



Epidemiology- Epidemic Update

Global Picture:

- Estimated 39.5 million persons living with HIV/AIDS by end 2006
- About one-third are between 15-24 years
- Most people are unaware they are infected
- Young women are more vulnerable
- Mobility and poverty contribute to high prevalence

Adults and children estimated to be living with HIV/AIDS in 2006



39.5 million

Adults: 37.2 million

Women: 17.7 million

Children (<15): 2.3 million

9/18/2008



Estimated number of adults and children newly infected with HIV during 2006

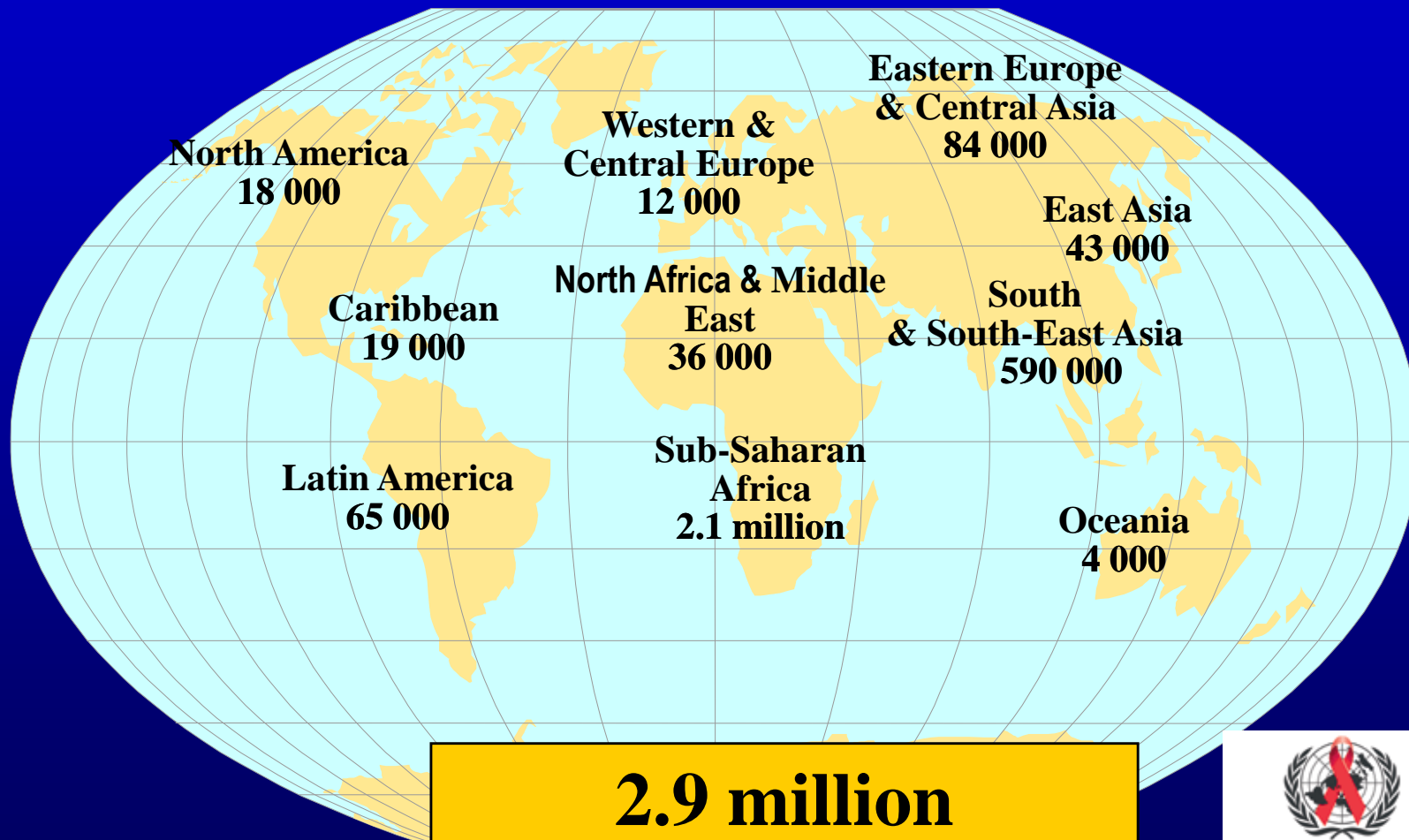


4.3 million
Adults: 3.8 million
Children (<15): 530 000

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Estimated adult and child deaths from AIDS during 2006

