Elements concerning the service delivery area to be considered in the situation analysis (both the epidemic and response)

Sexual and reproductive health refers to the area of work covered in the WHO global reproductive strategy. This includes the five core elements: improving antenatal, delivery, postpartum and newborn care; providing high-quality services for family planning, including infertility services eliminating unsafe abortion; combating sexually transmitted infections (STIs), including the human immunodeficiency virus (HIV), reproductive tract infections (RTIs), cervical cancer and other gynaecological morbidities; and promoting sexual health, as well as the larger cross-cutting issues of gender-based violence, human rights, and male involvement. Clearly this covers a number of service delivery areas some of which are listed on p4. The main SDA elements to be considered here are those which reinforce strengthening of linkages between HIV prevention and care and sexual and reproductive health services that ultimately enhance the uptake of services.

Rationale for including the SDA in the proposal

Strengthening linkages between sexual and reproductive health and HIV prevention, treatment, care and support is an important strategy to the overall effectiveness of the response to the HIV and AIDS epidemic, and to the overall success of programmes to improve sexual and reproductive health. This is because acquisition, transmission and reinfection of HIV is essentially through unprotected sex or during pregnancy, childbirth and breastfeeding. It reinforces the importance of unsafe sex as the second most significant risk factor to health in developing countries, because of its association with increased HIV and STI transmission.

The rationale for strengthening linkages between HIV and sexual and reproductive health services is because both serve the same target population of sexually active men, women and young people and because it has the potential to:

- Promote safe and responsible sexual behaviour
- Increase dual protection and condom use
- Reduce mother to child transmission of HIV
- Reduce stigma and discrimination
- Minimize missed opportunities to increase access and coverage of services
- Build upon existing programmes, structures and institutions and promote universal access to both
- Provide services for people living with HIV which meet their needs and respect their rights
- Ensure cost-effective and efficient services while eliminating duplication and promoting coordination.

**Link between the SDA and the proposal objective (examples of objectives that address the SDA)**

International commitments and policies are increasingly emphasizing the need for universal access to HIV prevention, treatment, care and support as well as universal access to sexual and reproductive health. In June 2006, at the United Nations General Assembly Special Session (UNGASS), Member States declared “the need to strengthen policy and programme linkages and coordination between HIV/AIDS and sexual and reproductive health”.

The Glion Call to Action on Family Planning and HIV/AIDS in Women and Children (2004)…emphasizing the global emergency created by HIV/AIDS and sexual and reproductive ill-health; the urgent need for much stronger links between sexual and reproductive health and HIV/AIDS policies, programmes and services; and the centrality of these intersecting efforts towards the achievement of the Millennium Development Goals.

Specific objectives include to:
- enhance acceptability and impact of services and programmes through increased utilization of HIV and SRH services, including family planning;
- increased access to SRH and HIV services
- increased cost-effectiveness of services through more efficient use of human and financial resources
- increased use of methods that provide dual protection against unintended pregnancy and sexually transmitted infections (STIs) including HIV;
- increased uptake of HIV and syphilis testing and counselling services;
- reduced stigma and discrimination against people living with HIV and those seeking HIV counselling and testing.

**How to define and quantify the target population(s) (also consider gender and equity issues)**

Depending on the activity to be implemented, the target population will differ.

**Main (important) activities to be considered**

- Promotion and provision of condoms (male and female) as a means of dual protection against unintended pregnancy and STIs, including HIV within family planning services.
- Counselling on and provision of sexual and reproductive health services within HIV prevention and treatment services to meet the needs of PLWH.
Promotion of the four prongs of prevention of mother-to-child-transmission of HIV, as a proven means to effectively reduce HIV transmission in newborn.

Advocacy and education on sexual health as an effective means to change risk-taking behaviour and reduce both SRH and HIV related morbidities.

Provision of testing and pre- and post-test counselling for HIV in sexual and reproductive health services, as a means to enable people to know their status and receive appropriate care. This includes ensuring access to appropriate laboratory facilities.

Counselling on reproductive choices for people living with HIV including planning for a pregnancy, protecting against a pregnancy or interrupting an unwanted pregnancy where abortion is legal.

