contribution of other sexually transmitted diseases to sexual transmission of HIV infection. Sexually Transmitted Infections. 1999; 75:3-7.

2 Grosskurth H, Gray R, Hayes R, et al. Control of sexually transmitted diseases for HIV-1 prevention: Understanding the implications of the Mwanza and Rakai trials. Lancet. 2000; 1981-87.

3 UNAIDS/WHO. Consultation on STD interventions to prevent HIV: What is the evidence? UNAIDS Best Practice Collection. 2000.

Annex 4

Syndromic management algorithms

Adapted from: WHO. Guidelines for the management of sexually transmitted infections. 2003.

Urethral discharge syndrome

Patient complains of urethral discharge

↓

Take history and examine
Milk urethra if necessary

↓

Discharge confirmed?

NO → Any other genital disease?

NO →
- Educate and counsel
- Promote condom use and provide condoms
- Offer HIV counseling and testing if both facilities available
- Review if symptoms persist

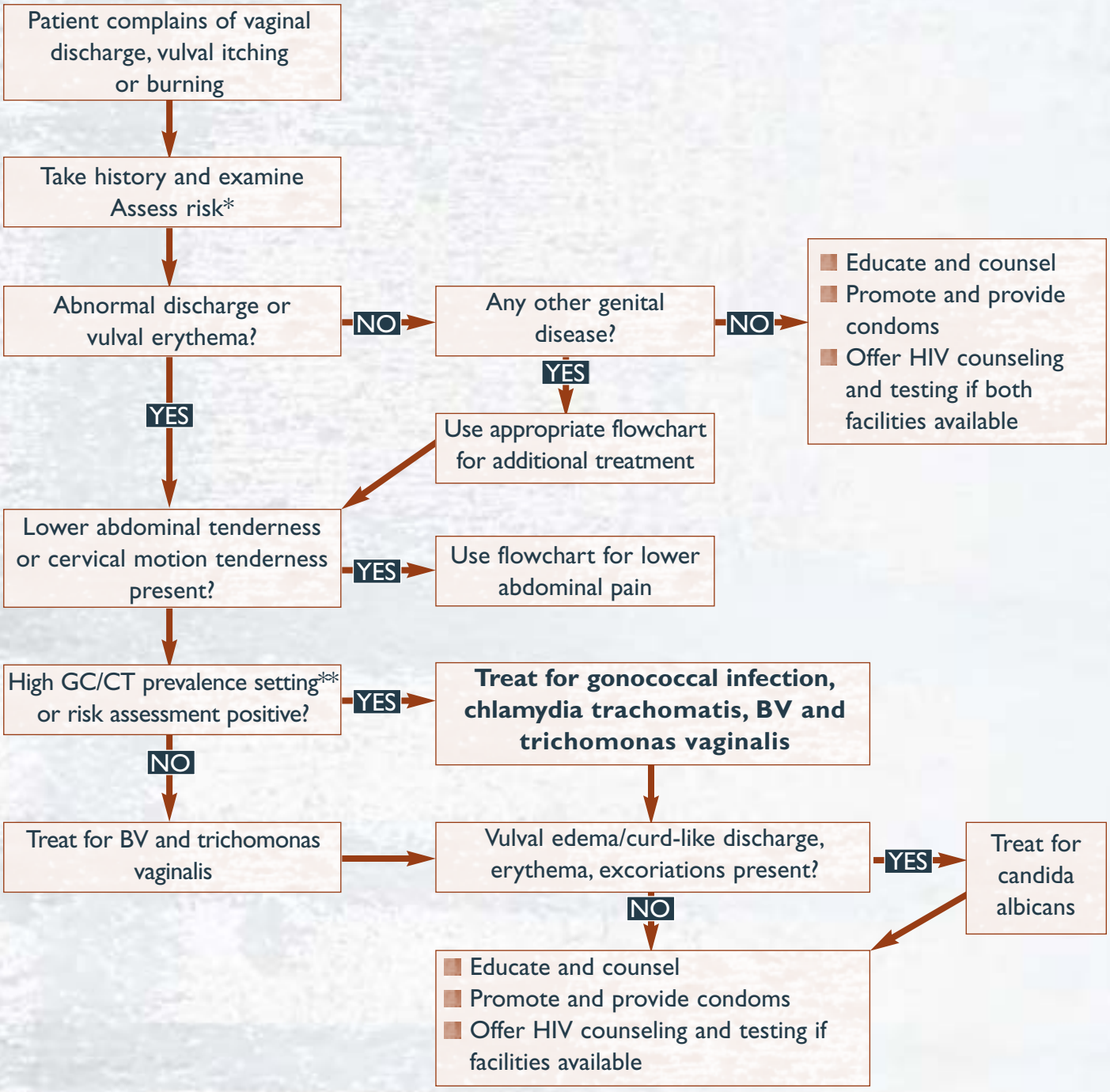
YES ↓

- **Treat for gonococcal infection and chlamydia trachomatis**
- Educate and counsel
- Promote condom use and provide condoms
- Manage and treat partner
- Offer HIV counseling and testing if both facilities available
- Ask patient to return in 7 days if symptoms persist

