

# TUBERCULOSIS & HIV Co-infection

## City Services for Diverse Communities

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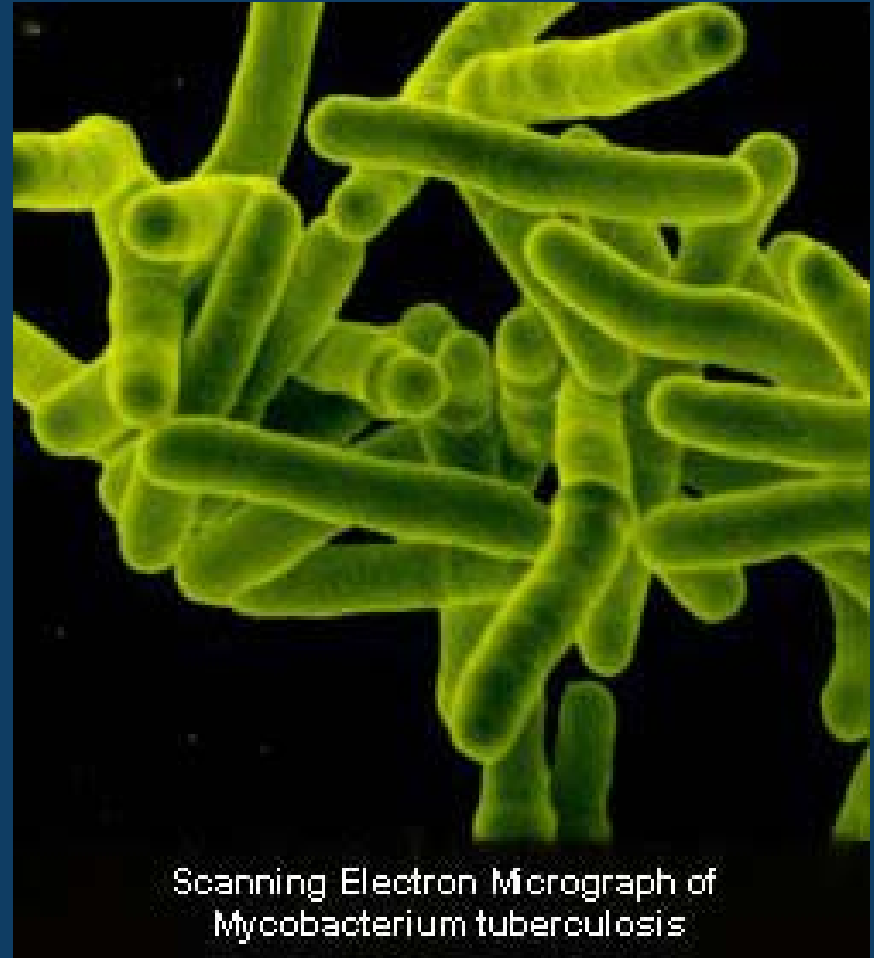
**Rita Kadri**

**Public Health Nurse**

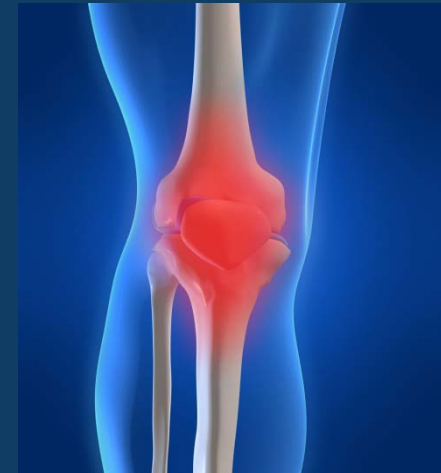
**March 2011**

# What is TB?

- Bacteria  
(Mycobacterium Tuberculosis)
- Usually affects lungs
- Often confused with cancer, bronchitis and pneumonia

