

# **GLOBAL MIGRATION and EMERGING INFECTIOUS DISEASES**

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# **THE CASE OF TUBERCULOSIS AND HIV**

## **IS PUBLIC HEALTH FAILING MOBILE POPULATIONS?**

**INTERNATIONAL CONFERENCE ON EMERGING INFECTIOUS DISEASES  
ATLANTA, 2002**



## **...the case of Tuberculosis**

- **1/3 world's population is infected, with 3% increase of new cases/year**
- **10% will develop active tuberculosis**
- **One active untreated TB will infect 10-15 persons/year**
- **95% of new cases in the developing world**
  - **>10% increase in Africa due to co-infection with HIV**

## ...the case of HIV

- **60 million infected since mid 80's**
- **40 million still living with HIV**
- **800x increase risk for active TB if co-infection TB-HIV is present**
- **TB kills 15% of HIV infected persons**

# PUBLIC HEALTH and MOBILE POPULATIONS

- **TB in foreign-born**

- > The decrease in tuberculosis case rate among US-born people has been 3.5 times that of foreign-born people  
(*Sahly&al, J.Infect. Dis.2001*)
- > CDC reported that foreign-born accounted for 46% of new US cases of TB in 2000

- **MDR-TB in countries of low prevalence**

- > In Australia: 90% of multi-resistant cases were born overseas  
(*Yuen&al, J.Clin.Microbiol.1999*)
- > In Netherlands: 76% of drug resistance occurred in foreign-born patients  
(*van Weezenbeek,Int.J.Tuberc.Lung Dis.1998*)
- > In Canada: up to 92% of MDR-TB is imported  
(*Granich, Public Health Rep.1998*)



**IS PUBLIC HEALTH  
FAILING  
MOBILE POPULATIONS?**

# Population Mobility

- *Prevalence Gap*

  - ...for Tuberculosis

  - ...for HIV

- *Vulnerability*

- *Globalization*

  - 150 million live outside country of birth

    - 2.5% population



# ESTIMATED GLOBAL MOBILE POPULATIONS

- **Refugees /uprooted people**                      **22 million**        **(UNHCR 2002)**
- **Undocumented Migrants**                      **10 -15 million** **(ILO 2000)**
- **International Travelers**                      **698 million**     **(WTO 2000)**
- **Migrant Workers**                                **70-80 million** **(ILO 2001)**
- **Migrants Victims of Trafficking**        **0,7 million**     **(IOM 2001)**