YES ↓

Use appropriate flowchart

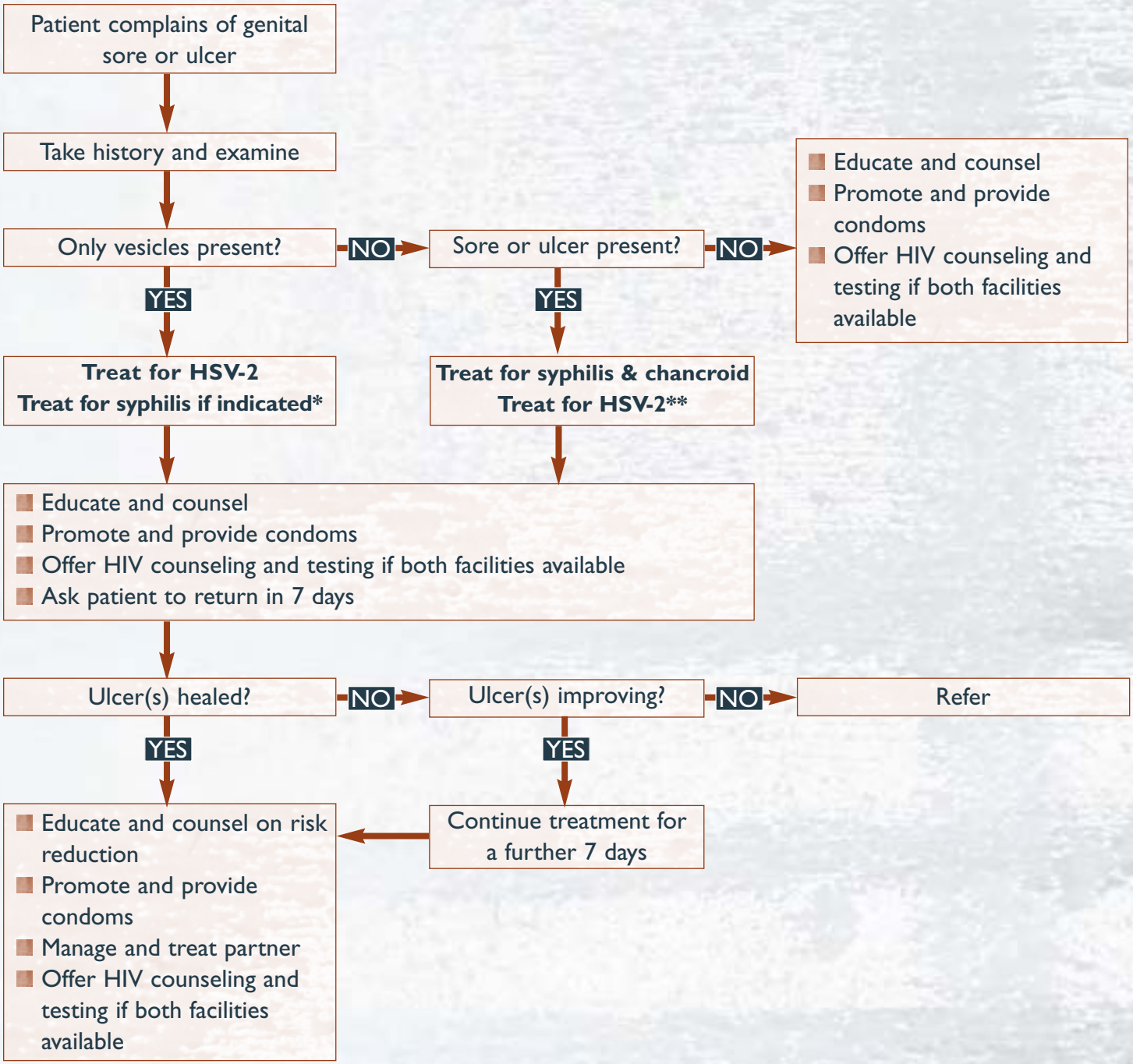
Vaginal discharge syndrome



*Risk factors need adaptation to local social behavioral and epidemiological situation.

