

World epidemiology of Sexually Transmitted Infections

Dr. Nathalie Broutet

Department of Reproductive Health and Research

WHO, Geneva

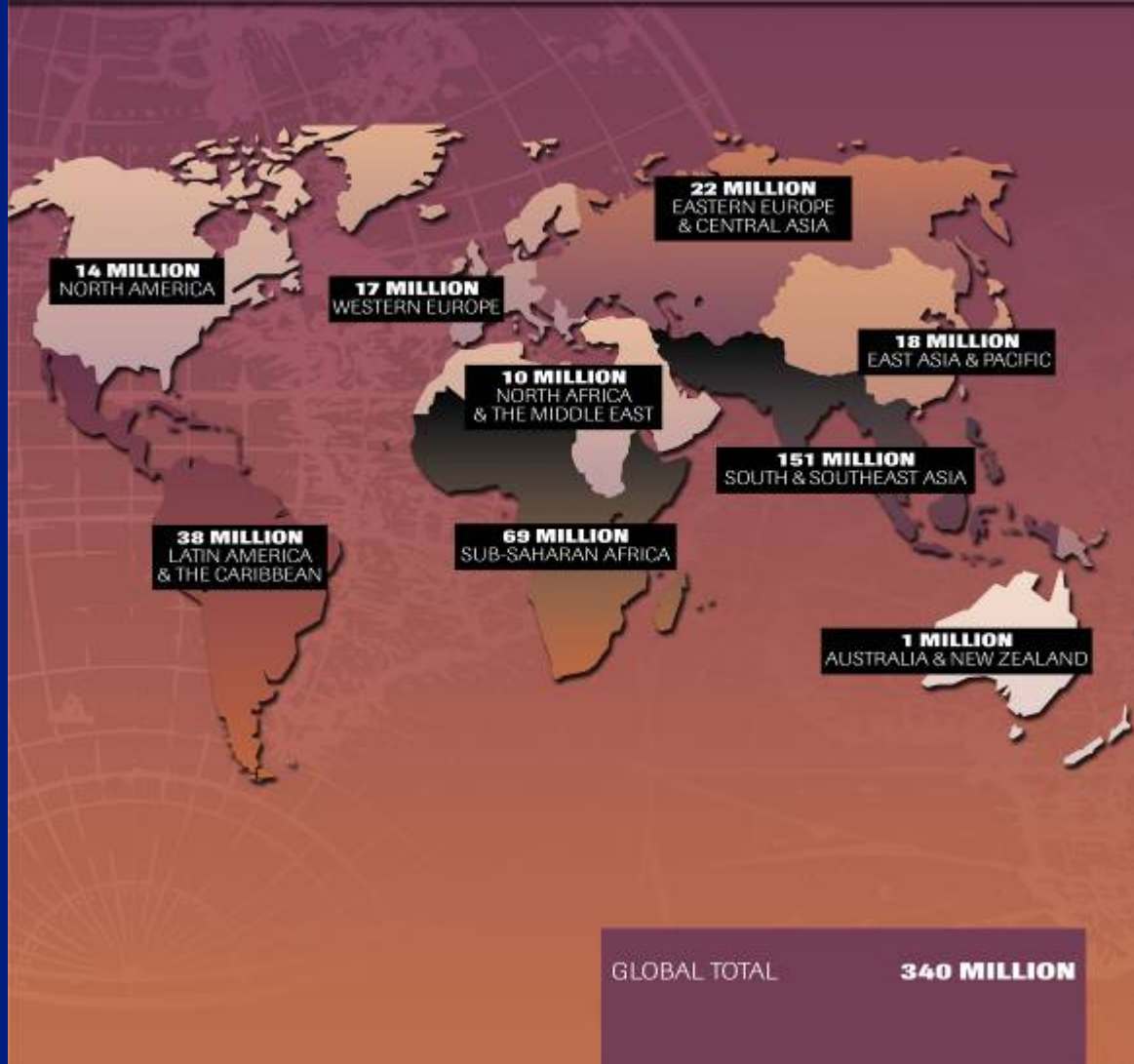
Training Course in Reproductive Health/
Sexual Health Research

March 2006



STIs: a devastating global epidemic

FIGURE 2. ESTIMATED NEW CASES OF CURABLE STI AMONG ADULTS, 1999



... very,
very,
old!

STIs: an individual and public health challenge

- 340 million cases per year
- Enhance sexual transmission of HIV
- Cause severe complications
- Women and children most severely affected
- High Socio-Economic impact
- No adequate response at all levels



Sexually Transmitted Infections

- **Caused by more than 20 micro-organisms (bacteria or virus)**
- **Most common manifestations**
 - Urethral discharge
 - Genital ulcer
 - Vaginal discharge
 - Adenopathy



STI : complications and sequelae

- Pelvic Inflammatory Disease
- Ectopic pregnancy
- Sterility (men and women)
- Perinatal infections
- Stillbirth – adverse outcomes of pregnancy
- Genito-anal cancers
- AIDS
- Death

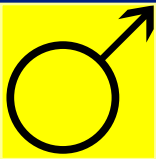
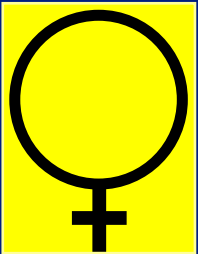
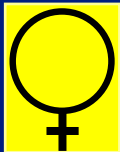
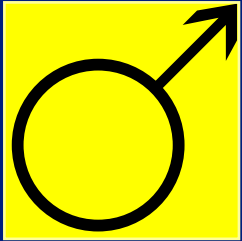


STI : social and demographic determinants

- **Socio-economical context (behaviour, health system, political changes, etc.)**
- **Men-women relationships (migrations, working context, couples separated during a long period, etc.)**
- **Age structure / distribution of the population**
- **Population density**



Sexually Transmitted Infections



Symptomatic cases

Asymptomatic cases



WHO Estimation of STIs

- **1999 estimations**

- The data base has been updated to cover the period 1995-2000 (the 1995 data base included studies from 1980 to 1994)
- Includes studies published or no, reports, thesis, etc.
- Established per region, infections, sex, age groups and urban/rural. Published per Region.

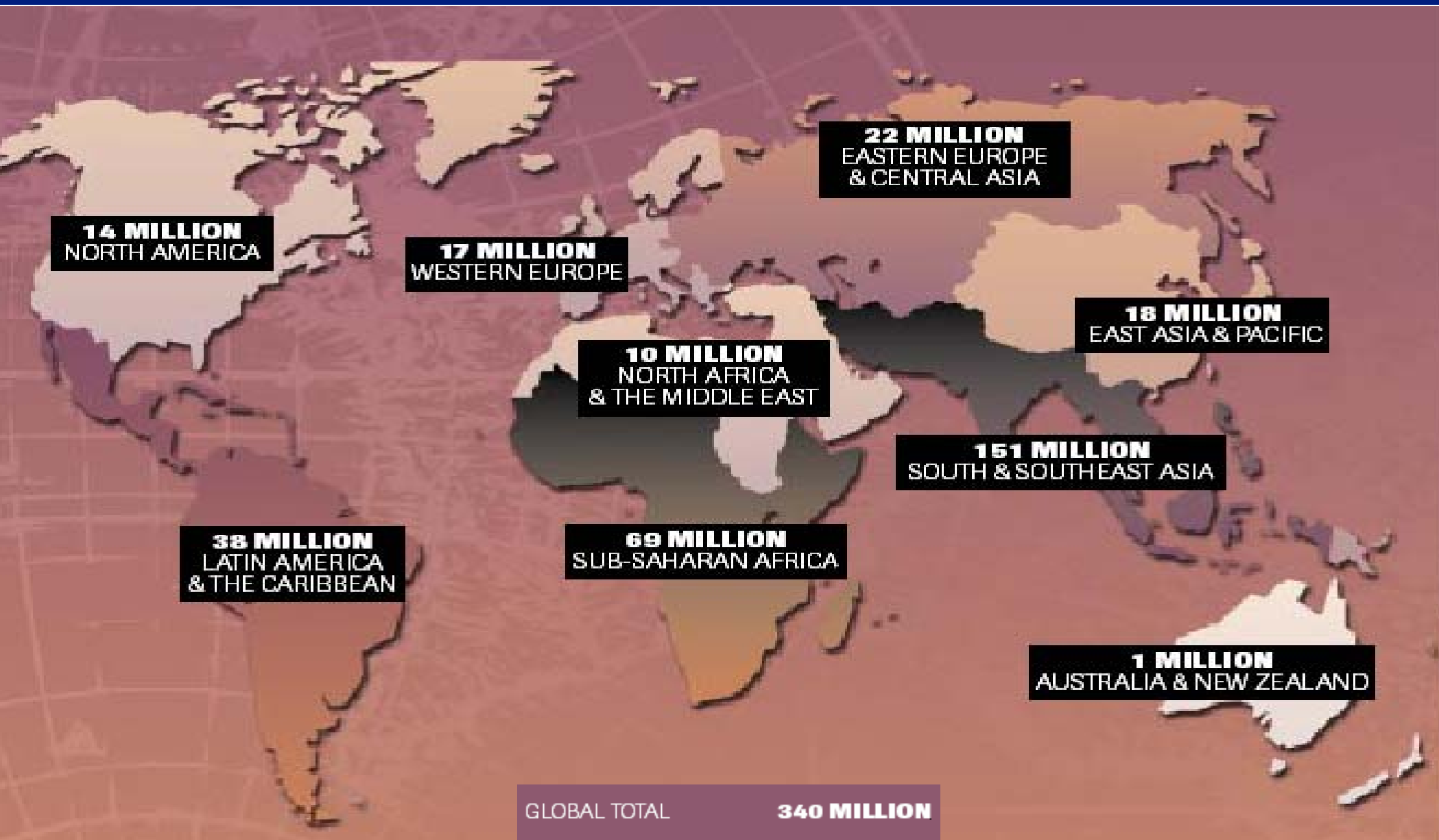
- **2004 estimations (under process)**

- The data base covers the period 2001-2004
- Same principles as previously
- Includes HSV2 and HPV

The reliability of the estimations depends upon the quality of the data sent by members States



Global estimates of new cases of STI (1999)



Data on STIs

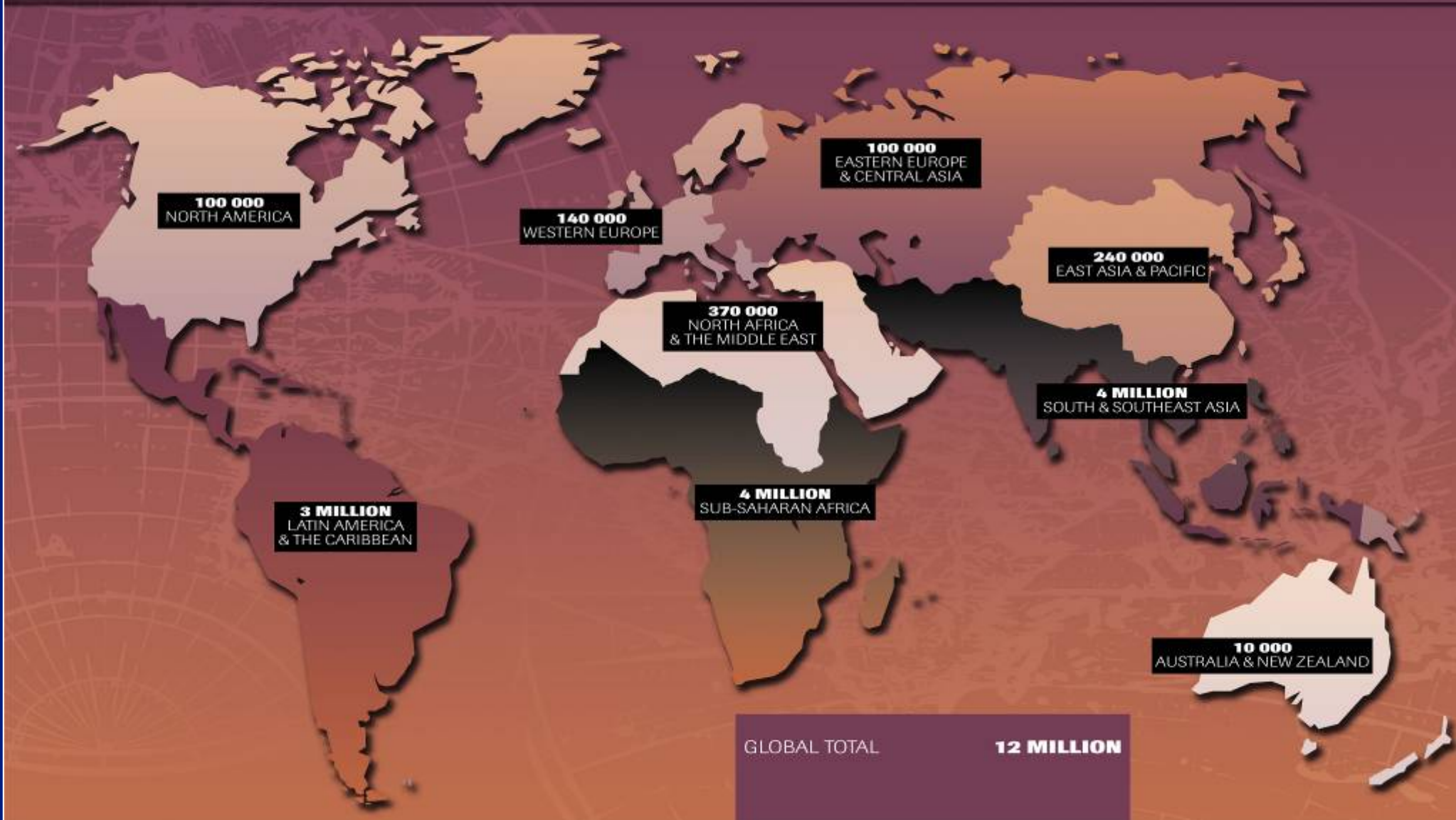
STI prevalence and incidence can present huge variations

- Within country and between countries from a same Region
- Between urban and rural population
- Within similar population group (majority of seroprevalence studies are performed in pregnant women or commercial sex workers)