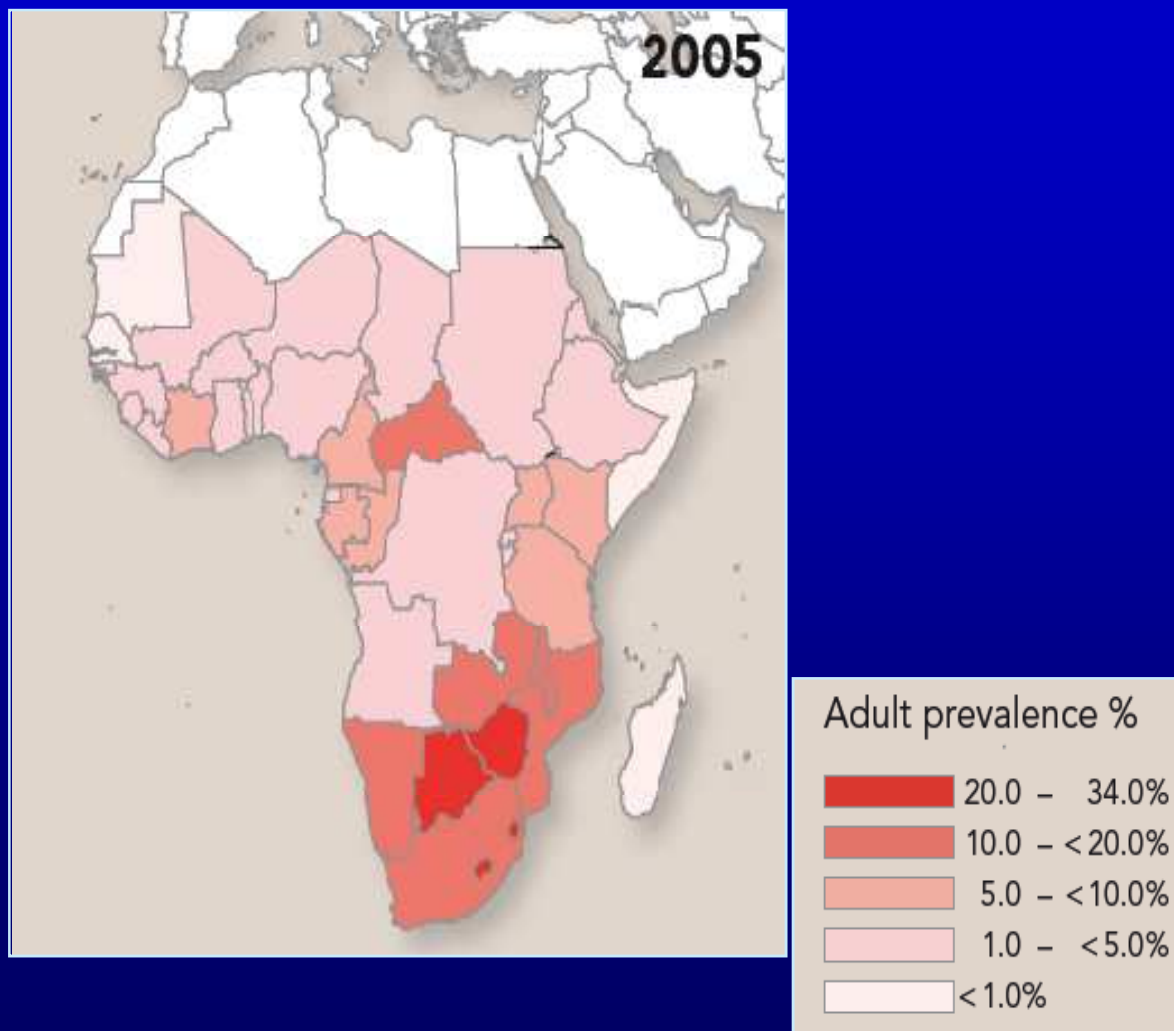


2.9 million
Adults: 2.6 million
Children (<15): 380 000

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HIV prevalence (%) in adults in Africa, 2005