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

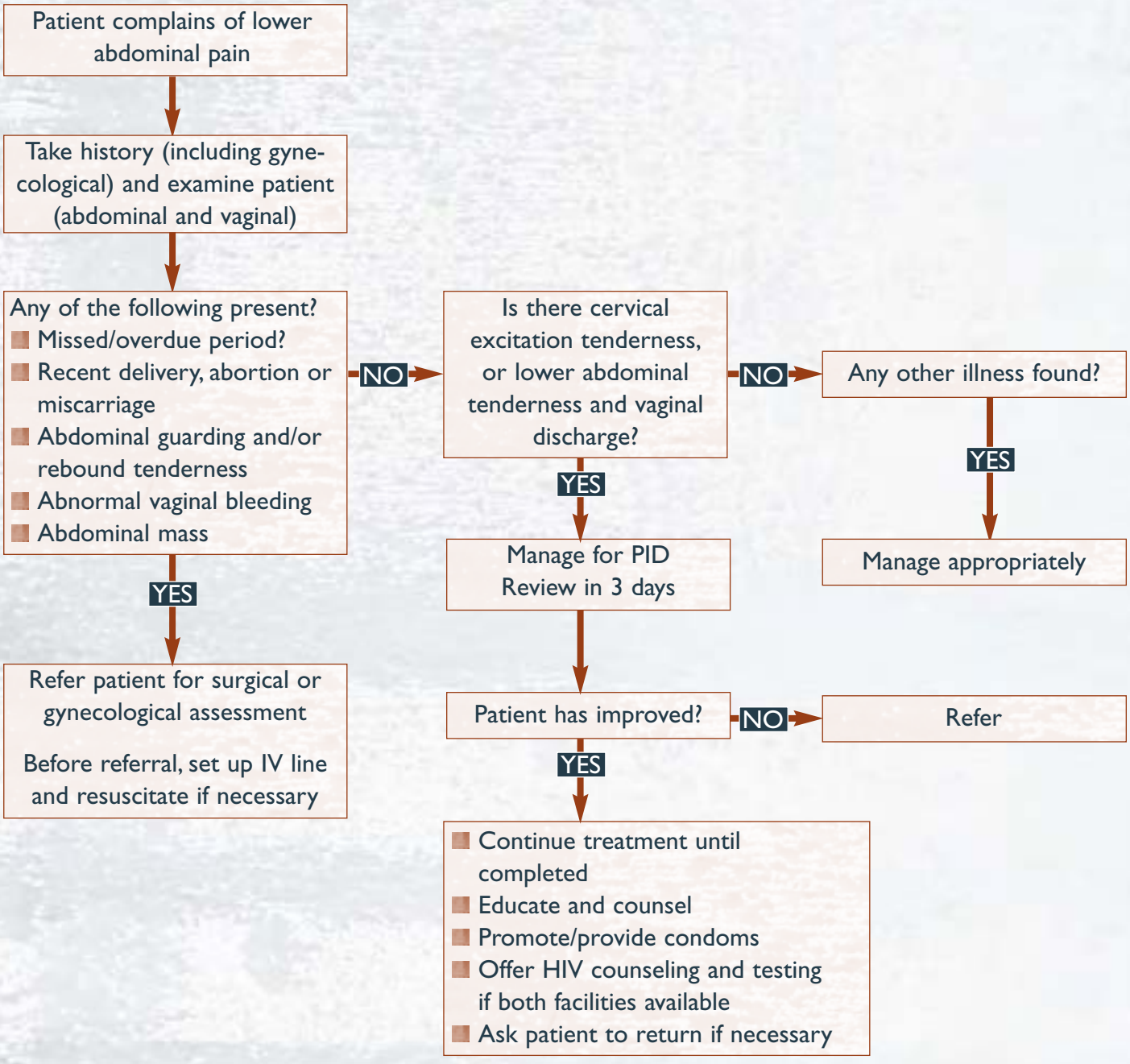
Genital ulcer syndrome



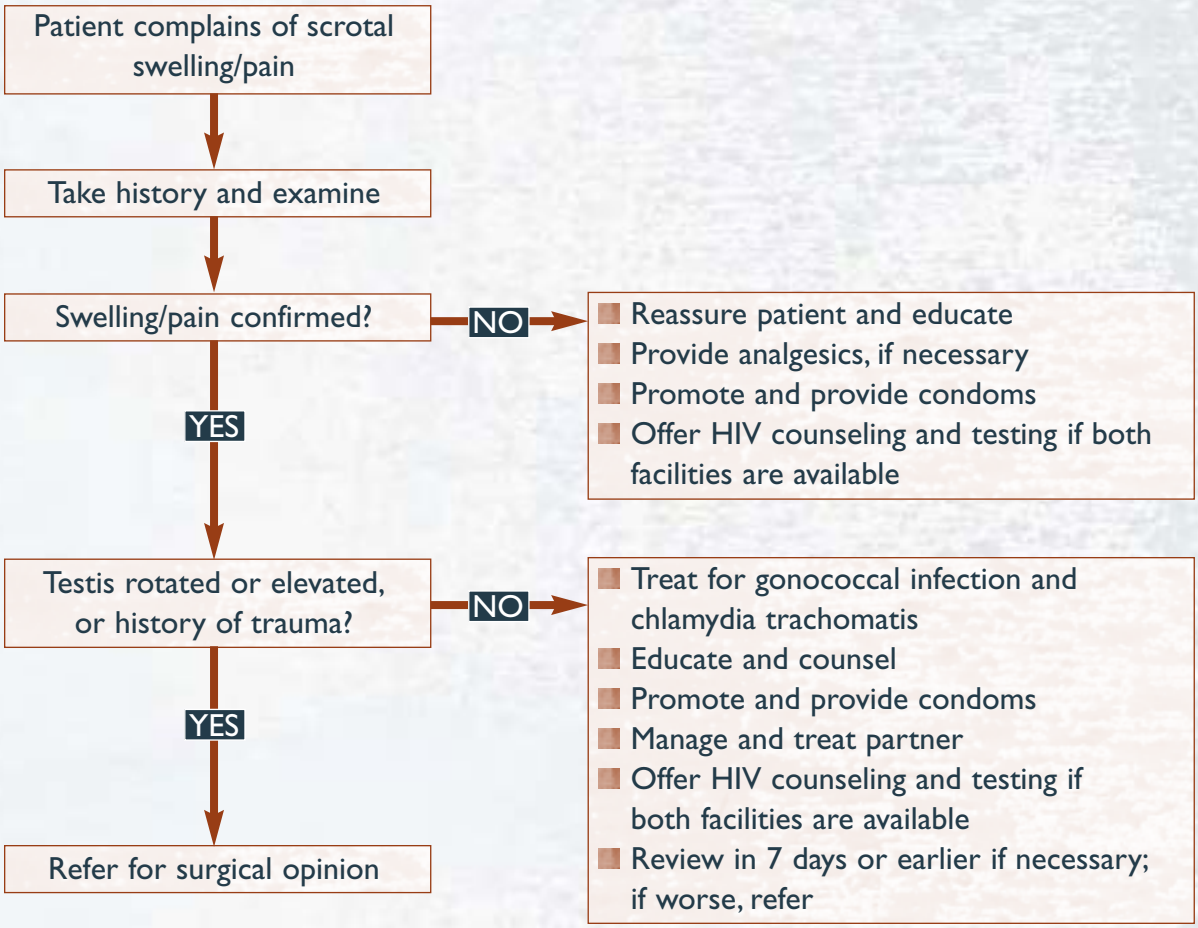
* Indications for syphilis treatment:
- RPR positive and
- Patient has not been treated for syphilis recently

