Epidemiology of RTIs

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Glossary

What are RTIs?:
(Reproductive Tract Infections)

- **Endogenous infections**
- **Iatrogenic infections**
- **Sexually transmitted infections (STIs)**

Glossary - contd

STDs: sexually transmitted diseases

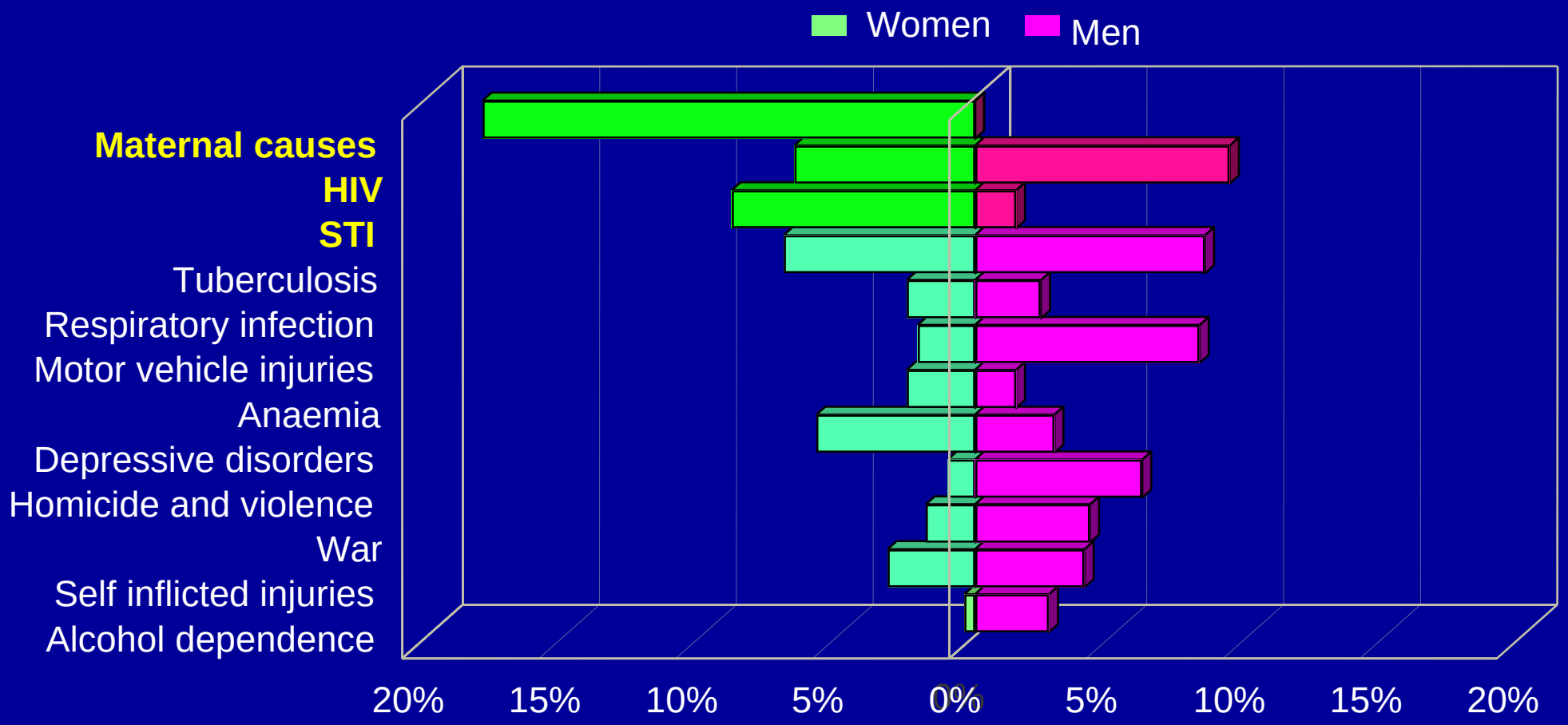
- relevant for clinical management

STIs: sexually transmitted infections

- public health approach; recognises importance of asymptomatic infection

Why are RTIs important in resource poor settings?

