

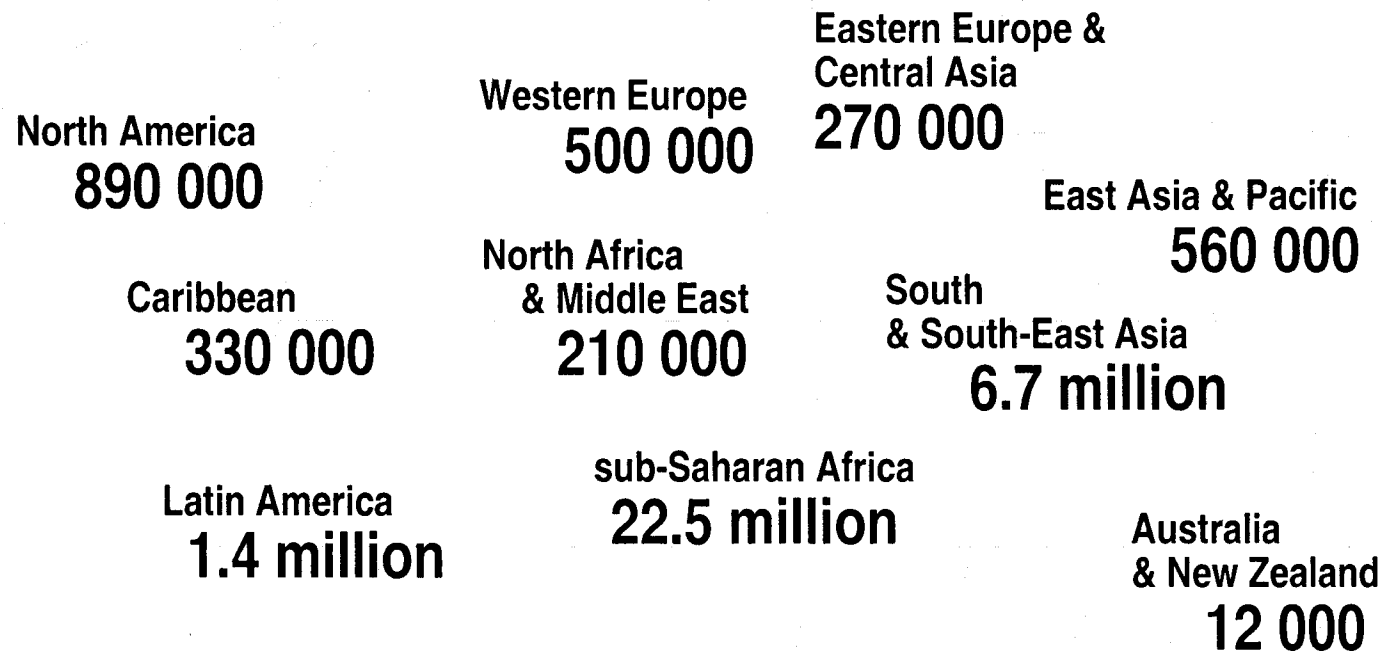
HIV Infection and Therapy: The Interface with Mental Health

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Adults and children estimated to be living with HIV/AIDS



Total: 33.4 million

Key Challenges in HIV Therapy

- Prevention in the clinical setting:
 - Antiretroviral drugs to reduce vertical, sexual and parenteral spread
 - Behavioral programs to increase and support safe behavior
- Acute infection: Find cases, further research
- Find HIV infected persons not in care and provide access to therapy when appropriate
- Optimize timing of initial therapy, choice of regimen, and improve adherence to prolong duration of benefit
- Aggressively study means to extend clinical benefit in persons with incomplete suppression and existing multi-class antiretroviral drug resistance

HIV: The Interface With Mental Health

- HIV infection can cause psychological stress and psychiatric disease
- Many HIV treatments have CNS side effects or have adverse interactions with drugs used in the therapy of mental health disorders
- HIV infection or related infections and cancers can infect the CNS directly causing disease
- There is an overlap in populations with pre-existing mental health disorders and HIV infection
- Some mental health disorders are caused by/associated with behaviors that increase HIV risk