**Treat for HSV-2 where prevalence is 30% or higher, or adapt to local conditions

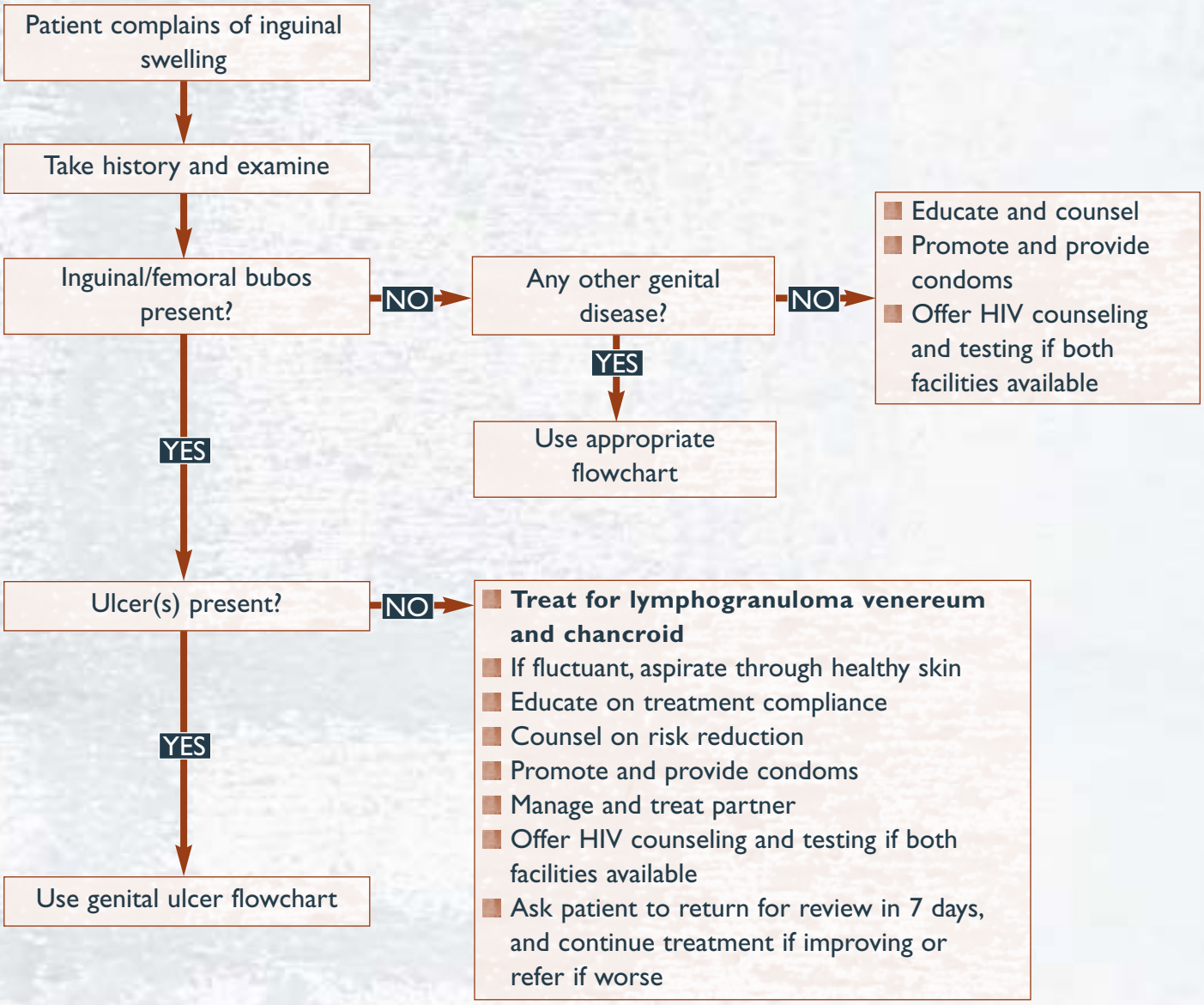
Lower abdominal pain



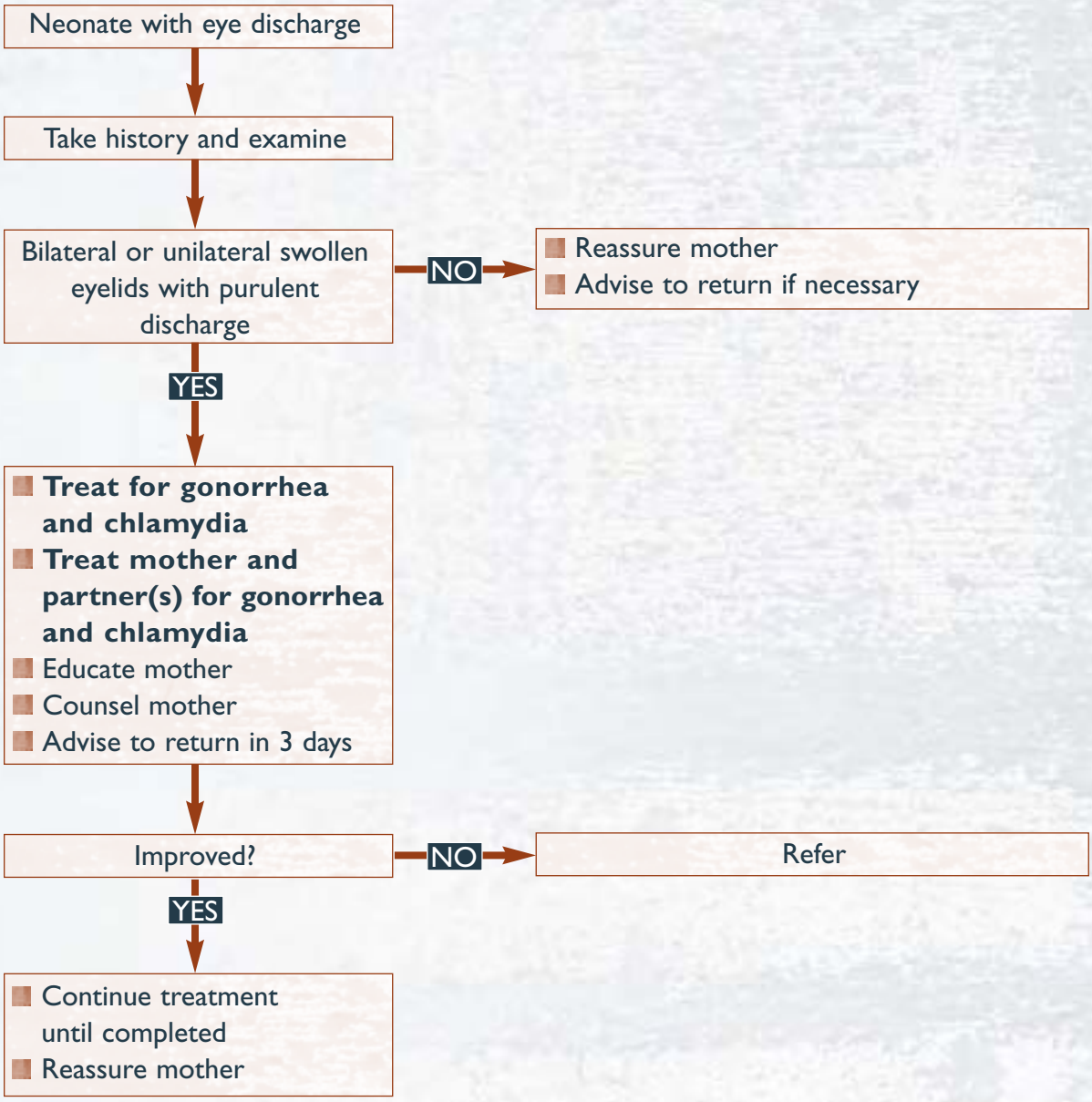
Scrotal swelling



Inguinal swelling



Neonatal conjunctivitis



Annex 5

WHO risk analysis tool

High risk = score greater than or equal to 2

Risk factor	score
Symptomatic partner	2
Below age 21	1
Unmarried	1
More than one sexual partner	1
New sexual partner in past three months	1
With speculum add:	
Presence of cervical mucopus	2

NOTE: It is important that risk factors be adapted to the local situation. Refer to Annex 6.

Annex 6

Risk analysis discussion

Validation studies of risk analyses have been carried out in a variety of contexts [1] with mixed results. In general, risk factor analyses have not been found to significantly improve the performance of the vaginal discharge flowchart.

Some clinical signs, such as the presence of cervical mucopus, cervical erosions or bleeding after intercourse and between menses, are associated with cervical infection. However, these signs are not consistently present and can therefore not reliably be used to identify cervicitis. Recognition of cervical mucopus and erosions also depends on the technical capacity of the clinician. Speculum examination is therefore not consistently useful in distinguishing between vaginal and cervical infections. (However, where circumstances and staff capacity allow, speculum examination should still be performed as part of a comprehensive gynecological assessment and to rule out other potential causes of discharge, such as a foreign body in the vagina, carcinoma and endometritis.)

Some risk factor analyses include microscopy. N.gonorrhea may be identified in microscopic examination of vaginal/cervical discharge. However, the sensitivity of the test is low (50 to 70 percent for N. gonorrhea),[2] especially if the patient has douched or washed just prior to examination. Chlamydia cannot be detected on simple microscopy. Microscopy does not, therefore, improve the performance of the vaginal discharge flow chart and is not recommended. Microscopy for trichomonas may however be useful in making a decision about partner notification in the case of a diagnosis of vaginitis. (As the other causes of vaginitis are not STIs, partner treatment is not necessary for these.)

The WHO expert consultation also recommended that the KOH (Whiff) and pH tests for diagnosis of BV be dropped. Given the high prevalence of BV, the potentially negative pregnancy outcomes, the increased risk for HIV transmission and the low price of metronidazole, it would seem cost-effective to treat all women presenting with abnormal discharge for BV.

Demographic and behavioral risk factors have in some settings been associated with cervicitis. These risk factors include:

- age below 21 years
- unmarried
- more than one sexual partner in the last three months
- new partner in the last three months
- current partner has an STI