Estimated new cases of syphilis in adults in 1999

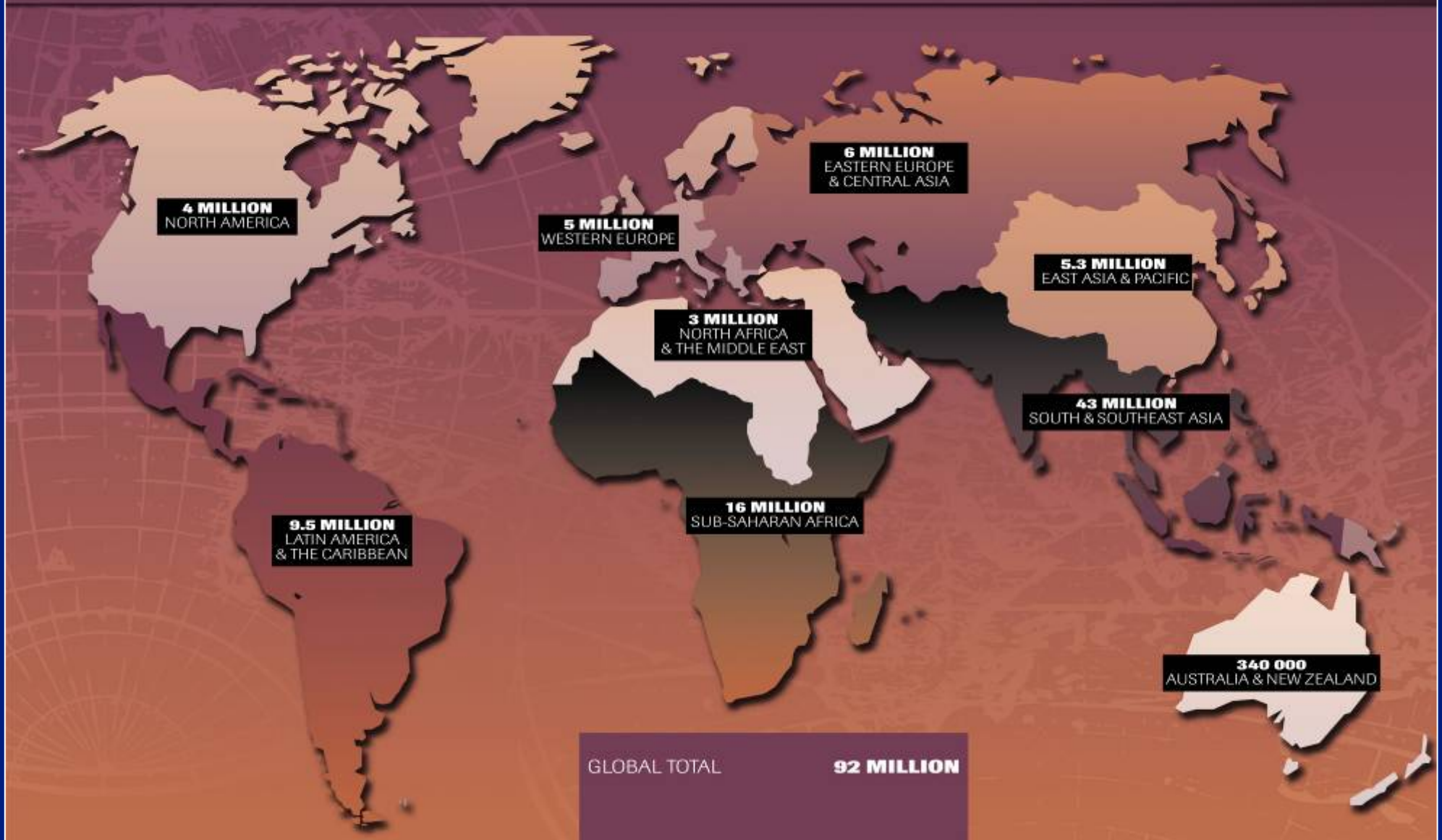
FIGURE 9. ESTIMATED NEW CASES OF SYPHILIS AMONG ADULTS, 1999



Estimated new cases of chlamydiae in adults in 1999

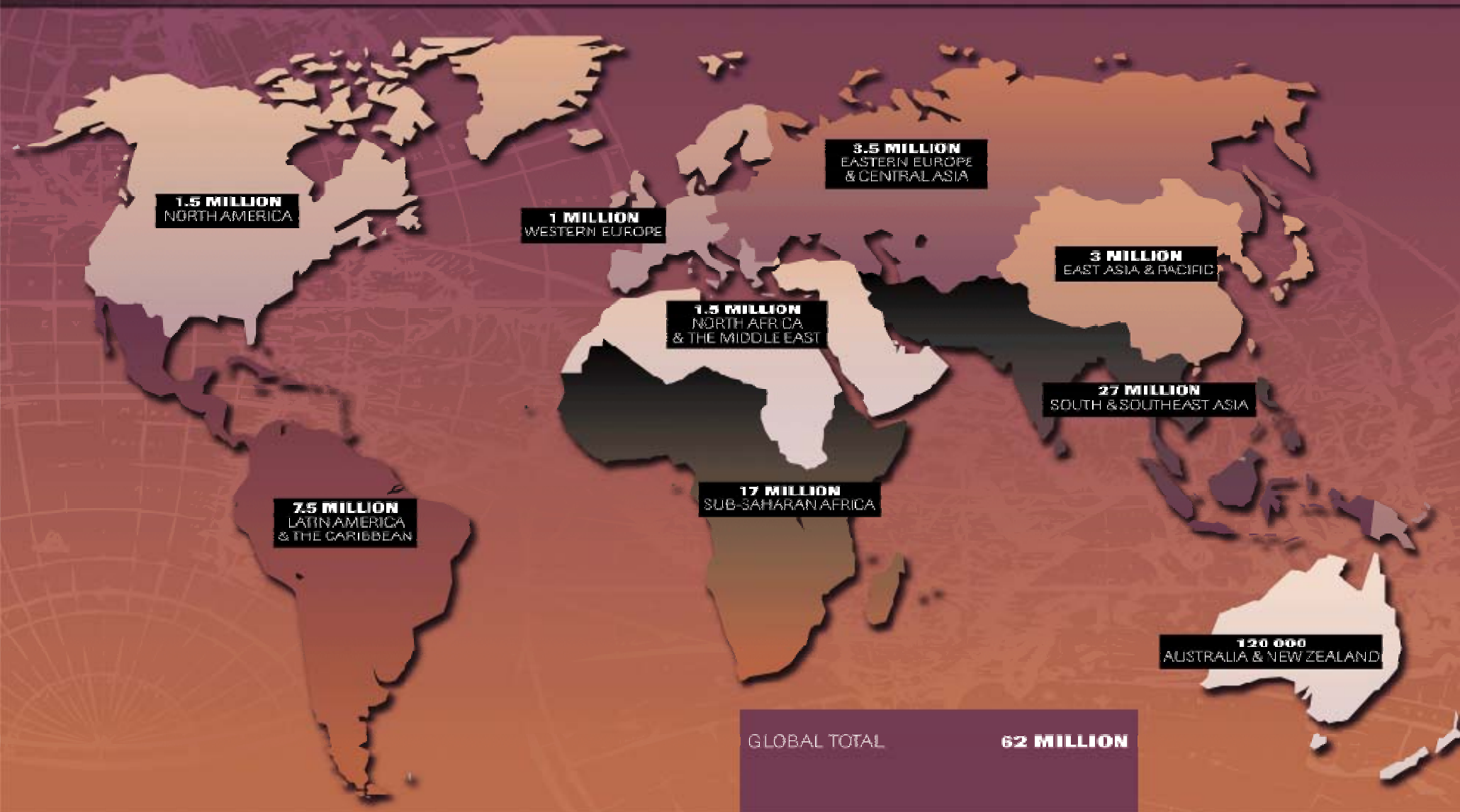


FIGURE 4. ESTIMATED NEW CASES OF CHLAMYDIAL INFECTIONS AMONG ADULTS, 1999




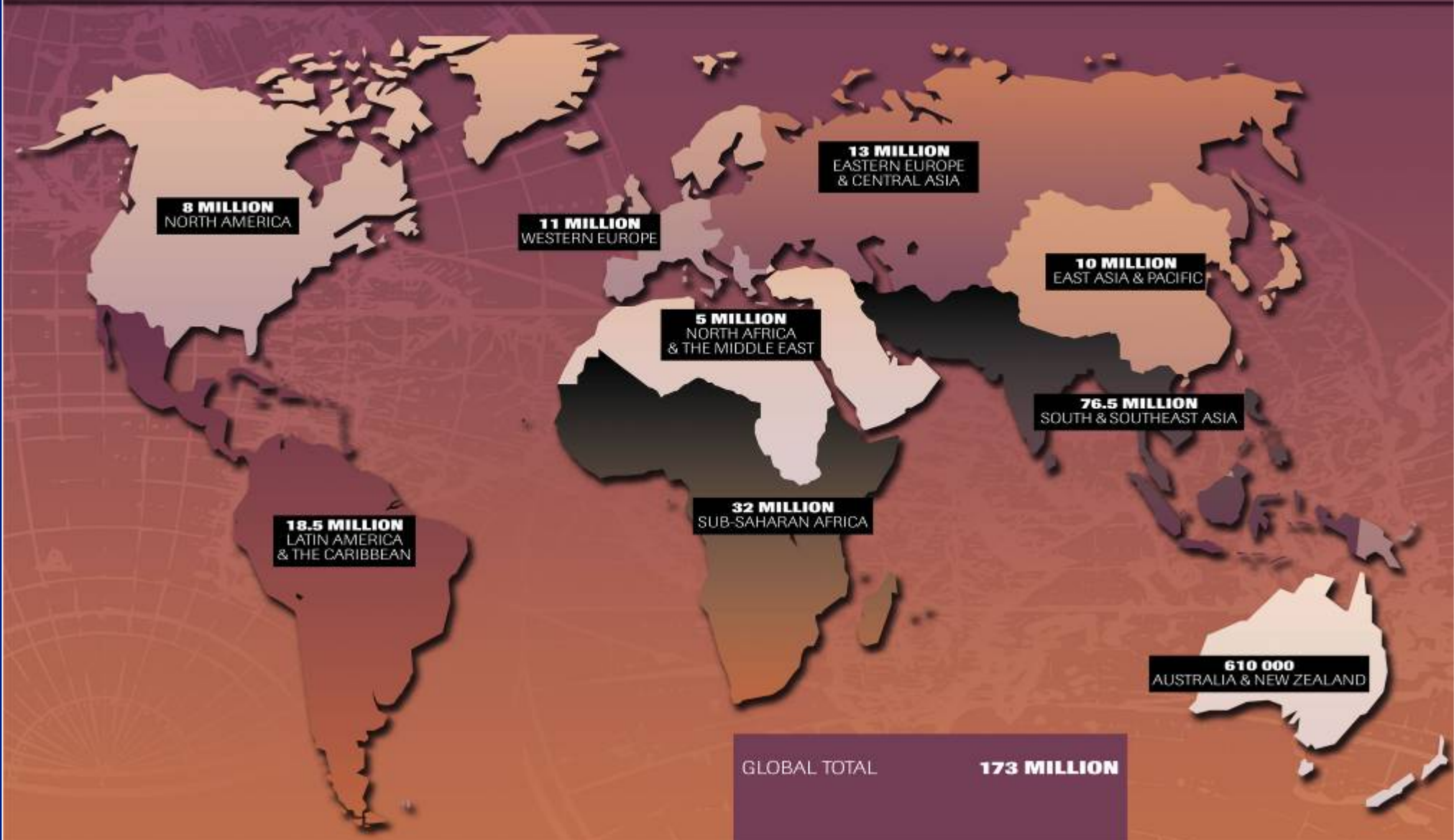
Estimated new cases of gonorrhoea in adults in 1999