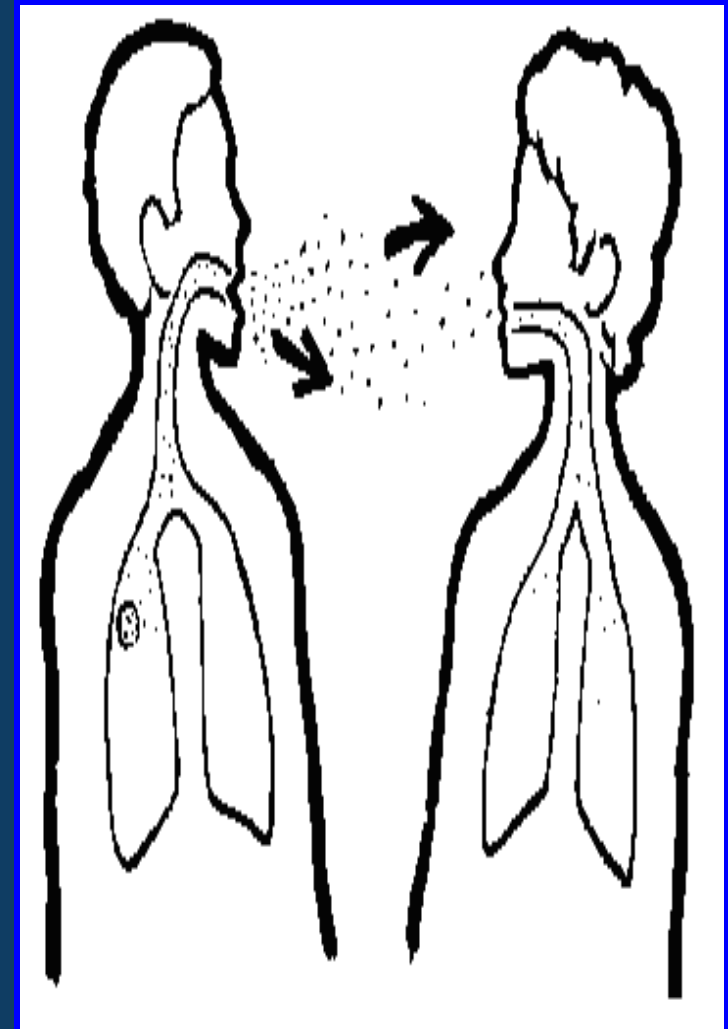


# Locations of TB



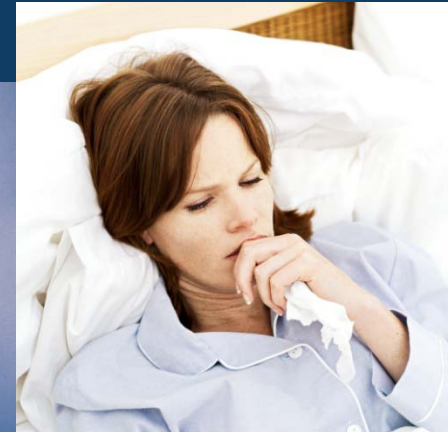
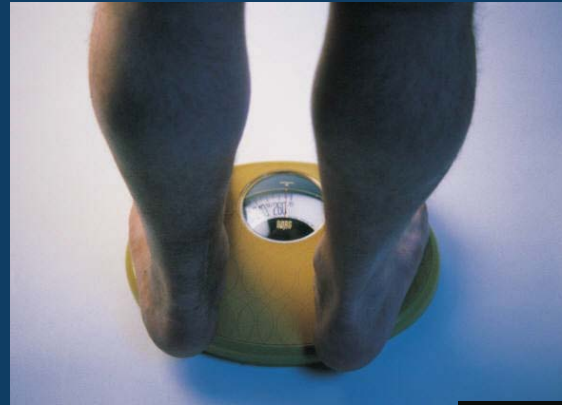
# How is TB Transmitted?