- recent use of condoms by partner

There are, however, some problems associated with the use of behavioral and demographic risk factors. It has been found that such risk factors are usually specific to the population for which they have been identified and validated and cannot easily be applied to other populations. In particular, specific risk factor analyses may need to be developed for adolescents, whose risk factors may differ from those of older women. The performance of a flowchart based on behavior also depends upon the truthfulness of statements

made by the clients.[3] In some cultures, women may be reluctant to provide information about sexual behavior. Furthermore, the risk of acquiring an STI is for many women determined by their partners' sexual behavior. Risk factor analyses could also contribute to stigmatization by labeling individuals as "high risk" or "promiscuous."[4]

In India, 319 women complaining of vaginal discharge were tested and managed according to locally recommended flowcharts which included risk factor analysis and speculum-assisted clinical evaluation. The flowchart was not found to be helpful in predicting cervical infections.[5] In Kenya, a study evaluated the validity of different flowcharts for the diagnosis of gonococcal and chlamydia trachomatis infections among pregnant and non-pregnant women presenting with vaginal discharge. Several flowcharts were tested, with and without speculum examination and risk factor analyses. The risk factors differed significantly between the two sub-populations. None of the flowcharts achieved acceptable levels of sensitivity and specificity, although the flowcharts with risk factors performed slightly better than the others. The researchers concluded that none of the tested flowcharts would constitute a marked improvement over the existing Kenyan flowchart.[6]

Risk factor analysis has been found to have some benefit in high prevalence settings, but requires a locally adapted risk analysis tool. However, the WHO expert consultation concluded that the risk assessment step should be dropped in areas of low gonococcal and chlamydia prevalence because it does not significantly increase the validity of the flowchart.

1 A number of these studies were published in a supplement to the journal Sexually Transmitted Infections 1998; 74.

2 WHO Regional Office for the Western Pacific. Laboratory tests for the detection of reproductive tract infections. 1999.

3 Obunge OK, Brabin L, Dollimore N, et al. A flowchart for managing sexually transmitted infections among Nigerian adolescent females. Bulletin of the World Health Organization. 2001; 79:301-305.

4 Pettifor A, Walsh J, Wilkins, V, Raghunathan, P. How effective is syndromic management of STDs? A review of current studies. Sexually Transmitted Diseases. 2000; 27(7): 371-385.

5 Vishwanath S, Talwar V, Prasda R, et al. Syndromic management of vaginal discharge among women in a reproductive health clinic in India. Sexually Transmitted Infections. 2000; 76: 303-306.