**TOTAL**

**~ 800 million**





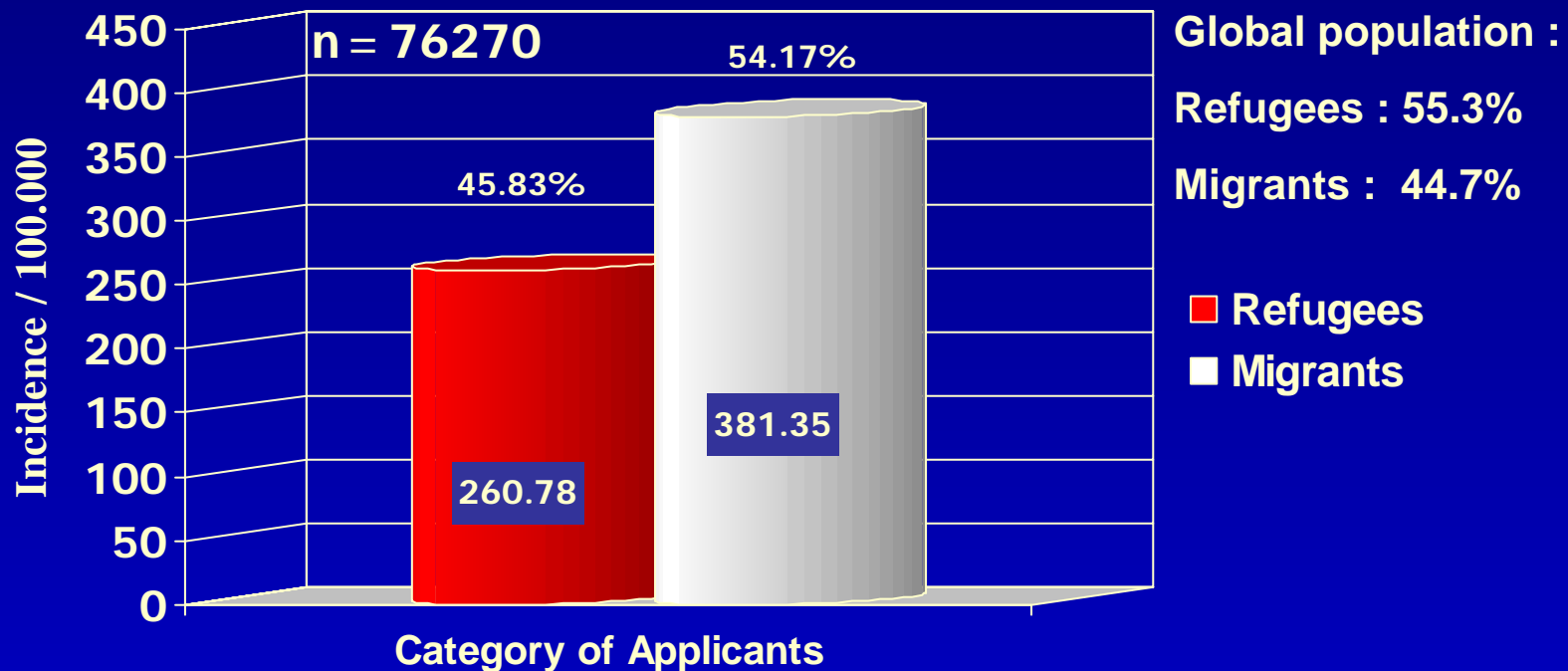
# PARAMETERS FOR PUBLIC HEALTH SCREENING OF MOBILE PEOPLE

- PRE-ARRIVAL
  - » INCIDENCE RATE in country of origin
  - » CATEGORY of applicants
  - » OCCUPATION in receiving country
  - » Expected LENGTH OF STAY in host country
- POST-ARRIVAL

# TB Incidence per Category of Applicants

## IOM Migrants in Year 2000

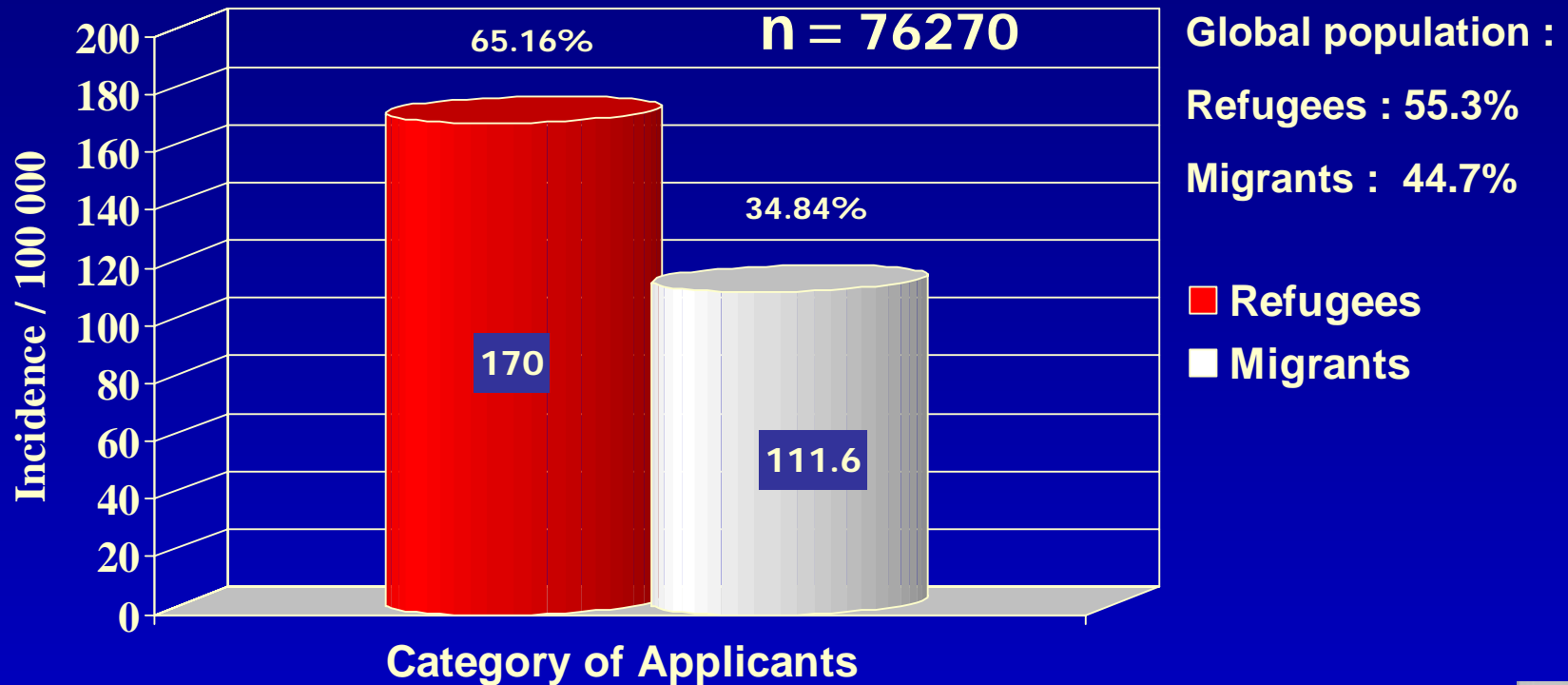
(per 100 000) (Preliminary data)