Multifarious screening and treatment programmes for women which will reduce the consequences of congenital syphilis in newborn and transmission of HIV.

Provision of and access to antiretroviral therapy (ARVs) and treatment for opportunistic infections and STIs as a right of PLWH to stay healthy, including referrals between STI/HIV and reproductive health/maternal health/ANC services.

Services providing male circumcision services that include safer sex counselling and SRH services for young boys and men.

Youth-friendly services accommodating the special sexual and reproductive health needs of young people, including:
(a) providing information on prevention of unintended pregnancies, and STIs, including HIV as contraception; and
(b) meeting the sexual and reproductive health needs of young people infected with HIV.

Approach to (or tools for) costing these activities (including what to cost and how)

- Define or relate inputs to estimated total number of HIV infections averted
- Provide a listing of commodities related to sexual and reproductive health
- Costing of training needs of health care providers

Some key indicators (outcome, coverage/output)

- Proportion of HIV-discordant couples using condoms for the prevention of partner infection; and
- Proportion of couples (non-formal and formal relationships) who report using condoms for HIV prevention.

- Proportion of PHC service delivery points that offer (a) three or more, or (b) six or more, of the following sexual and reproductive health & HIV/AIDS services: family planning, antenatal care, postnatal care, STI services, voluntary counselling and testing for HIV, provider-initiated
testing and counselling, PMTCT, ARV, cervical cancer screening, and prostate cancer screening

- Proportion of HIV-positive women with an unmet need for family planning.
- Proportion of antenatal care and delivery services promoting the four-pronged approach to the prevention of mother-to-child HIV transmission (PMTCT);
- Proportion of users of antenatal care and delivery services counselled and treated for STIs, including following up the male partner for treatment and counselling.
- Proportion of users of PITC/VCT services getting FP counselling.

**Linkages with other SDAs/programmes**

Linkages required with child and adolescent and maternal health, and health systems strengthening. The following service-specific measures are designed to monitor service-specific linkages, considering the components of services as exemplified in Figures A1–A3.

For **primary health-care services** (Figure A1), potential indicators include:

- proportion of primary health-care services offering family planning, including condoms and HIV counselling and testing, care, or referral;
- proportion of primary health-care services offering STI counselling, diagnosis, treatment, or referral;
- proportion of primary health-care services promoting/providing behavioural change communication;
- proportion of primary health-care service users receiving sexual and reproductive health services, including HIV counselling and testing, care, or referral;
- proportion of primary health-care providers trained in sexual and reproductive health, including HIV counselling and care.

**Figure A1. Primary health-care services**

![Diagram of primary health-care services](image-url)

*Voluntary counselling and testing of HIV.

*B. Behavioural change communication.
For family planning services (Figure A2), indicators could include:

- proportion of family-planning service sites offering HIV counselling and testing, care, or referral;
- proportion of family-planning service-site users counselled on HIV and tested, treated, or referred;
- proportion of people using any family planning method who accept to use a condom (for family planning or prevention of STI or HIV);
- proportion of family planning service-site users receiving BCC;
- proportion of family planning service-site users counselled, referred, or treated for STI;
- proportion of family planning service-site users counselled, referred, or treated for infertility;
- proportion of HIV-positive women with an unmet need for family planning.

Figure A2. Family planning services

For maternal health services during pregnancy and delivery, indicators could include:

- proportion of antenatal care and delivery services promoting the four-pronged approach\(^1\) to the prevention of mother-to-child HIV transmission (PMTCT);
- proportion of users of antenatal care and delivery services counselled and treated for STIs, including following up the male partner for treatment and counselling.

Postpartum maternal health services would include indicators that measure:

- proportion of postpartum care service sites that counsel about and offer family planning methods, including condoms;

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\(^1\) PMTCT programme linkages include (1) primary prevention of HIV infection among women; (2) prevention of unintended pregnancies among women with HIV; (3) prevention of HIV transmission from women with HIV to their infants; and (4) provision of treatment, care, and support to mothers with HIV, their infants and family.
• proportion of users of postpartum care services counselled on HIV and referred for testing and treatment.