HIV Therapy Can Lead to CNS Problems

- Many HIV drugs have short or longer term CNS side effects
 - A common HIV drug, efavirenz, commonly causes confusion, nightmares, difficulty concentrating, agitation that lasts 2-4 weeks
 - AZT can cause headache, lethargy, and confusion
 - Interferon, used to treat Hepatitis C, causes severe depression
- HIV drugs can interfere with the metabolism of other drugs, including those used in treating mental illness
 - Nevirapine lowers methadone levels substantially
 - Ritonavir raises desiprimine levels 150%
- The “disconnect” often seen between medical and mental health care can lead to serious problems

HIV Infects the Brain

- Recognized soon after HIV discovered
- Often very high levels in CSF
- May cause relapsing meningitis. Recurring severe headaches.
- In advanced AIDS, often see progressing dementia, not unlike Alzheimer's
- Loss of short term memory, affect flattened, fatal in era before effective antiretroviral therapy

HIV-related Immune Deficiency Causes Infections and Cancers in the Brain

- Infections:

- CNS toxoplasmosis: Parasite is reactivated in AIDS, causes headache, encephalopathy
- Cryptococcal meningitis: Severe headache, rapidly fatal if not treated
- Progressive multifocal leukoencephalopathy: Caused by JC virus, rapid loss of motor function, fatal

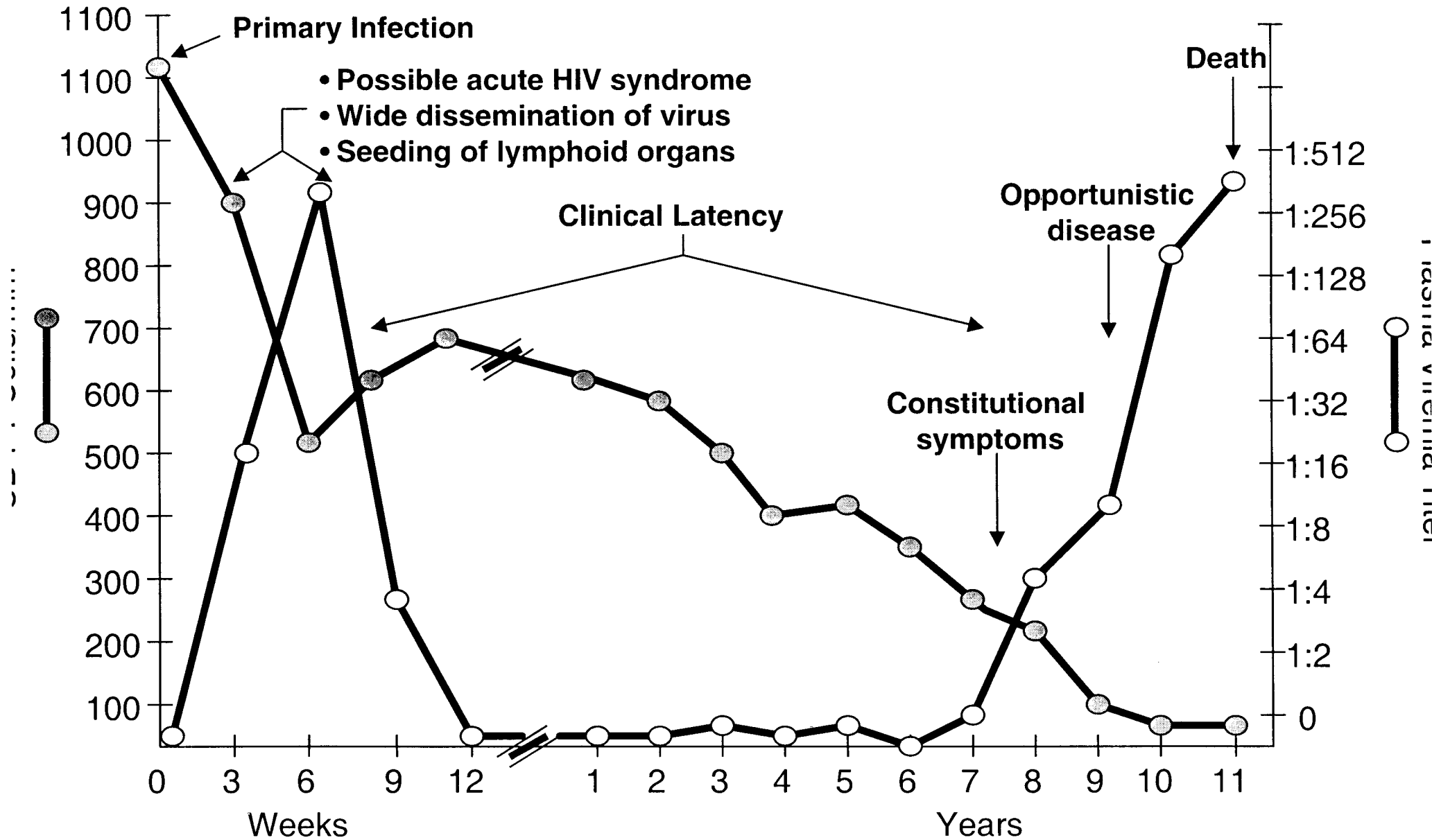
- Cancer:

- CNS Non-Hodgkin's Lymphoma: Often multiple masses, seen in advanced AIDS, rapidly fatal

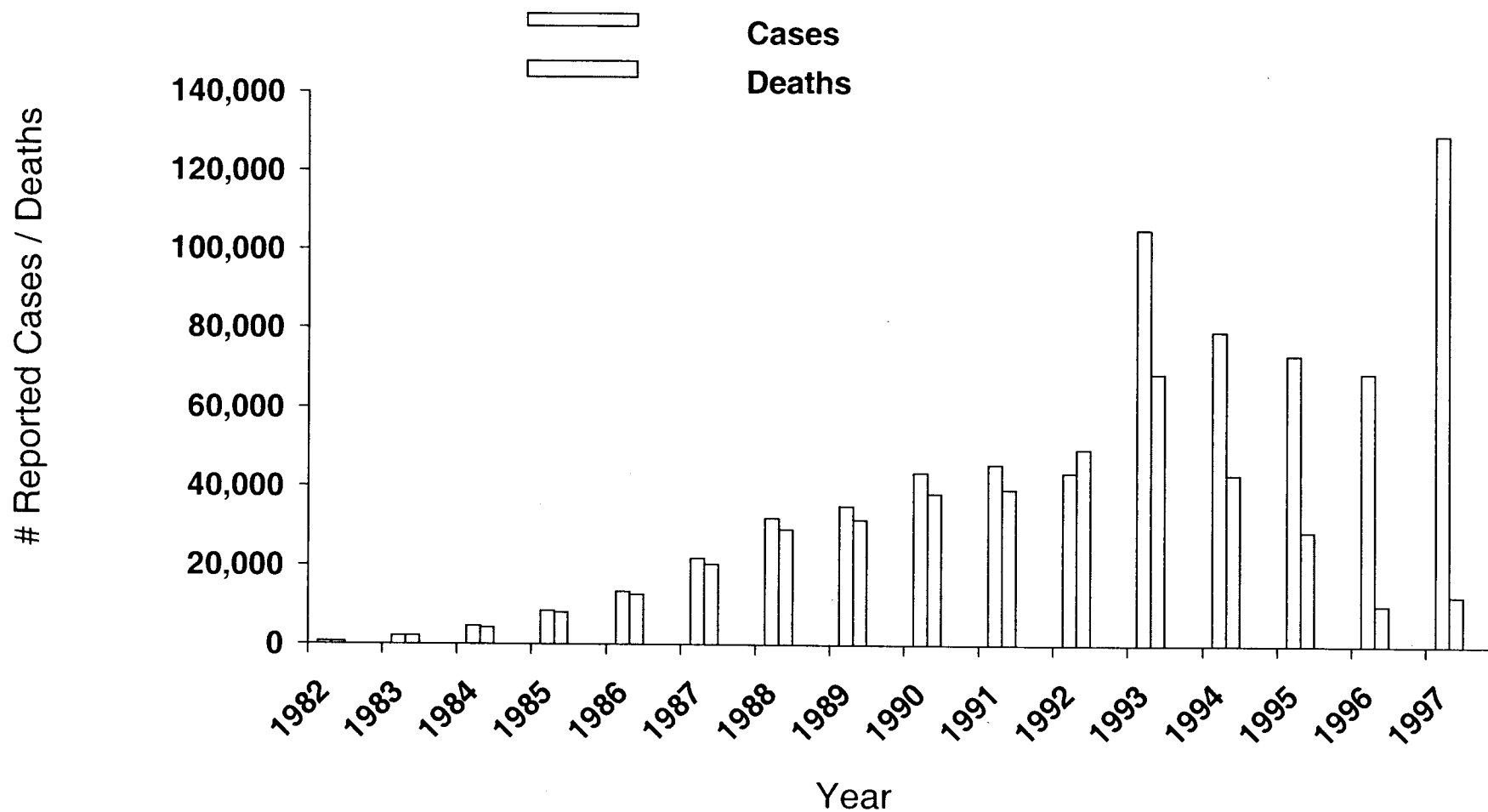
HIV Infection and Mental Illness Are Both Common Diseases

