

Section 5

Contexts for approaching STI care

5.1 The epidemiological context

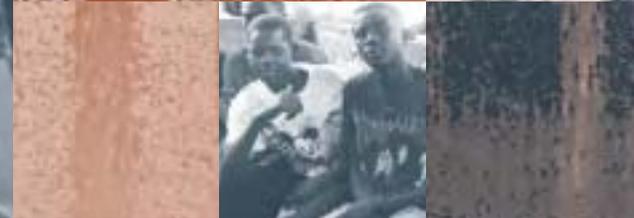
5.2 The public health context

5.3 The syndromic management context

5.4 Syndromic management of STIs in conflict-affected contexts



The rate of spread and the persistence of an STI in a population depend on the average number of new cases of infection generated by an infected person.



5.1 The epidemiological context

Factors affecting the rate of spread of an STI

The rate of spread of an STI is affected by:

- the probability that an exposed susceptible person will acquire the infection (**b**),
- the rate of exposure of susceptible persons to infected people (**c**), and
- the time that newly infected persons remain infectious (**D**).

These three factors determine the case reproduction rate (**R_o**).

R_o may be viewed as an equation: **R_o = b * c * D**

The higher the values of **b**, **c** and **D**, the higher **R_o** will be. The higher the value of **R_o**, the greater the potential for the spread of the infection.

The three factors (**b**, **c** and **D**) are subject to a variety of influences and vary across populations, over time and for different organisms. An understanding of these factors and the influences upon them, provides a basis for interventions. For example:

b is influenced by biological and microbial factors, condom use, the presence of other STIs, circumcision status and practices such as dry sex and vaginal douching.

c is influenced by patterns of sexual mixing, frequency of partner change, time gaps between sexual partnerships and concurrent partnerships.

D is influenced by health care-seeking behavior, quality of case management and the presence of screening programs.

Core groups

All members of a community are not at equal risk for acquiring and transmitting STIs. Relatively small groups of individuals, which have high rates of partner change (high “**c**”), increase the rate of spread of STIs disproportionately compared with the general population. These groups are termed “high frequency transmitters” or “core groups.” The “**R_o**” for core groups is high and these groups play an important role in the establishment and maintenance of STIs in a community.¹

Also of significance are “bridging groups,” the members of which have sex both with core groups and the general population.² Bridging groups thus spread infections into the general population.



Commercial sex workers are an important core group, while their clients may be bridging groups. Other core and bridging groups may include people working away from home (e.g., migrant workers, long-distance truck drivers and military personnel), men who have sex with men, substance abusers and young people.

Infections are spread from core or bridging groups to individuals in the general population who have lower rates of partner change. These individuals are less likely to transmit the infection any further (low “**R_o**”). For example, men frequenting commercial sex workers transmit infection to their wives, who do not have any other sex partners. Treatment of one STI in a core group may prevent the spread of the infection to several other individuals in bridging groups and the general population. From the perspective of controlling STIs in a community, interventions targeting core groups are likely to have a greater impact on STI incidence³ and be more cost-effective than those interventions targeting the general population.⁴ Targeted interventions are discussed further in Section 6.

5.2 The public health context

The objectives of STI control are to:

- interrupt the transmission of STIs and thus the spread through the community,
- prevent the development of diseases and complications, and
- reduce the risk of HIV transmission.

These objectives are achieved through primary and secondary prevention⁵:

Primary prevention

Primary prevention focuses on the entire community and aims to prevent individuals from acquiring an STI.

Primary prevention includes:

- information campaigns on STIs, their complications and the association between HIV and other STIs
- promotion of safer sex and risk reduction strategies
- promotion of condoms

Secondary prevention

Secondary prevention focuses on infected individuals and aims to prevent or reduce illness and complications, as well as preventing transmission of the infection to others. This may be achieved by shortening the duration of the infection with treatment.

Secondary prevention includes:

- promotion of early health care-seeking behavior
- accessible, acceptable and effective care, including education and counseling
- early detection and treatment of asymptomatic infections through case finding and screening

The public health package

WHO/UNAIDS advocates a “public health package” for STI prevention and care, which encompasses both primary and secondary prevention strategies.⁶

The essential components of the public health package for STI control:

- Promotion of safer sexual behavior
- Condom programming – encompassing a range of activities from condom promotion to the planning and management of supplies and distribution
- Promotion of health care-seeking behavior
- Integration of STI care into primary health care, reproductive health care facilities, private clinics and other service delivery points

The essential components (cont'd)

- Specific services for populations with high-risk behaviors – such as female and male sex workers, adolescents, long-distance truck drivers, military personnel, prisoners and men who have sex with men
- Comprehensive case management of STIs
- Early detection of symptomatic and asymptomatic reproductive tract infections
- Prevention and care of congenital syphilis and neonatal conjunctivitis

KEY POINTS

- The rate of spread of an STI in a community depends on:
 - the probability that an exposed person will acquire the infection
 - the frequency of exposure
 - the duration of infectiousness in an infected person.
- Core groups of high frequency transmitters increase the rate of spread of STIs disproportionately.
- Primary prevention aims to prevent individuals from acquiring STIs.
- Secondary prevention aims to reduce illness and complications, and prevent the spread of the STI to others.
- WHO advocates a “public health package” which includes primary and secondary prevention strategies

5.3 The syndromic management context

Diagnosis of STIs

There are three methods for diagnosing STIs:

1. Clinical etiological diagnosis:

The clinician identifies a likely causative organism based on their interpretation of symptoms determined during history taking and signs observed during clinical examination. Clinical etiological diagnosis has been shown to be inaccurate even in the hands of experienced clinicians.^{7,8} This method of diagnosis is therefore *not recommended*.

2. Laboratory diagnosis:

A laboratory test on blood, genital secretions, exudates (substance that has been exuded), urine or saliva identifies the causative organism(s). Laboratory diagnosis, which would allow targeting of treatment at a specific organism, is the preferred diagnostic option. However, this is *rarely feasible* in resource-constrained or conflict-affected contexts. The role of laboratory testing is discussed further in subsequent sections.

3. Syndromic diagnosis:

Based on a group of symptoms and signs, a syndrome with a number of possible causative organisms is identified. The syndromic approach to STI management is the currently accepted approach in most resource-poor settings. It is also the *most feasible approach in the unstable phases of conflict-affected situations and in many post-conflict settings*.

The role of laboratory testing

The syndromic approach is based on the concept that laboratory testing is not needed. However, laboratory testing does have an important role in STI management within both public health and clinical contexts. An overview of STI laboratory tests may be found in the WHO publication “Laboratory tests for the detection of reproductive tract infections.” (Refer to Annex 11.)

Public health role

Laboratories have a central role in public health decision-making for the control of STIs. Laboratory tests help to document prevalences and antibiotic sensitivities needed to guide the syndromic approach, identify at-risk populations and monitor epidemiological changes over time. This information is required to highlight the magnitude of the STI problem, to advocate for resources, to plan STI control interventions and to assess their effectiveness. Reference laboratories are also needed for quality control of results from peripheral laboratories and for staff training.

Clinical role

Where affordable and feasible, laboratory testing remains the diagnostic method of choice in the clinical management of STIs. However, the provision of laboratory testing for STIs may be costly and complicated.

Factors impacting laboratory testing

Operational factors

For operational reasons, laboratory testing at the primary health care level is rarely a feasible option in resource-constrained settings. A laboratory requires space and clean water, and may need a reliable power supply and refrigeration. A consistent supply of reagents is also needed. Equipment requires maintenance and spare parts. These requirements are often lacking in resource-poor settings, particularly in peripheral areas. Furthermore, the high costs of many tests preclude their use. Sophisticated tests tend to require specialized equipment and reagents. A nationwide survey in a Latin American country found that in the public sector 70 percent of all laboratory equipment was not functioning because of missing spare parts or reagents.⁹ For many tests, specific expertise is required. A system of external quality control should also be in place. Even simple tests are of no value if performed poorly. In many settings, suitably qualified laboratory personnel are in short supply, and are often poorly paid and unmotivated.

Test reliability

The sensitivity and specificity of commercially available tests can vary significantly, thus negatively affecting the reliability of laboratory testing for STI diagnosis.¹⁰ Reliability is also influenced by the skill level of the technician.

No pathogen identified

In a significant number of STI cases, no pathogen is identified. Even after complete diagnostic evaluation, at least 25 percent of patients who have genital ulcers have no laboratory-confirmed diagnosis.¹¹ In a study involving seven countries, in 21 percent of men presenting with urethral discharge, no pathogen could be identified.¹² Thus, even with laboratory testing, these patients would still require treatment to cover a range of possible organisms.

continued ►

Factors impacting laboratory testing (cont'd)

Multiple pathogens identified

In patients presenting with symptoms and signs of STIs, more than one pathogen is frequently present, for example, gonorrhea as well as chlamydia in urethral discharge. Again, a combination of medications would be required. In the seven-country study, multiple infections accounted for 24 percent of urethral discharge cases. Studies on genital ulcers in China and Uganda found mixed etiologies in 12 percent and 10 percent of cases respectively.¹³

Asymptomatic infections

A significant percentage of STIs are asymptomatic and would thus not benefit from the availability of laboratory testing in curative services. Up to 80 percent of women and 10 percent of men with gonorrhea are asymptomatic.¹⁴ With chlamydia infection, 80 to 90 percent of women¹⁵ and 50 percent of men¹⁶ may be asymptomatic. Trichomonas vaginitis may be asymptomatic in 50 percent of cases.¹⁷ Screening programs are needed to detect asymptomatic infections.

In most conflict-affected settings, laboratory testing does not have a role in the clinical management of individual STI patients. However, there are limited but important uses for STI laboratory tests in conflict-affected settings:

► **MINIMUM** response:

- Screening of all blood for transfusion for syphilis (using Rapid Plasma Reagin - RPR), hepatitis B and HIV

► **COMPREHENSIVE** response:

Minimum response plus:

- Syphilis screening offered to all pregnant women and all STI patients
- HIV testing where appropriate
- Where feasible, biological studies to obtain data for programmatic decision-making and advocacy (Discussed further in Section 7)

Note:

Microscopy does not improve the syndromic management of urethral discharge in men and is not recommended as part of the syndromic approach. Microscopy does not significantly improve the syndromic management of vaginal discharge, other than for the identification of trichomonas to help make a decision about partner notification. It has also been recommended that the pH and KOH (potassium hydroxide) tests be dropped from the syndromic management of vaginal discharge as the sensitivity and specificity of these tests are considered inadequate for diagnosis of BV. (Discussed further under “Limitations of syndromic management.”)

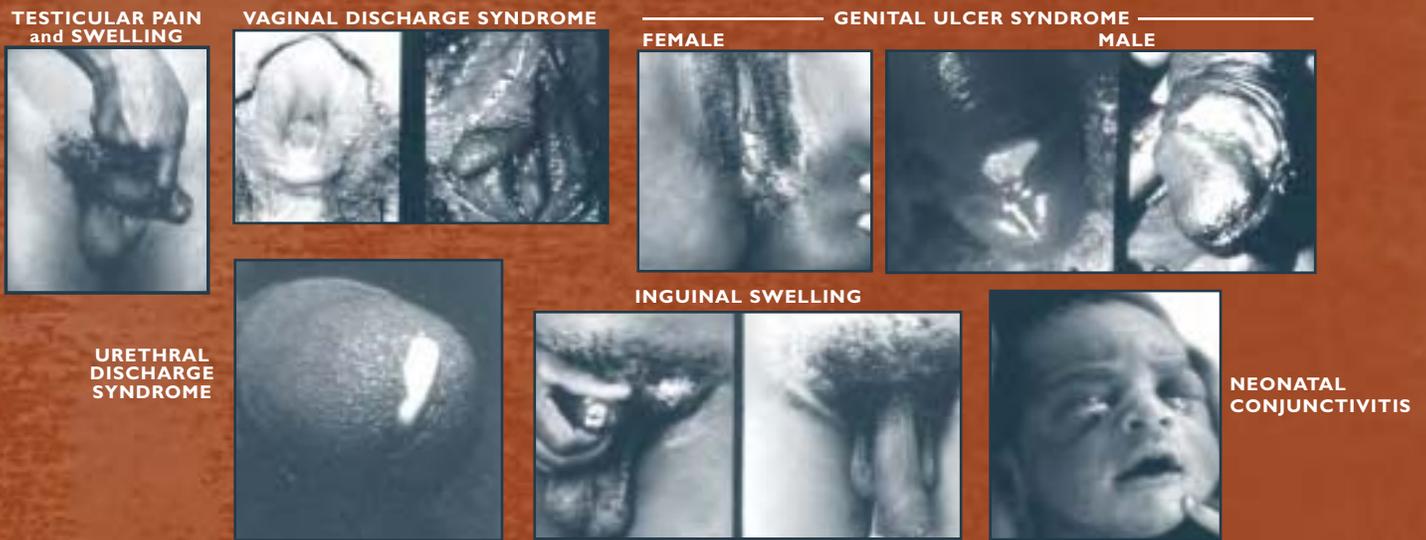
Part of the solution to the challenges of STI diagnosis in resource-poor settings would be the availability of low-cost, simple, rapid tests that could be used at the peripheral level. This need has long been recognized. There were over 40 rapid tests for syphilis, chlamydia and gonorrhea on the market in 2001. However, in most cases, there had been no independent evaluation of their performance.¹⁸ WHO is currently involved in the evaluation of such rapid tests, to assess their performance and determine their role at the primary health care level. It seems likely that within the relatively near future, appropriate rapid tests may be available for use at the primary health care level in resource-constrained settings. Until such time, syndromic management remains the only feasible option in most resource-poor and conflict-affected settings.