6 Fonck K, Kidula N, Jaoko W, et al. Validity of the vaginal discharge algorithm among pregnant and non-pregnant women in Nairobi, Kenya. Sexually Transmitted Infections. 2000; 76: 33-38.

Annex 7

Checklist for comprehensive STI care

Service delivery:

1. Accessible services

- Physical accessibility
- Discreet access
- Structure and arrangement allow privacy during history-taking and examination
- Opening times to suit various client groups
- Affordable services

2. Assured confidentiality and a caring, non-judgmental attitude from staff

- Assessment of cultural attitudes on confidentiality among staff
- Organizational policies
- Training

3. Appropriate diagnostic equipment and supplies

- Minimum: examination table, light, gloves
- Additional: specula of different sizes, swab-holding forceps, basin, swabs, slides, saline

4. Provision of effective drugs

- Treat according to national protocols unless otherwise indicated.
- Refer to Section 8.2.

Clinical management:

5. Appropriate history-taking and physical examination

- Refer to Annex 8.
- Training

6. Diagnosis and treatment using the syndromic approach

- Policy for using syndromic algorithms (locally-adapted or WHO)
- Copies of algorithms available to all clinical staff
- Algorithm posters placed in consulting rooms
- Training of staff in use of algorithms
- Recommendation of a follow-up visit for all STI clients

7. Routine RPR testing for STI clients

- All STI clients offered an RPR test with same-day treatment

8. Routine RPR screening for all antenatal clinic attendees with same-day treatment

- All antenatal clinic clients receive an RPR test before 6 weeks and again in the third trimester, with same-day treatment.

9. Routine eye prophylaxis for all neonates

- Application of 1% silver nitrate solution or 1% tetracycline ointment to the eyes of all infants at delivery

IEC

10. Provision of individual education and counseling on:

- the infection, its potential consequences and how it is transmitted
- the importance of completing the prescribed treatment
- the importance of partner notification and treatment
- personal risk reduction strategies
- HIV/AIDS

11. Provision of condoms and education on use

- Provide to all STI clients
- Make available to all clinic clients
- Make available to community through outreach staff

12. Assistance with partner notification

With consent of patient, options include:

- patient informs partner
- patient gives card from health facility to partner
- health worker visits partner
- card is sent from health facility advising partner to seek care
- patient is given additional medication to take home to partner

13. Clinic-based IEC strategies

- Materials to reinforce individual counseling, e.g., posters, leaflets
- Target all health facility clients, e.g., posters, leaflets, videos or dramas in waiting areas
- Messages consistent with community-based behavior change communication interventions

Annex 8

Summary of STI history-taking and examination[1]

HISTORY

- Explore main symptoms and their duration.
- Sexual history: when did the patient have sex, with whom and in what manner (including use of condom).
- Past history of STIs and treatment.
- Previous treatment during this episode.
- Help patient identify partner(s) who may have exposed / been exposed.
- Other illnesses, medications and allergies.
- Ask women about menses, contraception and obstetric history.

EXAMINATION OF WOMEN

- Help patient to feel at ease.
- Allow patient to recline on examination table.
- Inspection of pubic hair, genitals (including separation of labia), perineum and inguinal lymph nodes.
- Abdominal and bimanual examination of the posterior urethra.
- Speculum examination, visualizing cervix and vaginal walls.
- Bimanual examination.
- Examine anus, rectum, mouth, throat and skin when appropriate.

EXAMINATION OF MEN

- Help patient to feel at ease.
- If possible, allow patient to recline on examination table.
- Inspection of pubic hair, genitals, perineum and inguinal lymph nodes.
- Retraction of foreskin in uncircumcized patients.
- If no discharge seen, massage ("milk") urethra.
- Palpation of testicles and epididymis.
- Examine anus, rectum, mouth, throat and skin when appropriate.

[1] Adapted from: Family Health International. HIV/AIDS Prevention and Care in Resource-Constrained Settings. 2001. FHI. Arlington.

Annex 9

List of STI drugs and supplies

Sample calculation of supplies to treat 10,000 people for 3 months[1]

Assume:
50% of the affected population are adults
Therefore:
50% of 10,000 = 5,000

Assume:
5% of the adults have an STI
Therefore:
5% x 5,000 = 250 persons

Assume:
20% have genital ulcers
Therefore:
20% x 250 persons = 50

Assume:
50% have urethral discharge
Therefore:
50% x 250 persons = 125

Assume:
30% have vaginitis
Therefore:
30% x 250 persons = 75

Assume:
10% will be treated for cervicitis
Therefore: 10% x 250 persons = 25

Genital ulcers (treat for syphilis and chancroid)	
Benzathine Benzyl-penicillin 2.4 units, 1 dose	50
Syringes, disposable, 5ml	50
Needles, disposable, 21g	100
Water for injection 10ml	50
Cotton wool, absorbent, not sterile, 100g	3
Chlorhexidine sol. 5%, 1 liter	3
Erythromycin 500mg tablets (4/day x 7 days)	1,400
Urethral discharge (treat for gonorrhea and chlamydia)	
Ciprofloxacin 500mg (single dose)	125
Doxycycline 100mg tablets (2/day x 7 days)	1,750
Vaginitis (treat for candidiasis and trichomoniasis)	
Metronidazole 250mg tablets (2g single dose or 500mg 2/day x 7 days)	2,000
Clotrimazole 500 mg pessaries (single dose)	100
Cervicitis (treat for gonorrhea and chlamydia)	
Ciprofloxacin 500mg1 (single dose)	20
Doxycycline 100mg tablets (2/day x 7 days)	280
For pregnant women:	
Cefixime 400mg tablets (single dose)	20
Erythromycin 500mg tablets (4/day x 7 days)	560
Condom distribution	
Condoms (20 gross)	3,000
Safe sex leaflets	100
Poster for syndromic diagnosis of STI	1
Safety box, for used syringes and needles – Capacity 5L	4
Envelope, plastic, 10 x 15 cm – pack of 100 (for drugs/tabs distribution)	10

[1] Inter-agency Standing Committee Task Force on HIV/AIDS in Emergency Settings. Guidelines for HIV/AIDS interventions in emergency settings. Draft 21 June 2003

Annex 10

STI care supervision checklist

(This checklist is based on the DISCA (District STI Clinic Assessment) tool which was developed by the South African National STI Initiative as a quality improvement instrument for primary health care facilities.)