**Postabortion care and abortion** services could include indicators such as:
• proportion of women receiving postabortion care who are counselled and offered a family planning method and condoms;
• proportion of women receiving postabortion care who are counselled and referred for STI/HIV diagnosis, testing, and treatment.

Programmes aimed at prevention and control of STI/RTI would include indicators of:
• proportion of STI service sites providing counselling and testing for HIV;
• proportion of STI service sites promoting BCC;
• proportion of users of STI control services who are counselled on family planning and offered condoms.

**HIV/AIDS prevention, care, and treatment** services (Figure A3.3) would measure:
• proportion of HIV/AIDS service-delivery points offering condoms;
• proportion of HIV/AIDS service sites incorporating BCC materials;
• proportion of HIV-positive people offered treatment and counselled on sexual and reproductive health and rights, including family planning;
• proportion of HIV/AIDS service sites offering or referring for STI diagnosis and treatment.

**Figure A3**  **HIV/AIDS prevention, care, and treatment services**

**Proposed linkages**

**Existing services**
- VCT\(^a\)+PMTCT\(^b\)+ ARV\(^c\)+BCC\(^d\) programmes

**Expected outcomes**
- Improved access to and coverage of sexual and reproductive health services

- Family planning services
- STI\(^e\) prevention and control
- Condom promotion
- BCC\(^d\)

\(^a\)Voluntary counselling and testing.
\(^b\)Prevention of mother-to-child transmission of HIV.
\(^c\)Antiretroviral treatment.
\(^d\)Behaviour change communication.
\(^e\)Sexually transmitted infection.

**How gender, human rights and equity issues should be addressed in implementing these SDA**

Strengthening linkages between sexual and reproductive health and HIV involves addressing the shared root causes such as sexual violence, inequitable gender relations, poverty, cultural taboos
and stigmatization. It has been established that gender, as a key determinant of power, and
gender inequality has fuelled the HIV epidemic and has disproportionately affected women and
young girls who now account for over half of all new HIV infections with many young girls and
women not being able to negotiate safe sex nor prevent unwanted pregnancies. Gender is also
intimately linked with sexuality and male and female sexual behaviours. Therefore, identifying key
entry points for men to access and obtain services to meet their needs, other than for sexually
transmitted infections, is also a critical element of developing sound policies and programmes.
Stigma and discrimination associated with STIs and HIV in particular have restricted the success
of HIV prevention, care and treatment programmes and reduced the willingness of people with
HIV to disclose their status or to seek out sexual and reproductive health services. Addressing
gender dimensions in conjunction with the key elements of sexual and reproductive health is a
key long-term strategy in curbing the HIV epidemic.

**Key implementing partners to be considered**

WHO Regional and Country reproductive health advisers, UNFPA, IPPF, EngenderHealth, Family
Health International (FHI), Population Council, Global network of people living with HIV (GNP+),
Global AIDS Alliance (GAA), Population Action International; International Community of Women
Living with HIV/AIDS (ICW), Young positives, and UNICEF.
Facts & figures:
Unsafe sex is the 2nd most significant risk factor to health in developing countries, because of its association with increased HIV and STI transmission and maternal mortality and morbidity.

The cofactor effect of STIs on HIV transmission is higher with the genital ulcerative diseases. Infection with herpes simplex virus type 2 (HSV-2) increases the risk of HIV-1 acquisition approximately three-fold in both men and women, and primary HSV-2 infection may have an even greater effect on HIV-1 susceptibility, thus fuelling a large proportion of new HIV infections.

Sexually transmitted infections impose an enormous burden of morbidity and mortality in both resource-constrained and developed countries, both directly, through their impact on quality of life, sexual and reproductive health and child health, and indirectly as cofactors for HIV transmission.