# HIV Incidence per Category of Applicants

## IOM Migrants in Year 2000

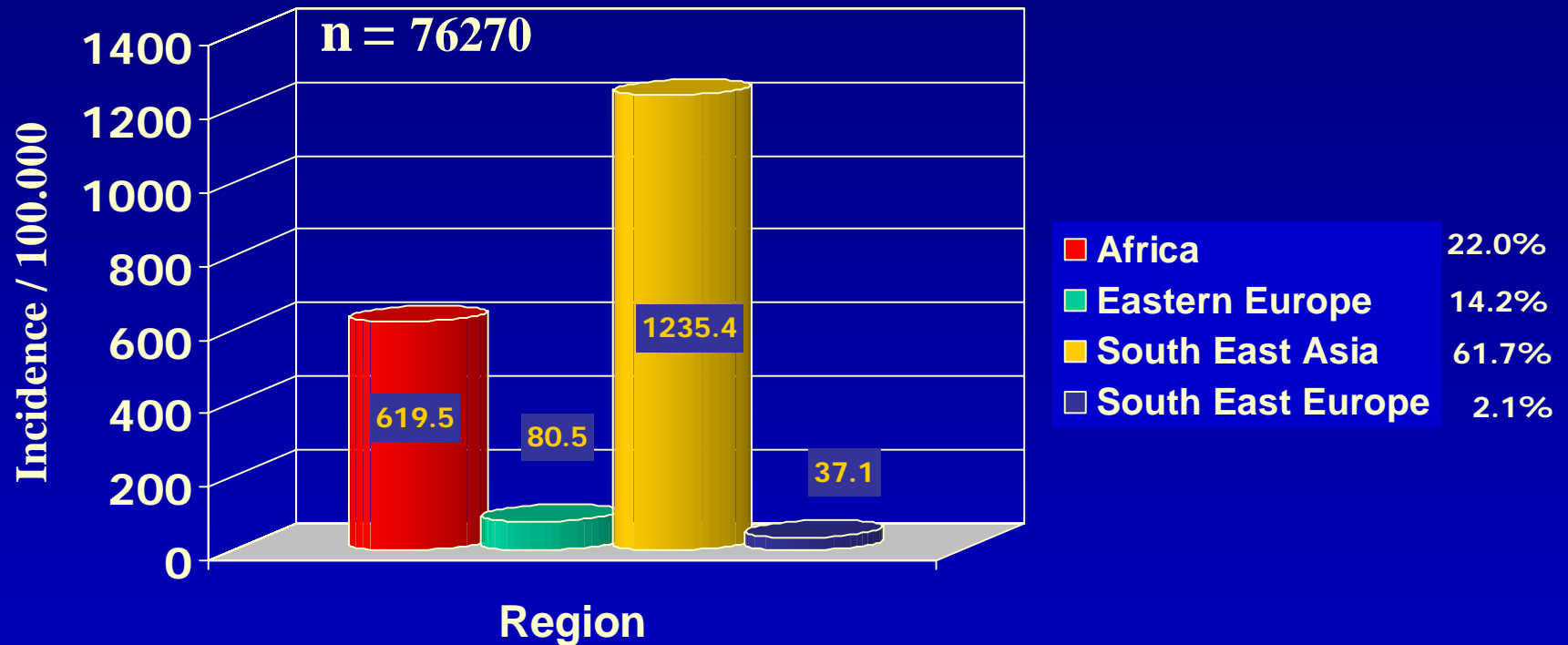
(per 100 000 ) (Preliminary data)