- Airborne
- **Active TB disease** in lungs  
throat coughs / sneezes
- Not highly infectious -  
requires close, frequent,  
prolonged exposure

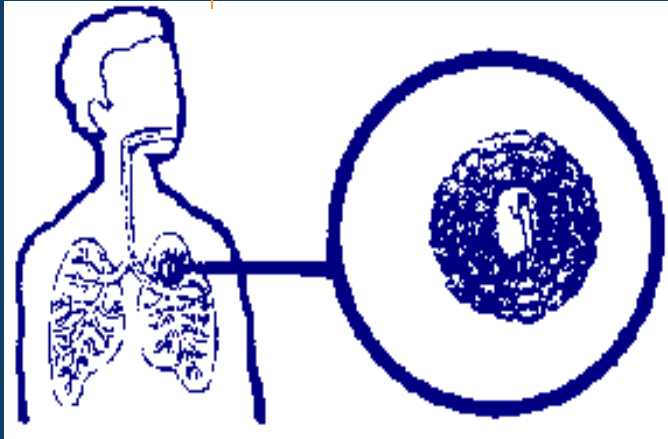


# Signs and Symptoms of TB Disease

- Cough that lasts longer than 3 weeks
- Coughing up blood
- Fatigue
- Unexplained weight loss
- Fever / Chills / Night sweats
- Loss of appetite
- Others - depends on location

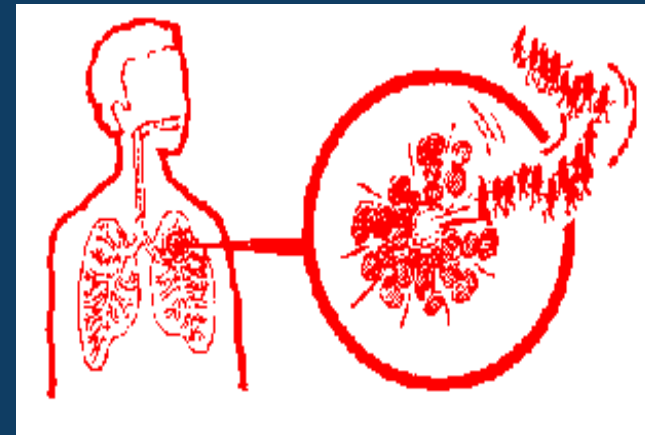


# TB Infection vs. TB Disease



## TB Infection (Latent)

- + TB skin test
- Not infectious
- No symptoms
- Bacteria = Dormant
- Normal Chest X-ray



## TB Disease (Active)

- +/- TB skin test
- Infectious (possibly)
- Symptomatic (possibly)
- Bacteria = Multiplying
- Abnormal Chest X-ray