Rationale for syndromic management

The concept of a syndromic approach was developed by WHO during the 1970s as a simplified method of case management for STIs.¹⁹ The approach, which is not dependent upon laboratory diagnosis, was intended to improve the management of STIs in resource-constrained settings. Although there are more than 30 organisms which may be transmitted through sexual intercourse, as a group these organisms give rise to a limited number of clinical syndromes. The basis of syndromic case management is the identification of a consistent and easily recognizable group of symptoms and signs, which constitute a defined syndrome.

Table 7. STI syndromes (Also, see Annex I for selected STI syndromic case definitions.)

SYNDROME	CAUSATIVE ORGANISMS
Urethral discharge in men (urethritis)	Neisseria gonorrhoea Chlamydia trachomatis Non-specific urethritis pathogens
Testicular pain and swelling (epididymo-orchitis)	Neisseria gonorrhoea Chlamydia trachomatis Non-specific urethritis pathogens
Vaginal discharge (vaginitis/cervicitis)	BV Trichomonas vaginalis Candida albicans Neisseria gonorrhoea Chlamydia trachomatis
Lower abdominal pain in women (pelvic inflammatory disease)	Neisseria gonorrhoea Chlamydia trachomatis
Genital ulcers	Treponema pallidum (syphilis) Haemophilus ducreyi (chancroid) Herpes simplex virus type 2 Calymmatobacterium granulomatis (granuloma inguinale) Chlamydia trachomatis L1-L3 (lymphogranuloma venereum)
Inguinal swelling	Chlamydia trachomatis Haemophilus ducreyi (chancroid)
Neonatal conjunctivitis (ophthalmia neonatorum)	Neisseria gonorrhoea Chlamydia trachomatis



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Once the syndrome is diagnosed, the patient receives a combination of drugs effective against the most likely organisms responsible for the syndrome in a particular geographical area or population. Syndromic case management algorithms or flowcharts (refer to Annex 4) are used to guide diagnosis and treatment. These algorithms, originally created by the WHO, have been adapted over time and to a variety of settings. Numerous validation studies have been carried out,²⁰ documenting both advantages and limitations of the approach.

As a result of these advantages and limitations, the syndromic approach has been subject to considerable debate.²¹

“...Every flowchart represents a compromise between diagnostic accuracy and technical and financial realities...”²²

Advantages of the syndromic approach

■ The syndromic approach is effective

WHO conducted a large review²³ of studies evaluating many of the WHO syndromic flowcharts in a variety of settings. The review concluded that the “syndromic approach, utilizing currently available flowcharts, works well in the management of people with symptomatic urethritis, genital ulcer disease and vaginitis...”⁸ This review, however, also concluded that the syndromic approach works less well for the management of cervicitis.

■ The syndromic approach is efficient

As syndromic case management is not dependent upon laboratory testing, the patient and the health system are spared laboratory costs. The patient does not have to wait for test results and can be treated immediately. Treatment is thus provided at the first point of care. This reduces the risk of losing patients who are requested to return later for test results, or who are referred to other facilities for testing. Immediate treatment also increases patient satisfaction. In addition, because syndromic management can be practiced at the peripheral level, STI care is accessible to a wide segment of the population.

⁸ Despite the effectiveness of the syndromic approach, the flowcharts need periodic review because patterns of infections may change over time. For example, HSV2 is becoming an increasingly common cause of genital ulcer syndrome in many settings. As the current WHO flowchart does not include medication for HSV-2 (only counseling), increasing prevalence of HSV-2 results in a higher failure rate of syndromic treatment for GUS. In 2001, a WHO expert consultation recommended that the current flowchart for GUS be modified to include treatment for HSV-2 in settings where HSV-2 prevalence is 30 percent or higher. Further data are however needed to define appropriate cut-off prevalences to institute treatment. The cost implications of treatment with acyclovir probably limit the feasibility of its use in most resource-constrained and conflict-affected settings. (WHO. Report of an expert consultation on improving the management of sexually transmitted infections. 2001.)

In a Mozambique study, only 41 percent of STI patients referred from primary health care facilities presented to a specialized STI clinic. While the specialized clinics provided better health education than the primary care facilities, this was offset by the high referral losses.²⁴ Delays in treatment, in addition to the direct medical consequences for the patient, also increase the risk of spreading the infection into the community as the period of infectiousness is prolonged.

■ **Syndromic management facilitates standardization**

Syndromic guidelines provide a simple, standardized way of managing STIs, which can be implemented at all levels of the health care system. Standardization facilitates the training and supervision of health workers. It encourages consistent, rational use of antibiotics which in turn helps to delay the development of antimicrobial resistance and promotes rational drug procurement. Standardization of case definitions also helps to improve reporting and surveillance.

Limitations of the syndromic approach

The following have been cited as limitations of the syndromic approach.²⁵

- Overdiagnosis (as a result of poor specificity) and overtreatment, with the following consequences:
 - increased drug costs
 - increased potential for side effects and drug interactions
 - increased potential for antimicrobial resistance
 - changes in vaginal flora
 - psychological impact, domestic conflict and stigma
- Cannot detect asymptomatic infections
- Requires (re)training of staff
- Requires monitoring and updating
- Still requires a referral system
- Possible opposition from the medical establishment to introduction of the syndromic approach

Over-diagnosis and over-treatment are significant issues and will be discussed further in the section on syndromic management of vaginal discharge. Increased drug costs, side effects and drug interactions are also valid concerns. However, these concerns need to be weighed against the costs of incorrect diagnosis if clinical etiological diagnosis is used or against the costs of laboratory testing assuming this is feasible. Antimicrobial resistance results from adaptability of the organism, inadequate dosages and/or inadequate treatment duration. Therefore the potential for drug resistance is not confined to syndromic management, but to all circumstances in which antibiotics are prescribed. As the syndromic approach promotes standardization, it may in fact contribute towards minimizing resistance, particularly in settings where irrational prescribing is common. Changes in vaginal flora may also occur in any circumstance in which an antibiotic is used. Vaginal discharge, an RTI resulting from non-sexual causes, may be misdiagnosed as an STI, potentially resulting in emotional distress and social repercussions for the patient. However, this must be weighed against the costs of not treating a potential STI.

The inability to detect asymptomatic infections is an important limitation. However, the syndromic approach was not intended as a screening tool for detecting asymptomatic infections.^h Staff training, monitoring and updating, and a referral system, will be required regardless of the approach to STI management used. Opposition from the medical establishment may be minimized if an evidence-based and collaborative approach is used when advocating syndromic management.

^h "...The flowchart is for use in the case management of patients seeking care for vaginal discharge and it is not designed for the purposes of screening for asymptomatic STI...In certain settings a locally designed flowchart for screening populations at high risk of cervical infection may be developed...It should be noted, however, that the poor performance of earlier vaginal discharge flowcharts (which were originally designed as management tools), when used for screening for cervical infections, lead to the criticism of syndromic management...To avoid this it is advised that any flowcharts intended for screening be refined and validated before any recommendation for their use can be made..." (WHO. Report of an expert consultation on improving the management of sexually transmitted infections. 2001.)

Table 8. Summary of the advantages and limitations of the syndromic approach

ADVANTAGES	LIMITATIONS
<ul style="list-style-type: none"> ■ Effective: <ul style="list-style-type: none"> ■ especially for urethral discharge syndrome (UDS) and genital ulcer syndrome (GUS) ■ Efficient: <ul style="list-style-type: none"> ■ lab tests not required ■ spared costs and time ■ fewer patients lost to follow-up ■ accessible to more patients ■ Promotes standardization of: <ul style="list-style-type: none"> ■ diagnosis and treatment ■ drug management ■ training ■ supervision ■ surveillance ■ The only feasible approach in many settings 	<ul style="list-style-type: none"> ■ Over-diagnosis and over-treatment: <ul style="list-style-type: none"> ■ increased drug costs ■ increased potential for side effects and drug interactions ■ psychological impact, domestic conflict and stigma ■ Cannot detect asymptomatic infections

The problem of vaginal discharge

The most significant limitations of the syndromic approach occur in relation to the management of vaginal discharge.

Vaginitis

Abnormal vaginal discharge is highly suggestive of vaginal infection. The most common causes of vaginitis are *Trichomonas vaginalis*, *Candida albicans* and BV. Thus, all women presenting with abnormal vaginal discharge should receive treatment for trichomonas and BV, and/or, where indicated, for *C. albicans*.

Cervicitis

Relatively rarely, vaginal discharge is the result of cervicitis. Cervicitis is usually caused by gonococcal and/or chlamydial infection. In the current WHO flowchart, a complaint of vaginal discharge is the entry point for management of cervical infection. However, studies have consistently shown that the vaginal discharge flow-chart is neither sensitive nor specific for cervical infection and that vaginal discharge is thus a poor predictor of cervical infection. This is particularly true in adolescents and in low STI prevalence settings, where endogenous vaginitis is the main cause of vaginal discharge.²⁶ In some settings, there have been high levels of over-diagnosis and over-treatment of gonorrhoea and chlamydia. This has created debate over the value of the syndromic approach as a whole.

The main questions concerning the management of vaginal discharge thus center on two issues:

- *When to treat for vaginitis only?*
- *When to treat for vaginitis plus cervicitis?*

Treating only for vaginitis risks missing cases of cervicitis, potentially resulting in serious complications and spread of infection into the community.

Treating for both vaginitis and cervicitis risks unnecessary antibiotic use (with the implications already mentioned). Treating for both implies a diagnosis of a sexually transmitted infection (as opposed to a non-sexually transmitted RTI) and therefore possible psychological and social consequences.

A compromise is needed. The decision may be guided by infection prevalences, risk factor analyses and drug availability:

a) Prevalences of *N. gonorrhoea* and/or *C. trachomatis*

The higher the prevalences of *N. gonorrhoea* and *C. trachomatis* in women presenting with vaginal discharge, the stronger the justification to treat all vaginal discharge as cervical infection. However, there is at present no clarity on exactly what the cut-off prevalence should be. A WHO expert group suggested that a prevalence of 10 percent and above could be regarded as high,²⁷ but tools need to be developed to determine prevalence cut-off points in terms of costs and benefits of interventions.

b) Risk factor analysis (Annex 6 presents a detailed discussion)

Attempts have been made to improve the performance of the vaginal discharge flowchart by adding risk factor analyses which distinguish between vaginitis and cervicitis. These have included the use of clinical signs, simple laboratory tests, demographic risk factors and behavioral risk factors. Risk factor analyses identify women likely to be infected with gonorrhoea and chlamydia according to how well they fit a profile of women at risk for cervical infection. (Refer to Annex 5 for example of risk analysis tool.)