FIGURE 7. ESTIMATED NEW CASES OF GONORRHOEA AMONG ADULTS, 1999



Estimated new cases of trichomoniasis in adults in 1999

FIGURE 13. ESTIMATED NEW CASES OF TRICHOMONIASIS AMONG ADULTS, 1999 

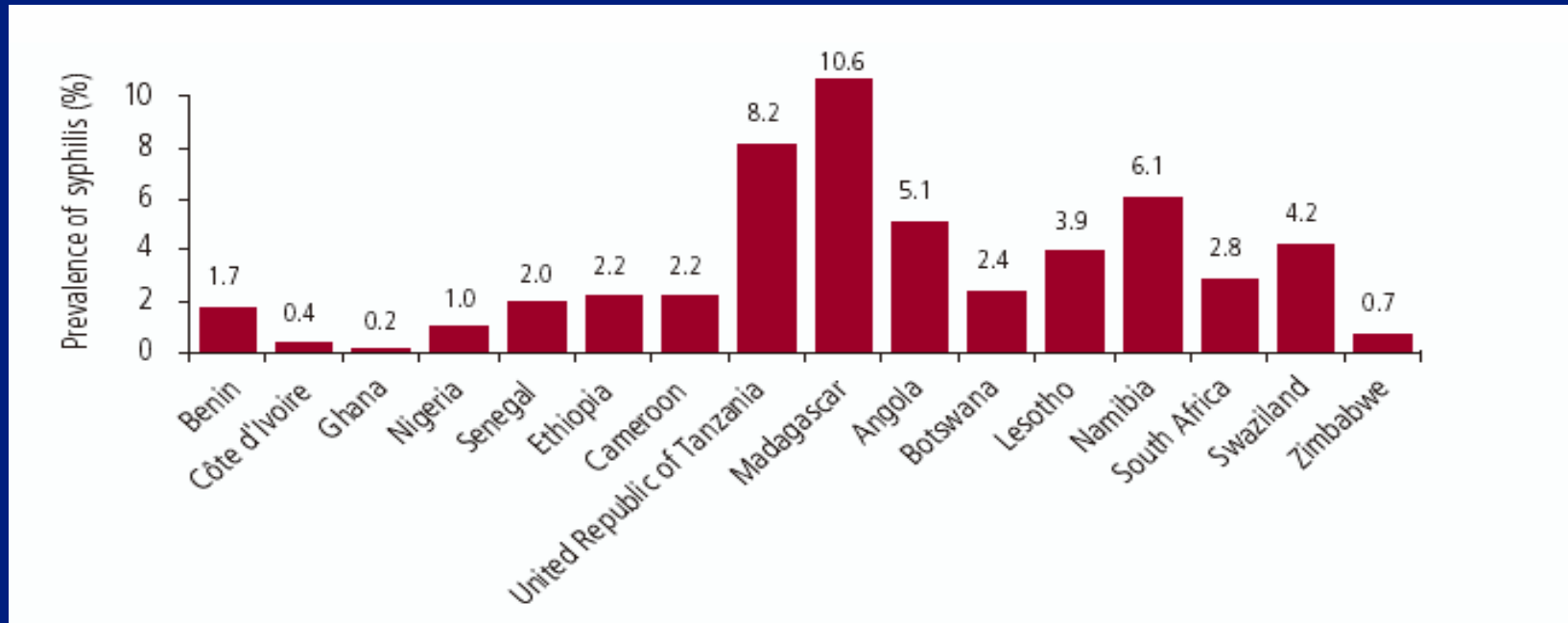


Epidemiology of STIs

Sub-Saharan Africa



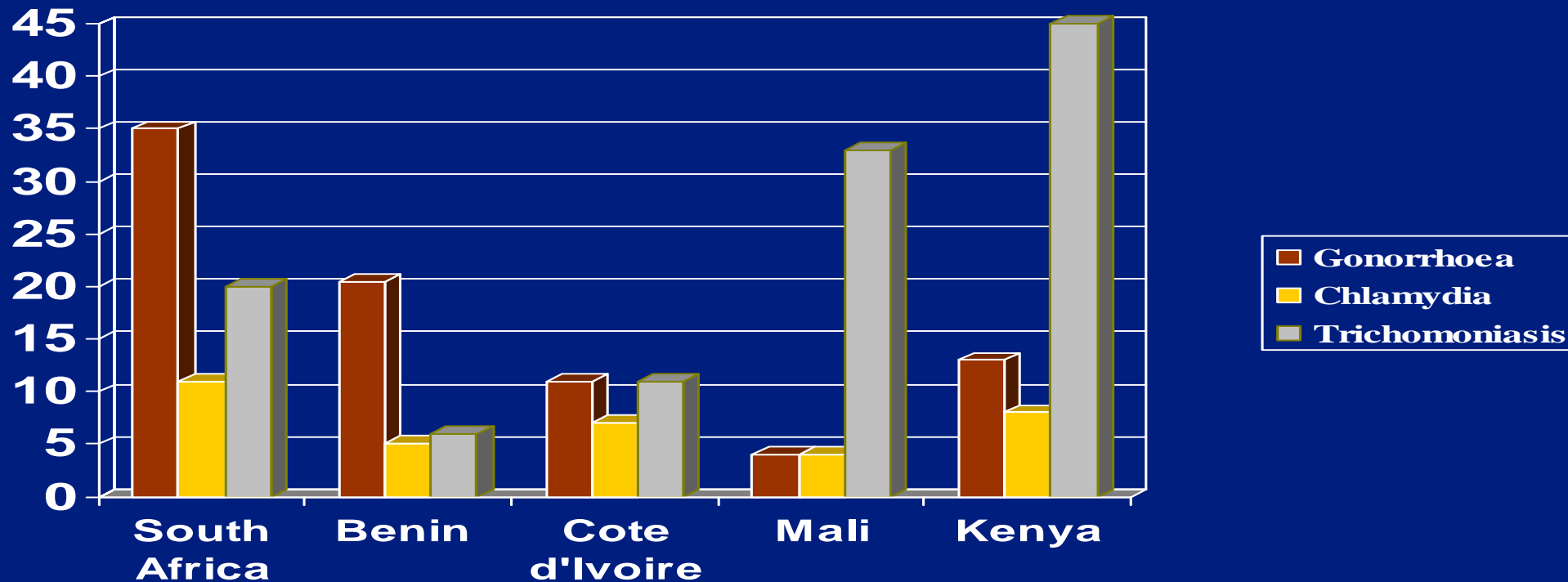
Prevalence of syphilis among women attending antenatal care clinics at selected sites, by country, 2000 - 2002



Source: HIV/AIDS Epidemiological Surveillance Update for the WHO African Region: 2002



Prevalence of Gonorrhoea, Chlamydia and Trichomoniasis among FSW, at selected sites, by country, 1997-2000



Epidemiology of STIs

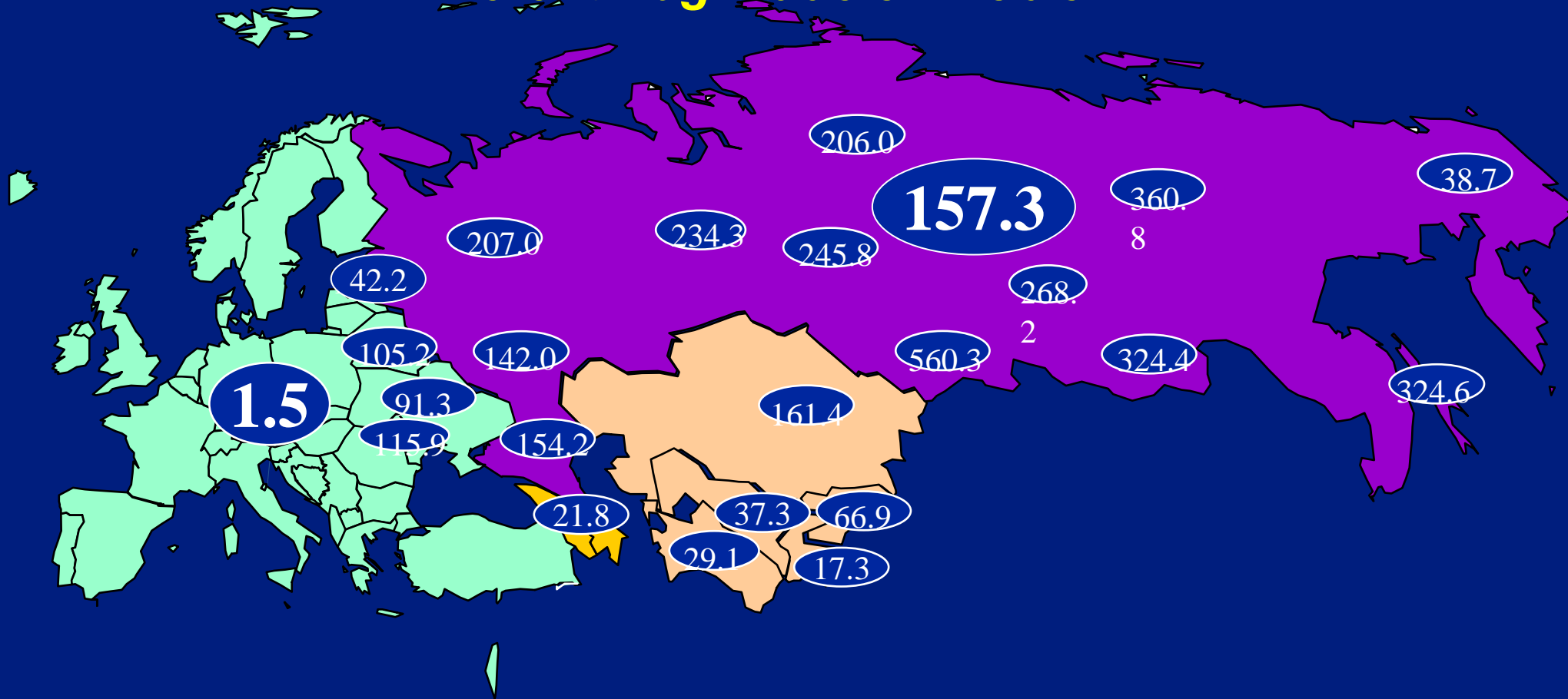
Europe



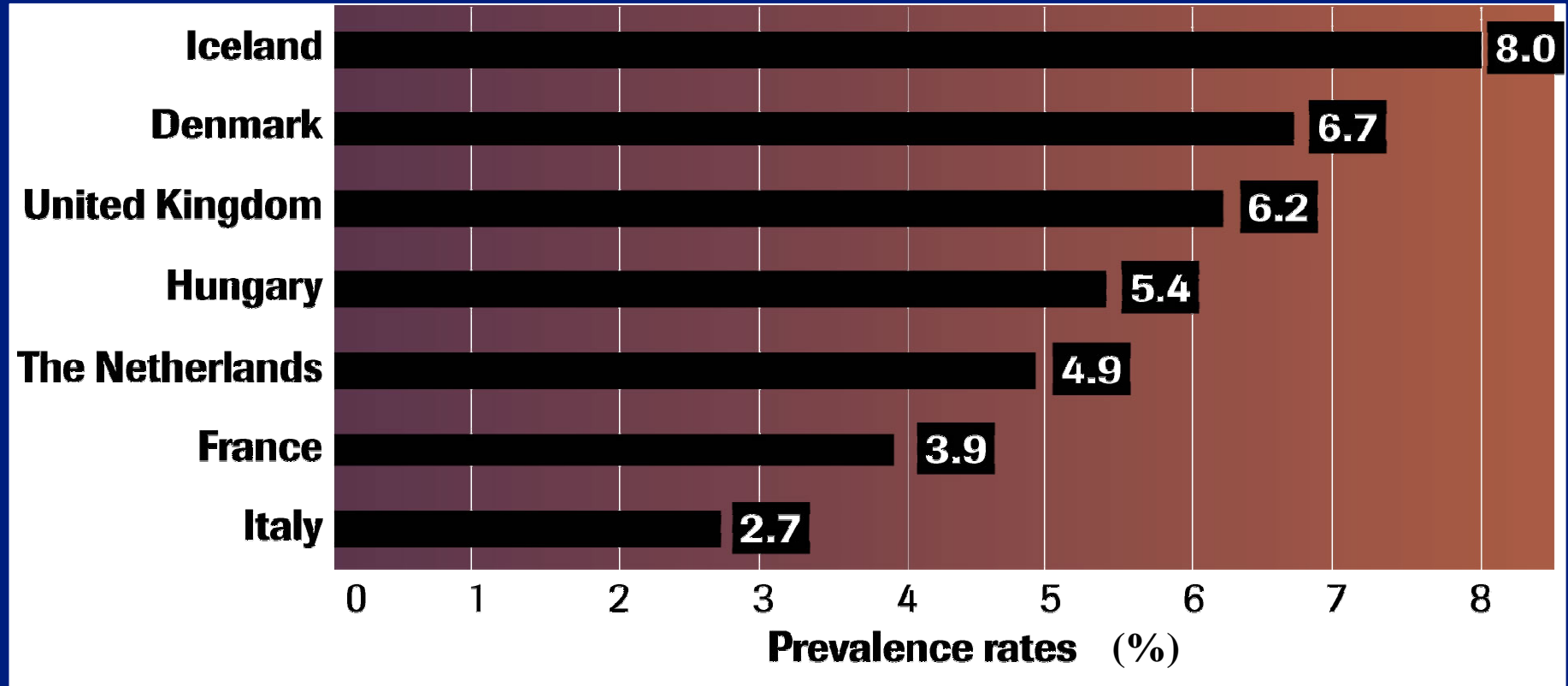
Incidence of syphilis in the WHO EURO Region 1999/2000

Rate per 100,000 population

Different Magnitude of Problem



Chlamydia prevalence rates (%) amongst asymptomatic women in European countries, 1990s



STI Epidemiology

East Asia and Western Pacific



STI trends and risks in Eastern Mediterranean and North Africa, 2003

- 270,000 cases of STI reported in Morocco
- Around 74 000 sexually transmitted Infections reported in 2002 from 5 countries of the Region
- Most reported STIs are Trichomoniasis, gonorrhoea and syphilis.
- Observed increased rate of syphilis among pregnant women in Bahrain from 0.25% in 2001 to 0.35% in 2002
- In Pakistan 78% of women are reported to have vaginal pathogenic discharge, 29.4% had pelvic tenderness, 17% had cervical ulcers, 4.5% had abdominal tenderness and 2.9% had vesicles on the genitalia

Need to measure the burden of STI and trends and implement effective STI syndromic case management

Source: Abu Dhabi Meeting, July 2003



Eastern Mediterranean and North Africa: Surveillance for HIV/AIDS and STD, improvement needed

- **Reported AIDS data persistently incomplete**
- **Transmission data have been missing from 10% to 14% of total reports in the past several years.**
- **Mode of transmission is reported unknown in 20% of reports received from the easternmost countries of the Region, compared to more than 50% from the countries of the GCC**
- **Lack of active surveys**