# Treatment

## Latent TB Infection

Reduces risk of developing TB disease

## Active TB Disease

Can be cured if treatment is followed



All TB Medications are **Free** Through TPH

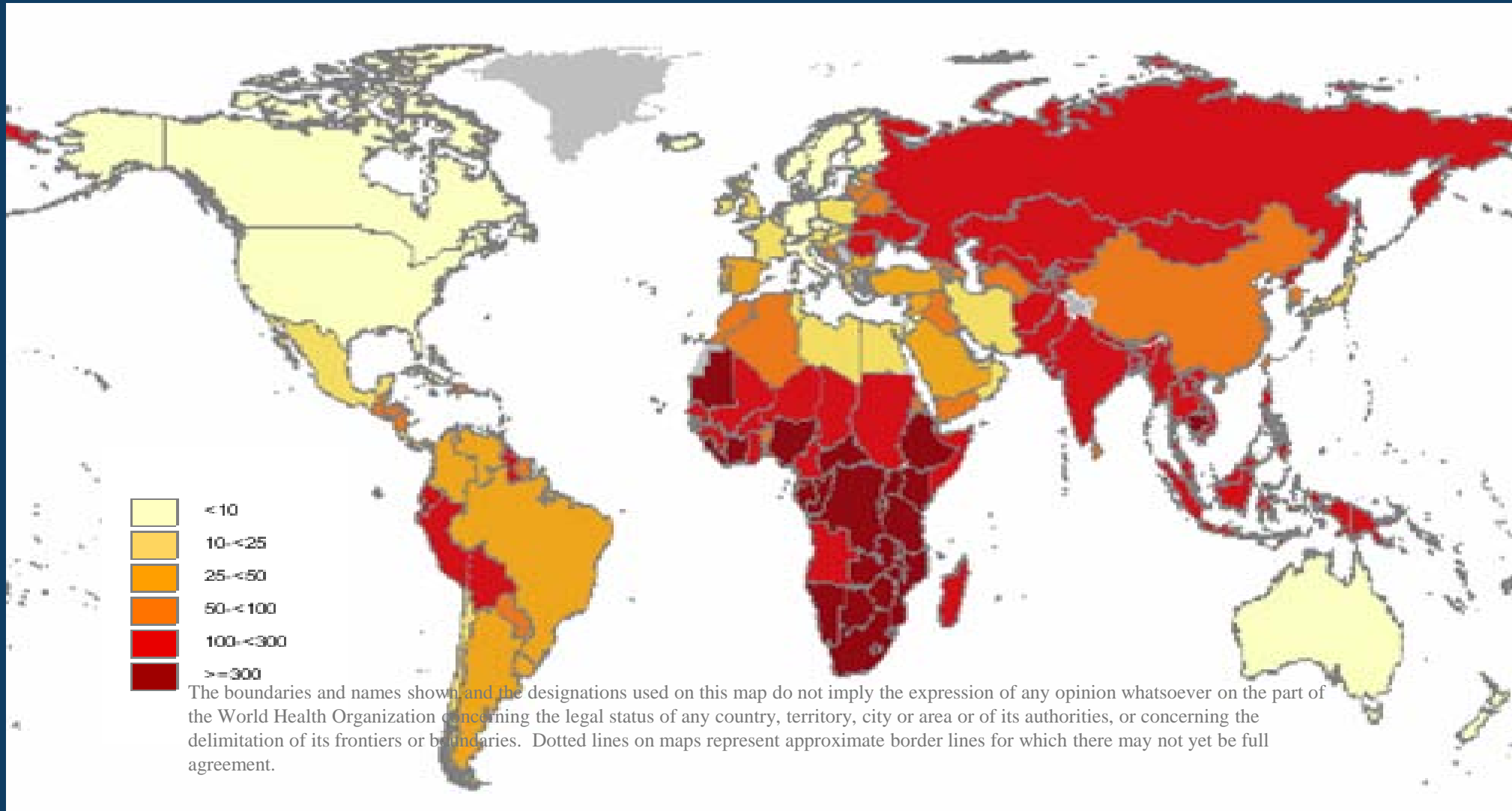
# TB Around the World

- 1/3 of the world's population is infected with the TB bacteria
- 8 million diagnosed with active TB disease yearly
- ~ 2 million people with TB disease die each year



# Estimated TB Incidence

(All forms, per 100 000 population per year) Source: WHO, as of 17 March 2008



# TB Disease in Canada (2009)



- Canada - approx 1,600 reported cases of TB disease
- Stable case incident rate – not increasing
- Ontario - approx 568 reported cases of TB disease
- Toronto – approx 255 reported cases of TB disease

# TB Disease in Toronto (2009)

- 255 active cases
- 94% of cases are foreign-born
  - Immigrants / refugees with TB infection at highest risk of having TB disease within first 5 yrs of arrival
- 4% of cases known HIV co-infection
- 2% cases shelter exposure



# Think TB!

- **High risk of exposure to TB:**
  - Born in / travel to an endemic country
  - Recent contact of active TB
  
- **High risk of progression to active disease:**
  - Immunocompromised (**HIV**, cancer, kidney failure, diabetes, infants, elderly, malnutrition, alcoholic,...)
  - Homeless / underhoused
  - Recent immigration

# What is HIV?



- Human Immunodeficiency Virus – Infection
- Decreases immune system
- Advanced stage – Acquired Immunodeficiency Syndrome (AIDS)

# How is **HIV** Transmitted?

Spread by **4** main ways:

- 1) Vaginal/Anal unprotected sex
- 2) Sharing needles or using non-sterile tools for procedures i.e Tattooing
- 3) From a mother who is HIV positive to her unborn, newborn or breastfed baby
- 4) Infected Blood Products i.e Blood transfusion

# **HIV** Around the World (WHO, 2009)

- 33.3 million people living with **HIV**
- 2.6 million people newly diagnosed
- 1.8 million people died of Aids