# TB Incidence by Region

## IOM Migrants in Year 2000

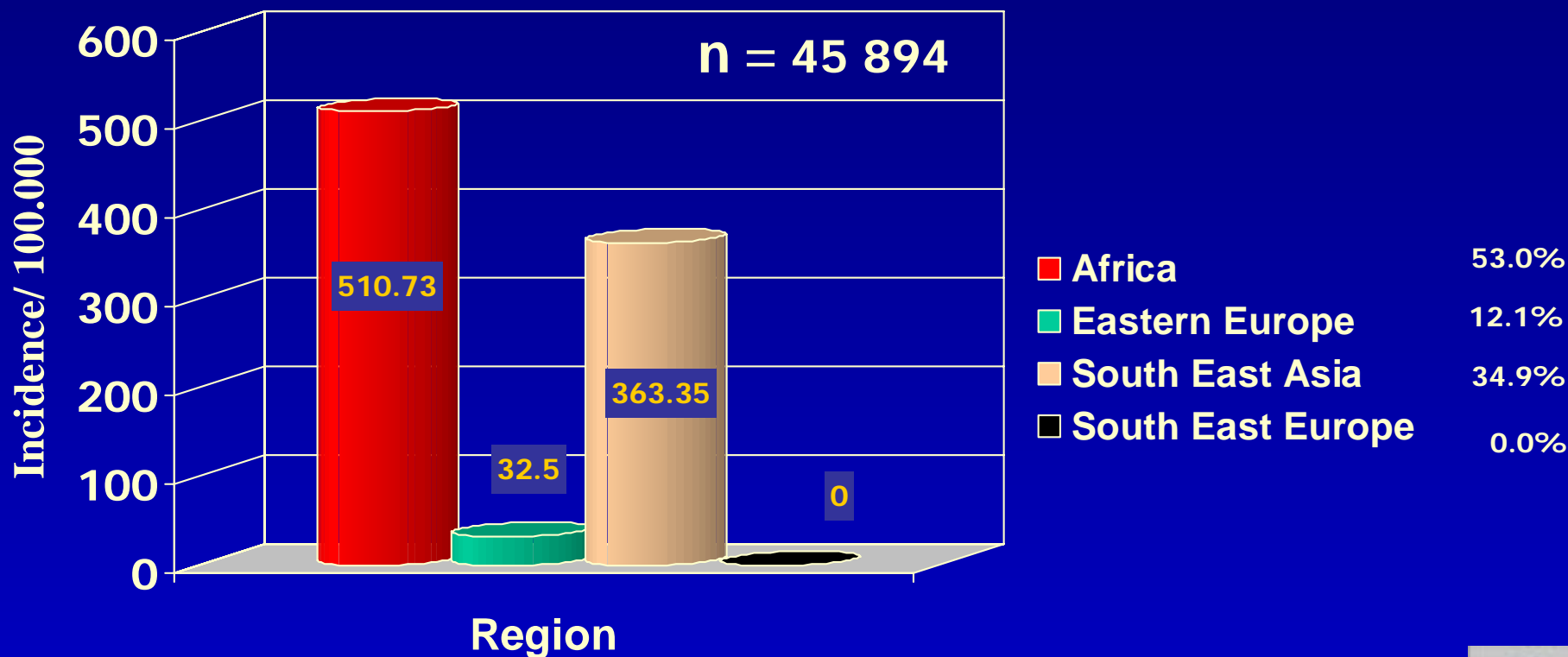
(per 100 000) (Preliminary data)