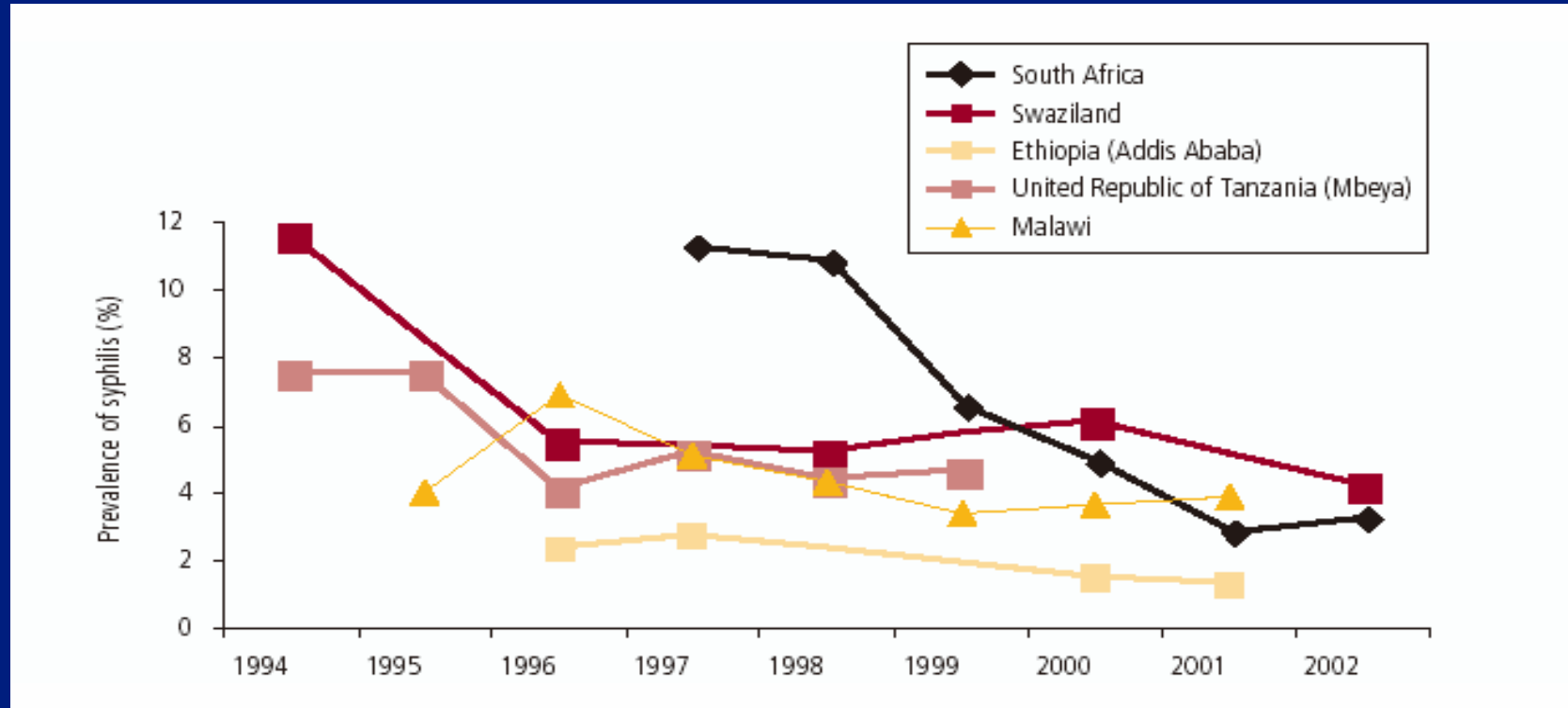
Source: Abu Dhabi Meeting, July 2003



Trends in STIs



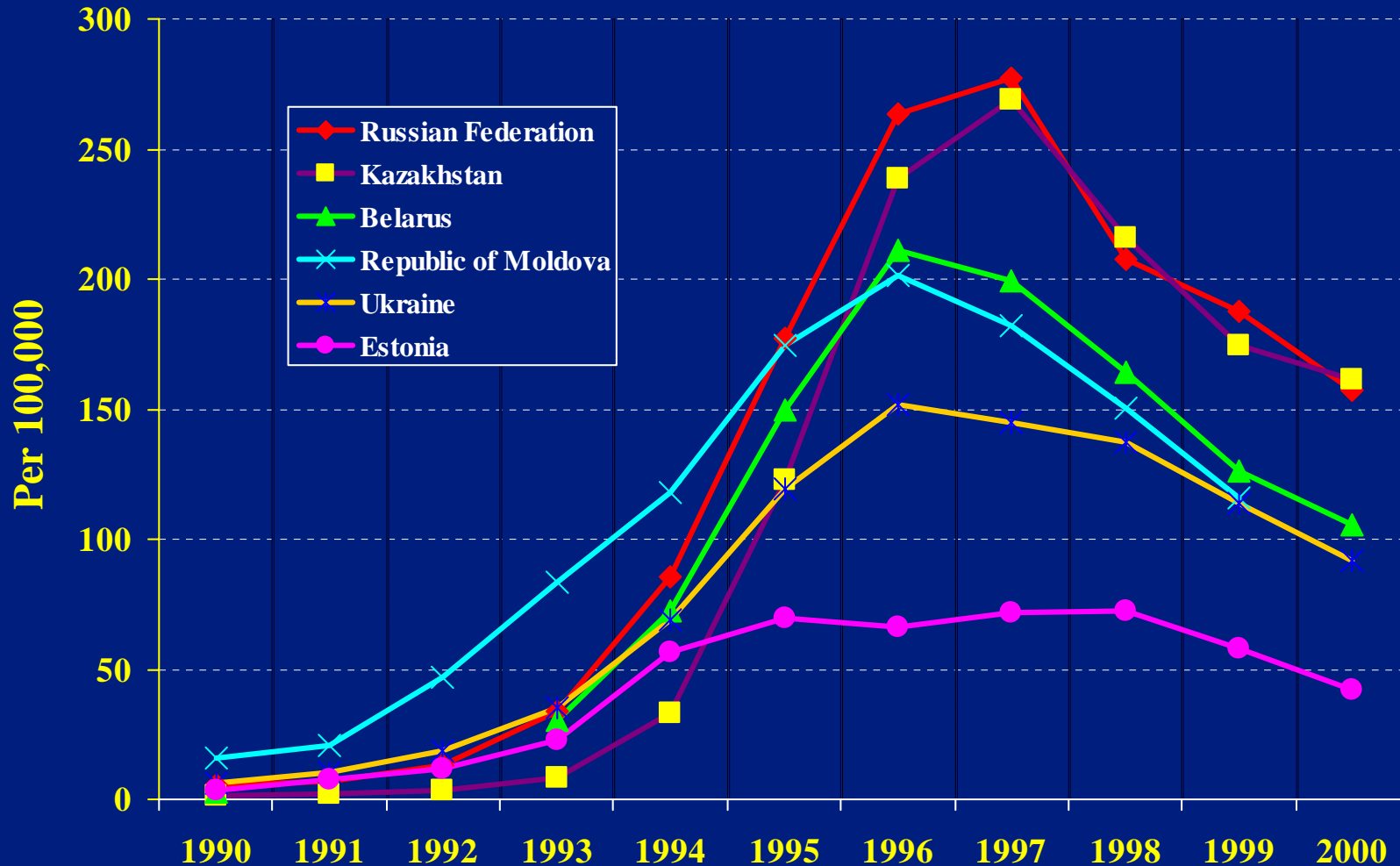
Trends in prevalence of syphilis among attending antenatal care clinics at selected sites, by country, 1994 - 2002



Source: HIV/AIDS Epidemiological Surveillance Update for the WHO African Region: 2002



Incidence of syphilis in Belarus, Estonia, Kazakhstan, Moldova, Russia, Ukraine, 1990-2000 (rate per 100 000)

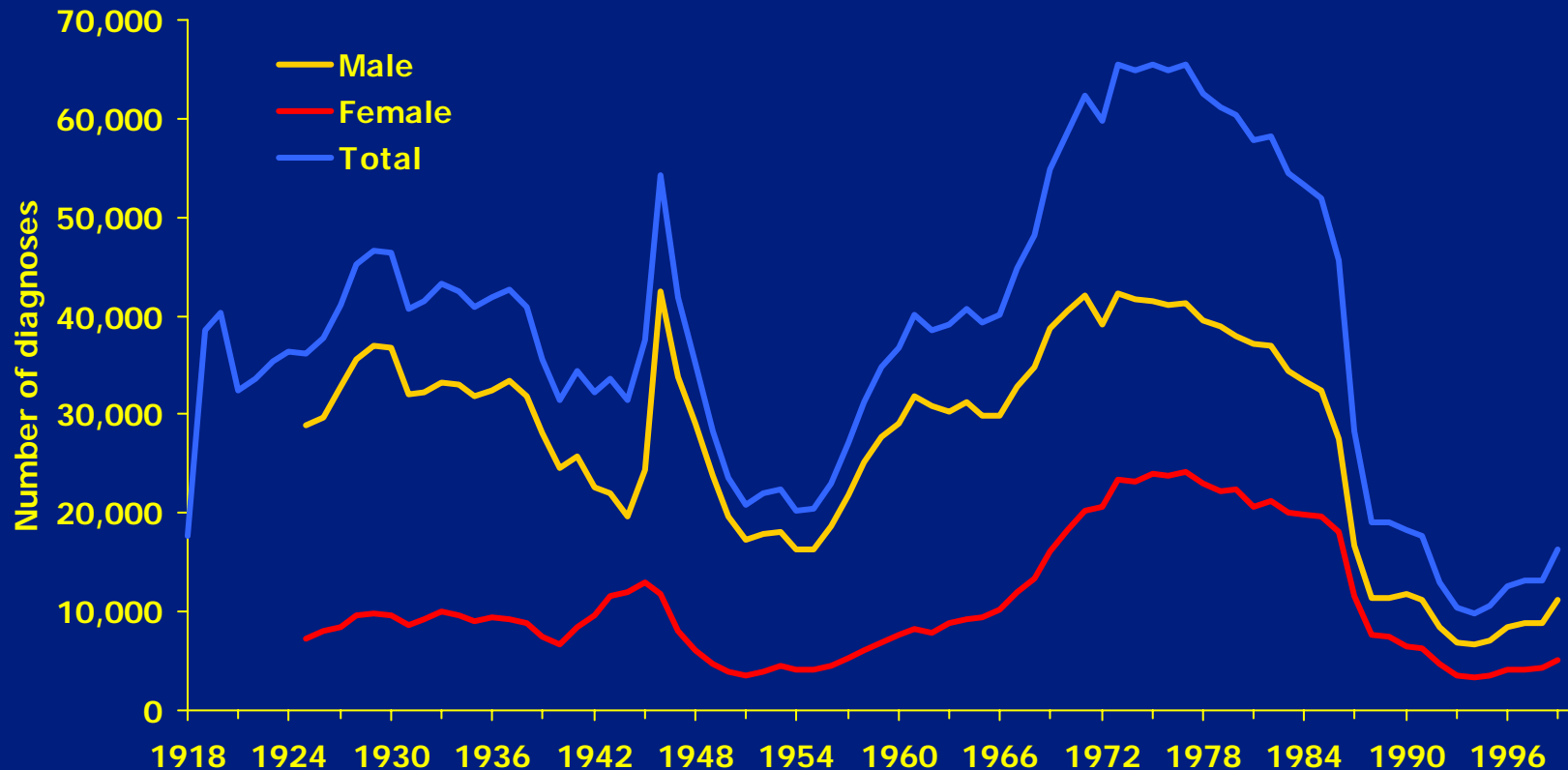


Gonorrhea and syphilis in Italy

Mandatory notifications, 1955-1999



Diagnoses of gonorrhoea seen in GUM clinics England, Scotland and Wales*, 1918 to 1999



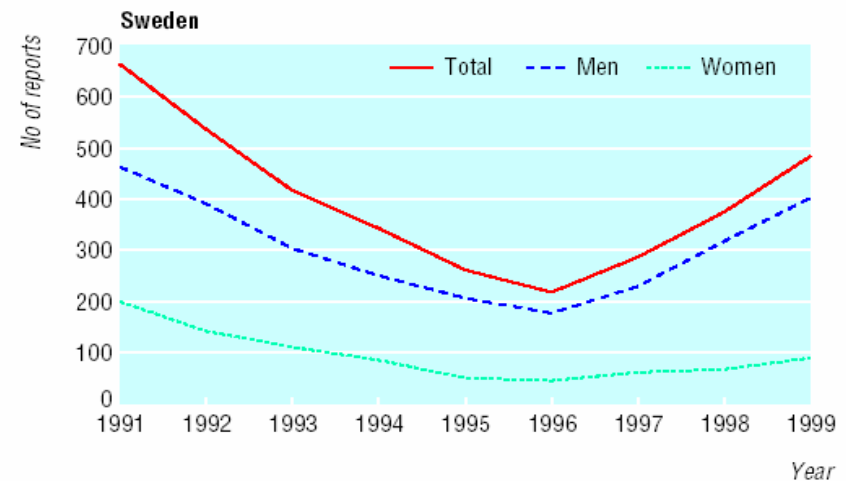
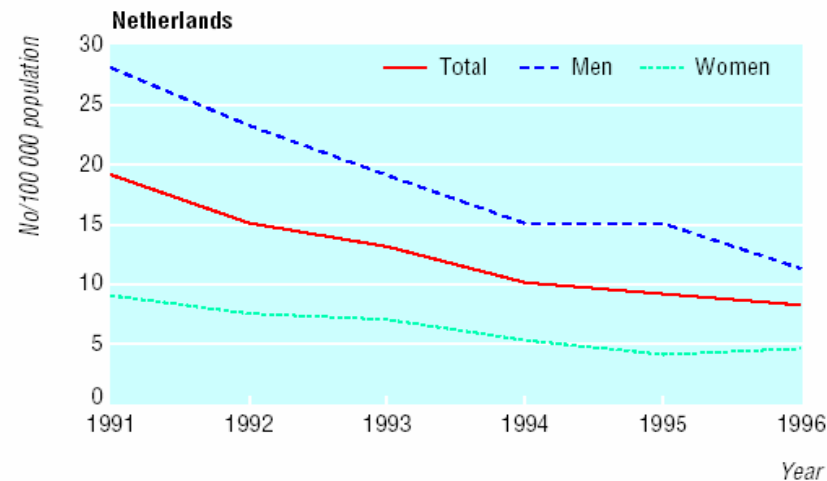
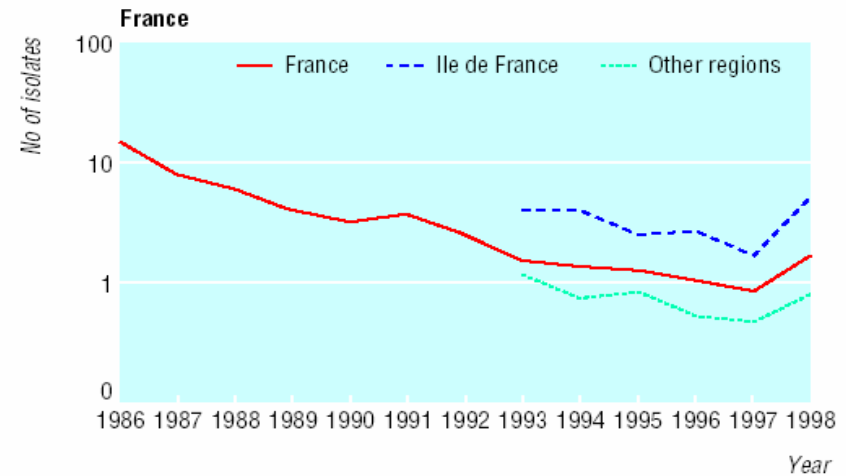
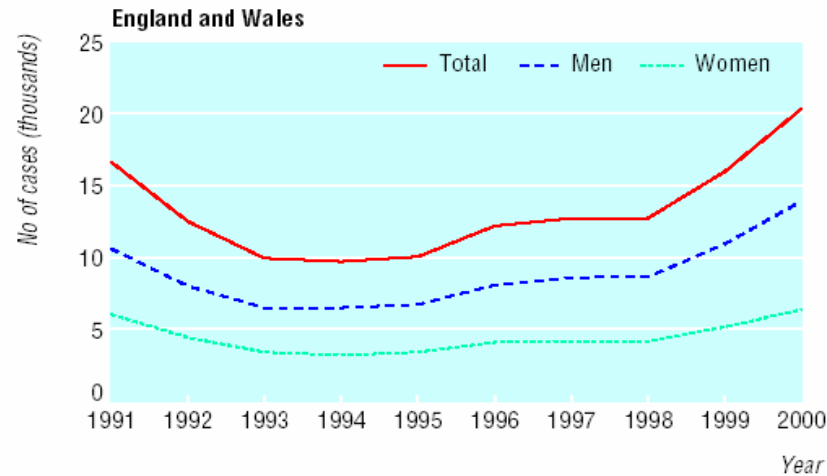
*As Northern Ireland data from the time period 1918 to 1999 are largely incomplete they have been excluded from this figure

As data from Scotland for 2000 are not yet available, 2000 data have been excluded from this graph

Source: PHLS, UK



Trends in gonorrhoea in England and Wales, France, the Netherlands, and Sweden



SOURCES:

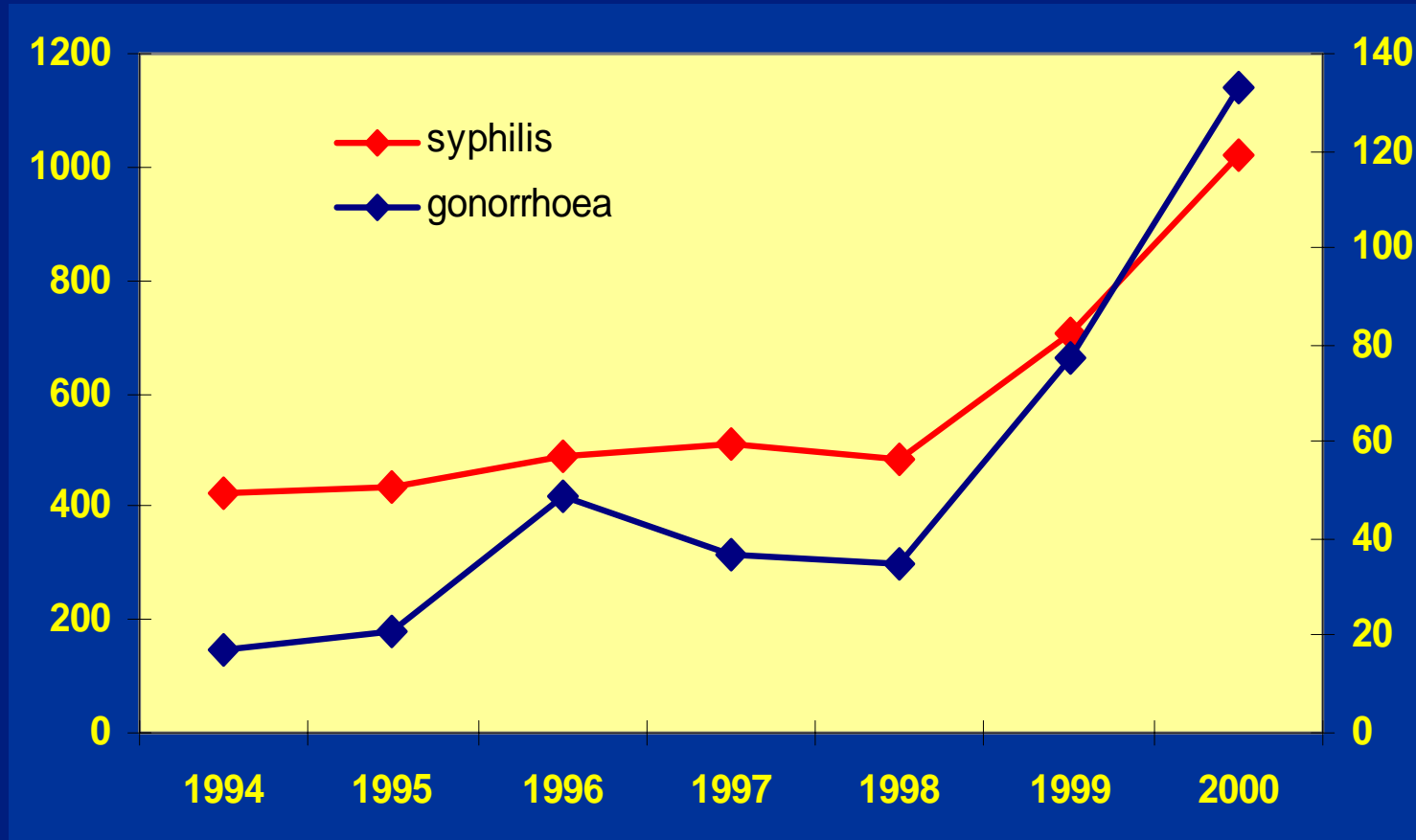
England and Wales: cases of gonorrhoea seen in GUM clinics, 1991-2000; France: trends in gonococcal infections in RENAGO laboratories, 1991-9

Netherlands: notified cases of gonorrhoea per 100 000 inhabitants, 1976; Sweden: number of clinically reported *Neisseria gonorrhoeae* cases, 1991-99 (adapted from Smittskyddsinstitutet (Swedish Institute for Infectious Disease Control). *Smittsamma Sjukdomar 1999*. Stockholm: Smittskyddsinstitutet, 2000)

Source: Nicoll & Hamers, *BMJ* 2002;324:1324-7



Netherlands: Gonorrhoea and syphilis, STD clinic Amsterdam (annual reports, GG&GD Amsterdam).

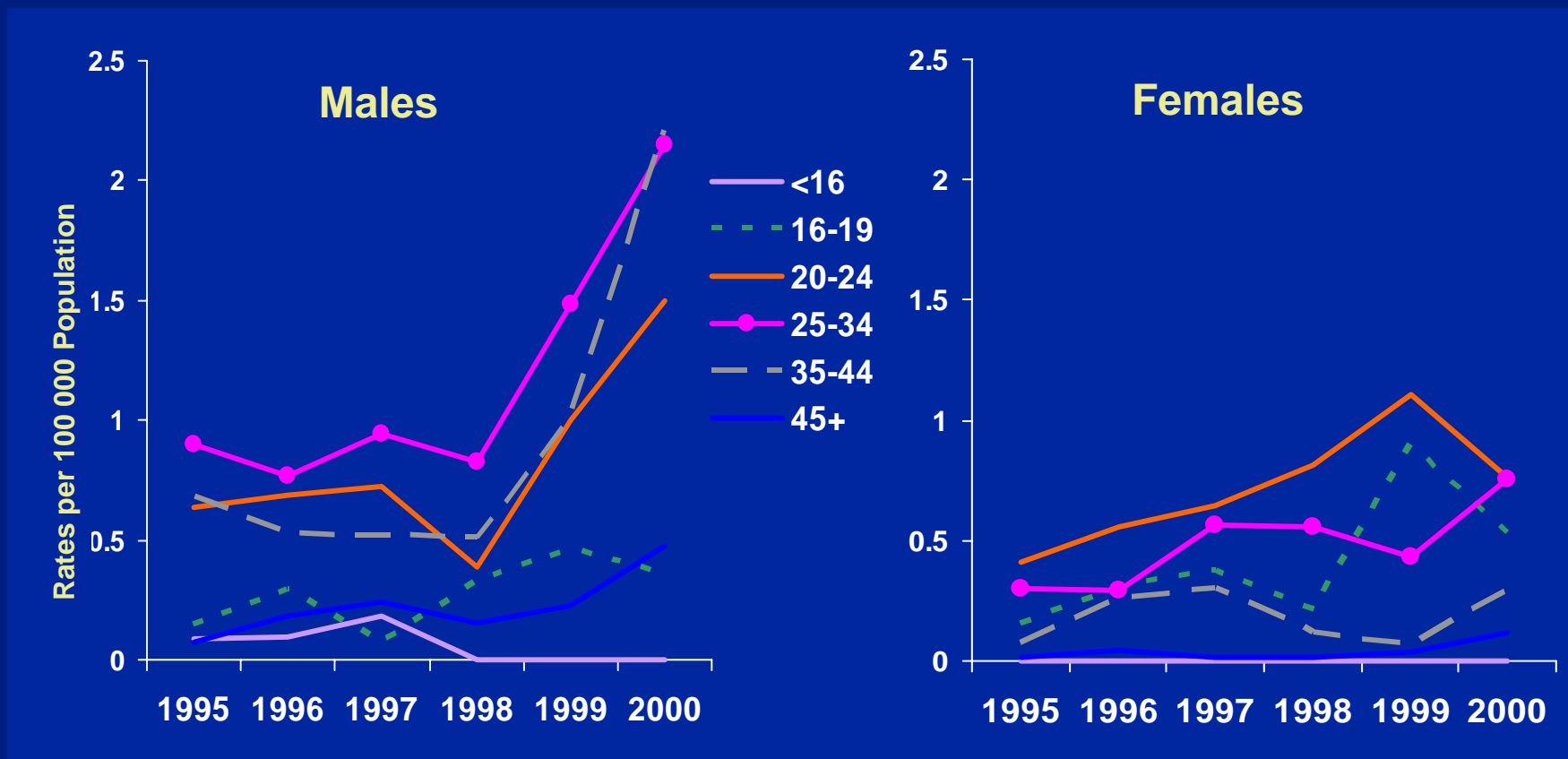


GO: 1999: + 46%; MSM 59% heter 16% fem 66%; 2000: + 45%; 33% 56% 72%

Lues: 1999: + 120%; MSM 333% heter 54% fem 40%; 2000: + 63% (MSM 136%)



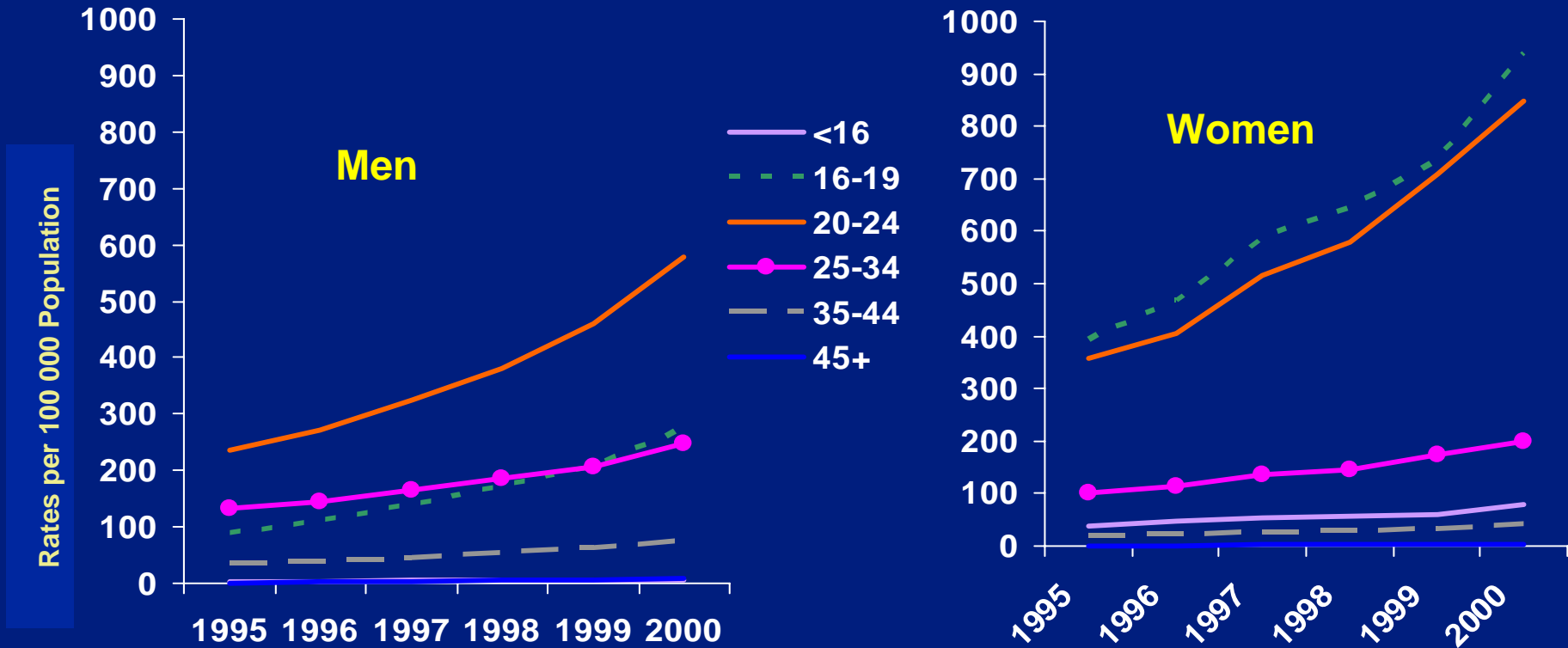
Diagnoses of infectious syphilis (primary and secondary) in GUM clinics by sex and age group, UK: 1995-2000*



*Data are currently unavailable from Scotland for 2000 and from N.Ireland for 1996 & 1997



Diagnoses of uncomplicated genital chlamydial infection in GUM clinics by sex and age group, UK: 1995-2000*



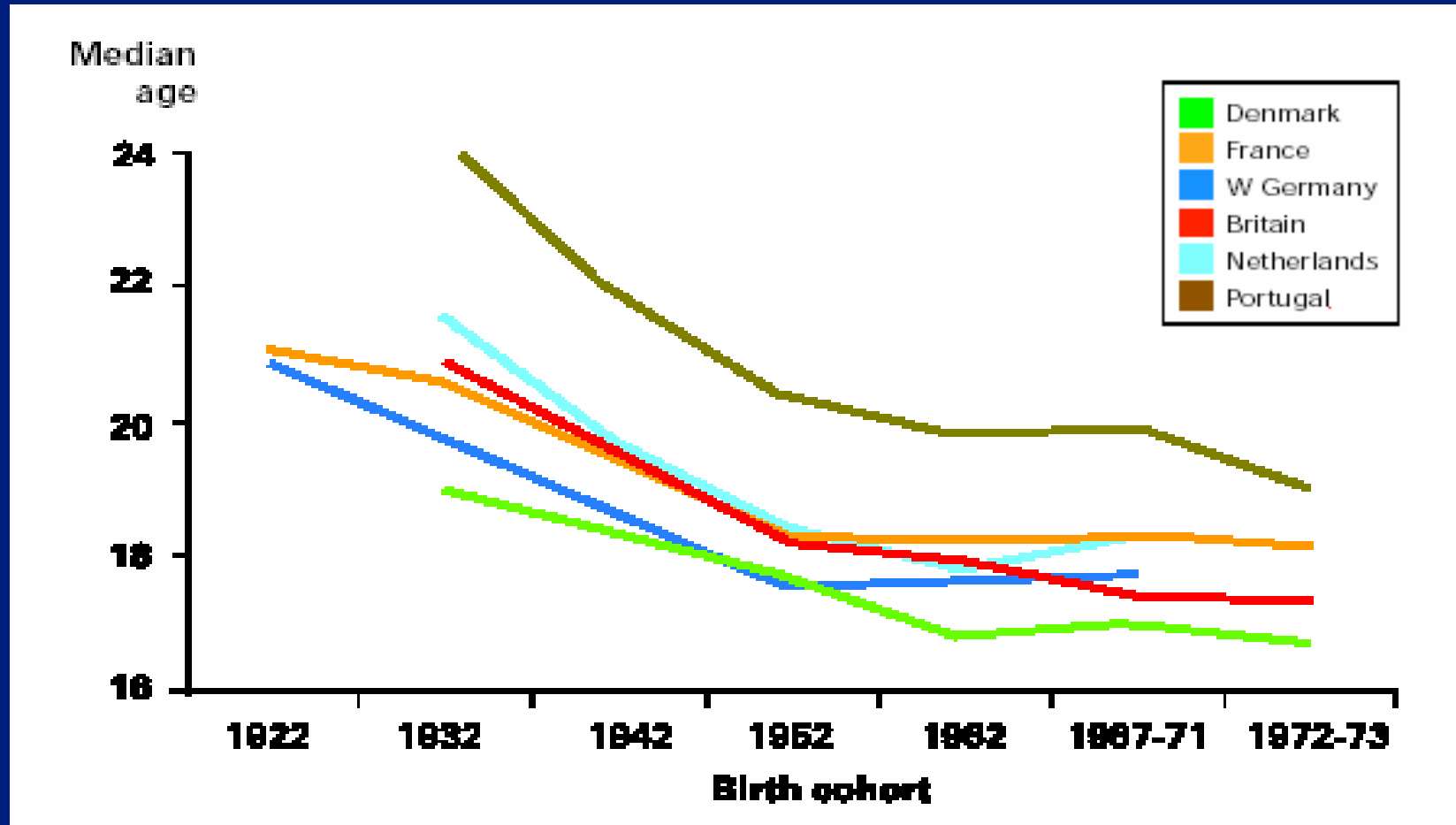
*Data are currently unavailable from Scotland for 2000 and from N.Ireland for 1996 & 1997



