

Introduction to HIV and Aging

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Objectives

- Know the demographics of aging and HIV
- Identify the similarities between aging and HIV
- Understand role of co-morbidities and behaviors
- Think about how agencies providing services to both our HIV positive clients and our elderly clients will need to plan for the future

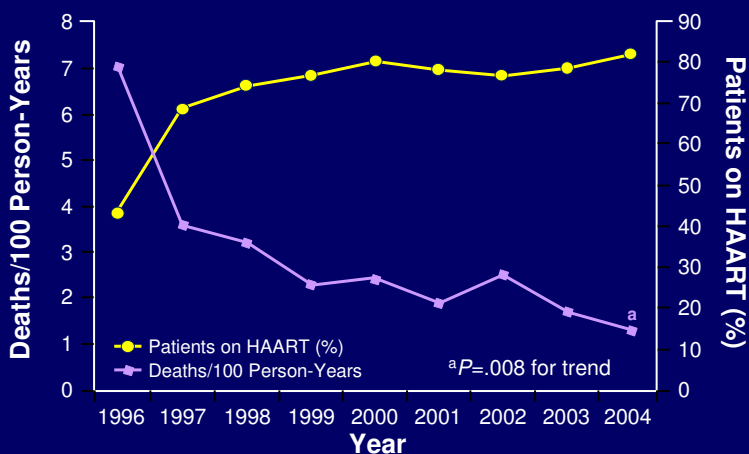
Older Persons and HIV Infection: Three Groups

- Those who are newly infected or not diagnosed
 - Health care providers and patients themselves may not consider the diagnosis because not thinking elderly have risk factors
 - Symptoms of aging often overlap with those of HIV
- Those who are at risk of catching HIV
 - Prevention messages have not been aimed at the “elderly”
 - Not routinely tested (Annals of Int Med 6/2008)
- Those who have survived with HIV and are now entering “old age” – the rest of my talk will concentrate on this group

The needs of these three groups may not be the same

CA Emlet: US Senate Testimony (2005)

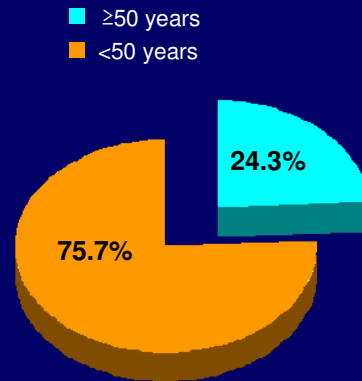
Mortality and HAART Over Time



HAART, highly active antiretroviral therapy.
Palella FJ, et al. *J Acquir Immune Defic Syndr.* 2006;43:27-34.

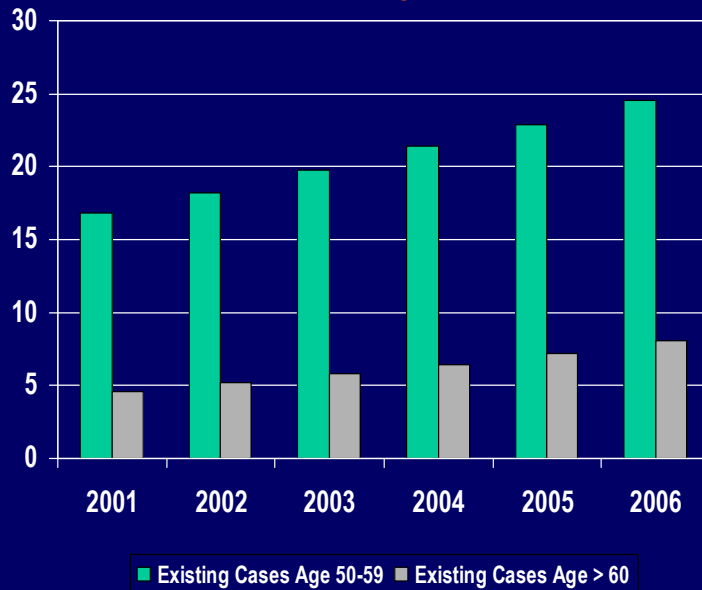
Epidemiology - Nationally

- Increasing numbers of individuals surviving with HIV and AIDS
- Of newly diagnosed persons in the US, 15.3% were ≥50 years of age*
- In 2005, persons over age 50 were:
 - 24% of persons living with HIV/AIDS (increased from 17% in 2001)
 - 19% of all AIDS diagnoses
 - 29% of persons living with AIDS
 - 35% of all deaths of persons with AIDS
- Heterosexual transmission most common risk factor