# HIV Incidence by Region

## IOM Migrants in Year 2000

( per 100 000 ) (Preliminary data)



# TB CONTROL PROGRAM and MOBILE POPULATIONS

**IT CAN BE DONE !**

- **Must include countries of origin**
- **Must link the phases of mobility**
  - pre-departure (screening in countries of origin),
  - post-arrival (surveillance programs in receiving countries)



# TB CONTROL PROGRAM and MOBILE POPULATIONS

- **Must apply the common sense ABC's of public health screening methods:**
  - **supervision** of sputum collection
  - basic **laboratory** technology and skills (training)
  - consistent **QA** and **QC** systems
  - **complete treatment** under supervision (**DOTS**)
  - identification and treatment of **latent tuberculosis**

**MOBILE POPULATIONS  
and  
EMERGING INFECTIOUS DISEASES**

**POLICY  
RESEARCH  
PUBLIC HEALTH GLOBALIZATION**





Knowing is not enough; we must apply.

Willing is not enough; we must do.

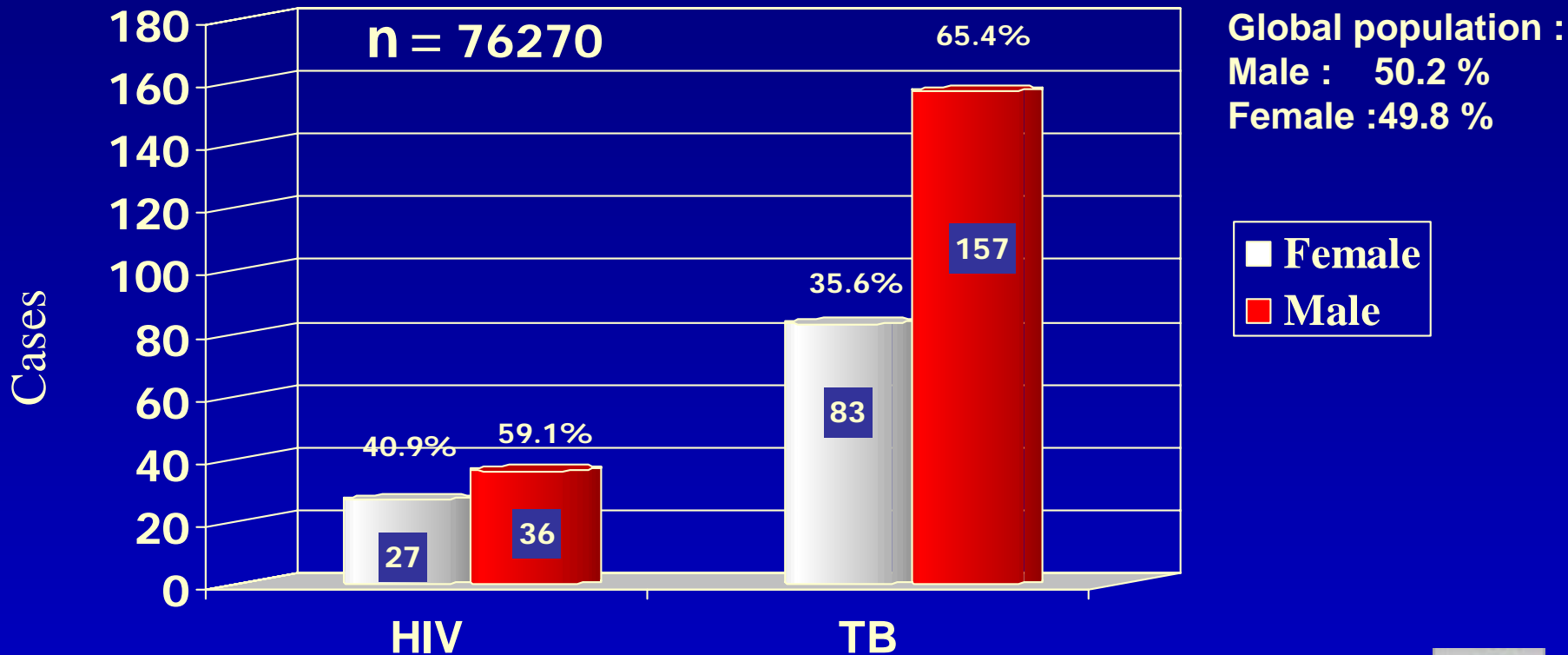
*(Goethe)*



# HIV and TB Distribution by Gender

## IOM Migrants in Year 2000

(Preliminary data)