STI epidemiology and social changes



Median age at first intercourse by birth cohort and selected country, females



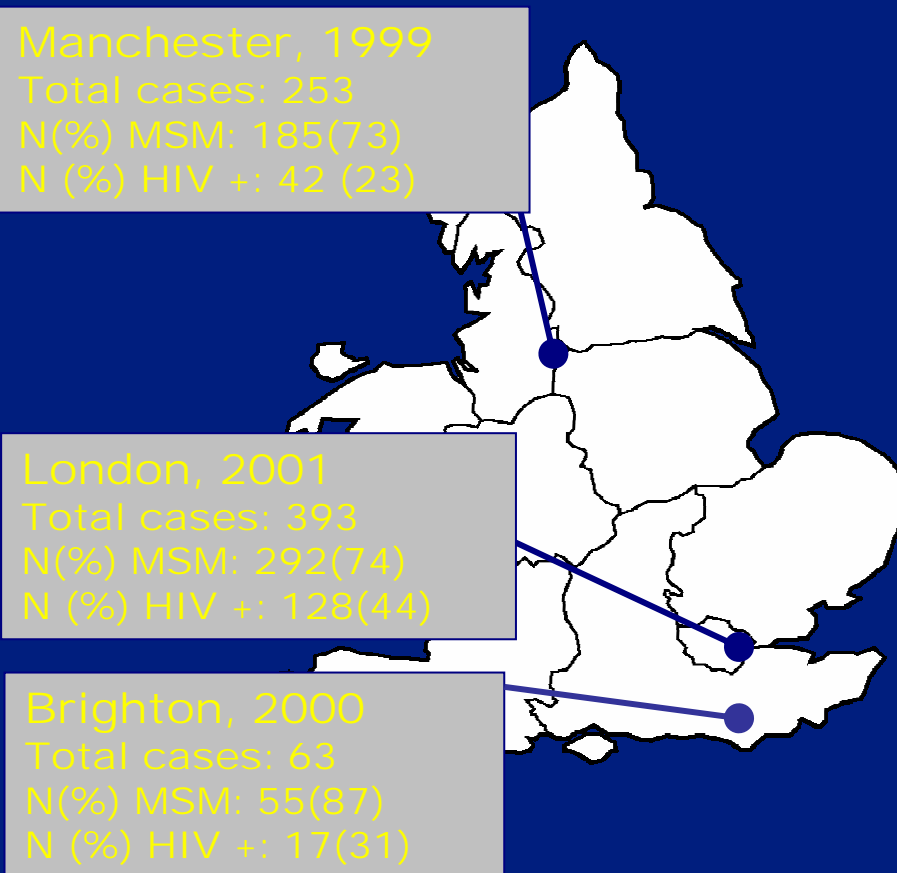
Source: Hubert M, Publications des Facultes universitaires St-Louis; 1990



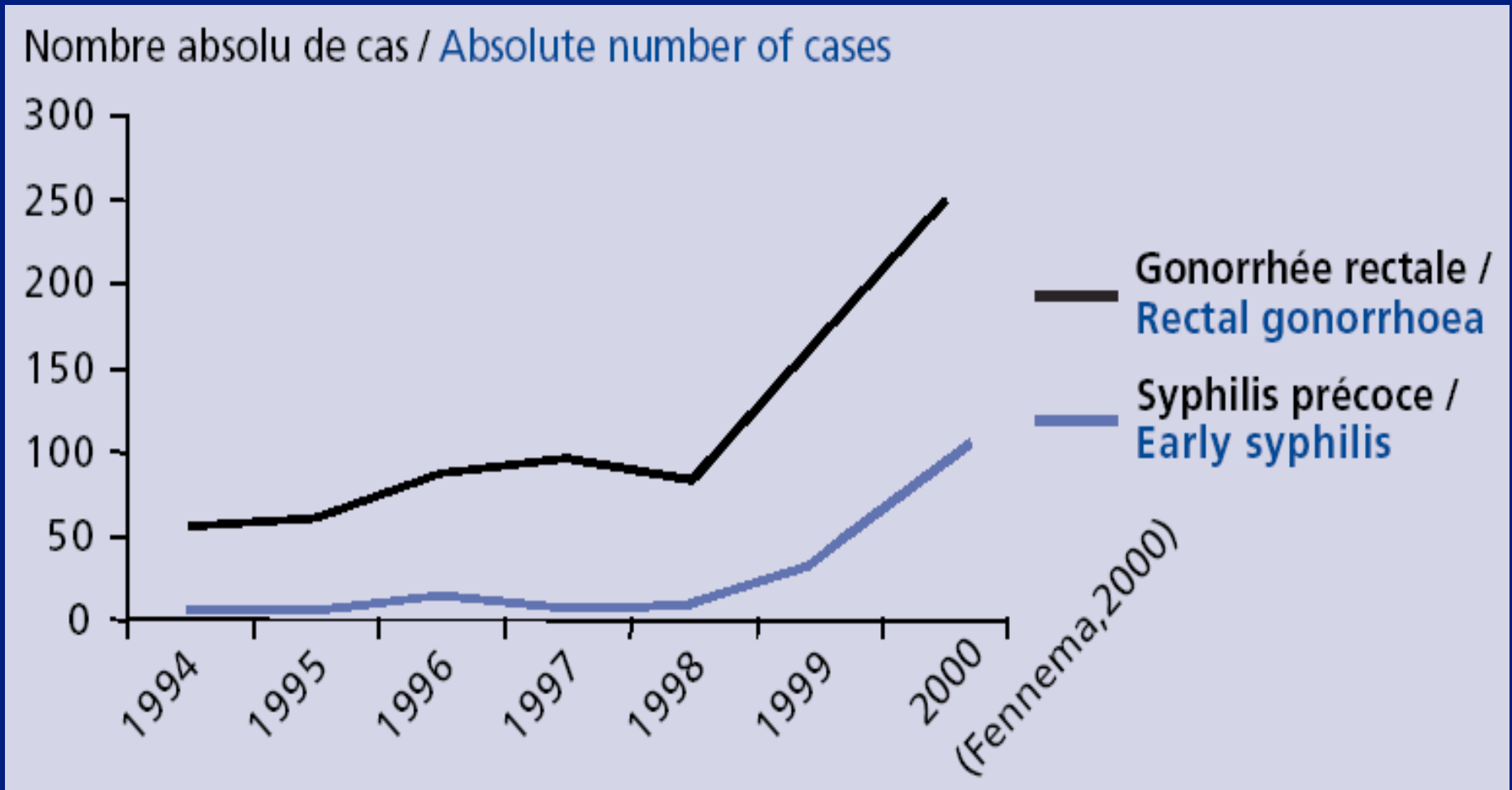
UK enhanced surveillance programmes: Data from syphilis outbreak sites

Chronology and distribution of syphilis outbreaks in MSM 1999-2002

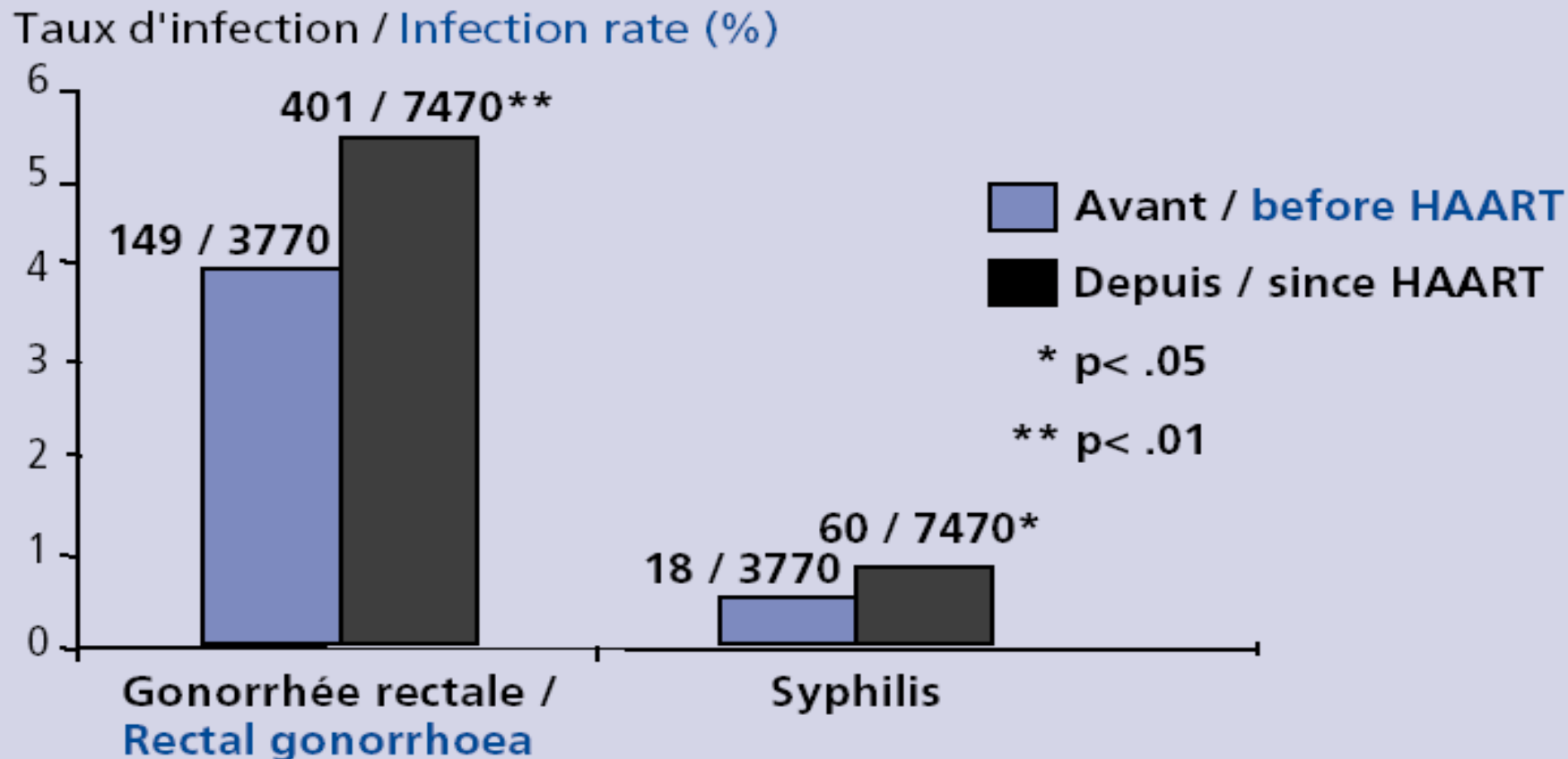
- Syphilis outbreaks concentrated in MSM in Manchester, Brighton and London
- Key characteristics of outbreaks:
 - High proportion of HIV positive MSM
 - High rates of partner change
 - Use of cruising grounds and dark rooms
 - Use of alcohol



Absolute number of rectal gonorrhoea and early syphilis, diagnosed among homo- and bisexual visitors of the STD outpatients clinic in Amsterdam, 1994-2000



Relative numbers (infection rate) of rectal gonorrhoea and early syphilis diagnosed among homo- and bisexual men before and after the introduction of anti HIV therapies, Amsterdam STD outpatients clinic, 1994-1999



Source: Stolte et al. EUROSURVEILLANCE Vol. 7 No2 FEBRUARY 2002

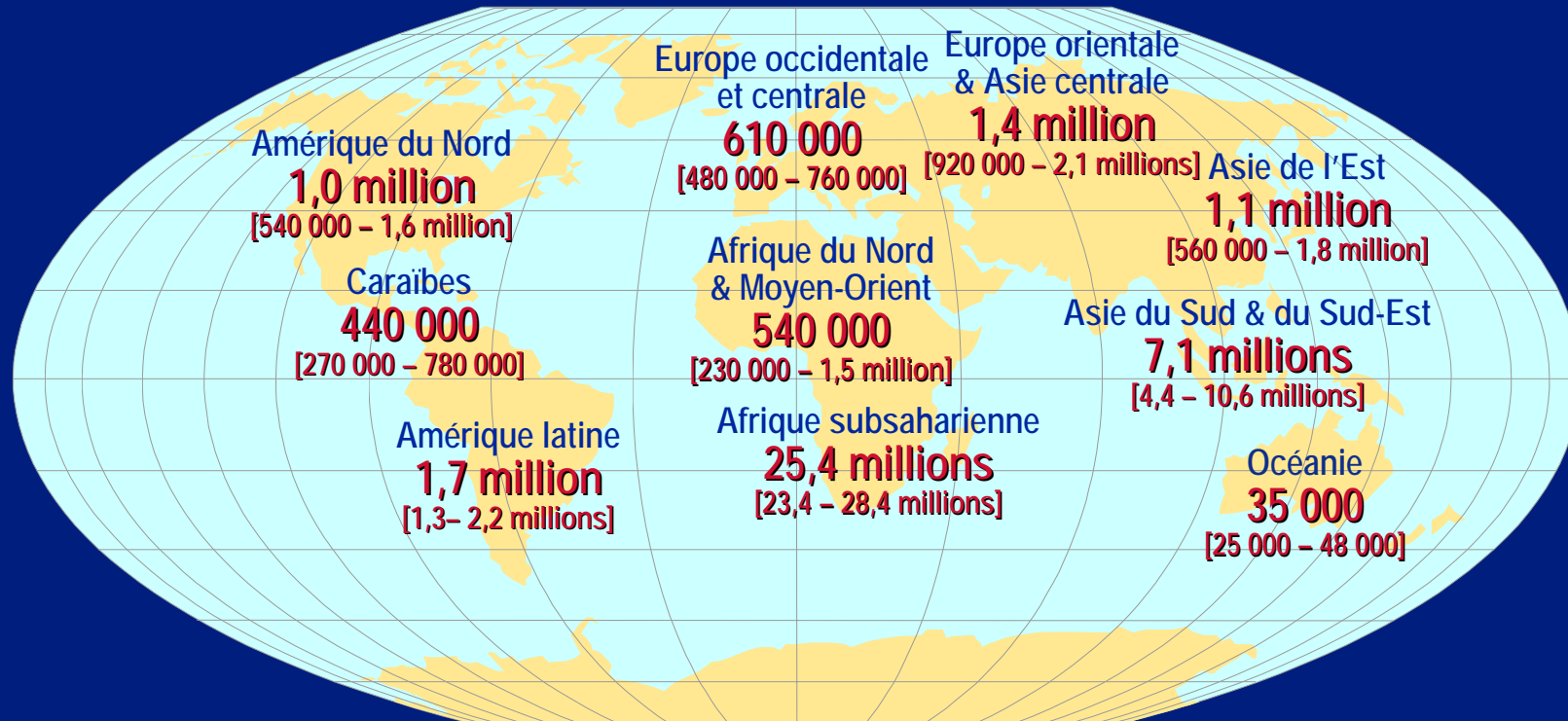


STI and HIV transmission

- **STIs are co-factors for HIV transmission**
- **To control STIs enhance reduction of HIV transmission**