The Prevention and Control of Sexually Transmitted Infections and HIV infection

Links between HIV and other sexually transmitted infections

Sexually transmitted infections (STIs) are co-factors for HIV transmission. The biological requirements for the sexual transmission of HIV are related to infectiousness, which is a function of the concentration of the inoculum in the genital tract and viral phenotypic factors and susceptibility. The presence of STIs results in a higher probability of transmission by increasing the amount of HIV in genital lesions and secretions and by reducing physical and mechanical mucocutaneous barriers. Similarly, the presence of an untreated, inflammatory or ulcerative STI increases susceptibility to acquisition of HIV infection. The cofactor effect of STIs on HIV transmission is higher with the genital ulcerative diseases. Infection with herpes simplex virus type 2 (HSV-2) increases the risk of HIV-1 acquisition approximately three-fold in both men and women, and primary HSV-2 infection may have an even greater effect on HIV-1 susceptibility, thus fuelling a large proportion of new HIV infections.

Other non-ulcerative STIs are also important cofactors for HIV transmission. Shedding of HIV in semen increased six-fold in men with gonococcal urethritis in Malawi compared with shedding in men without urethritis. Following treatment for the urethritis, the seminal viral load was reduced to levels similar to those of HIV-infected men without urethritis. Other non-ulcerative STIs are also important cofactors for HIV transmission. Surgical care for STIs are one of the key entry-points for HIV prevention. Many interventions for the control of STIs have been effective in reducing prevalence rates of infections. Some of these are syndromic management of genital ulcer disease and urethral discharge, treatment of male partners for trichomoniasis, brief counselling of patients about risk reduction, and treatment of partners for gonococcal and chlamydial infections. In one study, a community-randomized trial in Mwanza, Tanzania, improved management of STIs resulted in a 38% reduction in HIV incidence.

These successful interventions have resulted in a fall in the prevalence of certain major STIs (e.g. chancroid, syphilis and gonorrhoea) in many parts of the world. The prevalence of HIV infection has also begun to decline in a number of developing countries. The explanations for the decline in rates of HIV infection are probably multifactorial but may include the control of major STIs.

Patients seeking care for STIs are a key target population for prevention counselling and voluntary and confidential testing for HIV, and may be in need of care for HIV and AIDS. Such patients may have primary HIV infection at the same time as an acute STI, and they usually have high HIV viral load. Delivery of effective prevention and risk reduction messages, treatment for
STIs and promotion of condom use during this unique window of opportunity should be maximized in such a population as this can make a substantial contribution to reducing the transmission of HIV infection.

**Key interventions for the prevention of sexual transmission of HIV**

Many of the measures for preventing the sexual transmission of HIV and other sexually transmitted pathogens are the same, as are the target audiences and populations. Effective prevention and care of STIs, including HIV, can be achieved by use of a combination of responses that embrace a public health package which includes the following elements:

- Promotion of safer sexual behaviour. An effective response to the spread of STIs starts with prevention by providing accurate and explicit information on safer sex, including correct and consistent use of male and female condoms, as well as abstinence, delay in onset of sexual activity, keeping to one sexual partner or reducing the number of sexual partners.
- Promotion of early health-seeking behaviour.
- Improved case management of STIs is one of the interventions scientifically proven to reduce the incidence of HIV infection in the general population. In addition to prevention interventions, health-care services must be available to provide early and effective treatment. Programmes for the prevention and control of STIs should promote accessible, acceptable and effective interventions that offer comprehensive case management of infected persons to prevent further infections and their many complications and long-term sequelae. The components of such management are the following:
  - correct diagnosis by syndromic or laboratory diagnosis;
  - provision of effective treatment;
  - reduction in or prevention of further risk-taking behaviour through age-appropriate education and counselling;
  - promotion and provision of condoms, with clear messages for correct and consistent use;
  - notification and treatment of STIs in sexual partners, where applicable.

Programme implications of the interaction between STIs and infection with HIV. The diversity and mix of HIV and STI epidemics around the world make it difficult for programme managers to determine and implement responses that are optimal for each setting. No single HIV and STI preventive measure or approach will effectively serve all the populations in need in any country. In every situation, there will be prevention interventions that are more effective than others in reducing HIV and the other STIs. An appropriate response will be guided by knowledge about the HIV and STI epidemics. Thus, strategic information on an epidemic and its drivers should be available and used to support sound policy and programme decisions. Such information is obtained through good surveillance, research and analysis of data.