Evaluations of risk factor analyses in different contexts have shown mixed results. Risk factor analysis has been found to have some benefit in settings with high prevalences of *N. gonorrhoea* and *C. trachomatis*, using locally adapted risk analysis tools, as risk factors may vary in different contexts. A WHO expert group, however, concluded that risk analysis should not be used in areas of low gonococcal and chlamydia prevalences because it does not significantly improve the management of vaginal discharge.

c) Availability of drugs

Cost and supply issues may be the pragmatic deciding factor for the management of vaginal discharge in many resource-poor settings. Here, the only feasible option may be to treat for cervicitis only after failure to achieve cure with treatment for vaginitis.

There are at present no clear solutions to the problem of managing vaginal discharge in settings where etiological diagnosis is not feasible. The limitations of the vaginal discharge algorithm are acknowledged. However, a realistic alternative has not yet been identified.

5.4 Syndromic management of STIs in conflict-affected contexts

“[Syndromic] guidelines are not implemented consistently in emergency situations. The reasons for inconsistent implementation are similar to those that have hindered other responses to HIV: lack of resources, lack of high quality data showing the magnitude of the problem and lack of accepted methods of rapid assessment... Inconsistent implementation may also be related to health care providers’ lack of confidence in the syndromic approach...”²⁸

Although the syndromic approach is inadequate for the management of vaginal discharge, the flowcharts perform well for urethral discharge and reasonably well for genital ulcers. Laboratory testing for the management of individual patients is currently not a feasible option in most conflict-affected settings. Therefore, in these settings, although there is the hope of rapid tests in the future, there is no realistic alternative to the syndromic approach at present.

Accepting the limitations of syndromic management, the following approach could be taken in conflict-affected settings:

Approach to implementation of the syndromic approach to STI management in conflict-affected settings

Guidelines

- If available, the national syndromic guidelines of the host country should be used, unless there is reason to suggest otherwise.
- In the absence of national guidelines, WHO guidelines or guidelines from countries in the region should be used, if the populations are similar.

Drugs

- Drugs should be on the national essential drugs list of the host country.
- If a national essential drugs list does not exist or is outdated, drugs should be on the WHO essential drugs list.
- Within the drug options suggested in the syndromic guidelines, the most effective drugs within budget limitations should be used.
- Single dose directly observed treatment should be used wherever possible.
- There should be clear guidelines on first line drugs and alternatives in case of allergies, pregnancy or other contraindications.

Vaginal discharge

Where a policy decision on the management of vaginal discharge needs to be taken, the following approach could be used:

- No available data on the prevalence of gonorrhoea and chlamydia infection in women presenting with vaginal discharge:
 - Treat all abnormal vaginal discharge for vaginitis plus cervicitis until further data are available. (This is recommended because of the risks for STI transmission associated with conflict-affected settings and the role of STIs in HIV transmission.)

- Prevalence of gonorrhoea and/or chlamydia 10 percent and above:
 - No available context-specific risk analysis tool: treat all vaginal discharge for vaginitis plus cervicitis.
 - Available validated risk analysis tool: use tool to distinguish between cervicitis and vaginitis.
- Prevalence of gonorrhoea and/or chlamydia below 10 percent:
 - Treat for vaginitis at first visit.
 - If no response, treat for cervicitis at follow-up visit.
- If country-specific prevalence data are not available, regional data should be used, if the populations are similar.
- Risk analysis tools are not considered useful in low prevalence settings.
- In the absence of a validated risk analysis tool for vaginal discharge, the general risk factors suggested in the WHO guidelines could be used. (Refer to Annex 5.)

As long as there is no feasible alternative, it is not useful to focus on the well-documented limitations of the syndromic approach. Efforts should rather be concentrated on how to achieve optimal performance within the current limitations. In any setting, the syndromic approach requires adaptation to reflect local causative organisms and sensitivities. In some settings, locally adapted risk analysis tools may also be useful.

Attention should focus strongly on aspects of STI service delivery which may realistically be improved in conflict-affected settings. Sections 6 to 9 present such an approach.

→ KEY POINTS

- Diagnosis based on laboratory testing is the preferred method of STI case management, but is not feasible in many settings.
- Clinical etiological diagnosis is unreliable and should NOT be used.
- Syndromic management is a simplified method of STI case management based on seven main syndromes and does not rely on laboratory testing.
- Syndromic case management consists of:
 - identification of a group of symptoms and signs, which constitute a defined syndrome
 - prescription of a combination of drugs covering the main pathogens responsible for the syndrome in a particular geographical area or population
 - use of syndromic case management flowcharts (algorithms) to guide diagnosis and treatment
- Advantages of the syndromic approach include:
 - effectiveness (particularly for UDS and GUS)
 - efficiency (patient does not have to wait for lab results)
 - facilitation of standardized STI management practice
- Limitations include:
 - over-diagnosis and over-treatment
 - inability to detect asymptomatic infections
 - problem with management of vaginal discharge
- The vaginal discharge problem centers the decision on whether to treat for vaginitis only, or for cervicitis as well as vaginitis.
- Accepting the limitations of the syndromic approach, attention should focus strongly on aspects of STI service delivery that may feasibly be improved in conflict-affected settings.

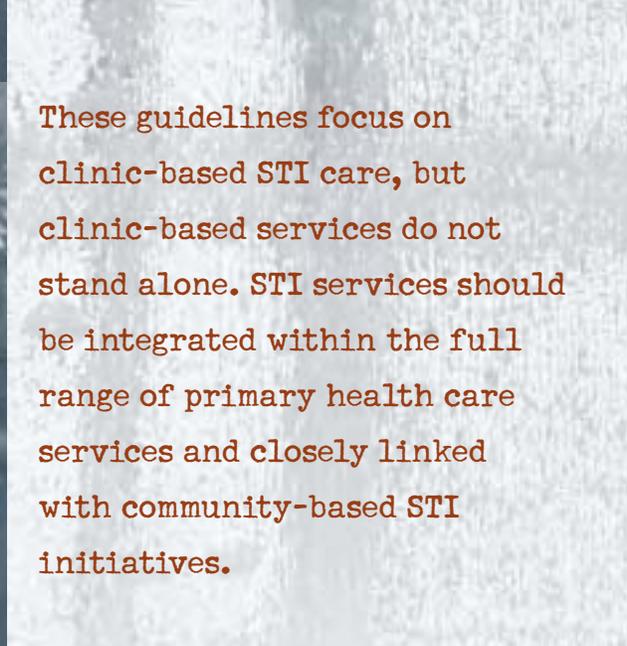
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Section 6

A clinic-based approach to STI care in conflict-affected settings

Introduction to Sections 7 to 9

These guidelines focus on clinic-based STI care, but clinic-based services do not stand alone. STI services should be integrated within the full range of primary health care services and closely linked with community-based STI initiatives.



STI programs must be viewed within the broad framework of multisectoral interventions needed to address STIs/HIV/AIDS in conflict-affected settings. A comprehensive framework is provided in the Interagency Standing Committee (IASC) guidelines for HIV/AIDS interventions in emergency settings.¹ The guidelines present a matrix of interventions for emergency preparedness as well as minimum and comprehensive responses. Sectoral responses include: coordination; assessment and monitoring; protection; water and sanitation; food security and nutrition; shelter and site planning; health; education; behavior change communication; information, education and communication; and HIV/AIDS in the workplace.

It is important that the establishment of STI services in conflict-affected settings be viewed as a continuum. Interventions must be adapted to the context and the phase of the emergency. During unstable phases, syndromic management of STIs represents a minimum response, in keeping with the Sphereⁱ minimum standard for control of HIV/AIDS in disasters and the Minimum Initial Services Package (MISP).^j As the situation stabilizes, services should be expanded toward achieving a comprehensive STI care package, appropriate to the context.

The clinic-based approach to STIs in conflict-affected settings covers three broad areas: obtaining data, delivering services and increasing service utilization. Recommendations for both minimum and comprehensive responses are presented.

The recommendations include health program components commonly implemented by national health care systems and by NGOs. However, the background factors necessary for delivering health services of acceptable quality are not always recognized. The resources and sustained intensity of effort required should not be underestimated.

“The challenge is not just to develop new interventions but to identify barriers to the effective implementation of existing tools, and to develop ways to overcome these barriers...”²

¹ Interagency Standing Committee. Guidelines for HIV/AIDS interventions in emergency settings. 2004. www.unhcr.ch

² Mayaud P, McCormick D. Interventions against sexually transmitted infections (STI) to prevent HIV infection. British Medical Bulletin. 2001; 58:129-53.

ⁱ The Sphere project presents a set of universal minimum standards in core areas of humanitarian assistance, developed by a wide representation of individuals and agencies. (Sphere Project, Sphere Humanitarian Charter and Minimum Standards in Disaster Response, Chapter 5: Minimum Standards in Health Services, Revised Handbook 2004. www.sphereproject.org)

^j The Minimum Initial Service Package (MISP) is a series of actions which, together with kits of equipment and supplies, are needed to respond to the reproductive health needs of populations in the early phase of a disaster. The objectives of the MISP are to: identify an organization(s) or individual(s) to facilitate its coordination and implementation; prevent and manage the consequences of sexual violence; reduce HIV transmission; prevent excess neonatal and maternal mortality and morbidity; and plan for the provision of comprehensive RH services. (Sphere Project, Sphere Humanitarian Charter and Minimum Standards in Disaster Response, Chapter 5: Minimum Standards in Health Services, Revised Handbook 2004. www.sphereproject.org)

Section 7

Obtaining data

7.1 What kinds of data are needed?

7.2 Why are data needed?

7.3 How can data be obtained?

7.4 Challenges to obtaining data in conflict-affected situations

7.5 What is feasible for data collection in conflict-affected settings?

“The complex interactions between the evolution of (STI) epidemics and our comprehension of such evolution are difficult to grasp. Our understanding is shaped to a great extent by public health pressures to control the epidemic, and the political pressures that originate in cultural sensitivities, power dynamics and economics of resource allocation. All of these pressures are highly interactive and dynamic. Identification and implementation of effective prevention programs depend on a scientifically sound, objective understanding of how (STI) epidemics evolve...”¹



7.1 What kinds of data are needed?

Biological, behavioral and contextual data are needed. These include:²

- prevalence and incidence of STIs
- antimicrobial sensitivities of the causative organisms
- populations most at risk for contracting and/or passing on STIs
- geographical distribution of these populations
- contextual factors that influence risk
- behaviors that influence risk
- knowledge, attitudes and practices relevant to STIs
- STI health care-seeking behavior
- services available for STI prevention and care

7.2. Why are data needed?

Reliable data are necessary for the planning, implementation, monitoring and evaluation of STI control interventions.