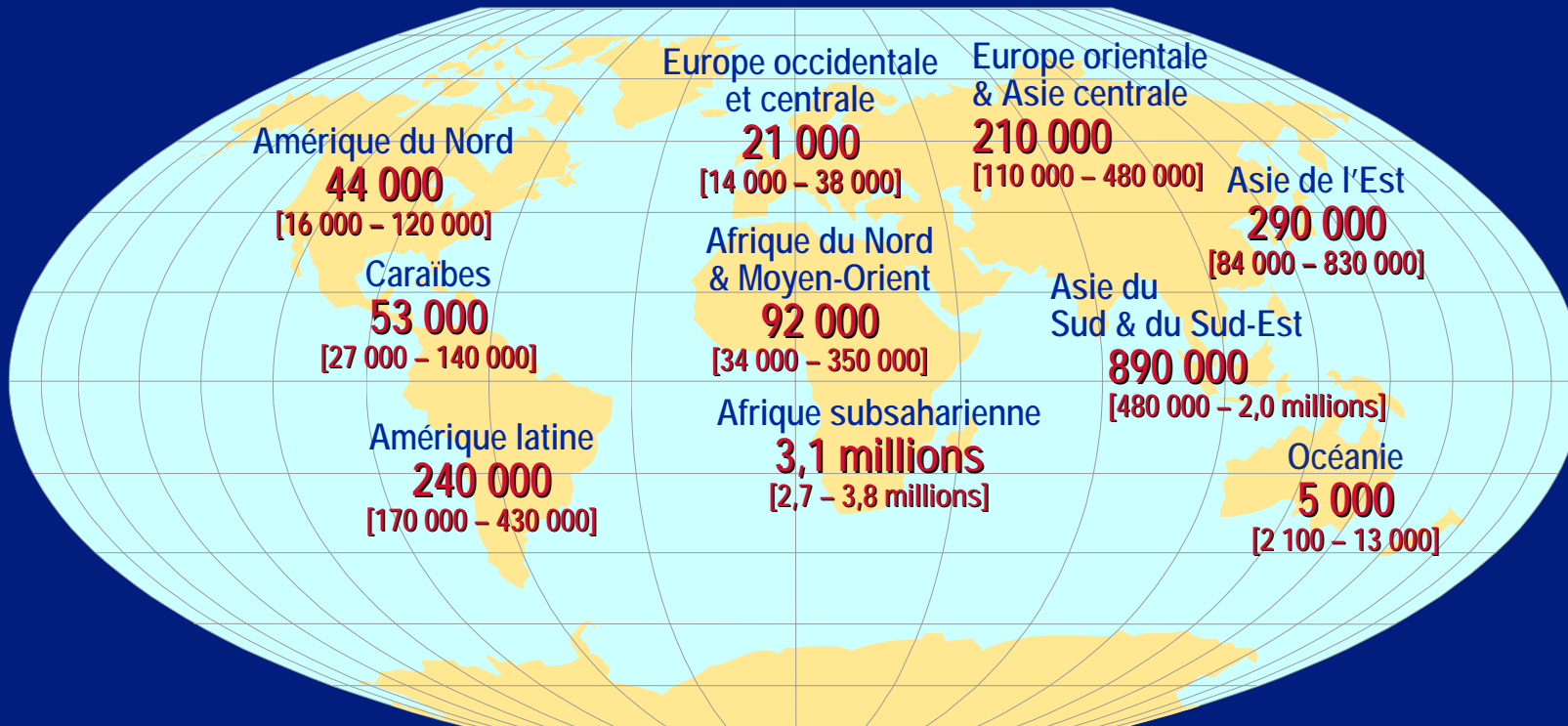
Adults and children estimated to be living with HIV/AIDS as of end 2004



Total: 39,4 (35,9 – 44,3) millions



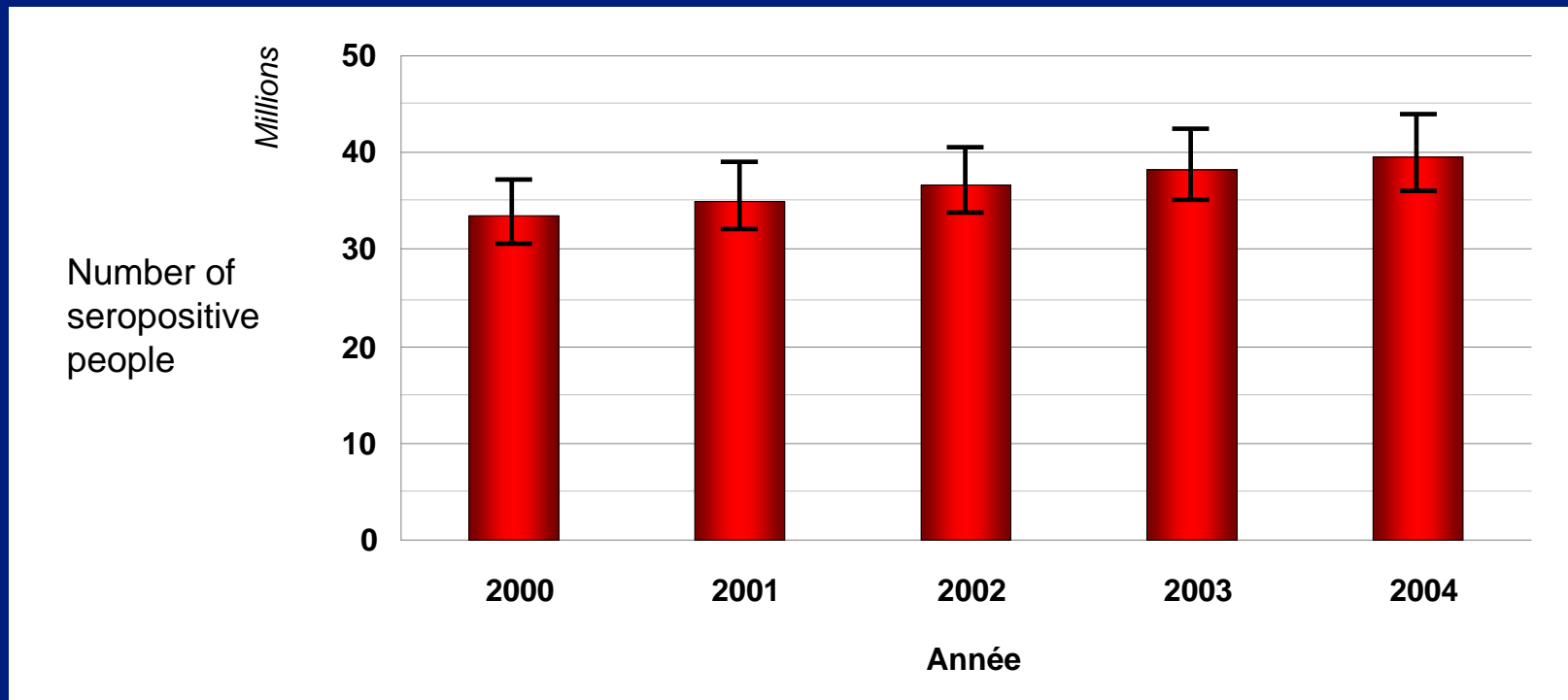
Estimated number of adults and children newly infected with HIV during 2004



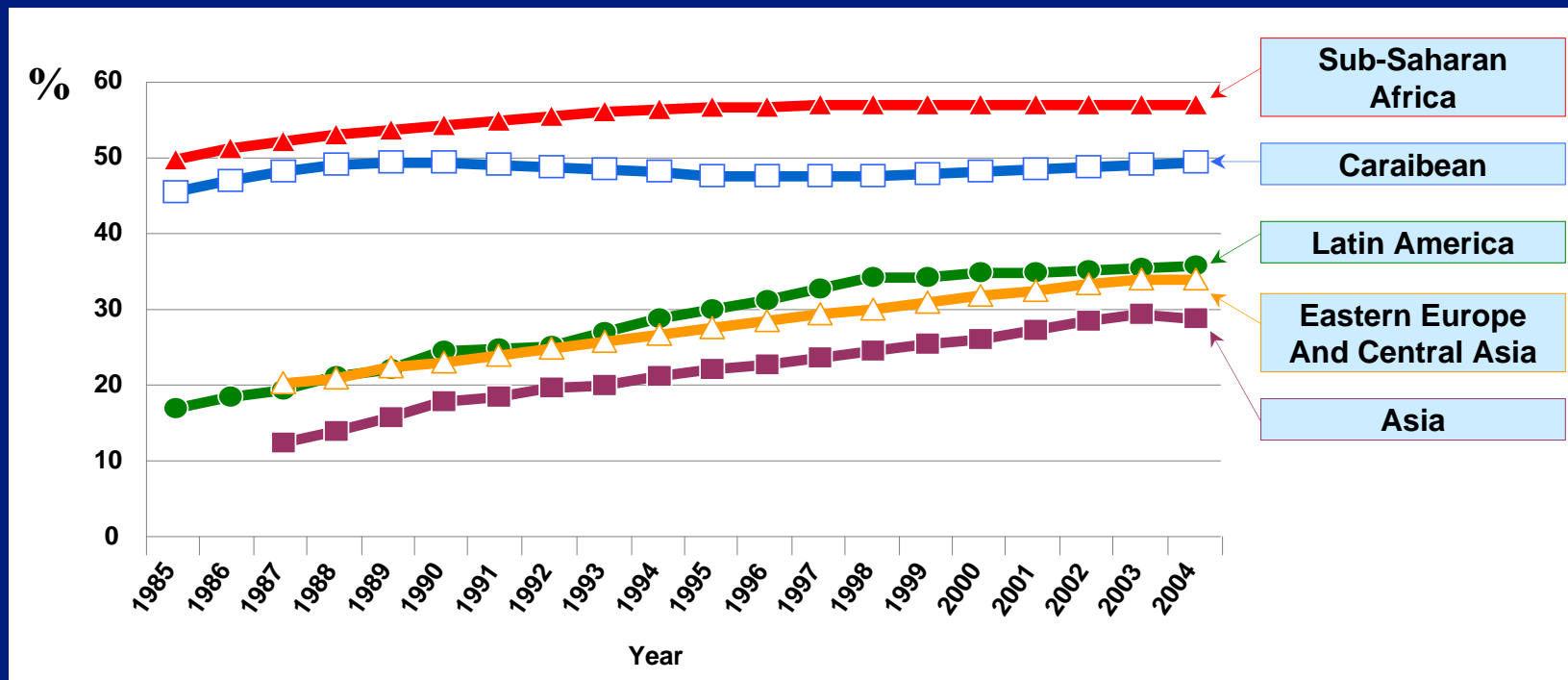
Total: 4,9 (4,3 – 6,4) millions



Estimated number of seropositive people 2000 - 2004



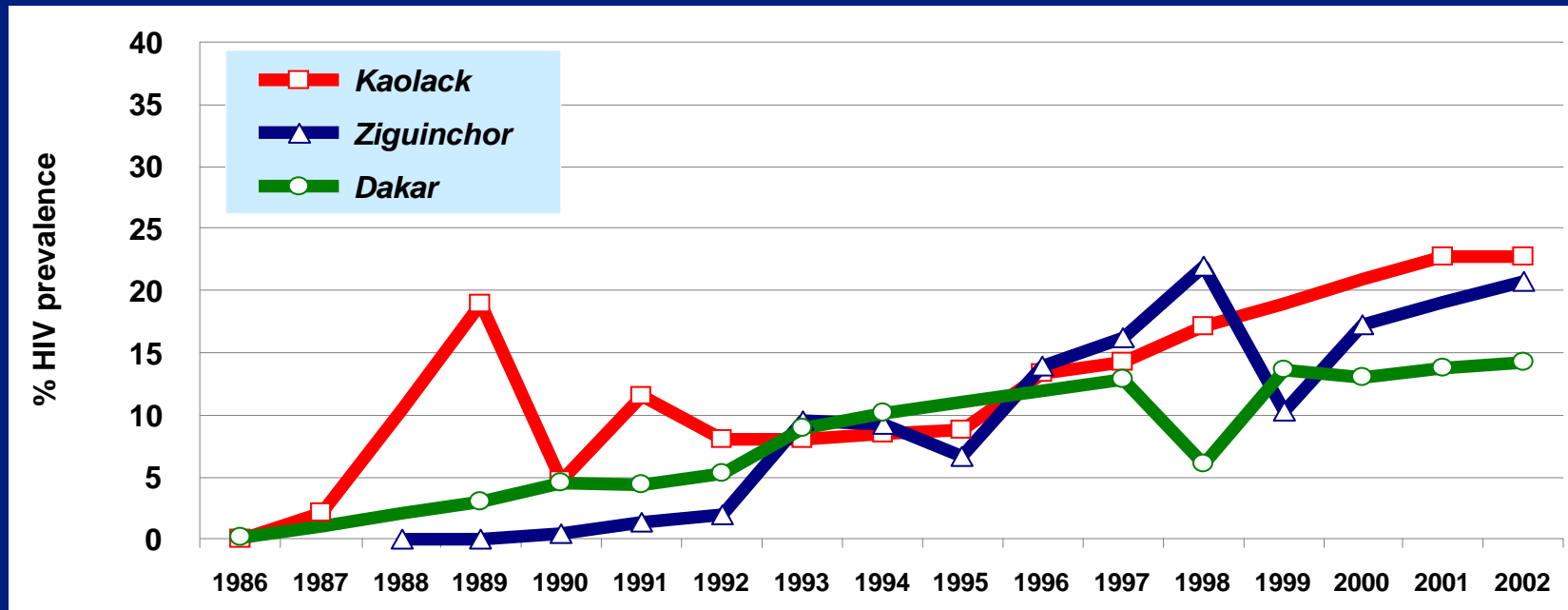
Proportion of women among seropositive population 15-49 year 1985-2004



Source: UNAIDS/WHO, 2004

AIDS epidemic update, December 2004. Fig. 2.