- Nearly 1 million living with HIV infection, many more with mental illness and/or substance use
- Concentration of HIV and certain mental illnesses in younger, urban population makes dual or triple diagnosis inevitable even if there is no causative relationship between two
- Likely that risks do intersect:
 - Injection drug use or unsafe sexual practices probably increased in some with severe mental illness, increasing HIV exposure
 - Medication non-adherence in uncontrolled alcohol or amphetamine use reported to lead to HIV drug resistance in groups with high HIV risk-taking behavior

Typical Course of HIV Infection



AIDS Deaths—1982-1997



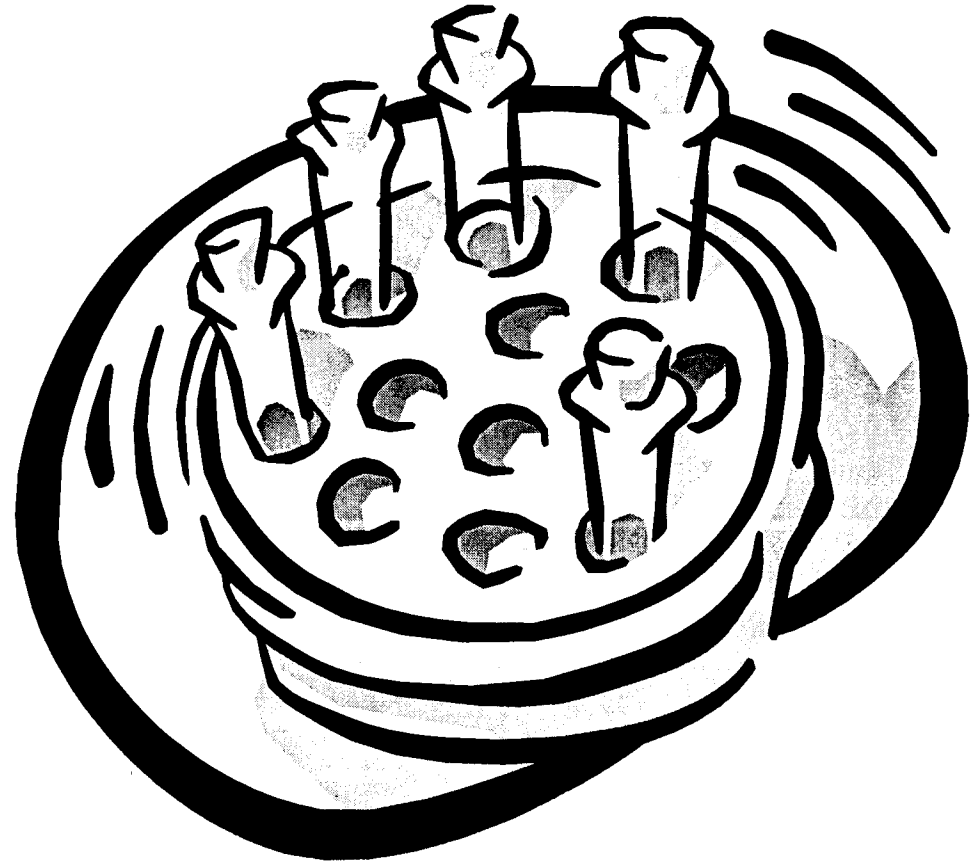
When Should Therapy Begin?

No Easy Answers!