Biological data

- Prevalence data highlight the magnitude of a public health problem to policy makers and donors, and can thus be instrumental in mobilizing political commitment and resources. Burden of disease (the combined impact of mortality and morbidity) is one of the variables according to which policy makers should determine health sector priorities and allocate resources.
- The publication of credible information about the levels of infection in a community can raise awareness among the general public and prompt political, religious and community leaders to take action. For example, in Thailand, the publication of data revealing high HIV prevalence among sex workers and the fact that 25 percent of the male population visited sex workers, led to a successful national prevention campaign.³
- The prevalence and incidence of STIs may vary widely among regions, among countries in the same region, within countries, between urban and rural populations, and even between similar population groups. Trichomonas prevalence studies among pregnant women in Africa have shown rates varying from 9.9 percent in the Central African Republic to 41 percent in South Africa.⁴ Prevalence data therefore identify geographical areas and sub-populations where interventions are most urgently needed.
- Prevalence data are needed for effective implementation of the syndromic approach to STI case management. This approach is based upon knowledge of the prevalent causative organisms and their antimicrobial sensitivities. Local data are thus necessary to adapt the flowcharts to local conditions.
- There are also significant geographic variations in antimicrobial resistance patterns. In particular, gonococcal strains and their antibiotic susceptibilities can change very rapidly.⁵ Local sensitivities are thus needed to guide drug selection. This impacts national essential drugs lists and drug policies. As prevalence and sensitivities change over time,⁶ syndromic flowcharts require periodic reassessment.
- The availability of accurate scientific data upon which to base a treatment approach can increase its credibility among both health care practitioners and the public. Lack of local data to use in persuading STI program managers and service providers to follow recommended procedures is a major constraint

to program implementation in many countries.⁷ AIDSCAP (AIDS Control and Prevention Project) found that once managers and providers understood the extent of the STI problem in their country and the ineffectiveness of current treatment practices, they were more likely to appreciate the benefits of a simple, standardized, evidence-based approach. In Haiti, studies showing prevalence of gonorrhea and chlamydia and documenting current treatment practices, helped to convince clinicians that current practices were often inappropriate.⁸

- The incidence and prevalence of STIs may be used as measures of risky sexual behavior and thus risk of exposure to HIV. STI surveillance may therefore serve as an early warning system for HIV epidemics. In the Russian Federation, a rise in syphilis infections, from fewer than 10 cases per 100,000 population in 1988 to over 260 cases in 1998, led to concern about the potential for the spread of HIV.⁹ WHO and UNAIDS have recommended strengthening STI surveillance as an essential component of second-generation surveillance^k for HIV.¹⁰

Behavioral and contextual data

- In order to design interventions that are appropriate to a particular context, an in-depth understanding is required of the factors increasing vulnerability to STIs in that context.
- Behavioral information is needed for high risk groups as well as the general population. For example, awareness of local knowledge levels and myths around STIs, as well as cultural and religious sensitivities, is necessary for appropriate STI communication activities in both clinic and community settings.
- An understanding of health care-seeking behavior is needed for the design of accessible and acceptable services.
- Serial behavioral surveys can document behavioral trends and assist in measuring the effectiveness of STI/HIV prevention programs.
- Biological and behavioral data complement each other. Biological surveillance monitors trends in infections while behavioral surveillance monitors trends in the behaviors that lead to the infections. Biological data highlight where behavioral interventions should be targeted. Behavioral data can help to explain prevalence trends. Concerns about the validity of reported sexual behavior data point to a need for biological markers in the evaluation of behavior change programs.¹¹

“...The lack of accurate and timely information on the burden of STIs hampers efforts to prevent and control them. Without data for advocacy, obtaining political commitment and getting resources allocated to improve diagnostics, treatment and preventive services are extremely difficult. Planning appropriate service delivery and monitoring the impact of interventions are also difficult in the absence of good epidemiological data. The end result is a lack of attention to and interest in the problem of STIs...”¹²

7.3 How can data be obtained?

A detailed explanation of STI surveillance is beyond the scope of this document. This section provides a brief overview of surveillance methods, some of which will not be feasible in most conflict-affected settings or are beyond the scope of most NGOs. They are mentioned to provide a background to STI data issues in conflict-affected populations.

^k Second-generation surveillance involves making the best use of all sources of information and strengthening health information systems to concentrate resources where they will yield information that is most useful in controlling HIV/AIDS. This includes adapting the information system to the epidemic in a country, concentrating data collection in populations most at risk for new HIV infections, and comparing HIV prevalence with the behaviors that spread HIV. (WHO/UNAIDS. Second generation surveillance for HIV: The next decade. 2000)

STI surveillance includes three components:

STI surveillance components

1. Contextual data	Situation analysis
2. Biological data	Case reporting Prevalence monitoring <ul style="list-style-type: none">• Population-based surveys• Surveys in defined sub-populations• Sentinel population Syndromic etiology monitoring Antimicrobial resistance studies
3. Behavioral data	Qualitative studies Quantitative studies

Contextual data

Contextual data describe the circumstances in which people live. This includes information on geographical, socio-demographic and economic settings, the general health situation and the available health services. Contextual data should also include background information on the conflict and, where relevant, displacement. This information should form the baseline for all interventions and is obtained through a situation analysis. During the emergency phase, rapid assessments are conducted, followed by detailed analyses during the post-emergency phases.

Biological data

Basic biological surveillance includes case reporting and monitoring of prevalence, syndromic etiologies and antimicrobial resistance.¹³

■ Case reporting

Case reporting involves the routine systematic recording and reporting of numbers of STI patients (“cases”) seen at health care facilities and of the specific diseases or syndromes these patients have. This reporting is usually done at all health care facilities and is part of the routine health information system. Where the health information system is not well developed, case reporting may be done at a limited number of representative health care facilities, known as sentinel sites.

Case reporting does not reflect prevalence (see explanation under prevalence monitoring). However, in a stable system where reporting practices are consistent over time, case reporting will probably reflect trends in incidence and provide a sense of minimum disease burden.

Where laboratory facilities are available, case reporting is by causative organism. Where syndromic management is used, only UDS and GUS are potentially useful for monitoring trends in STI incidence, as these usually represent recently acquired infections. A high proportion of cases of vaginal discharge and of lower abdominal pain in women are not caused by STIs and are thus not useful for incidence monitoring.

■ Prevalence monitoring

STI prevalence monitoring can be done using samples of blood, urine, genital swabs, tampon or saliva. Prevalence data may be obtained through:

- a) Population-based surveys: These are usually population-based household surveys, confined to a certain geographic area and targeting the reproductive age group (15-49 years). Population-based surveys should be complemented by assessments in high-risk sub-populations.
- b) Surveys in defined sub-populations: Population-based surveys do not reflect prevalences in sub-populations at high risk, such as commercial sex workers and their clients, the military, long-distance truck drivers or men who have sex with men. Data on these core and bridging populations are necessary for targeted STI interventions. However, these populations may be difficult to access, especially in a climate of stigmatization and distrust. If meeting places of commercial sex workers and their clients can be identified, a sequential sample of these groups can be attempted; however, sound epidemiological training and experience in conducting such surveys is recommended.
- c) Sentinel populations: STI prevalence in women attending antenatal clinics may be used as a proxy for prevalence in the sexually active general population, for example, syphilis and HIV. Surveys in sentinel populations may be done periodically (e.g., annually). Data collection may take several weeks or months to obtain a sufficient sample size that allows an STI prevalence estimate representative for that year. Health care services specifically targeting sub-populations may serve as sentinel sites for these populations, e.g., clinics set up in locations of high-risk sexual activity such as red light districts or at truck stops.

■ Syndromic etiology monitoring

Special studies are needed to determine the most common causative organisms of the specific STI syndromes. Because of changing etiological patterns, in each country where the syndromic approach is used, WHO recommends that syndrome etiologies are assessed at least once every three years. Sample size will depend on the specific etiology and the expected prevalence of the organisms. For most purposes, a minimum sample size of 50 to 100 specimens from consecutive patients who present with the specified syndrome will provide adequate information for analysis. Specialist equipment and expertise is required for these studies.

■ Antimicrobial resistance studies

Special studies are needed to determine the effectiveness of selected drugs for a specific STI organism, and to monitor the prevalence of antimicrobial resistance among specific organisms. WHO recommends that antimicrobial resistance assessments be performed at least annually. A sample of about 100 isolates per sentinel site over a defined time interval is usually sufficient to provide a reflection of local resistance patterns. Resistance monitoring is most important for *Neisseria gonorrhoea*. Where chancroid is prevalent, monitoring of *Haemophilus ducreyi* is also important, but susceptibility testing for *H. ducreyi* is difficult. Specialized expertise and laboratory facilities are needed for antimicrobial resistance monitoring.

Behavioral data

As with biological surveys, behavioral surveys may be done in the general population or in specific sub-populations of interest. Behavioral studies include quantitative and qualitative components, such as questionnaire surveys, focus groups and key informant interviews. Expertise is required for appropriate study design and implementation.

There is some debate about whether biological and behavioral surveys can be done simultaneously on the same sample of participants. Some experience has shown that individuals are less likely to participate in behavioral surveys if a biological component is involved. It is thus recommended that biological and behavioral data be drawn from different groups broadly representative of the same source population.¹⁴

It is important that free-of-charge STI treatment be offered to survey participants, as well as voluntary counseling and testing if HIV results are not reported back to participants. Before and during the survey, options should also be explored for building local capacity to improve STI and HIV-related services.

7.4 Challenges to obtaining data in conflict-affected situations

In spite of the clear need for data on which to base interventions, there is a widespread lack of STI-related data, particularly in resource-poor and conflict-affected settings.¹⁵

“...Very few studies...have documented the magnitude of the HIV epidemic in complex emergencies, analyzed the epidemiological risk factors of importance in the specific context of these emergencies or made recommendations about appropriate surveillance systems or prevention programs based on sound, ethical scientific data...”¹⁶

Routine data challenges

Routine data include routine STI case reporting and antenatal clinic sentinel surveillance data. National reporting systems are usually based on routine data.

- Conflict-affected populations are frequently located in resource-poor settings where routine health information systems are inadequate.
- Existing systems may disintegrate as a result of the conflict. For example, in the aftermath of the civil war in Sierra Leone, almost two-thirds of rural health units were not functioning.¹⁷
- Even where the health system is functional, displaced populations may not be included in routine surveillance systems.
- In the beginning of an emergency, NGO health information efforts focus primarily on diseases causing increased mortality and those of epidemic potential,¹⁸ rather than on STIs which are not an immediately visible problem.
- Even where there are good reporting systems, many cases are not reported:
 - Case reporting systems are passive, and rely on patients who access the health system.
 - As a result of the social stigma around STIs, patients may seek treatment from alternate care providers, self-medicate or simply not seek treatment at all.
 - A large percentage of individuals infected with STIs are asymptomatic or have mild or non-specific symptoms and thus do not seek treatment.
 - Case reporting is influenced by the accuracy of diagnosis and the quality of reporting.
 - Sentinel surveillance of antenatal clinic clients also depends on passive systems and may not provide data representative of the general population.

In countries affected by conflict, routine STI data are thus frequently neither current nor sufficient.

Survey challenges

- Population-based surveys are considered to be the gold standard for assessing prevalence, but are complicated and costly, requiring sound epidemiological experience, training, personnel, administration and time.
- Population-based studies do not reflect information about high-risk sub-populations. Studies involving high-risk groups such as commercial sex workers are often difficult as these populations may be marginalized and difficult to access.

- In conflict-affected settings, there may be pressures to use limited resources for immediate service provision rather than data collection.
- Population-based surveys for STI data will not be practical until the post-conflict phase or at least until security improves and significant population movements have ceased.
- Conflict-affected contexts pose further challenges such as logistical constraints, inaccuracies in population sizes, time pressures, funding constraints and lack of technical expertise. An analysis of 19 behavioral surveys undertaken in refugee settings in East Africa revealed significant weaknesses in the design, implementation and reporting of the surveys.¹⁹
- The laboratory testing component poses a significant challenge to obtaining biological data:
 - Specialized technical expertise and equipment are required.
 - Intensive logistical support may be needed.
 - Costs may be high.
 - When tests are used which require transport to a reference laboratory, survey participants who test positive for STIs cannot be treated immediately which may have ethical implications.
 - The availability of newer tests (e.g., Polymerase Chain Reaction (PCR) and Ligase Chain Reaction (LCR)) may improve the feasibility of biological surveys in field conditions.²⁰ However, a high level of technical expertise and equipment remain essential.
 - “Quality control is an important issue, and quality of specimen collection and local testing can never be taken for granted...”²¹
- Biological surveys have not often been undertaken in conflict-affected situations. However, some rapid assessments using convenience and cluster sampling have been carried out in refugee settings.²² Combined risk factor and HIV and syphilis sero-prevalence surveys were recently conducted in war-affected contexts in Sierra Leone²³ and South Sudan.²⁴ In South Sudan, rapid HIV and syphilis tests were used and fully analyzed in the field setting, enabling participants with positive syphilis tests to receive immediate treatment. Preliminary results indicate that these tests performed well in limited conditions. The researchers recommended, however, that additional STI tests only be introduced in conflict settings if the validity and reliability of the tests have been established in stable situations. Furthermore, they emphasized the necessity of intensive training in laboratory methods and appropriate supervision, while also noting that the surveys had provided opportunities for local capacity building.