Sub-Saharan Africa

- Is the most affected region
- HIV is now the leading cause of death
- Estimated **2.8 million** new HIV infections in 2006
- **24.7 million** people in Africa live with HIV
- By 2010, an estimated 106 million children under age 15 are projected to lose one or both parents, with 25 million of this group orphaned due to HIV/AIDS

HIV/AIDS in Tanzania (HIS 2003-4)

- 7.0 % of Tanzanians (Aged 15 - 49) are infected with HIV. (About 2 million)
- Higher in women than men (8% vs 6%)
- Of these, around 1 million are in need of HIV clinical care and 400,000 are estimated to be in need of treatment with anti-retroviral therapy
- Pockets of high prevalence are found across the country (Mbeya 14%, Iringa 13 %, DSM 11 %)
- HIV prevalence is declining in some areas eg. Kagera

Fig 3.1: Prevalence of HIV infection among ANC attendees by region, Tanzania 2005/06

Prevalence by region

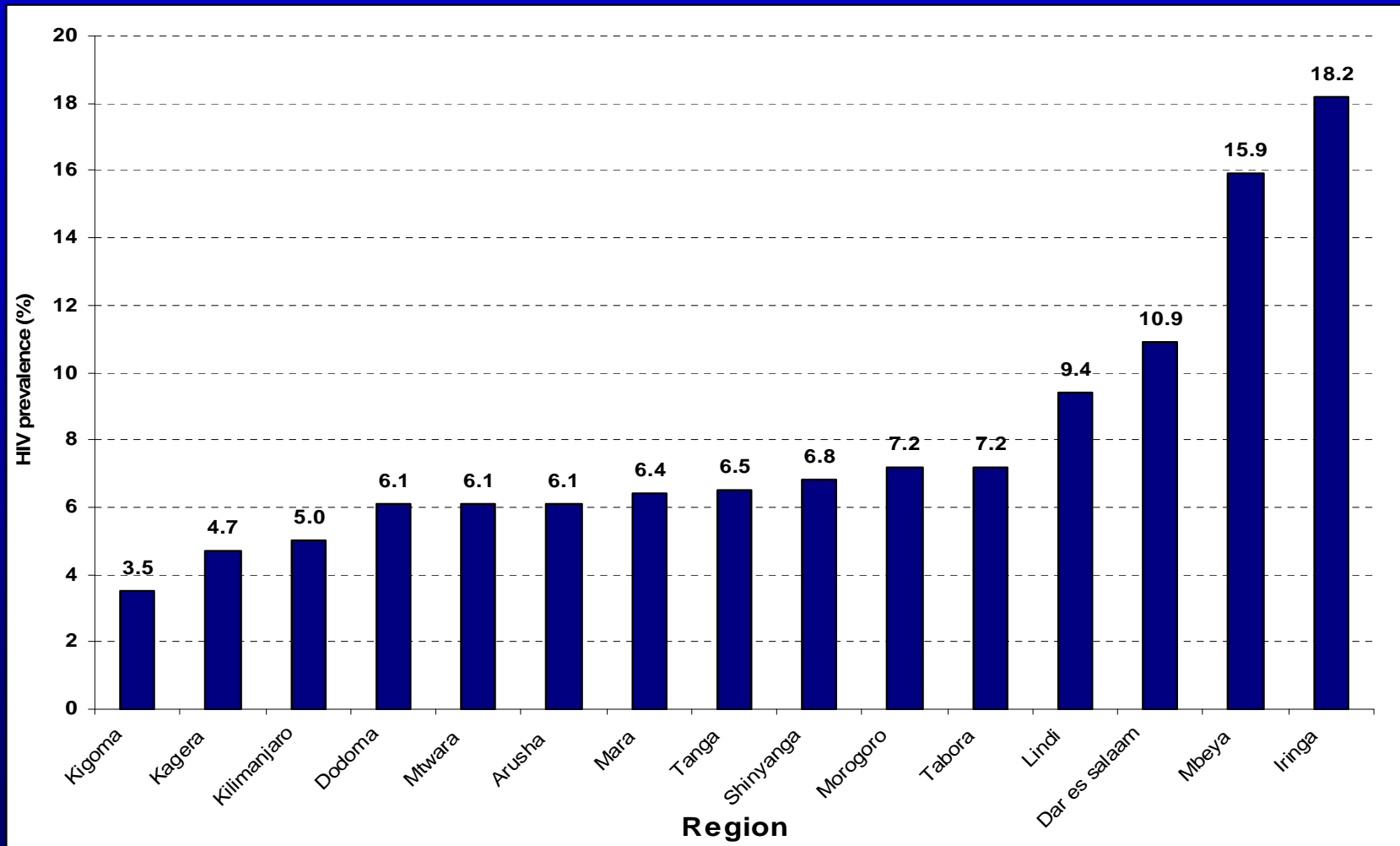


Fig 3.1: Prevalence of HIV infection among ANC attendees by region, Tanzania 2005/06

Human Immunodeficiency Virus

- Retroviruses grouped into
 - HIV-1
 - HIV-2
- HIV-1 sub-grouped into
 - Major group (Group M)
 - Sub-types-a,b, c, d, e, and recobinants)
 - New viruses (Group N)
 - Outliers (Group O)
- A person can be co-infected with more than one different subtypes (type c is the commonest worldwide)

Worldwide Distribution of HIV-1 Viral Subtypes



Source: WHO/UNAIDS (data as of December, 2000)

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Modes of Transmission

- Sexual contact
 - Male-to-female, female-to-male and male-to-male
- Blood
 - Blood transfusion
 - IDU through needle-sharing
 - Needle stick accidents
- Perinatal
 - In utero, during delivery, through breast feeding
- Worldwide, sexual transmission is the predominant mode
- HIV **CANNOT** be transmitted by casual contact, surface contact, or insect bites