Health facility name & location_____

_____

Date of visit_____ Time of visit_____

Name, title and job of person filling out this form_____

_____

Structure and condition of facility:_____

Adequate staff coverage? YES___ NO___

Adequate space for patient consultations? YES___ NO___

1. On which days and at which times are services available for patients presenting with STIs?

_____

2. Can STI patients receive treatment after hours from this facility? YES___ NO___

3. Are STI services provided by all the clinicians? YES___ NO___

4. Observe whether this facility offers consultation in private for all STI patients (i.e., the patient cannot be seen or heard by other patients or staff).

_____

_____

5. Ask to see the register books and record the following for last month:

a. total number of patients seen _____

b. total number of patients 15 years and older (if readily available) _____

c. total number of family planning clients_____

d. total number of ANC patients seen_____

e. total number of STI patients seen _____

f. total number of RPR tests done _____

6. Is a physical examination done on all STI patients? YES___ NO___

7. Is a speculum examination done on all female STI patients? YES___ NO___

8. Are the following pieces of equipment available in all adult consultation rooms:

a. Examination table YES___ NO___

If no, in how many consultation rooms is there an examination table?_____

b. Examination light YES___ NO___

If no, in how many consultation rooms is there an examination light?_____

How many of the lights are in working order?_____

c. Examination gloves YES___ NO___

d. Vaginal specula YES___ NO___

9. Is there a protocol or guidelines for management of STIs in this facility? (Ask to see it) YES___ NO___

10. Is there a copy of the guidelines in each consultation room? YES___ NO___

11. Do the guidelines use the syndromic approach? YES___ NO___

12. STI drugs: in stock stock out last month

Ciprofloxacin oral _____

Metronidazole oral _____

Erythromycin oral _____

Doxycycline oral _____

Tetracycline oral _____

Cotrimoxazole oral _____

Benzathine pen inj _____

13. Are there individual patient education materials about STI/HIV prevention and treatment available in this facility? YES___ NO___

Describe:

_____

14. Are there any general STI education materials/activities targeting all clinic clients? YES___ NO___

Describe:

_____

15. Are these educational materials available in a local language? YES___ NO___

16. How are specula sterilized in this facility?

_____

17. Is syphilis testing available at this facility? YES___ NO___

18. Are all STI patients tested for syphilis? YES___ NO___

19. Are all pregnant women attending antenatal clinics tested for syphilis?
YES___ NO___

20. Is RPR testing performed on site, or is the specimen sent away for testing?

_____

21. If the specimen is sent away, how long does it take before the result is available?

_____

22. Do all neonates receive eye prophylaxis? YES___ NO___

23. Are condoms available in this facility today? YES___ NO___

24. Were condoms out of stock at any time during last month? YES___ NO___

25. Where in the facility are condoms available?

_____

26. Which patients with STIs get referred for further investigation / treatment?

_____

27. Where are they referred?

_____

28. How are partners notified?

_____

29. How many partners were notified last month?

_____

30. How many partners received treatment last month?

_____

31. What is the total number of clinical staff working at this facility?

_____

32. How many clinicians are working today?

33. How many clinicians have received formal training on syndromic management of STIs?

34. How many clinicians have received formal training on HIV counseling?

35. What are the problems that affect STI management in this facility?

Annex 11

Additional resources

STIs - general

- EngenderHealth. STI online minicourse. 2001. www.engenderhealth.org
- WHO. Guidelines for the management of sexually transmitted infections. 2003. www.who.int/hiv
- WHO. Report of an expert consultation on improving the management of sexually transmitted infections. 2001. www.who.int
- WHO. Regional office for the Western Pacific. Laboratory tests for the detection of reproductive tract infections. 1999. www.who.int

STIs in conflict-affected settings

- Interagency Standing Committee. Guidelines for HIV/AIDS interventions in emergency settings. www.unhcr.ch
- International Rescue Committee. Protecting the Future. 2003. www.theirc.org
- UNHCR/WHO/UNFPA. Inter-agency field manual. Reproductive health in refugee situations. Geneva, 1999. www.unhcr.ch
- Sphere Project, Sphere Humanitarian Charter and Minimum Standards in Disaster Response. Revised Handbook. 2004. www.sphereproject.org
- UNAIDS/UNHCR. HIV/AIDS and STI prevention and care in Rwandan refugee camps in the United Republic of Tanzania. Best Practice Collection. 2003. www.unaids.org

Obtaining data

- UNAIDS/WHO. Guidelines for Sexually Transmitted Infections Surveillance. www.who.int
- Family Health International. Behavioral Surveillance Surveys: Guidelines for Repeated Behavioral Surveys in Populations at Risk of HIV. Arlington, FHI. 2001.
- Reproductive Health for Refugees Consortium. Refugee Reproductive Health Needs Assessment Field Tools. 1997. www.rhrc.org
- Reproductive Health Response in Conflict Consortium. Monitoring and Evaluation Tool Kit: Draft for field testing. 2003. www.rhrc.org

Delivering services

- Family Health International. Control of Sexually Transmitted Diseases: A handbook for design and management of programs. www.fhi.org.
- Family Health International. HIV/AIDS Prevention and Care in Resource-Constrained Settings. 2001. www.fhi.org

Drug supply management

- Management Sciences for Health. Managing Drug Supply. West Hartford. Kumarian Press. 1997.
- Manual of Reproductive Health Kits for Crisis Situations, 2nd edition, UNFPA, New York 2003.
- WHO. Guidelines for Drug Donations. 1996. www.who.int