The particular risks for STI/HIV transmission associated with conflict-affected populations require urgent interventions. Effective implementation is dependent upon a thorough analysis of the situation. Furthermore, when considerable resources are deployed to address STIs/HIV, reliable data are essential for responsible decision-making. The feasibility of obtaining data in conflict-affected settings is variable and the approach must be adapted to the situation. However, *an investment in data collection should be considered essential.*

KEY POINTS

- There is a widespread lack of STI data in conflict-affected settings.
- Effective STI interventions are based upon sound contextual, biological and behavioral data.
- Contextual data describe the circumstances in which people live.
- Basic biological surveillance includes case reporting and monitoring of prevalence, syndromic etiologies and antimicrobial resistance.
- Prevalence data highlight the magnitude of a public health problem and guide interventions to priority areas and populations.
- Prevalence and sensitivity data guide syndromic management algorithms.
- Behavioral surveillance monitors trends in the behaviors that lead to infections.
- Behavioral studies include quantitative and qualitative components, such as questionnaire surveys, focus groups and key informant interviews.
- Appropriate equipment, expertise and experience are essential for conducting biological and behavioral surveys.

7.5 What is feasible for data collection in conflict-affected settings?

► **MINIMUM** response:

- Situation analysis (where relevant, obtain data on host as well as displaced population):
 - Review existing biological, behavioral and contextual data.
 - Assess local health policies, treatment guidelines and essential drugs lists.
 - Identify existing surveillance protocols.
 - If no local data are available, obtain regional data.
- Conduct key informant interviews and focus groups for initial knowledge, attitude, practice and behavior (KAPB) information to ensure that emergency services are appropriate.
- Where a surveillance system is/was in place, continue with the same system if feasible.
- Institute routine syndromic case reporting for UDS in men and GUS in men and women.
- Document all screening tests on blood for transfusion (RPR, hepatitis B and HIV).

► **COMPREHENSIVE** response:

Minimum response plus:

- Document RPR testing on all patients presenting with an STI.
- Institute sentinel surveillance in antenatal clinics for syphilis, and anonymous unlinked HIV testing.
- Include adequate surveillance components in project proposals.

► **COMPREHENSIVE** response: (cont'd)

- Behavioral studies:
 - Conduct behavioral studies to shape program design and to establish a baseline for monitoring and evaluation.
 - Behavioral studies may be combined with other population-based surveys to save costs and time.
 - Considerable investment of resources is required to ensure appropriate study design and implementation.
- Biological studies:
 - It is rarely feasible for an NGO to independently conduct biological studies such as sero-prevalence surveys, syndromic etiology monitoring or antimicrobial resistance studies.
 - Collaborative efforts between NGOs and national organizations and/or institutions such as the Centers for Disease Control and Prevention (CDC) are an option.
 - An important role for NGOs here is advocacy.
- Syndromic algorithms:
 - Evaluate local syndromic flowcharts against available etiology and sensitivity data (local and/or regional).
 - If there are concerns about the effectiveness of the local syndromic guidelines, consult with host country authorities and/or international organizations, e.g., WHO.
 - If necessary, advocate for review of local syndromic guidelines.
- National surveillance systems:
 - The strengthening of STI surveillance systems is viewed as a central element of the global effort to strengthen STI/HIV programs.²⁵
 - NGOs can contribute by supporting national surveillance systems and ensuring that NGO-generated data is integrated within national STI/HIV/AIDS control programs.
 - NGOs could consider supporting reference clinics or laboratories. While many NGO programs are directed at the primary health care level, the need for support at higher levels within the health system should not be overlooked.
- Advocacy for investment in data:
 - NGOs have a role in advocating with national authorities, international organizations and donors on the need for investment in STI surveillance.
 - In situations where there is a general lack of data, the funding and execution of an assessment yielding high quality data for use by a range of implementers, should in itself be seen as a significant contribution to the control of STIs and HIV and to improving understanding of STIs/HIV in conflict-affected settings.

It is important that organizations recognize the value of good quality data in designing, implementing and evaluating interventions and that appropriate resources should be directed toward surveillance. This may require additional funding or a shift in funding priorities. Reliable data collection requires resources. A resource of particular importance is expertise. NGO capacity in this respect should be realistically evaluated and guidance sought where necessary. Investment in expertise also builds capacity, both locally and within the NGO. *The benefits of investment in high quality data collection should justify the costs, particularly when seen in relation to the ultimate costs of STI and HIV epidemics.*

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Section 8

Delivering services

- 8.1 Comprehensive service provision
- 8.2 Drug supply management
- 8.3 Training and supervision
- 8.4 Private health care providers



A patient's first encounter with the health care system is likely to affect compliance with treatment, future health care-seeking behavior, partner treatment and cost-effectiveness of treatment. Therefore, STI management at the point of first contact should be as comprehensive, acceptable, effective and efficient as possible.



8.1 Comprehensive service provision

Comprehensive STI care includes:

(Checklist - Annex 7.)

Service delivery

■ Accessible services

- The location of the service is important in terms of physical accessibility as well as stigmatization. Service provision should be structured in such a way that clients can access STI care discreetly. For example, a particular room within a health facility should not be labeled or specifically associated with STI care; STI services for adolescents may need to be located within a youth center.
- The physical structure of the health care facility should allow privacy during history-taking and examination.
- Clinics should employ staff able to communicate in the same language as the population served. This is particularly important in making services accessible to displaced persons. Cultural issues should be considered, such as the need for a female clinician or chaperone.
- Financial aspects of accessibility should be addressed where relevant.

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

- Confidentiality should be specifically addressed among staff as cultural perceptions of confidentiality may vary.
- Organizational policies and training should emphasize ethical and compassionate treatment of all clients.

■ Appropriate diagnostic equipment and supplies

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

■ Provision of effective drugs

- Refer to Section 8.2 and Annex 9.

Clinical management

■ Appropriate history-taking and physical examination (Refer to Annex 8.)

- Clinical examination is essential but is neglected in many settings. Reasons may include lack of privacy, time pressure, lack of gloves, lack of light or cultural constraints.
- Practical issues such as lack of privacy or light may be solved in simple inexpensive ways.
- Lack of gloves does not preclude visual inspection.
- Cultural obstacles to genital examination may be addressed through good communication, having the choice of seeing a male or female health worker and the presence of a chaperone.
- While time pressure may be understandable, it must be emphasized that appropriate quality of care requires physical examination.
- History-taking and examination must be addressed through training and supervision.
- Checklists may be helpful training and supervision tools.

■ **Diagnosis and treatment using the syndromic approach**

- Locally adapted flowcharts should be used where available.
- If local flowcharts are unavailable, WHO guidelines may be used.
- Copies of syndromic guidelines should be available to all clinical staff and flowchart posters placed in consulting rooms.

■ **Recommendation of a follow-up visit for all STI clients**

■ **Routine RPR testing for STI clients**

- All STI clients should be offered an RPR test.
- For patients with genital ulcers, a negative RPR should not preclude syphilis treatment as the RPR test may be negative in early syphilis.

■ **Routine RPR screening for all antenatal clinic clients**

- before 16 weeks and again during the third trimester
- same-day treatment

■ **Routine eye prophylaxis for all neonates**

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

Information, education and communication (IEC)

■ **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

Some STI patients may require referral to specialized counseling services to help them cope with the physical and social consequences of the infection. This may be particularly important for adolescents.

■ **Provision of condoms and education on use**

- Condoms should be offered to all STI clients, as well as advice on how to access condoms in the future.
- Condom use must be explained.
- Condoms should also be made available discreetly to all health facility clients, as well as through outreach staff such as community health workers.

■ **Assistance with partner notification**

- Options for partner notification should be discussed with the client. Sensitivity is required as the social consequences may be significant for the client. The client should never be coerced into notifying a partner.
- Options for partner notification include:
 - the patient informs the partner of the STI verbally
 - the patient informs the partner by giving them a card from the health facility
 - a health worker visits the partner
 - a letter is sent by the health facility advising the partner to seek care
 - the patient is given additional medication to take home to the partner.

■ Clinic-based IEC strategies

- Health workers should have appropriate materials to reinforce counseling, such as posters and leaflets.
- In addition to individual education and counseling, information on STIs should also be available to all health facility clients through a variety of IEC methods such as posters, leaflets, videos or dramas in waiting areas.
- Clinic-based messages should be consistent with community-based behavior change communication interventions.

There are conflicting opinions about how STI services for the population are best delivered.¹ The issue of integration of STI services has been much debated. Integration of services is usually viewed from two perspectives: integration of STI services into reproductive health services, or integration of vertical STI programs into primary health care services. Integration may simply mean that two services are accessible to the patient during the same visit and that providers encourage this access. In conflict-affected settings, the most appropriate ways of delivering services should be assessed within individual contexts. Integration should seek to increase accessibility and quality of care for all patients.

Syphilis screening

Syphilis prevalences of up to 17 percent have been reported in sub-Saharan Africa.²

The availability of a highly sensitive diagnostic test as well as a highly effective and affordable treatment make it possible to successfully control syphilis through public health measures. Antenatal screening and treatment of pregnant women for syphilis is cost-effective, even in areas of prevalence as low as 0.1 percent.³ Syphilis screening by means of a rapid test such as the RPR test is inexpensive and simple enough to be performed by staff in peripheral health facilities.

Yet, such testing is frequently not available. For example, during 2002 in Sierra Leone, RPR testing was only available at some district-level institutions and even this was a recent development.⁴

An important factor in successful syphilis control is same-day, on-site testing and treatment. In Kenya, a study found that an on-site service providing same-day screening and treatment of syphilis for antenatal clients resulted in higher treatment rates for clients and their partners, compared with referring them to a laboratory or having them return at a later date for results.⁵ A study in suburban antenatal clinics in Mozambique concluded that more active training of antenatal care providers to perform on-site RPR tests, give syphilis treatment and notify partners, resulted in improved perinatal outcomes and decreased syphilis sero-positivity among women at delivery.⁶

Intensive health education of women to motivate them to attend antenatal clinics is an important part of syphilis control. A system for quality control of RPR testing is also necessary.

The provision of RPR tests should be offered as a routine component of antenatal care in NGO-supported health facilities and should be instituted as early as possible. Efforts should also be made to support government health systems to provide this service.

KEY POINTS

Comprehensive STI care includes:

Service delivery

- Accessible services
- Confidentiality and a caring staff attitude
- Appropriate diagnostic equipment and supplies
- Provision of effective drugs

Clinical management

- Appropriate history-taking and examination
- Diagnosis and treatment according to the syndromic approach
- Follow-up visit
- RPR test offered to all STI clients
- RPR test offered in first and third trimesters for all ANC clients
- Routine eye prophylaxis for neonates

IEC

- Provision of individual education and counseling
- Provision of condoms and education on use
- Assistance with partner notification
- Clinic-based IEC strategies

STI service provision in conflict-affected settings

► **MINIMUM** response:

- Use rapid assessment data to guide locally appropriate service provision.
- Encourage syndromic management of STIs using local or WHO flowcharts.
- Make copies of flowcharts available to all clinical staff.
- Provide a checklist to guide comprehensive case management, monitoring and supervision.
- Ensure availability of appropriate drugs.
- Provide condoms for all STI clients.
- Make condoms available at all health facilities and through outreach health workers.
- Ensure condom availability in the community.

► **COMPREHENSIVE** response:

Minimum response plus:

- Expand services to reach a comprehensive level as soon as feasible.
- Tailor service provision according to data obtained through baseline assessments and, where possible, behavioral and biological surveys.
- Refer to checklist in Annex 7.

8.2 Drug supply management

In many settings, lack of effective drugs is one of the main constraints to the control of STIs. This section highlights some important challenges to drug supply management in conflict-affected settings.

Drug supply management may be viewed as a cycle consisting of selection, procurement, distribution and use.⁷

The Drug Management Cycle



Selection

The drugs selected for STI treatment should offer a cure rate of at least 95 percent.⁸ However, antimicrobial resistance is widespread and many of the low-cost drugs, which initially provided high cure rates for STIs, are no longer effective.