Improving impact: strategies for prevention and control need to be appropriate in order to maximize the impact and gains. Programmes need to have an understanding of the following:

- what are the prevalent STIs in particular settings and populations;
- which populations are at greatest risk of infection;
- what behaviours or circumstances put these populations at risk;
- what are the best approaches and interventions to break the chain of transmission;
- how to prioritize and scale up, and how to sustain the interventions.

Periodic surveys of the prevalence of STIs, causation of STI-related syndromes and antimicrobial susceptibility of bacterial STIs are important because of the need to ensure that symptomatic STI syndromes as well as asymptomatic infections are being managed effectively. Data on STIs can also serve as an early warning of the potential for HIV exposure. Periodic cross-sectional surveys of STIs can be a powerful tool for monitoring the effects of HIV and STI programmes because they can demonstrate the combined effects of changes in risk and behaviour, changes in health-
seeking behaviour and improved quality of care while adapting to changing patterns of causation and antimicrobial susceptibility. Strengthening surveillance of STIs is, therefore, an important component of second-generation HIV surveillance.

Interventions that compile infection levels, sexual behaviours (e.g. number of sexual partners and rates of partner change), preventive behaviours (e.g. correct and consistent condom use), and health-related behaviours (e.g. treatment-seeking behaviours) in population groups with high rates of infection and in vulnerable groups, as well as in the general population, provide valuable information on the transmission dynamics and help to determine which interventions for control would be most successful.

The treatment of STIs can affect HIV transmission at the individual level and may have an effect at the population level, depending on the context. The effects of treating people for STIs will be different in different phases of the HIV and STI epidemics, and priorities should be set with regard to which populations and pathogens to be targeted, depending on the setting.

• In low-level or concentrated HIV epidemics, particularly when STI control is poor, the prevalence of curable STIs (genital ulcer disease) is high and high-risk sexual behaviour is common, treatment of curable STIs is likely to have a considerable impact on the incidence of HIV infection at the population level.

• In generalized HIV epidemics, with a rising prevalence of HIV infection and in which the rates of curable STIs are relatively high, treatment of STIs is likely to have an effect on the incidence of HIV infection at the population level.

• In generalized HIV epidemics with a stable or declining prevalence of HIV infection, when the rates of curable STIs are either declining or low and interventions are already addressing high-risk behaviour, the effect of treatment of curable STIs on the incidence of HIV infection at the population level is not measurable, but it is important to maintain services for STI control as persons with STIs have a high risk for acquiring or transmitting HIV infection through high-risk sexual behaviour and the cofactor effect of an existing STI. These services will:
  o provide opportunities for early treatment of STIs, counselling and communication for behaviour change;
  o provide access to testing for HIV in populations with STIs and offer opportunities for prevention education and counselling for persons with acute or established HIV infection; and
  o serve as an entry point into care programmes for persons living with HIV infection.

• Genital herpes infection is treatable and, given that herpes simplex virus infection is becoming the predominant cause of genital ulcer disease in many populations and that the clinical course of herpes is exacerbated in HIV-infected persons, strategies for incorporating appropriate treatment for herpes into syndromic management will be needed. Research and consultation are ongoing to provide guidance on best strategies for the control of herpes simplex virus infections.

• In many settings, control interventions are useful for addressing the STI cofactor effect in the transmission of HIV, as well as providing reinforcement or an entry point for a comprehensive prevention package for these populations, whatever the phase of the HIV epidemic.

Although the relative impact of treatment for curable STIs on the incidence of HIV infection declines as epidemics become generalized, modeling suggests that the absolute effect in terms of numbers of cases of HIV infection averted might remain high and, thus, STI treatment might remain cost–effective for the control of HIV infection in most settings.
Sexually transmitted infections as a public health problem

Public health benefits of controlling STIs. STIs in their own right impose an enormous burden of morbidity and mortality in both resource-constrained and developed countries, both directly, through their impact on quality of life, sexual and reproductive health and child health, and indirectly as cofactors for HIV transmission. Preventing and controlling STIs will have the added benefits of reducing adverse pregnancy outcomes including congenital syphilis, low birth weight, premature delivery and of improving the health of women by reducing the risk of cervical cancer, infertility and chronic pelvic inflammatory disease.

