Controlling STIs: synergies between prevention and care

A. Gerbase, GFMER
Objectives of an STI programme

- interrupt the transmission of infection;
- prevent development of complications and sequelae;
- reduce the risk of HIV infection.
Control of sexually transmitted infections

- Is feasible
- Leads to improved sexual and reproductive health
- Contributes to preventing HIV transmission
How STIs disseminate?

Basic Reproductive rate

$R_0 = B \times c \times D$

Transmission efficiency

Rate of sex partner change

Duration of infectiousness
How to impact STIs?

\[
\frac{\text{R}_0}{\text{B}} \times \text{C} \times \text{D} = \text{Decreasing reproduction rate!}
\]

- **B**: Barriers, AM and vaccines
- **C**: Behavioural interventions
- **D**: Case management and finding, screening, selected mass treatment, promotion of HCSB

- **Enhance resistance and reduce susceptibility**
- **Reduction of number of sexual partners**
- **Shorten duration of infection**
STI transmission dynamics at population level

Core transmitters

Bridging population

General population
Sexually Transmitted Infections

Symptomatic

Asymptomatic
STIs are Preventable

- When used properly and consistently, condoms are one of the most effective methods of protection against STIs, including HIV infection.

- Although the female condom is effective and safe, it is not as widely used in national programmes because of its higher cost when compared to male condoms.
Operational model of the role of health services in STD case management

- Population with STD
- Aware and worried
- Seeking care
- Correct diagnosis
- Correct treatment
- Treatment completed
- Cure
Operational model of the role of health services in STD case management

Population with STD → Aware and worried → Seeking care → Correct diagnosis → Correct treatment → Treatment completed → Cure

- Promotion of health care seeking behaviour
- Improve quality of care
- Attitudes of personnel
Operational model of the role of health services in STD case management

Population with STD
Aware and worried
Seeking care
Correct diagnosis
Correct treatment
Treatment completed
Cure

- Syndromic approach
- Include STD drugs in essential list
- Prescribe single dose
- Counsel about compliance
Operational model of the role of health services in STD case management

- Population with STD
- Aware and worried
  - asymptomatic STD
- Seeking care
- Correct diagnosis
- Correct treatment
- Treatment completed
- Cure

Operational model:

- Partner notification
- Case finding
- Screening
- Selective mass treatment
Guidance in the Context of Health Services and STI Management

General population

Selective mass treatment

Population with STI

Symptomatic

Asymptomatic

Partner notification, Case finding, Screening

Seeking care

Correct diagnosis

Correct treatment

Treatment completed

Cure

- Promotion of health-care seeking behaviour
- Improve quality of care
- Attitudes of personnel
The Public Health Approach to STD Control

- promoting safer sex behaviour
- strengthening condom programming
- promoting health-care-seeking behaviour integrating STI control into PHC and other health care services
- providing specific services for populations at increased risk
- comprehensive management of symptomatic cases, using the syndromic approach
- prevention and care of congenital syphilis and neonatal conjunctivitis
- early detection of asymptomatic infections through partner notification and screening programmes
HIV/STI synergy in prevention

- Sexual transmission: behaviour change, Condoms, STI control, circumcision
- Mother to child transmission
- Injecting drug use
- Positive prevention for people living with HIV/AIDS
- Health care settings incl. blood safety
STI treatment is treatment for prevention
Impacting STIs dissemination

Basic Reproductive rate

Transmission efficiency

Rate of sex partner change

Duration of infectiousness

\[ R_0 = B \times c \times D \]
Clinical Diagnosis Approach

Identify the STD causing symptoms based on clinical experience

- even experienced STD providers often misdiagnose STDs
- miss mixed infections
- difficult for surveillance
Etiologic Diagnosis Approach

Identify the organism causing the symptoms with laboratory tests and microscopy

• tests can be time consuming and expensive
e.g. cultures cost $12 - $40 & take up to six days

• even rapid tests (RPR) require equipment to obtain and separate venous blood

• dependent technician & lab accuracy

New tests may change this!
Identify all possible STDs that could cause syndrome and give recommended treatment based on epidemiologic and laboratory data

- Immediate treatment
  - decrease transmission
  - decrease complications
- Can do syndrome surveillance

- Need to weigh the ability to treat as many infected as possible (sensitivity) with the risks of overtreatment (specificity)
- resistance & stigma
Example: Urethral discharge

1. Patient complains of urethral discharge or dysuria

2. Take history and examine. Milk urethra if necessary.

3. Discharge confirmed?
   - NO
     - Ulcer(s) present?
       - NO
       - Educate and counsel
         - Promote and provide condoms
         - Offer HIV counselling and testing if both facilities are available
         - Review if symptoms persist
       - YES
       - Use appropriate flow chart
   - YES
     - TREAT FOR GONORRHOEA AND CHLAMYDIA
       - Educate
       - Counsel
       - Promote and provide condoms
       - Offer HIV counselling and testing if both facilities are available
       - Partner management
       - Advise to return in 7 days if symptoms persist
Criteria for selection of STI drugs

Drugs selected for treating STI should meet the following criteria:
- high efficacy (at least 95%)
- low cost
- acceptable toxicity and tolerance
- organism resistance unlikely to develop or likely to be delayed
- single dose
- oral administration
- not contraindicated for pregnant or lactating women.

Appropriate drugs should be included in the national Essential Drugs list and in choosing drugs, consideration should be given to the capabilities and experience of health personnel.
Strategic areas of action

- Link HIV and STI prevention
- Improve access to quality STI care
- Promote early and effective health care seeking behaviour
- Target vulnerable populations