The following factors contribute to the development of antimicrobial resistance.⁹

- adaptability of the organism
- inappropriate use of antibiotics
- inadequate dosages and/or duration of treatment
- poor quality drugs

Reliable data on antimicrobial resistance, used to inform the selection of effective antibiotics, are frequently not available. Even if resistance data are available, effective drugs may not be on the national essential drugs list. Even if they are, ineffective drugs may continue to be used, as the more effective drugs are not affordable to health systems or patients. In some settings, a two-tier policy is applied that provides less effective drugs at the peripheral level and more effective, but usually more expensive, drugs at the referral level. If first-line treatment fails, patients are expected to present for second-line treatment. However, experience has shown that patients frequently do not return. Furthermore, the widespread availability of poor quality drugs in developing countries means that even if an effective drug is prescribed in name, the product taken by the patient may be ineffective.

The use of ineffective drugs has several consequences:

- Ineffective drugs increase STI treatment costs as patients seek treatment for the same condition repeatedly.
- Patients develop complications, which require costly treatment and may have severe consequences, such as infertility or fetal death.
- Patients remain infectious and the potential for spread of the infection into the population persists.
- People lose confidence in the health system and seek care in the private or informal sector, or they self-medicate.
- Inadequate treatment may increase the prevalence of resistant strains and partially treated infections may lead to the development of carrier states.
- Failure to cure STIs increases the risk of HIV transmission.

NGOs may be confronted with the problem that a drug recommended by the national treatment guidelines is no longer effective against the organism. For example, in 2002 in Sierra Leone the first-line drug recommended for urethral discharge in peripheral health facilities was cotrimoxazole. There were no current data available on sensitivity patterns in Sierra Leone at that time. As a result of high resistance world-wide, a WHO expert consultation in 2001 recommended that cotrimoxazole be removed from the list of recommended drugs for the treatment of gonorrhoea.¹⁰

For NGOs, the management of such a situation may be challenging, and individual contexts will dictate the appropriate course of action. If working within a setting where the NGO is the sole provider, e.g., a refugee camp, it would probably be acceptable to deviate from national guidelines when necessary. If working within the national system, it would not be appropriate to institute changes, except in close collaboration with national authorities. In such a scenario, an important role for the NGO could be to raise awareness and advocate for policy change.

Procurement and distribution

Poor drug management and non-functioning logistics systems result in drugs not being available when patients need them. In situations where NGOs are responsible for drug supply, there is little excuse for inefficient supply management. When working within a national system, the role of an NGO requires careful consideration. It is easy to donate drugs, but there is little value in providing drugs when there are no systems to ensure appropriate distribution and no mechanisms to promote appropriate use. The ethics of supplying drugs exclusively for a particular group of illnesses, such as STIs, should be evaluated. Furthermore, inappropriate drug donations are frequently a problem in conflict-affected settings. The WHO guidelines for drug donations should be followed for all donations. (See Annex 11.)

A commitment to offer support to the drug management system as a whole should be considered. In unstable or chronic conflict settings, ongoing support by an external organization may be required.

Use

Inappropriate use of antibiotics is a widespread problem, particularly in developing countries. This includes inappropriate prescription by providers and inappropriate taking of medications by patients. These issues are discussed further in the sections on training and supervision, private health care providers and increasing awareness of STIs.

There are no simple solutions to drug supply management issues. Sustained commitment is necessary to ensure that effective drugs are consistently available and used appropriately.

KEY POINTS

- Lack of effective antibiotics is one of the main constraints to the control of STIs.
- Antimicrobial resistance is widespread and increasing.
- Ineffective drugs, inadequate dosages and inadequate duration of treatment all contribute to the development of resistance.
- The ultimate costs of using cheaper, less effective antibiotics outweigh the costs of providing more expensive but effective drugs.
- Provision of effective treatment for STIs requires attention to all aspects of drug management, including selection, procurement, distribution and use.

Drug management in conflict-affected settings

► **MINIMUM** response:

- Ensure adequate provision of drugs according to local syndromic guidelines.
- If no local guidelines are available, provide drugs according to WHO syndromic guidelines.
- Ensure appropriate storage of drugs.
- Ensure appropriate documentation of drug supply and prescription.
- STI drug management should be included in the general drug management system.

► **COMPREHENSIVE** response:

Minimum response plus:

- Ensure appropriate functioning of the drug management system within the agency, including appropriate selection, procurement, storage, distribution and use.
- Ensure that adequate resources to promote effective drug management are included in project proposals.
- Train and supervise staff in drug management and rational drug use.
- Consider supporting local drug management systems.

8.3 Training and supervision

Training

Accurate data and appropriate drugs have little value when appropriate clinical management practices are lacking. A study in Nairobi, Kenya, assessing the quality of STI care in both public and private facilities, found that only 27 percent of STI patients were managed correctly.¹¹ In an assessment of the quality of STI management in South Africa, it was found that only 19 percent of patients were offered physical examinations and that other essential components of STI case management, including health education, partner notification and condom promotion, were often omitted.¹² During HIV/STI workshops in Sierra Leone and Kenya during 2002, some health workers were even reluctant to handle condoms during condom demonstration exercises.

In some countries, the syndromic approach may not yet be included in health staff training curricula. Therefore, initial training in syndromic management may be required. It is essential that clinical workers have a clear understanding of how to use the syndromic management approach and are convinced of its value. Staff members also need training on all the components of comprehensive STI care, including education, counseling and condom demonstration. Training is also needed on issues such as stigma, confidentiality and attitudes of health care providers. Sometimes staff may need training to help them overcome their own misconceptions, sensitivities and prejudices about STIs to be able to discuss sexuality and STIs in an easy and constructive manner.¹³

Supervision

Training is an important contribution, but one-off training is not enough. Initial training should be followed up by refresher training and supportive supervision. Studies have shown that inadequate supervision is an important factor contributing to poor STI care.¹⁴

A review of a 10-year STI treatment and prevention program in Kenya concluded that high quality supervision of health workers was essential, so that continuing skills development formed an integral part of their work.¹⁵

The successful STI intervention trial in Mwanza, Tanzania found that although health workers had received adequate training, they tended to deviate from the treatment algorithms or to forget about important STI management components such as health education and partner notification. The researchers concluded: “[R]egular supervision and in-service training proved to be of paramount importance for the success of the intervention...”¹⁶

Training is thus essential, but sustained effective supervision is equally important. (Annex 10 provides a sample checklist for supervision of STI services.) Supervisors also need to be trained in appropriate supervision practices. An effective supervision system may require considerable resource input, e.g., transport. In the Mwanza trial, the component with the highest recurrent cost was the supervision system. However, in situations where intensive supervision is not feasible, simple self-monitoring checklists could be used by health workers and reviewed periodically by supervisors to support monitoring and supervision of STI services.

Provider attitudes

Improved STI management practices may require behavior change among providers.

“In spite of efforts to improve management of STI patients through syndromic management training, many health care providers are reluctant to change their practice behaviors. Anecdotal information suggests that their reasons include prestige, profit motives, pressure from pharmaceutical companies, and the belief that certain STI syndromes are not serious and do not warrant antibiotics. Research is needed to further understand this resistance to the syndromic approach among different groups of health care providers and to propose solutions...”¹⁷

Acceptance of new STI care approaches may be improved if a collaborative process is used, seeking input from providers themselves. NGOs working in conflict-affected settings may be in a unique position to build capacity among displaced and host community health workers. Efforts should be made to include national health system workers and private providers in training initiatives.

KEY POINTS

- STI case management practices are often poor.
- Training of health workers is needed on all components of comprehensive STI care, including syndromic management, counseling, education and condom demonstration.
- Training is also needed on provider attitudes, confidentiality and stigma.
- Initial training should be complemented by regular in-service training and supervision.
- Inadequate supervision is an important factor contributing to poor STI care.
- A collaborative process may promote acceptance among health workers of new STI care approaches.

Training and supervision in conflict-affected settings

► **MINIMUM** response:

- Provide copies of syndromic guidelines to all providers.
- Provide comprehensive care checklists for self-monitoring and supervision.
- Where feasible, provide on-the-job training on management of STIs.
- Provide supportive supervision, taking into account constraints faced by staff in conflict-affected settings.

► **COMPREHENSIVE** response:

Minimum response plus:

- Conduct rapid assessments of training needs among NGO staff and national counterparts.
- Conduct training workshops on comprehensive STI care as soon as feasible.
- If possible, send some staff members for practical training in reference institutions where exposure to STI cases may be high.
- Develop supervision systems in collaboration with staff.
- Follow up training with support, supervision and on-the-job training.
- Conduct follow-up training workshops at intervals as refreshers and to train new staff.

8.4 Private health care providers

Public perceptions

In resource-poor settings, efforts to address STI case management are focused most often on the public sector. In conflict-affected settings, interventions often focus on rehabilitating or strengthening public sector services. However, many people, particularly men, prefer to seek care from alternate providers, such as private clinics, pharmacists, drug vendors and traditional healers.¹⁸

In many African societies traditional healers are of high repute and often considered the most appropriate initial point of contact for help for symptoms of STIs. Out of 498 new STI clients at a district STI clinic in Malawi, 37 percent had visited a traditional healer before coming to the clinic.¹⁹

The perception of the general population is often that private sector health care is superior to public sector services. In Benin, patients were willing to pay more and travel further for perceived better care. Reasons for preferring private providers included shortages of supplies and medications, absenteeism, lack of training, poor treatment of patients and black-marketing of drugs by public sector providers.²⁰ In Ethiopia, judgmental or condescending attitudes were the most commonly cited reasons for not attending public health care facilities.²¹

Quality of care

The quality of private sector STI care may in fact be poor. An estimated 5 million cases of STIs are seen by private general practitioners each year in South Africa. In a study of 120 general practitioners, 28 percent were able to cite effective treatment of UDS, and 14 percent and 4 percent for GUS and PID, respectively. Only 43 percent had seen the Department of Health's latest protocols for managing STIs.²² In many settings, pharmacists or drug vendors may be the main providers of STI treatment. In the Gambia, only 4.4 percent of simulated clients were correctly treated for UDS at 24 registered urban pharmacies.²³ A study in Nairobi, Kenya, assessed the quality of STI management across a range of providers: public facilities, private clinics, mission clinics, NGO/community-based clinics and private pharmacies. Treatment was found to be poorest in private clinics and pharmacies.²⁴

Working with the private sector

Addressing private sector health care is a challenging issue. “[T]he international evidence suggests that improving the quality of privately provided services is a complex task that requires careful thought as to the economic, professional and patient factors influencing the nature of this care ...”²⁵

Strategies to improve private provider knowledge have been shown to improve quality of care in high income countries, but factors that contribute to discrepancies between provider knowledge and practice need to be considered. Studies have shown that private sector providers may perceive or experience patient pressures to provide inappropriate treatments,²⁶ for example, pressure to prescribe antibiotics unnecessarily or to provide injections when oral therapy is appropriate.

Attempts to train pharmacists in the syndromic management of STIs have met with varying levels of success. Economic incentives may play a role here. Even when pharmacists or drug vendors are well trained, they may remain unlikely to turn away business if customers can only afford a partial prescription. In Nepal,²⁷ there was an increase in the provision of correct treatment from 0.8 percent to 45 percent immediately after training. In Cameroon,²⁸ a pilot project to social-market urethritis treatment packages containing antibiotics, condoms, partner referral cards and written information through private pharmacies encountered opposition from the local medical community. In Ghana, although the training of pharmacists improved the treatment of urethral discharge, a study revealed that less than half the simulated clients received appropriate treatment.²⁹

Private sector STI services are likely to be present in most populations, including conflict-affected settings. A community survey in a refugee camp in Ngara, Tanzania, revealed that 52 percent of men reporting STI symptoms had sought care from traditional healers.³⁰

As a significant proportion of STI cases will seek care in the private sector, efforts to improve STI control cannot exclude this sector. Assessment should be undertaken to understand the extent and type of private care available. Opportunities for collaboration should actively be sought and information and training opportunities made available to private providers.

→ KEY POINTS

- Many STI clients seek care outside the public sector.
- While the public may perceive quality of care to be higher in the private sector, this is often not the case.
- Efforts to improve STI care need to include the private sector.

Working with private health care providers in conflict-affected settings

▶ **MINIMUM** response:

- Include information about private providers in rapid assessment.