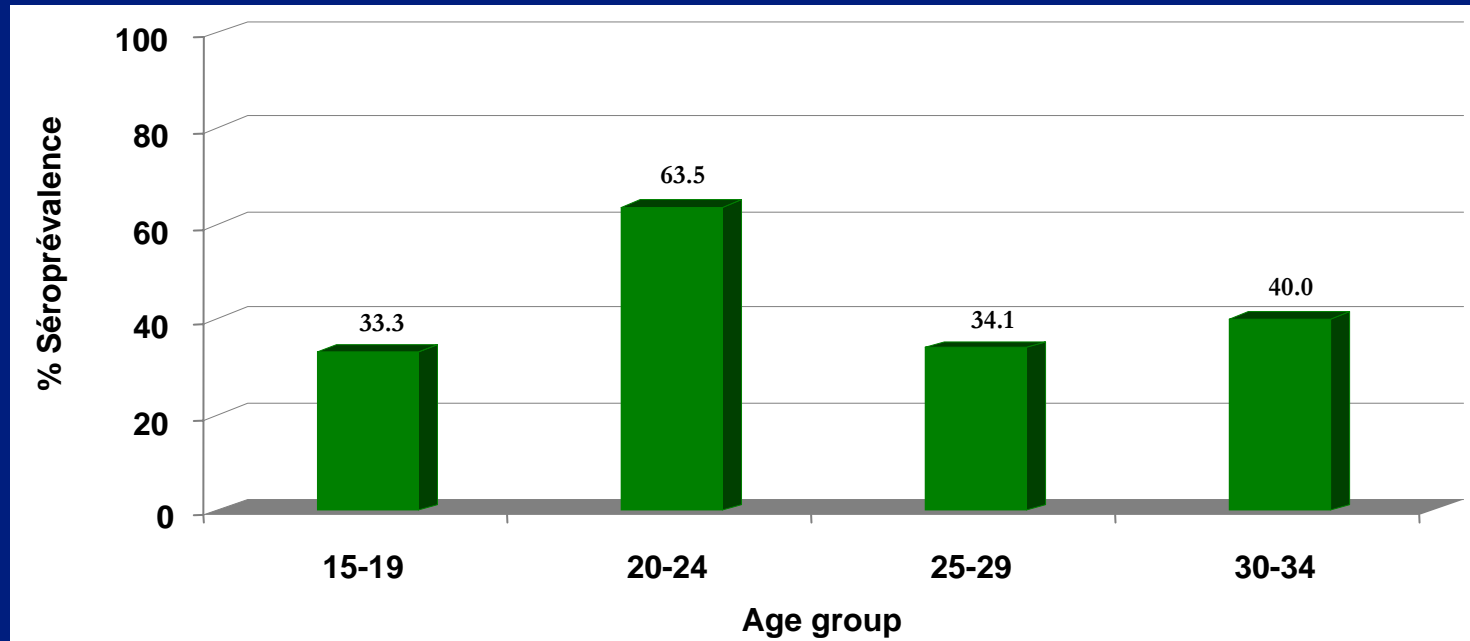
HIV prevalence among female sex workers, different sites in Senegal, 1986 - 2002



Source: Sénégal Conseil National de Lutte Contre le SIDA. Data compiled by the US Census Bureau.

AIDS epidemic update, December 2004. Fig. 10.

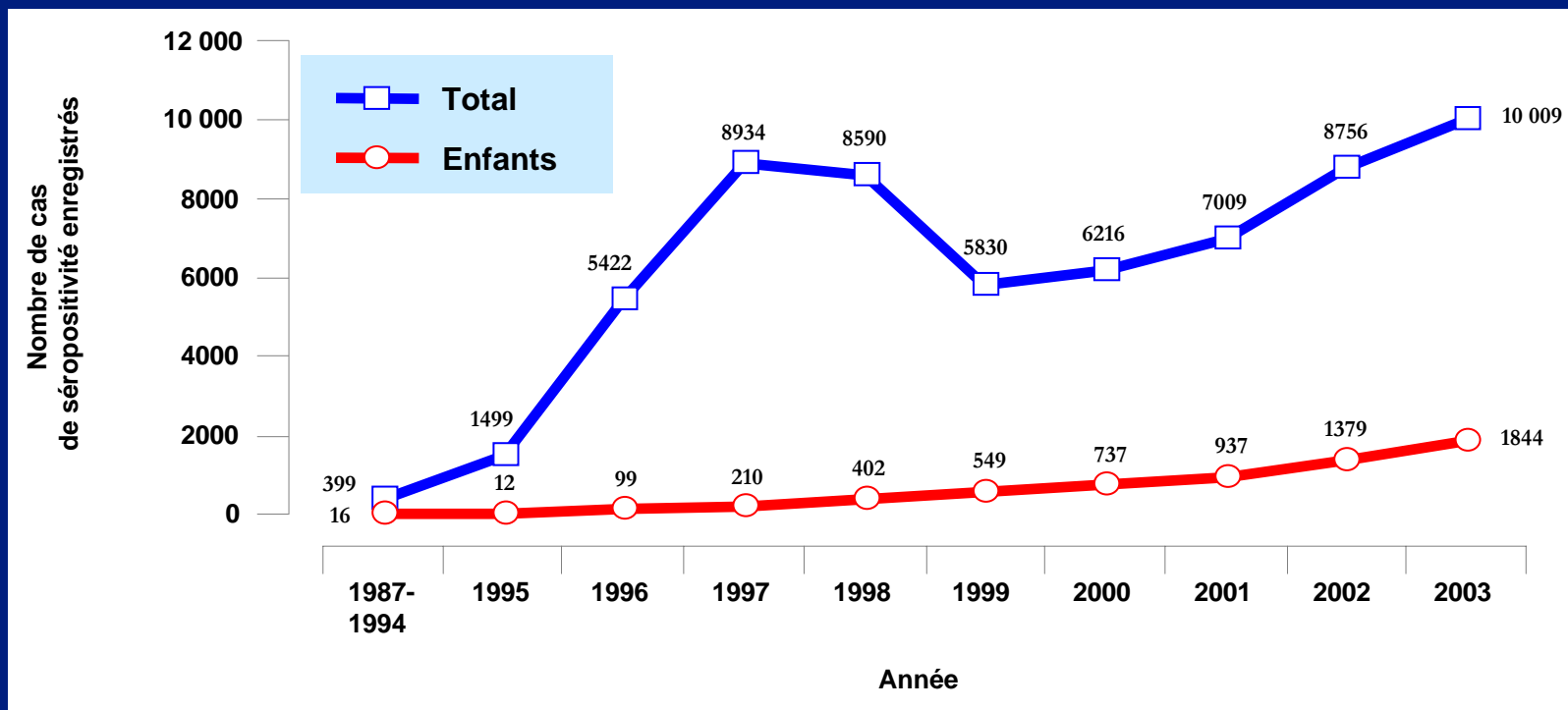
HIV prevalence among female sex workers per age group, Saint Petersburg, Russia, 2003



Source: T. Smolskaya, et al., XV International AIDS Conference, 11-16 July 2004. Abstract No. ThOrC1371.

AIDS epidemic update, December 2004. Fig.1 9.

New cases of HIV, Ukraine, 1987–2003



Source: Ukraine Centre of HIV Prevention.

AIDS epidemic update, December 2004. Fig 21.

Role of Reproductive Health services and of Family Planning in particular

- Promote dual protection**
- Training on how to approach and discuss STI with family planning clients missing**
- At national level, increase awareness on the importance of STI and their consequence on reproductive health**

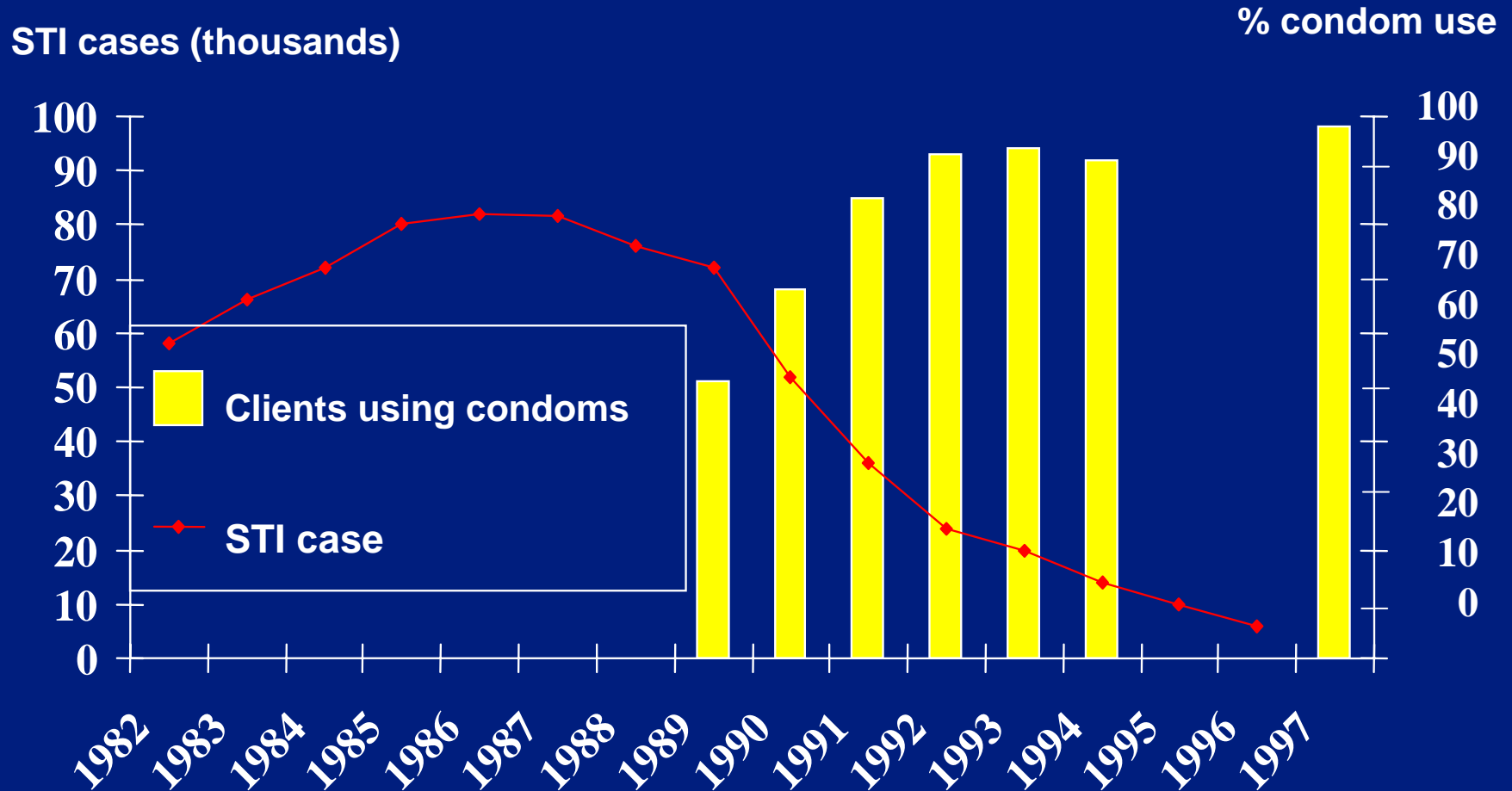


Difficulty to integrate STI control into Reproductive Health services

- Stigmatisation
- Wrong information on STI prevalence in RH services
- Difficulties to counsel on one family planning method and condom use
- Training
- Disponibility of tests, speculum, drugs
- Health policies: only specific medical staff can treat STI (syphilis for example)



Condom use among sex worker clients in Thailand

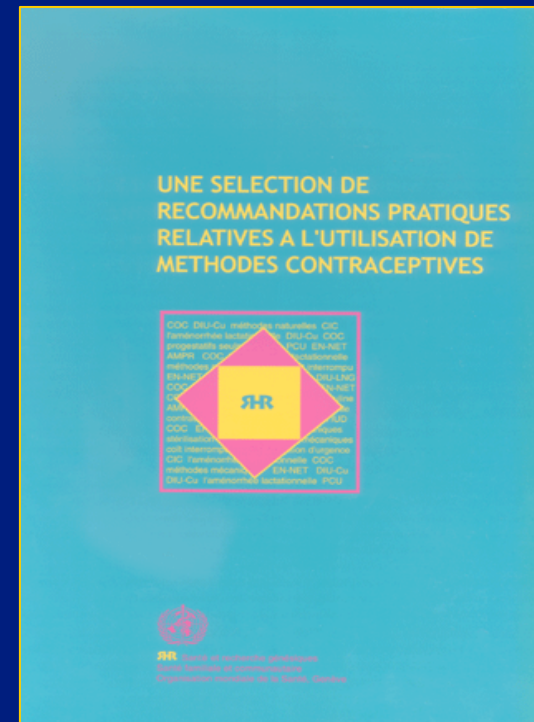
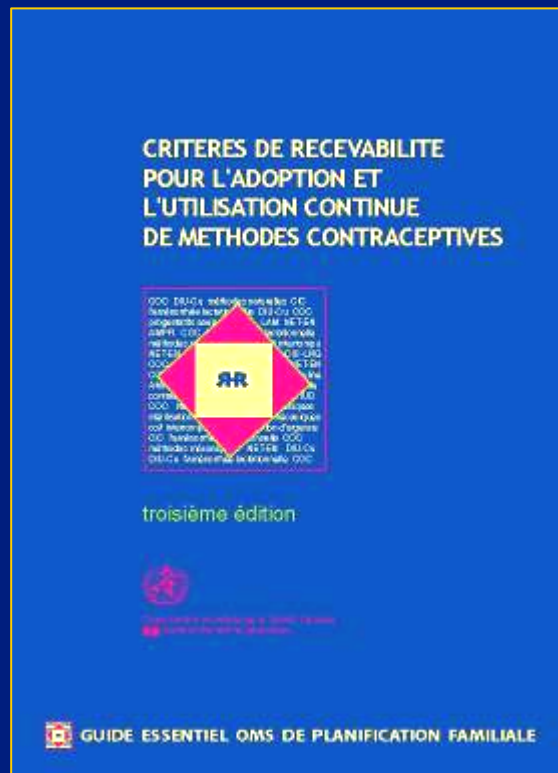
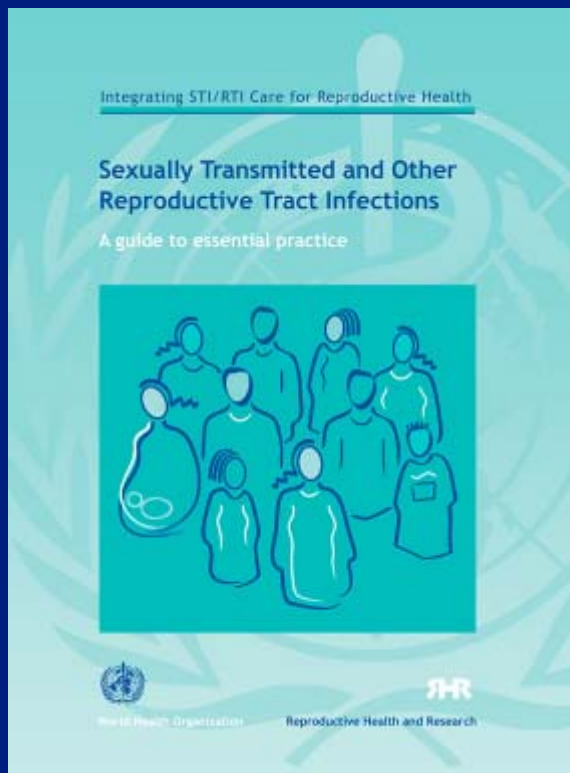


Source: Sentinel Serosurveillance, Division of Epidemiology, Ministry of Public Health.



Control of STI in reproductive health settings

STI control in FP guides



STI/RTI Control: the package

Assisting programme managers
and health-care providers
with tools suited to their environment



Programmatic guides

STI/RTI Programme guidance tool
STI.PAC – STI Prevention and care

Generic guidelines for health care providers

Sexually transmitted and
other reproductive tract
infections - A guide
to essential practice



Guidelines
for the
management
of STIs



Implementation tools

Training tools
Adaptation guide

Supporting guides

Guidelines for STI surveillance
Initiating 2nd generation HIV surveillance systems
Laboratory diagnosis of STDs
Managing the drug supply
The male latex condom