Burden of disease in adults 15-44 years in the developing world by sex, 1990

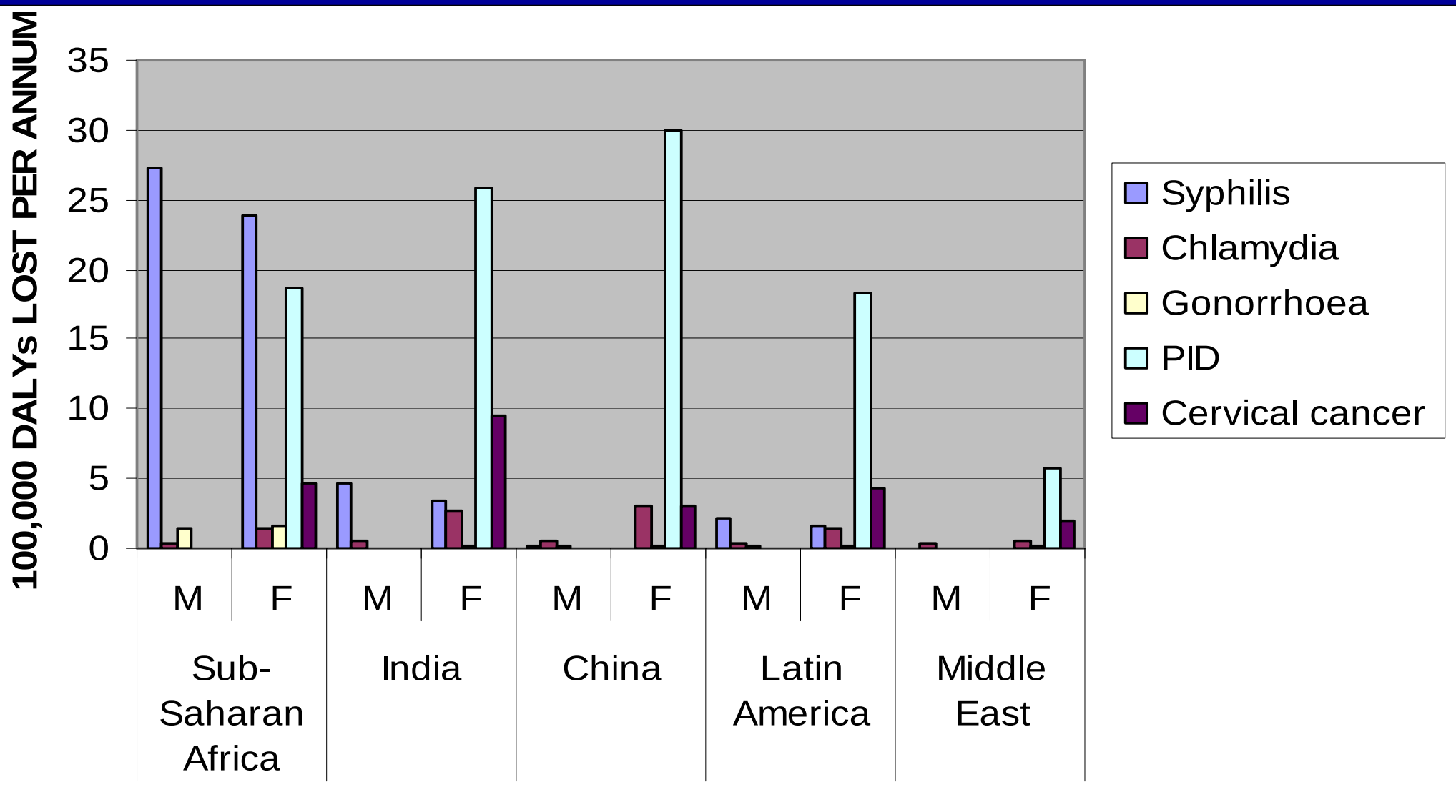


World Development Report 1993

DALYs

- **Disability Adjusted Life Years:**
  - A measure of losses from premature death AND loss of healthy life resulting from disability, weighted for severity
  - Pros and cons?