Biological Factors Affecting Transmission

Factors Increasing Risk

- Infectiousness of host (amount of the HIV virus in blood)
- Susceptibility of recipient
- Viral properties

Factors Decreasing Risk

- Abstinence or Reduction in number of sexual partners
- Correct and consistent use of condoms
- ART use may decrease, but not eliminate, risk
- Anti-retroviral drugs have been shown to decrease MTCT

Socio-economic Factors Facilitating HIV Transmission

- Social Mobility
 - Mobility depending on socio-economic factors
 - HIV/AIDS follows routes of commerce
- Socio-economic factors
 - Poverty
 - Loss of community cohesion
- Stigma and Denial
 - Denial and silence is still the norm
 - Stigma prevents acceptance of the problem and early care-seeking
- Conflict and social unrest
 - Civil unrest, especial armed conflict and displacement of people



Socio-economic Factors, continued

- Cultural Factors
 - Traditions, beliefs and practices affect
 - Understanding of health and disease
 - acceptance of conventional medical treatment
 - Culture can create barriers that prevent people, and especially women, from taking precautions
- Gender inequalities
 - Men are expected to have many sexual relationships
 - Women suffer gender inequalities, often economic in nature



Socio-economic Factors, continued

- Awareness
 - Lack of information necessary to understand and prevent HIV
 - False beliefs about effects of ART

- Alcohol Consumption and Drug Use
 - Impaired judgment, casual sexual contacts
 - Sharing of needles and equipment

Socio-economic Impact

- Estimated number of orphans in Tanzania: **1,200,000 by year 2003**
e.g 21% of families in Bukoba district were fostering an orphan
- Loss of personnel in education and health sectors affecting social development
- Hospital bed occupancy due to HIV/AIDS over **50% at District Hospitals**
- Economic productivity loss (GDP) up to 20%