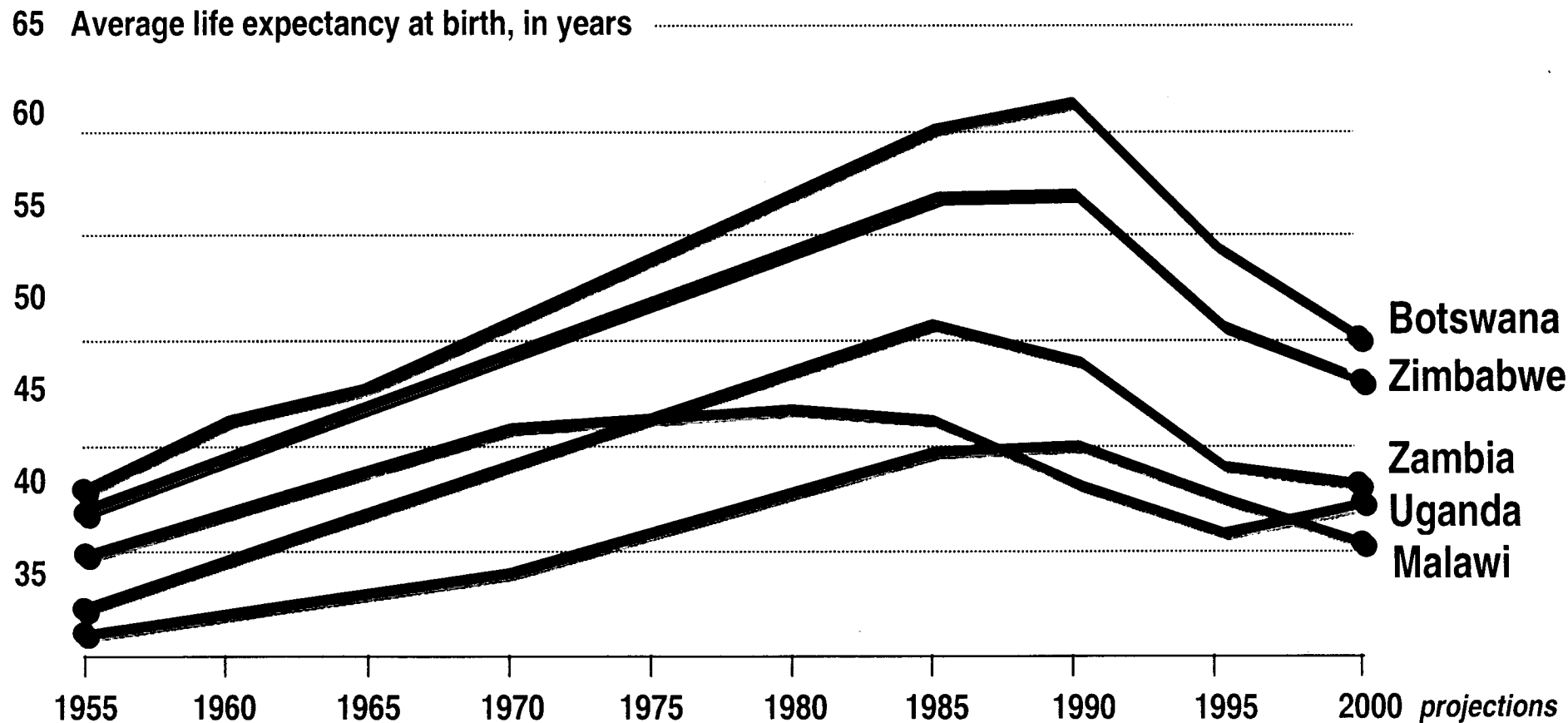
- We clearly don't know when to start
- Data from first generation antiretrovirals is probably of no value but still affects debate
- Data at CROI 2001 mostly supports new guidelines (>200 CD4) but viral load threshold still worth debate
- With potent therapy, when does the loss in expected response with advancing disease outweigh the toxicity, cost and accumulated resistance of treatment begun "too early"?
- Resolving issue will be expensive and will take years

Progress at the Bench

- New targets against the virus
- Ways to modify host:drug interactions



Projected changes in life expectancy in selected African countries with high HIV prevalence, 1995–2000



Source: United Nations Population Division, 1996

UNAIDS—Addis—May 1999



United Nations Programme on HIV/AIDS
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InSite

Gateway to AIDS Knowledge

<http://hivinsite.ucsf.edu>