# Estimated **HIV** Incidence

Source: WHO, 2007

# TB/HIV Facts (WHO, 2009)

- An estimated 1.4 million HIV positive TB patients globally in 2008
- At least one-third of the 33.2 million people living with HIV worldwide are infected with TB
- 500,000 people (1 in 4 people) died of HIV-associated TB in 2008

# TB/**HIV** Co-Infection

- TB is a leading cause of death among people who are HIV-positive worldwide
- People with HIV are up to 50 times more likely to develop TB in a given year than HIV-negative people
- A person with untreated latent TB infection and HIV infection is 20-30 times more likely to develop active TB disease during their lifetime than someone without HIV infection
- Increased risk particularly in immigrants & refugees from countries with a high incidence of TB & HIV, and in Aboriginal peoples

# Challenges

- TB is harder to diagnose in **HIV**-positive people
- TB progresses faster in **HIV**-infected people
- TB in **HIV**-positive people is almost certain to be fatal if undiagnosed or left untreated
- TB occurs earlier in the course of **HIV** infection than many other opportunistic infections



# What Can We Do?

- Encourage individuals infected with HIV to get tested for TB and vice versa
- An HIV infected individual with either LTBI or active TB disease can be effectively treated
- All TB medications are **free** through TPH
- TB-UP Program
- Inform individuals and provide resources of available city services

# Sexual Health Program

- Case Management - treatment, counselling and partner notification
- Education and Outreach
- Sexual Health Clinics

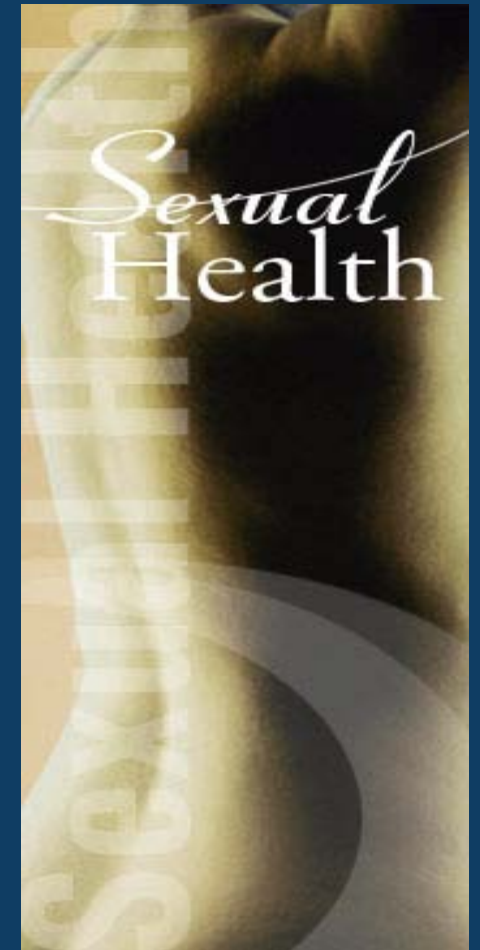
[AIDS & Sexual Health InfoLine](#)

416-392-2437

[Sexually Transmitted Infections Program](#)

Phone: 416-338-2373

Website: [www.toronto.ca/health/sexualhealth](http://www.toronto.ca/health/sexualhealth)





# Sexual Health Clinics

Sexual Health Clinics in Toronto:

[http://www.toronto.ca/health/cdc/cdc\\_clinics/shc.htm](http://www.toronto.ca/health/cdc/cdc_clinics/shc.htm)

Toronto Public Health Sexual Health Clinics offer:

- Birth control counselling
- Low cost or free birth control
- Free condoms
- Plan B (emergency contraceptive pill)
- STI testing and free treatment
- HIV testing (anonymous)
- Pregnancy testing, counselling and referral
- Sexuality and relationship counselling

**No Referral or OHIP needed**

# Fighting TB and HIV

“We can’t fight AIDS unless we do much more to fight TB”.

Nelson Mandela,  
International AIDS  
Conference, Thailand  
14 July, 2004.



*Nelson Mandela at 2004 International AIDS Conference  
Image source: BBC News Online  
(<http://news.bbc.co.uk/1/hi/world/asia-pacific/3895525.stm>)*

# Questions