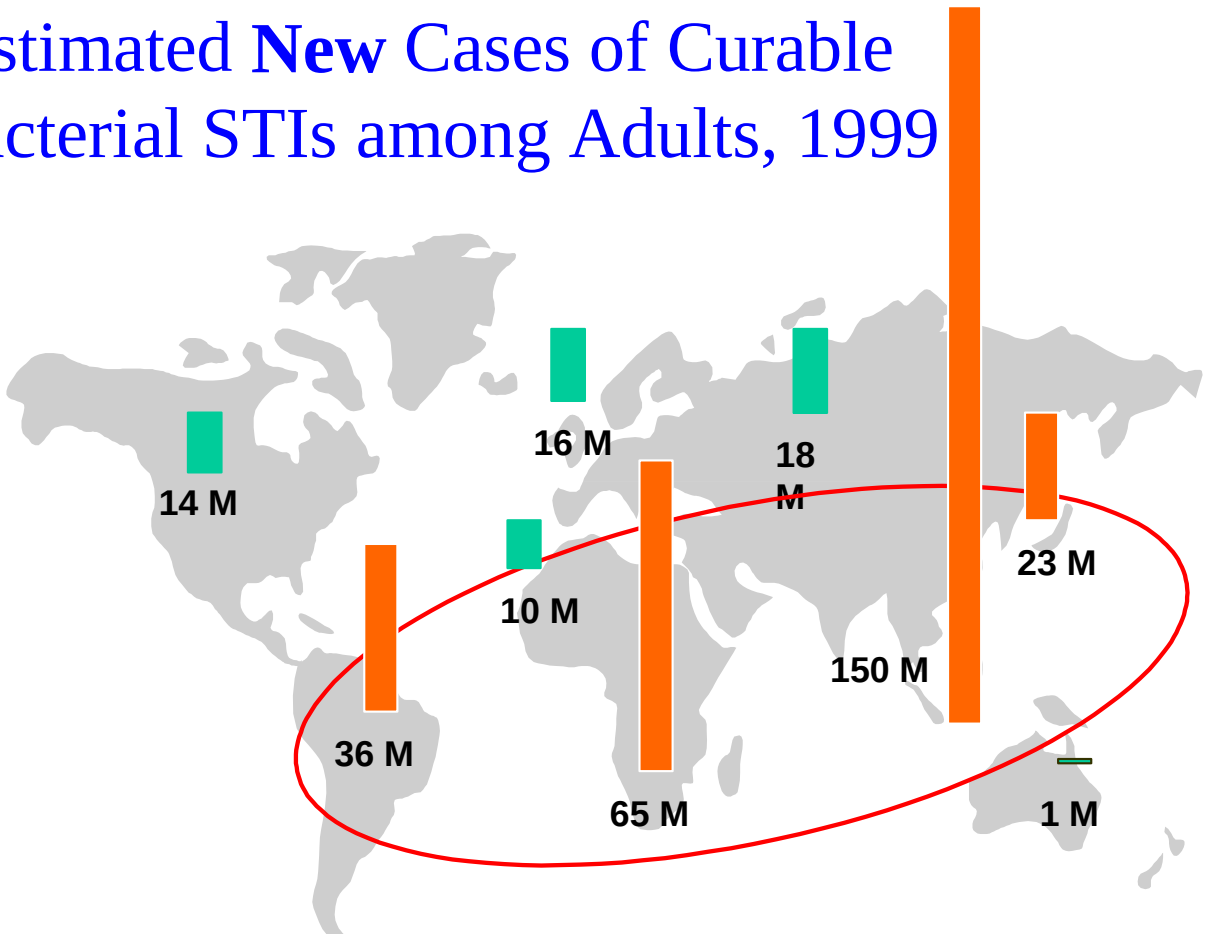
DALY ESTIMATES WORLDWIDE, 1993



Why are RTI DALY levels so high?