Training and supervision

- CARE/Reproductive Health Response in Conflict Consortium. Moving from Emergency Response to Comprehensive Reproductive Health Programs. Module 7: STI/HIV/AIDS in comprehensive reproductive health programs. Draft for field testing. 2003.
- EngenderHealth. STI online minicourse. 2001. www.engenderhealth.org
- National STI Initiative, South Africa. Evaluating the quality of care for sexually transmitted infections using DISCA (District STI Clinic Assessment). Health Systems Trust. www.hst.org.za
- Teaching Aids at Low Cost (TALC). Sexually Transmitted Diseases. Slide set. www.talcuk.org

Increasing awareness

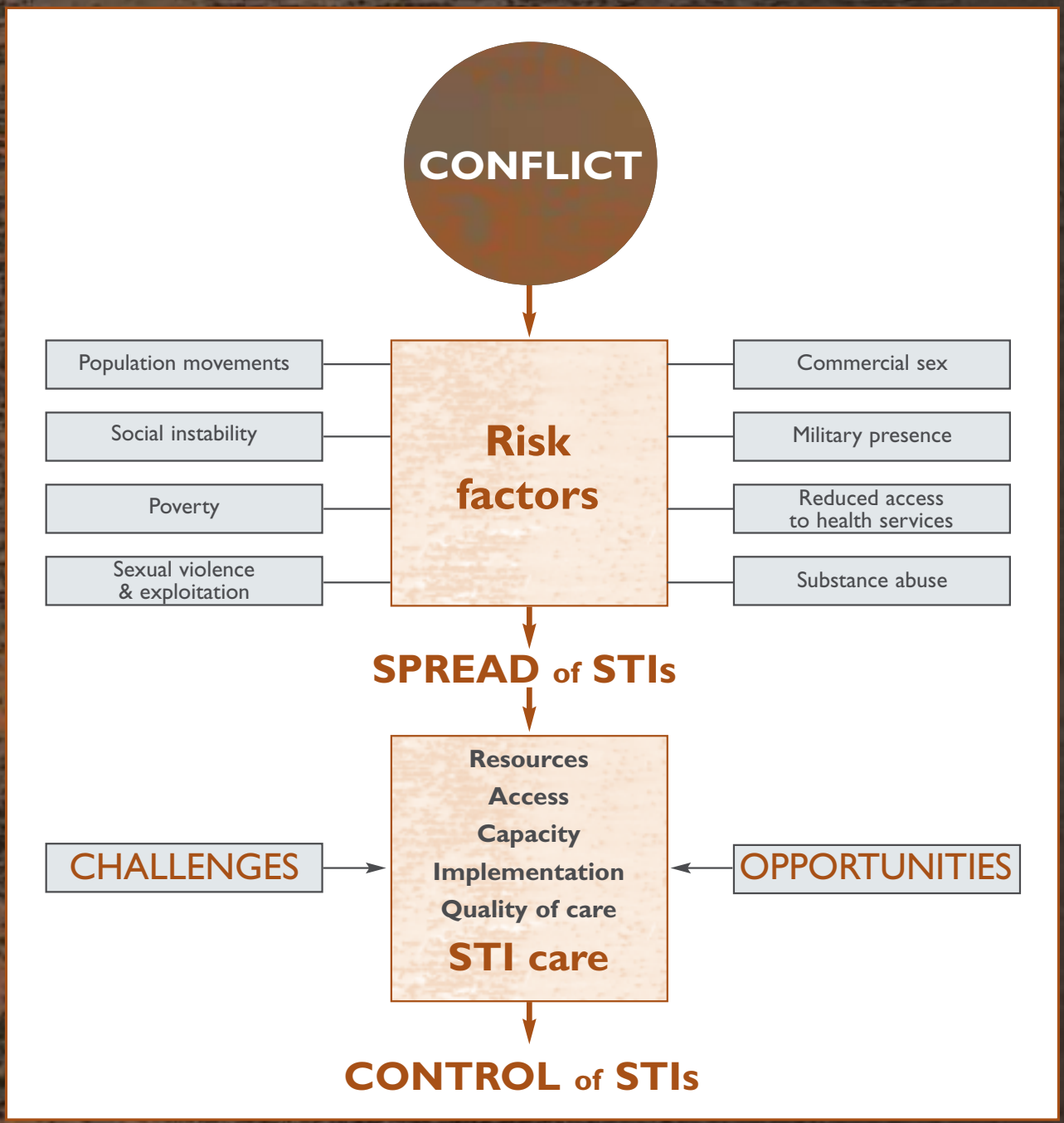
- FHI/AIDSCAP: Behavior change communication for the prevention and treatment of STDS. Community and clinic-based approaches for STD programs. www.fhi.org
- AIDSCAP. How to create an effective communication project. www.fhi.org

Targeting services

- Family Health International. Control of Sexually Transmitted Diseases: A handbook for design and management of programs. www.fhi.org
- International HIV/AIDS Alliance. Working with men, responding to AIDS. Gender, sexuality and HIV - a case study collection. 2003. www.aidsalliance.org

Further resources

- UNHCR/WHO. Clinical Management of Survivors of Rape (draft for field-testing). June 2002.
- UNAIDS/WHO. Male Condom Programming Fact Sheets. WHO/RHT/FPP/98.15 UNAIDS/98.12.
- UNAIDS/WHO. The Female Condom, A guide for planning and programming. WHO/RHR/00.8 UNAIDS/00.12E.
- WHO. Managing condom supply manual. Geneva. 1995. WHO/GPA/TCO/PRV/95.6.


CONFLICT
Population movements
Social instability
Poverty
Sexual violence & exploitation
Risk factors
Commercial sex
Military presence
Reduced access to health services
Substance abuse
SPREAD of STIs
Resources
Access
Capacity
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STI care
CHALLENGES
OPPORTUNITIES
CONTROL of STIs

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