STIs are the main preventable cause of infertility, particularly in women. Between 10% and 40% of women with untreated chlamydial infection develop symptomatic pelvic inflammatory disease. Post-infection tubal damage is responsible for 30% to 40% of cases of female infertility. Additionally, women who have had pelvic inflammatory disease are 6 to 10 times more likely to develop an ectopic (tubal) pregnancy. Millenium Development Goal 5, target 6 seeks to reduce maternal mortality by three quarters by 2015. Prevention of pelvic inflammatory disease will contribute to this goal by preventing the death toll related to ectopic pregnancy. Prevention of human papillomavirus infection will reduce the number of women who die from cervical cancer, the second most common cancer after breast cancer.

Untreated STIs are associated with congenital and perinatal infections in neonates, particularly in the areas where rates of infection remain high. In pregnant women with untreated early syphilis, 25% of pregnancies result in stillbirth and 14% in neonatal death, an overall perinatal mortality of about 40%. Syphilis prevalence in pregnant women in Africa, for example, ranges from 4% to 15%. Up to 35% of pregnancies among women with untreated gonococcal infection result in spontaneous abortions and premature deliveries, and up to 10% in perinatal deaths. In the absence of prophylaxis, 30% to 50% of infants born to mothers with untreated gonorrhoea and up to 30% of infants born to mothers with untreated chlamydial infection will develop ophthalmia neonatorum, which can lead to blindness; worldwide, between 1000 and 4000 newborn babies become blind every year because of this condition. Universal institution of an effective intervention to prevent congenital syphilis should prevent an estimated 492 000 stillbirths and perinatal deaths per year in Africa alone.

The key strategic elements of a control programme for STIs at the national level include the following.

- Promoting healthy sexual behaviours, including safer sexual and health-seeing behaviours, compliance with treatments and responsible notification and management of infections in sexual partners.
- Delivering care including antenatal case-finding programmes for syphilis and other STIs, ophthalmic prophylaxis at birth for neonates and immunization against hepatitis B.
- Ensuring a reliable supply of safe, effective, high-quality and affordable medicines and commodities for prevention and control, including male and female condoms and other effective barrier methods.
- Strengthening support components, including the adaptation of normative guidelines, training, information networks, commodities logistics, laboratory support, surveillance and research.

As a priority, countries must implement or scale up the provision of care for those with STIs through key activities for which there is sufficient knowledge and evidence for impact and feasibility. These interventions have been implemented in many places with modest additional human and financial resources, but they have not been sufficiently scaled up for maximum impact at national level. Among them are the following:

1. Scale up of services for diagnosis and treatment of STIs (Use syndromic management where diagnostic resources are limited);
2. Control congenital syphilis as a step towards elimination;
3. Scale up STI prevention strategies and programmes for HIV-positive persons;
4. Upgrade surveillance of STIs within the context of second-generation HIV surveillance;
5. Control bacterial genital ulcer disease.

It is crucial not to promote a single intervention as a ‘magic bullet’ for reducing the sexual transmission of HIV and the other STIs, but, rather, to establish and maintain a comprehensive package of services for the prevention and management of HIV infection and other STIs, which can be offered by referral or directly during an STI-related encounter. The services could include counselling, an offer to test for HIV, advice on safer sex, including behaviour change to promote condom use, delayed sexual debut for young people and fewer sexual partners, and information on access to antiretroviral treatment and appropriate education and information on the role of male circumcision in the prevention of HIV infection.

Such a comprehensive health system response must be based on an analysis of the epidemiology of STIs, sexual risk behaviours and vulnerabilities, patterns of health-seeking behaviour and the skills and attitudes of health-care providers.

Additional resources

The global strategy for the prevention and control of sexually transmitted infections: 2006–2015
http://www.who.int/reproductive-health/publications/stisstrategy/


Consultation on STD interventions for preventing HIV: what is the evidence?
http://www.who.int/reproductive-health/publications/archive/interventions_preventinghiv/

Sexually transmitted and other reproductive tract infections - A guide to essential practice
http://www.who.int/reproductive-health/publications/rtis_gep/

Sexually transmitted diseases: policies and principles for prevention and care

http://www.who.int/reproductive-health/docs/hivsurveillance/