- RTIs are widespread
- RTIs have numerous consequences and sequelae

Estimated **New** Cases of Curable Bacterial STIs among Adults, 1999



Incidence bacterial STIs: ~340 million

Estimated new cases of curable STIs (excl. chancroid) among adults, 1999

	New cases (millions)
Syphilis	12
Gonorrhoea	62
Chlamydia	92
Trichomoniasis	174

Source
WHO/HIV_AIDS/2001.02

Estimated prevalence of curable STIs by Region

Region	Population 15-49 (million)	Prevalence per/1000	Annual incidence per/1000
Sub-Saharan Africa	269	119	256
South & South East Asia	955	50	158
Latin America & Caribbean	260	71	146
Eastern Europe & Central Asia	205	29	107
Australia & New Zealand	11	27	91
North America	156	19	90
Western Europe	203	20	84
Northern Africa & Middle East	165	21	61
East Asia & Pacific	815	7	22
TOTAL	**3040**		

Source
WHO/HIV_AIDS/2001.02

What are the complications and sequelae of RTIs?

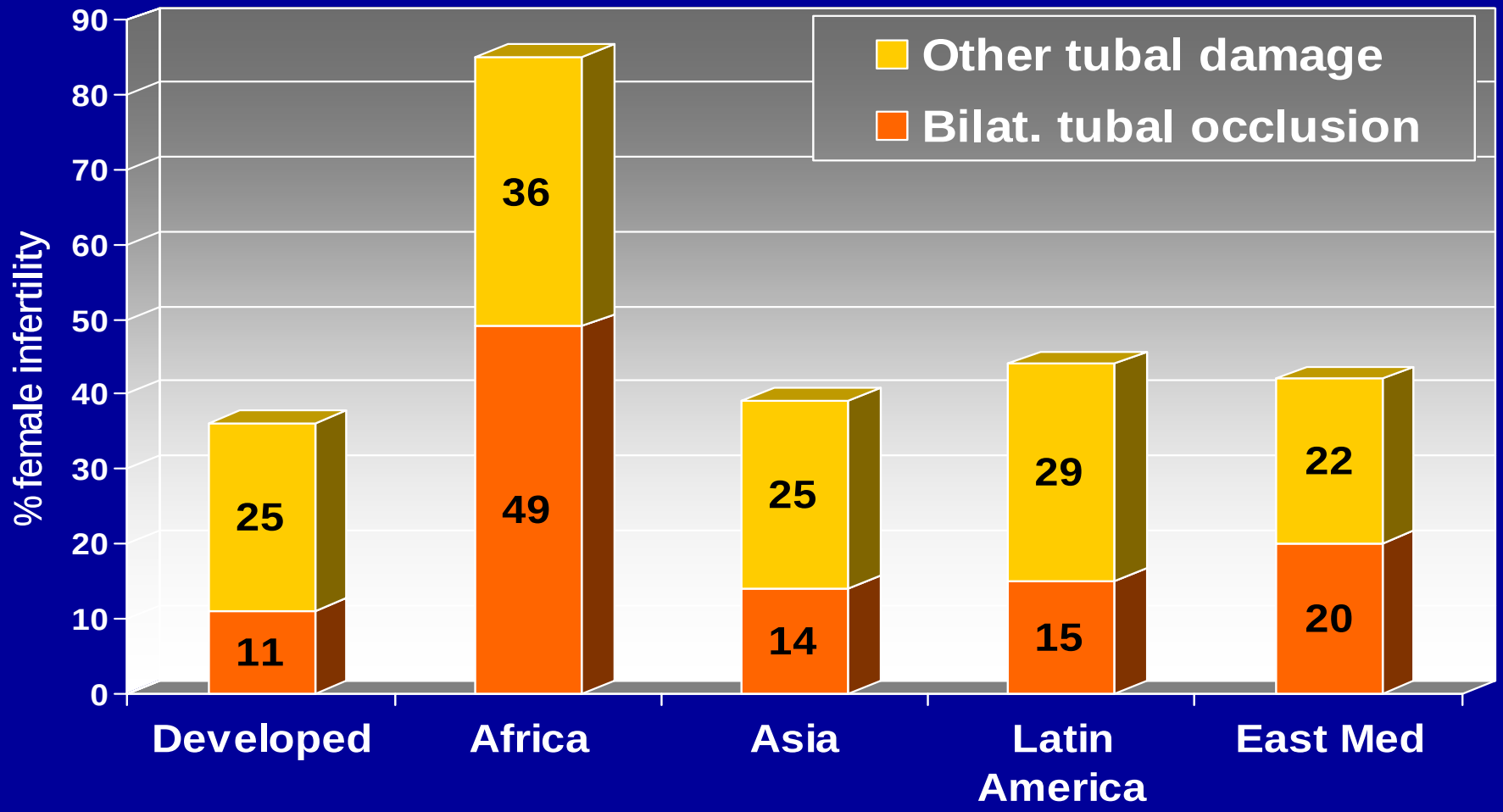
In adults

- Pelvic inflammatory disease (PID)
- Ectopic pregnancy
- Spontaneous abortions
- Post-partum infections
- Infertility (male & female)
- Cancers (cervical, anal, penile, liver)

In children

- Stillbirths
- Prematurity, low birth weight
- Congenital syphilis
- Conjunctivitis and blindness
- Pneumonia

Fallopian tube damage as a cause of female infertility in the world



Cates W *et al*, *Lancet*, 1985

RTI and adverse outcome of pregnancy

RTI	Possible Outcome				