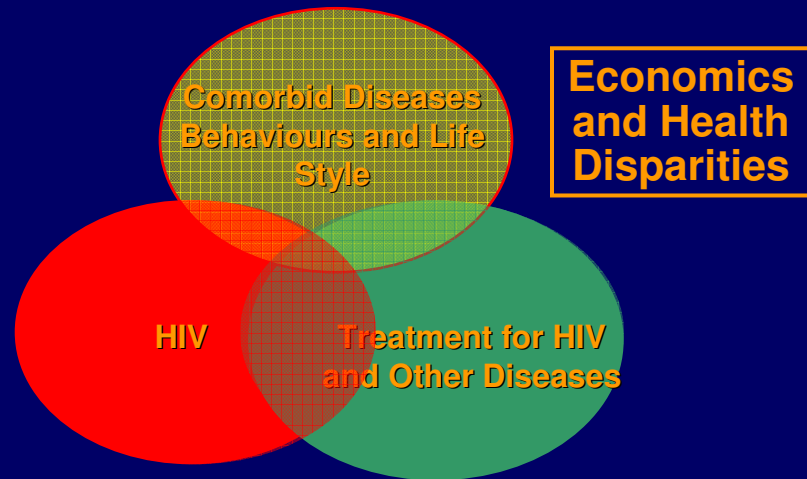


* Data based on reporting from 33 US states
 CDC. *HIV/AIDS Surveillance Report*, 2005. 2007;17:10-19.

Steady increase in the Percentage of HIV Positive New Yorkers over Age 50



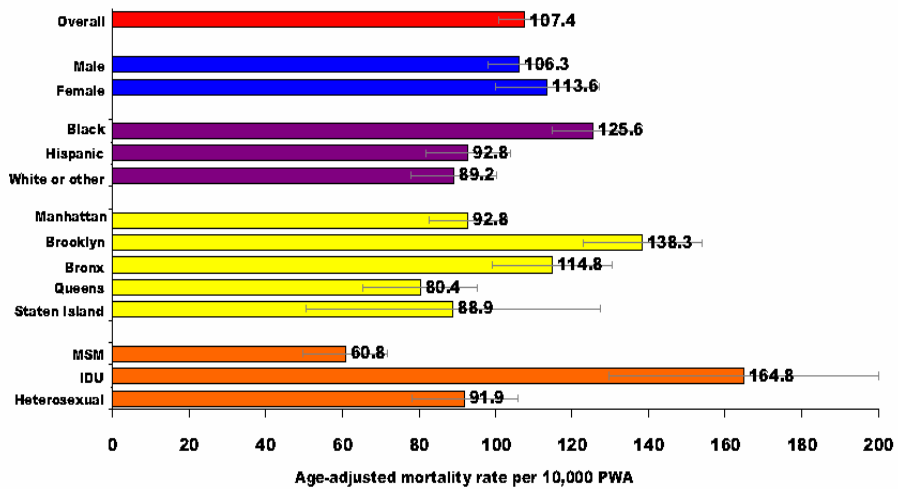
Care of the HIV Positive Patient is Complex



Providing Care for the Older HIV Positive Patient is Going to be Very Complicated

- Social and Psychological Factors
 - Patients are often isolated and tend to live alone
 - Stigma
 - Mental health and behavioral health
 - Higher rates of depression
 - Substance use - alcohol and drugs
- Physical and Medical Challenges
 - Aging
 - Co-morbidities
 - Complicated medication regimens
- Services and Support
 - Difficulties of accessing services geared to the non HIV
 - Homophobia and HIV phobia among elderly service providers and individuals

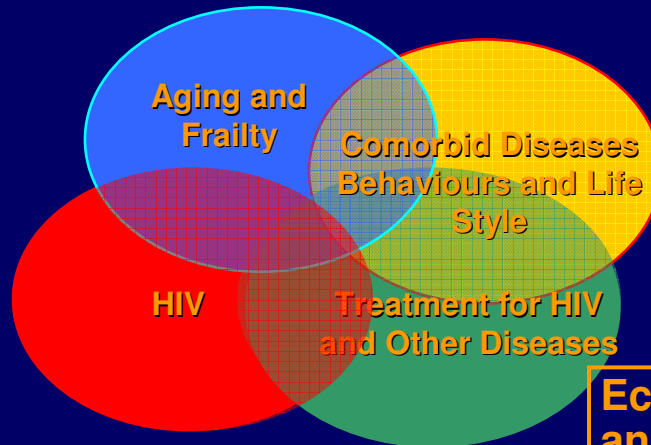
Disparities: NYC Non HIV Related Mortality Rates: 1999-2003



IDUs have the highest mortality rate among all groups (165/10,000 PWA).

home2.nyc.gov/html/doh/downloads/pdf/dires/epi-presentation-croi2005

Care of the HIV Positive Patient is Complex



Economics and Health Disparities

January 6, 2008

AIDS Patients Face Downside of Living Longer

By [JANE GROSS](#)

Similarities Between HIV and Aging

- Loss of bone and muscle mass
- Weight loss
- Increased pain
- Memory loss and decreased cognition
- Decreased immune function (immunosenescence)
- Increased risk of cancer – lung, breast, colon, prostate
- Increased vascular disease
- Increased hypertension
- Increased diabetes
- Increased hypogonadism - both male and female
- Frailty

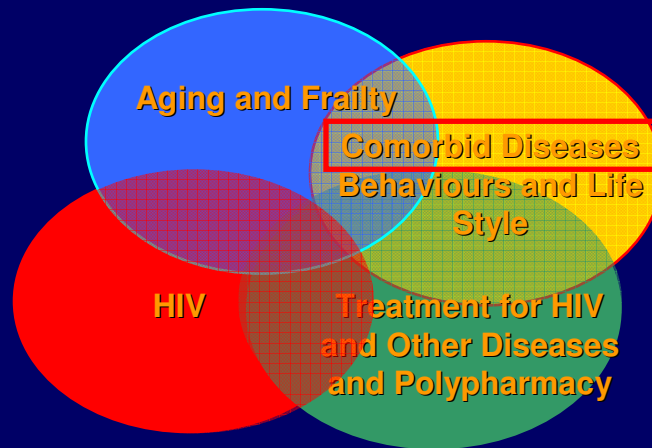
What is “Frailty”?