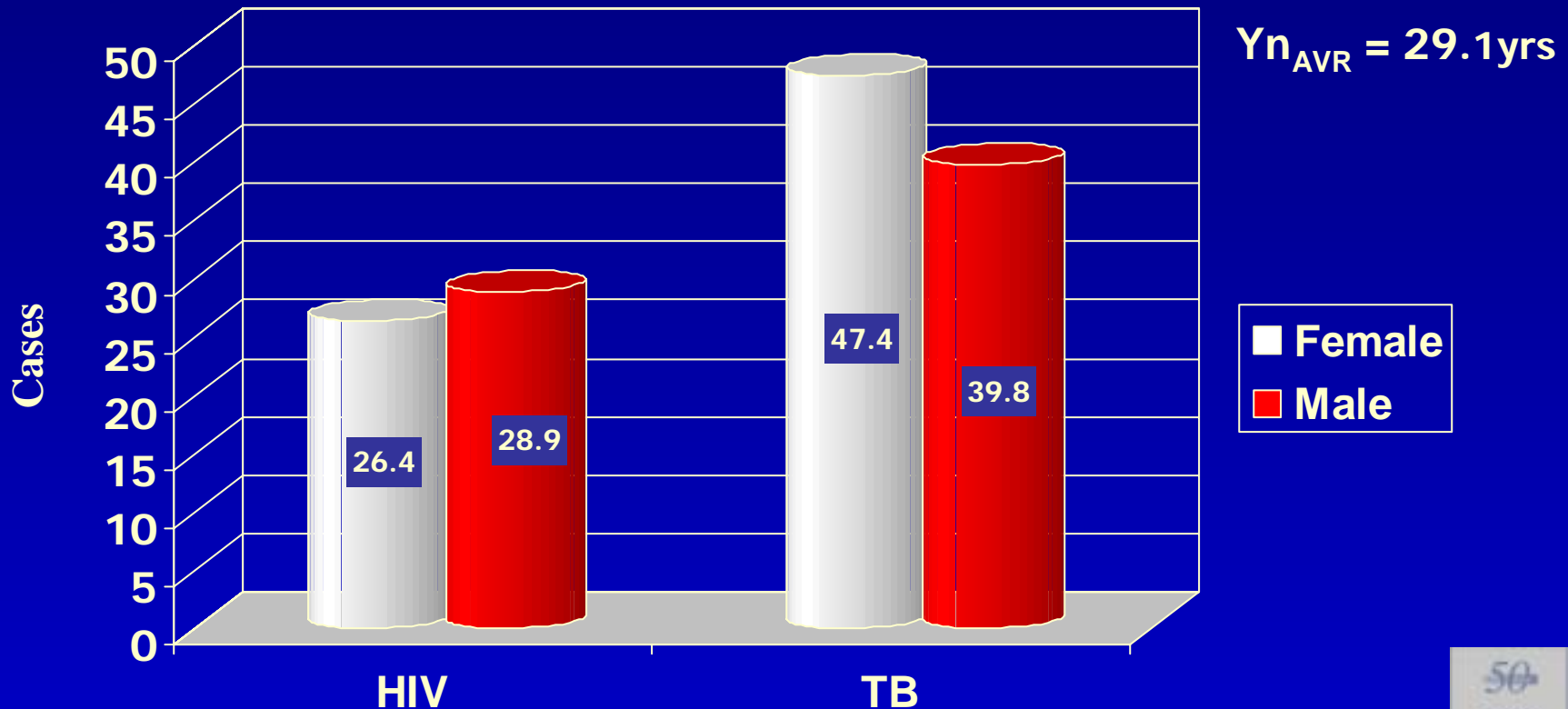


# HIV and TB Distribution

## With Average Age

### IOM Migrants in Year 2000

(Preliminary data)



# LATENT TB INFECTION

## IOM Migrants in Year 2001

- **In HCMC**
  - ⇒ **47.2% of PPD were positive ( 2001)**
    - » **only 2% were offered prophylaxis**