	Spontaneous Abortion	Stillbirth	Premature rupture of membranes	Prematurity & Low birthweight	Congenital or neonatal infection
Bacterial vaginosis			✓	✓	
Syphilis	✓	✓		✓	✓
Gonorrhoea / Chlamydia			✓	✓	✓
Trichomoniasis			✓	✓	
Herpes Simplex Virus				✓	✓
HIV/AIDS		✓	✓	✓	✓

Other outcomes and associations of RTIs

- **Economic:**
  - Individual level
  - Health care system
- **Social**

Economic burden

- Among top 5-10 causes of health care consultations in high prevalence areas
- 2nd cause of healthy life years lost in women after maternal causes

Burden on individuals

A survey of 1100 randomly selected households in and around the city of Udaipur, western India, investigated expenditure on reproductive and child health (RCH) care. RTI services constituted the top expenditure for households is their purchase of all types of RCH care. In other words, families surveyed spent more of their own money on seeking care for symptoms of RTIs than they spent on child health care, and all forms of safe motherhood (pre- and post-natal, obstetric and abortion services).

Social impact of RTIs?

What are the causes of high RTI rates?

- **Endogenous infections:**
  - Certain types of contraceptive use (especially higher dose oral contraceptives)
  - Vaginal douching
  - Pregnancy
  - Use of antibiotics

Iatrogenic infections

- Unsafe (non-sterile) transcervical procedures (IUD and abortions)
- Puerperal infection at time of delivery

STIs

What are the structural variables influencing STI rates?