▶ **COMPREHENSIVE** response:

Minimum response plus:

- Provide syndromic guidelines and IEC materials to private providers.
- Invite private providers to training opportunities.
- Invite private providers to participate in planning of strategies to address STIs.

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9.1 Increasing public awareness of STIs

The need for public awareness

It is not difficult to recognize the symptoms and signs of STI syndromes, and treatment regimens are not complex. However, for a variety of reasons, STIs are not treated appropriately:

- People may avoid treatment, delay seeking treatment or receive incorrect treatment. A study in rural Uganda followed almost 10,000 people over a ten-month period: 30 percent of women and 10 percent of men experienced genital tract symptoms. Over 40 percent of these people reported they had done nothing to treat symptoms.¹ In rural Tanzania, 18 percent of patients with genital ulcers and 19 percent of patients with genital discharge did not seek treatment at all.²
- People may fail to recognize signs and symptoms, or be unaware of the implications of the illness. The Tanzania study found that in areas with high prevalences of reproductive tract infections, women often perceived mild symptoms as “normal.”
- People may not know where to access care, or may fear lack of confidentiality or judgmental attitudes from health care providers. A large proportion of people may self-treat. In Cameroon, 50 percent of male patients reporting urethritis during the previous 12 months had treated themselves with drugs bought at pharmacies or in the market.³ Their reasons for self-treatment were long waits at clinics, the need to wait for laboratory results before getting a prescription, the cost of laboratory tests and the cost and effectiveness of drugs prescribed by health providers. In a study in Ghana, about 75 percent of people attending an STI clinic had self-medicated before presenting. The antibiotics had been obtained from a variety of sources and were taken in inappropriate doses, often as mixtures of different drugs.⁴
- Even when appropriate care is accessed, patients may fail to follow prescribed treatment regimens. A study in India found that only about one-third of patients completed the recommended treatment.⁵

Improved quality of care and improved health care-seeking behavior are synergistic. It is important that the improvement of services is accompanied by behavior change communication interventions in the community to encourage appropriate treatment-seeking behavior. In a refugee camp in Ngara, Tanzania, mass IEC campaigns together with improved STI treatment services were followed by a 10-fold increase in the number of STI patients presenting at refugee camp clinics.⁶

What does the public need to know about STIs?

- STIs are a common health problem.
- STIs can have severe consequences, such as serious illness, death, infertility and harm to unborn children and newborns.
- STIs increase the risk of acquiring HIV.
- How STIs are transmitted and how they are not transmitted.
- Common symptoms and signs of STIs.
- Where to get help.

- Importance of taking the correct drugs, in the correct dosages for the correct period of time.
- Importance of condoms in preventing STI transmission.
- Importance of partner management.

The way in which this information is communicated is crucial and will depend on baseline assessments to determine appropriate approaches for the broader community as well as for specific sub-populations, such as adolescents. A variety of settings may be used for STI communication initiatives, including health facilities. Community-based approaches should complement and reinforce clinic-based activities.

Behavior change communication (BCC) is a specialized field and an adequate discussion is beyond the scope of this document. NGOs should be aware of the value of investing in appropriate technical expertise for the design and implementation of BCC interventions.

→ KEY POINTS

- STIs are frequently not treated appropriately.
- Public awareness of STIs needs to increase.
- The public needs to know the facts about STIs:
 - STIs are a common health problem and can have severe consequences.
 - STIs increase the risk of acquiring HIV.
 - How STIs are transmitted and how they are not transmitted.
 - Common symptoms and signs of STIs.
 - Where to get help.
 - Importance of taking the correct drugs, in the correct dosages for the correct period of time.
 - Importance of condoms in preventing STI transmission.
 - Importance of partner management.

Increasing awareness of STIs in conflict-affected settings

▶ **MINIMUM** response:

- Individual education and counselling of STI clients.
- Include BCC initiatives in project proposals.

▶ **COMPREHENSIVE** response:

Minimum response plus:

Using approaches based on assessments:

- Clinic-based information, education and communication (IEC): posters, leaflets, videos, dramas and group education in waiting areas
- IEC by health outreach workers with individuals or groups
- Mass BCC campaigns
- Targeted BCC initiatives

9.2 Targeting services

Targeted services involve interventions specifically directed at and tailored to the characteristics of a particular sub-population.

Targeting core groups

For effective STI/HIV control, STI services and health care-seeking behavior among the general population must be improved. However, mathematical models have demonstrated that maximum population-level impact and cost effectiveness are achieved through providing STI treatment to those individuals who are most likely to transmit infection to others,⁷ i.e., core groups, and bridging groups, such as the military, migrant workers, commercial sex workers (CSWs) and their clients.

Targeted interventions, including appropriate antibiotic therapy, have a greater impact on an epidemic when the prevalence is low and the infection remains concentrated in core groups. (Refer to Section 5.) However, even when an infection has spread beyond the core groups, interventions in core groups can still have a significant impact. Targeted interventions should thus complement service provision to the general population.

Core groups of concern in conflict-affected populations include the military, CSWs and their clients, and possibly forced migrants. Interventions among core groups pose challenges. Groups such as the military or CSWs may be difficult to access or difficult to identify. It is important that service provision should not make them vulnerable to stigmatization. A variety of strategies has been used to reach core groups:

- Although it is recommended that STI services be integrated into primary health care, in some settings specialized STI clinics may be useful in providing care to specific groups. For example, in Abidjan, Ivory Coast, a confidential clinic was set up in a discreet location in a popular area in town. The clinic does not advertise itself as an STI care facility.⁸
- Peer education has been effectively used to raise awareness and promote use of curative services among CSWs.⁹
- NGOs would rarely be involved in providing health services to uniformed forces, but there may be opportunities to involve locally stationed groups in BCC or training activities. For example, an NGO in Sierra Leone is implementing an STI/HIV BCC intervention targeting CSWs, the military and youth (in and out of school) in the same community.¹⁰
- A strategy that has been successfully applied to core groups is periodic presumptive treatment. Whether or not they have symptoms and signs, individuals at high risk of infection are treated presumptively for common curable STIs on a one-time or periodic basis. In a South African mining community, CSWs received monthly treatment for common STIs. A significant decline in prevalence of chlamydia, gonorrhea and genital ulcers was documented among the CSWs as well as mine workers.¹¹

Targeting core areas

In some situations, it may be preferable to focus interventions on core areas rather than core groups. Core areas are geographic locations where the likelihood of acquiring a new partner is high, for example, trade centers, bars or social gathering places. The risk of stigmatization is reduced as all individuals frequenting the area are targeted.¹² A study in South Africa used a rapid assessment method to identify places where new sexual partnerships are formed, thus identifying potential places for HIV prevention interventions. Key informants denied that commercial sex existed in the community, but they did not object to identifying where people go to meet new partners. Most of the places identified were legal or illegal bars and taverns. No brothels were identified. The researchers concluded that if the assessment had sought to identify only traditional target groups such as truck drivers, the military and CSWs, many high-risk sites would have been missed.¹³

Targeting other groups

In addition to core groups, there are other sub-populations that need targeted interventions because of their vulnerability to acquiring STIs.

In conflict-affected settings, adolescents and humanitarian workers are two particularly vulnerable groups. (Refer to Section 4.)

- Although some steps have been taken to make general health services more “youth-friendly,” it is also necessary to target young people by providing health services specifically for them through schools, youth centers or other youth programs. Reproductive health programs targeting the needs of young people can help them embark on a life of safer sexual activities and instill appropriate health care-seeking behavior.
- NGO staff members are an easily accessible group and organizations should provide condoms and STI information to all their staff. In addition, NGOs should address factors that may increase vulnerability among their staff, such as isolation, stress and limited opportunities for recreation.
- Furthermore, when working with displaced populations, the need for intervention in host populations should also be assessed.

Targeting men

The need for targeted interventions in core groups and vulnerable groups is clear. However, there may also be a need to specifically target men in the general population, adapting approaches to specific sub-populations, for example, workplace groups.

Women, and young women in particular, are at increased risk for acquiring STIs and HIV. (Refer to Section 2.) In sub-Saharan Africa, young women are infected with HIV in significantly higher numbers than males of similar age. In a population-based survey in South Africa, the prevalence of HIV among young people aged 14-24 years was 9 percent for men and 34 percent for women.¹⁴ However, for biological and social reasons, there is value in intensively targeting men:

- Men with STIs are more often symptomatic than women and are more likely to have the resources and opportunity to access care.
- In some cultures, it may be acceptable for men to have multiple sexual partners.
- It may also be more acceptable for symptomatic men to notify their partners than vice versa.
- Partner treatment of symptomatic men will access a significant portion of asymptomatic women.
- Little attention has been given to improving the quality of services for men.¹⁵

- The approach of integrating STI control programs into reproductive health services may not improve access for men.¹⁶ A 1999 literature review found that increased STI coverage was achieved through diversification of services and special programs for men, rather than through integration of STI services into existing family planning outlets.¹⁷

Innovative options to reach men should be explored. For example, social marketing of pre-packaged treatment kits for urethral discharge, containing medications, condoms, referral slip and instruction sheet, was successfully used in Uganda.¹⁸ While a similar program in Cameroon¹⁹ met with resistance from the medical establishment, it may nevertheless be an option in some conflict-affected settings, where there are few private sector providers.

While as much as possible should be done to improve the situation of women, it is equally important to intensively target men. The STI/HIV risk factors associated with conflict-affected populations may warrant a particularly concentrated effort to target men in STI control interventions in these settings.

KEY POINTS

- Targeted services involve interventions specifically directed and tailored according to the characteristics of a particular sub-population.
- Maximum population-level impact and cost-effectiveness are achieved through providing STI treatment to those individuals who are most likely to transmit infection to others: core groups and bridging groups.
- Core groups of concern in conflict-affected populations include the military, CSWs and their clients, and possibly forced migrants.
- Targeted interventions should also be directed at vulnerable groups such as adolescents and NGO staff.
- Intensive targeting of men is needed.
- Interventions targeting specific groups should complement service provision to the general population.

Targeting services in conflict-affected settings

► **MINIMUM** response:

- Include preliminary information on core groups and vulnerable groups in rapid assessments.

► **COMPREHENSIVE** response:

Minimum response plus:

- Include core groups and vulnerable groups in baseline studies.
- Explore options for accessing core groups.
- Train health staff in youth-friendly approaches.
- Liaise with other programs targeting adolescents.
- Liaise with local military for intervention opportunities.
- Introduce workplace STI prevention programs for NGO staff.
- Explore options for accessing men in the general population.

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Conclusion

This document offers a clinic-based approach to STI care. The clinic-based approach proposes a number of ways in which to improve the quality of STI care in conflict-affected settings. A key message of this document is that in order to provide STI care of acceptable quality, attention is needed not only to service provision, but also to underlying issues such as data collection, drug management, training and supervision, and service utilization.

To implement the recommendations, in most cases additional resources will be required. At a minimum, the focus of resource allocation will need to be redirected. An investment is needed in expertise to ensure technically sound interventions, based on reliable baseline and monitoring data. In addition to well-established approaches, innovative strategies are needed. To achieve sustained, effective control of sexually transmitted infections, continued advocacy will be needed for appropriate resource allocation and attention to technical quality.

It is crucial that clinical programs are complemented by community-based interventions addressing behavioral issues as well as the broader socio-cultural and economic context. In conflict-affected settings, the role of the conflict in the spread of STIs must also be taken into account.

STI control is a complex and controversial field. While contextual factors and resource constraints pose significant challenges to STI management in conflict-affected settings, opportunities do exist for improvements to quality of care.

10.1 Minimum and comprehensive responses to clinic-based care for STIs in conflict-affected settings

I Obtaining data (Section 7)

► **MINIMUM** response:

- Situation analysis (where relevant, obtain data on host as well as displaced population):
 - Review existing biological, behavioral and contextual data.
 - Assess local health policies, treatment guidelines and essential drugs lists.
 - Identify existing surveillance protocols.
 - If no local data are available, obtain regional data.
- Conduct key informant interviews and focus groups for initial knowledge, attitude, practice and behavior (KAPB) information to ensure that emergency services are appropriate.
- Where a surveillance system is/was in place, continue with the same system if feasible.
- Institute routine syndromic case reporting for urethral discharge syndrome (UDS) in men and genital ulcer syndrome (GUS) in men and women.
- Document all screening tests on blood for transfusion: Rapid Plasma Reagin (RPR), hepatitis B and HIV.