Urbanisation

Demographics – a young population

Gender inequalities

Adverse sex ratios

Economic inequalities

Inadequate treatment facilities

Evidence for structural variables

- **World Bank study used national aggregate-level, socio-economic data on variables which [assumed] influence risky behavior (outcome = HIV prevalence).**

- **Study carried out across 50 countries looking at both high and low risk populations**

Results of World Bank Study

Eight variables explain 50-66% of cross-country variation in infection rates:

- GNP per capita
- Foreign-born per cent
- Per cent Muslim
- Gini Index of Income Inequality
- Male-female literacy gap
- Male-female sex ratio (20-39 age group)
- Military forces as per cent of urban population
- Age of epidemic

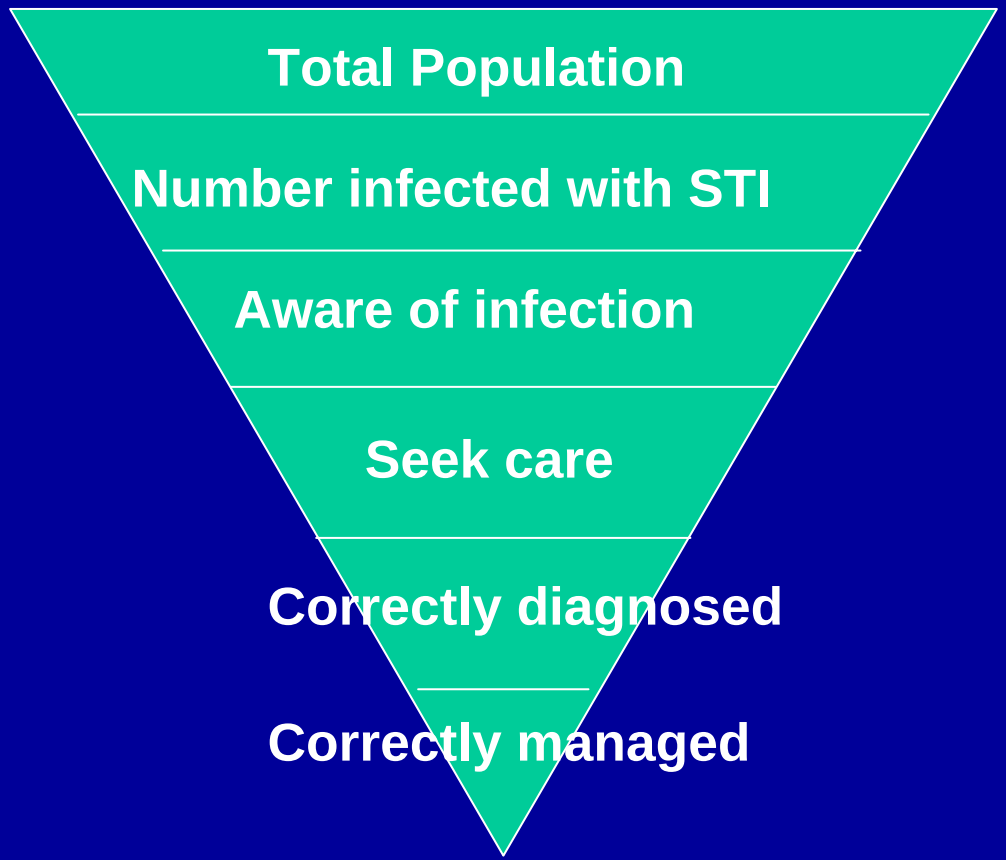
How to control RTIs?

- **Endogenous infections**
  - promoting rational use of antibiotics and lower dose oral contraceptives;
  - reduce prevalence of vaginal douching and intravaginal agents;
  - promotion of appropriate genital hygiene;
  - careful monitoring and screening of pregnant women with complaints of abnormal vaginal discharge

Control of iatrogenic infections

- encourage care seeking from trained and qualified health workers
- training health workers in aseptic techniques for transcervical procedures
- screening for lower tract infections prior to transcervical procedures
- presumptive treatment for cervical infections
- advising client to return immediately if there are abnormal or unexpected symptoms following any procedure

A public health perspective on STI prevention and care



Vaccination

Mass treatment

Primary prevention efforts

Screening

Improve HCSB

Improve diagnosis

Improve case management

Improve partner management

Challenges: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पठियार (सा० नगरोटा बगवां)

Challenges