► **COMPREHENSIVE** response:

Minimum response plus:

- Document RPR testing on all patients presenting with an STI.
- Institute sentinel surveillance in antenatal clinics for syphilis and anonymous unlinked HIV testing.
- Include adequate surveillance components in project proposals.
- Conduct behavioral studies to shape program design and to establish a baseline for monitoring and evaluation.
- Advocate for biological surveys where necessary and feasible.
- Assess syndromic algorithms against available data. If concerns about the effectiveness of local guidelines, consult with relevant host country authorities and/or international organizations. If necessary, advocate for review of guidelines.
- Consider supporting national surveillance systems.
- Advocate for investment in high quality STI surveillance.

II Delivering services (Section 8)

Comprehensive service provision

► **MINIMUM** response:

- Use rapid assessment data to guide locally appropriate service provision.
- Encourage syndromic management of STIs using local or WHO flowcharts.
- Make copies of algorithms available to all clinical staff.
- Provide a checklist to guide comprehensive case management, monitoring and supervision.
- Ensure availability of appropriate drugs.
- Provide condoms for all STI clients.
- Make condoms available at all health facilities and through outreach health workers.
- Ensure condom availability in the community.

Comprehensive service provision (cont'd)

► **COMPREHENSIVE** response:

Minimum response plus:

- Expand and adapt services as soon as feasible, guided by data obtained through baseline assessments and, where possible, behavioral and biological surveys.
- Refer to checklist in Annex 7.

Drug supply management

► **MINIMUM** response:

- Ensure adequate provision of drugs according to local syndromic guidelines.
- If no local guidelines are available, provide drugs according to WHO syndromic guidelines.
- Ensure appropriate storage of drugs.
- Ensure appropriate documentation of drug supply and prescription.
- STI drug management should be included in the general drug management system.

► **COMPREHENSIVE** response:

Minimum response plus:

- Ensure appropriate functioning of the drug management system within the agency, including appropriate selection, procurement, storage, distribution and use.
- Ensure adequate resources to promote effective drug management are included in project proposals.
- Train and supervise staff in drug management and rational drug use.
- Consider supporting local drug management systems.

Training and supervision

► **MINIMUM** response:

- Provide copies of syndromic guidelines to all providers.
- Provide case management checklists for self-monitoring and supervision.
- Where feasible, provide on-the-job training on management of STIs.
- Provide supportive supervision, taking into account constraints faced by staff in conflict-affected settings.

► **COMPREHENSIVE** response:

Minimum response plus:

- Conduct rapid assessment of training needs on STIs among NGO staff and national counterparts.
- Conduct training workshops on comprehensive STI care as soon as feasible.
- If possible, send some staff for practical training in reference institutions where exposure to STI cases may be high.
- Develop supervision systems in collaboration with staff.
- Follow up training with support, supervision and on-the-job training.
- Conduct follow-up training workshops at intervals as refreshers and to train new staff.

Working with private health care providers

▶ **MINIMUM** response:

- Include information about private providers in rapid assessment.

▶ **COMPREHENSIVE** response:

Minimum response plus:

- Provide syndromic guidelines and information, education and communication (IEC) materials to private providers.
- Invite private providers to training opportunities.
- Invite private providers to participate in planning of strategies to address STIs.

III Improving service utilization (Section 9)

Increasing awareness

▶ **MINIMUM** response:

- Individual education and counseling of STI clients.
- Include behavior change communication (BCC) initiatives in project proposals.

▶ **COMPREHENSIVE** response:

Minimum response plus:

Using approaches based on assessments:

- Individual education and counseling.
- Clinic-based IEC: posters, leaflets, videos, dramas and group education in waiting areas.
- IEC by health outreach workers targeting individuals or groups.
- Mass BCC campaigns.
- Targeted BCC initiatives.

Targeting services

▶ **MINIMUM** response:

- Include preliminary information on core groups and vulnerable groups in rapid assessments.

▶ **COMPREHENSIVE** response:

Minimum response plus:

- Include core groups and vulnerable groups in baseline studies.
- Explore options for accessing core groups.
- Train health staff in youth-friendly approaches.
- Liaise with other programs targeting adolescents.
- Liaise with local military for intervention opportunities.
- Introduce workplace STI prevention programs for NGO staff.
- Explore options for accessing men in the general population.

10.2 Key point overview

Section 2 – What are STIs?

- The most common route of transmission for STIs is sexual contact: vaginal, anal or oral.
- Some STIs can also be transmitted through contaminated medical equipment or blood transfusions, and from mother to baby during pregnancy and delivery.
- The most common curable STIs are syphilis, chancroid, gonorrhoea, chlamydia and trichomoniasis.
- Incurable STIs are caused by viruses, e.g., HIV/AIDS, genital herpes, genital warts and hepatitis B and C.
- Candidiasis and BV are considered reproductive tract infections, rather than STIs.
- Common STI symptoms include:
 - unusual discharge from the vagina or penis
 - pain or burning with urination
 - itching or irritation of the genitals
 - sores, blisters or lumps on the genitals
 - rashes, including those on the palms of hands and soles of feet
 - lower abdominal pain
 - swelling in the groin (inguinal swelling)
- Many STIs do not cause any symptoms, especially in women.
- Asymptomatic STIs can still have serious consequences and can still be transmitted to others.
- Women are more vulnerable than men to STIs, for biological, social and economic reasons.

Section 3 - Why focus on STIs?

- STIs are among the most common health problems affecting adults worldwide.
- Sub-Saharan Africa has the highest incidences and prevalences of STIs.
- STIs can have serious medical consequences, including chronic illness, death, infertility, spontaneous abortion, neonatal illness and congenital abnormalities.
- STIs can have emotional and social consequences.
- Both ulcerative and non-ulcerative STIs enhance HIV transmission through increasing infectiousness and increasing susceptibility.
- Effective treatment of STIs can reduce the incidence of HIV infection.
- Many STIs are curable with appropriate treatment.
- Effective STI management is cost effective in terms of averting future costs to the individual, the health system and society.
- STIs are poorly managed in many settings for a variety of economic, structural and social reasons.

Section 4 – Why focus on STIs in conflict-affected settings?

- Overlaps exist among resource-poor settings, violent conflicts, population displacements and high prevalences of STIs and HIV/AIDS.
- In conflict-affected settings, a number of factors may increase vulnerability to STI/HIV transmission, including: population movements, social instability, poverty, commercial sex, presence of military or peacekeeping forces, reduced access to health services and substance abuse.
- Conflict may have an immediate or a delayed effect on the spread of STIs.
- Conflict-affected settings present both challenges and opportunities for STI control, encompassing resources, access, capacity, implementation and quality of care.

→ Key point overview (cont'd)

Section 5 – Contexts for approaching STI care

- The rate of spread of an STI in a community depends on:
 - the probability that an exposed person will acquire the infection
 - the frequency of exposure
 - the duration of infectiousness in an infected person
- Core groups of high frequency transmitters increase the rate of spread of STIs disproportionately.
- Primary prevention aims to prevent individuals from acquiring STIs.
- Secondary prevention aims to reduce illness and complications, and prevent the spread of the STI to others.
- WHO advocates a “public health package” which includes primary and secondary prevention strategies.

Syndromic management context

- Diagnosis based on laboratory testing is the preferred method of STI case management, but is not feasible in many settings.
- Clinical etiological diagnosis is unreliable and should NOT be used.
- Syndromic management is a simplified method of STI case management based on seven main syndromes, which does not rely on laboratory testing.
- Syndromic case management consists of:
 - identification of a group of symptoms and signs, which constitute a defined syndrome
 - prescription of a combination of drugs covering the main pathogens responsible for the syndrome in a particular geographical area or population
 - use of syndromic case management flowcharts (algorithms) to guide diagnosis and treatment
- Advantages of the syndromic approach include:
 - effectiveness (particularly for UDS and GUS)
 - efficiency (patient does not have to wait for lab results)
 - facilitation of standardized STI management practice
- Limitations include:
 - over-diagnosis and over-treatment
 - inability to detect asymptomatic infections
 - problem with management of vaginal discharge
- The vaginal discharge problem centers the decision of whether to treat for vaginitis only, or for cervicitis as well as vaginitis.
- Accepting the limitations of the syndromic approach, attention should focus strongly on aspects of STI service delivery which may feasibly be improved in conflict-affected settings.

Section 6 - A clinic-based approach to STI care in conflict-affected settings

Introduction to Sections 7 to 9 - no key points

Section 7 – Obtaining data

- There is a widespread lack of STI data in conflict-affected settings.
- Effective STI interventions are based upon sound contextual, biological and behavioral data.
- Contextual data describe the circumstances in which people live.
- Basic biological surveillance includes case reporting and monitoring of prevalence, syndromic etiologies and antimicrobial resistance.

- ➔ ■ Prevalence data highlight the magnitude of a public health problem and guide interventions to priority areas and populations.
- Prevalence and sensitivity data guide syndromic management algorithms.
- Behavioral surveillance monitors trends in the behaviors that lead to infections.
- Behavioral studies include quantitative and qualitative components, such as questionnaire surveys, focus groups and key informant interviews.
- Appropriate equipment, expertise and experience are essential for conducting biological and behavioral surveys.

Section 8 – Delivering services

Comprehensive STI care

Service delivery

- Accessible services
- Confidentiality and a caring staff attitude
- Appropriate diagnostic equipment and supplies
- Provision of effective drugs

Clinical management

- Appropriate history-taking and examination
- Diagnosis and treatment according to the syndromic approach
- Follow-up visit
- RPR test offered to all STI clients
- RPR test offered in first and third trimesters for ANC clients
- Routine eye prophylaxis for neonates

IEC

- Provision of individual education and counseling
- Provision of condoms and education on use
- Assistance with partner notification
- Clinic-based IEC strategies

Drug supply management

- Lack of effective antibiotics is one of the main constraints to the control of STIs.
- Antimicrobial resistance is widespread and increasing.
- Ineffective drugs, inadequate dosages and inadequate duration of treatment all contribute to the development of resistance.
- The ultimate costs of using cheaper, less effective antibiotics outweigh the costs of providing more expensive but effective drugs.
- Provision of effective treatment for STIs requires attention to all aspects of drug management, including selection, procurement, distribution and use.

Training and supervision

- STI case management practices are often poor.
- Training of health workers is needed on all components of comprehensive STI care, including syndromic management, counseling, education and condom demonstration.
- Training is also needed on provider attitudes, confidentiality and stigma.
- Initial training should be complemented by regular in-service training and supervision.
- Inadequate supervision is an important factor contributing to poor STI care.
- A collaborative process may promote acceptance among health workers of new STI care approaches.

→ Key point overview (cont'd)

Working with private health care providers

- Many STI clients seek care outside the public sector.
- While the public may perceive quality of care to be higher in the private sector, this is often not the case.
- Efforts to improve STI care need to include the private sector.

Section 9 – Improving service utilization

Increasing public awareness of STIs

- STIs are frequently not treated appropriately.
- Public awareness of STIs needs to increase.

The public needs to know the following about STIs:

- STIs are a common health problem and can have severe consequences.
- STIs increase the risk of acquiring HIV.
- How STIs are transmitted and how they are not transmitted.
- Common symptoms and signs of STIs.
- Where to get help.
- Importance of taking the correct drugs, in the correct dosages for the correct period of time.
- Importance of condoms in preventing STI transmission.
- Importance of partner management.

Targeting services

- Targeted services involve interventions specifically directed and tailored according to the characteristics of a particular sub-population.
- Maximum population-level impact and cost-effectiveness are achieved through providing STI treatment to those individuals who are most likely to transmit infection to others: core groups and bridging groups.
- Core groups of concern in conflict-affected populations include the military, commercial sex workers and their clients, and possibly forced migrants.
- Targeted interventions should also be directed at vulnerable groups, such as adolescents and NGO staff.
- Intensive targeting of men is also needed.
- Interventions targeting specific groups should complement service provision to the general population.