- Clinical syndrome in the elderly
- Patient is frail with any three of the following:
 - Fatigue and weakness
 - Exhaustion and poor endurance
 - Slowed walking speed
 - Low physical activity level
 - Physical shrinking with loss of weight and muscle mass
- Frail patients are at higher risk for the following
 - Poor outcomes and higher mortality rates
 - Slowest recovery time
 - More iatrogenic complications

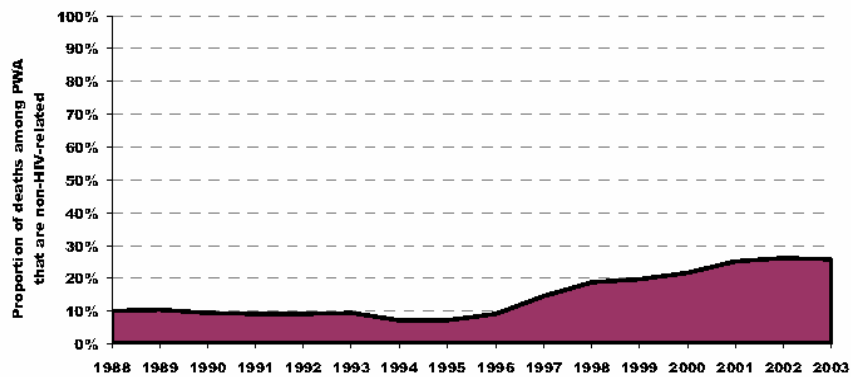
Frailty and HIV Disease: MACS Cohort Study

- Study of HIV negative and HIV positive gay men
 - Risk of frailty correlated with the presence of HIV, the duration of HIV infection and the severity of the infection (low CD4 count and high VL)
 - 55 year old HIV positive man with 0-4 years of HIV infection had the same risk of frailty as a 65 year old HIV negative man

Care of the HIV Positive Patient is Complex



Non-HIV-related deaths among PWA, NYC, 1988-2003*



*Pre-1999 HIV-related deaths standardized to ICD-10 coding rules

Non-HIV-related causes of death have increased since the widespread use of HAART.

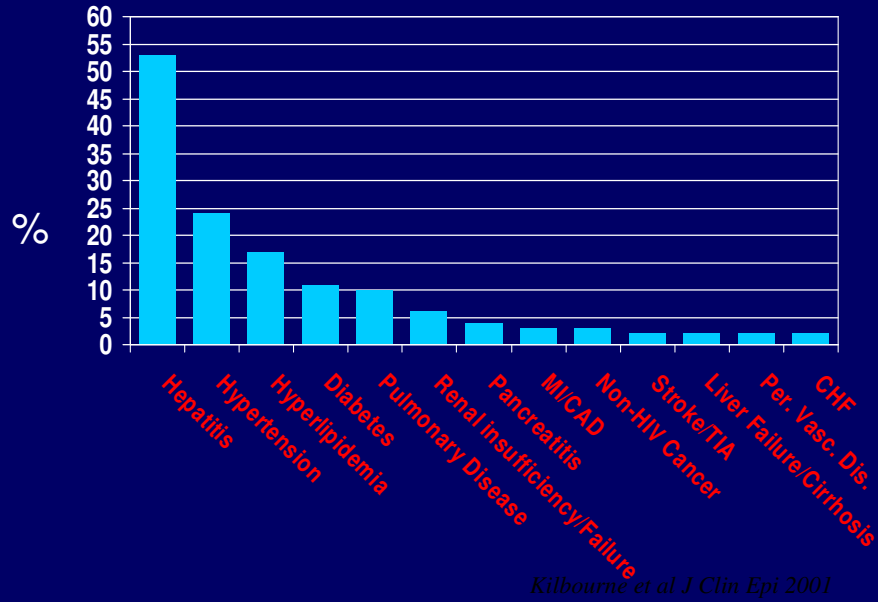
What Do We Mean by Co-morbidity in HIV

- Any condition not included in CDC list of AIDS defining conditions
- A co-morbidity is not caused by HIV
- Factors associated with co-morbidity
 - Generic (true for all patients)
 - Increased age
 - Race, ethnicity
 - Substance use (alcohol, tobacco, drugs)
 - Toxicity from the treatment for the co-morbidity
 - HIV specific factors that may affect a co-morbidity
 - HIV disease progression
 - Toxicity related specifically to HIV treatment

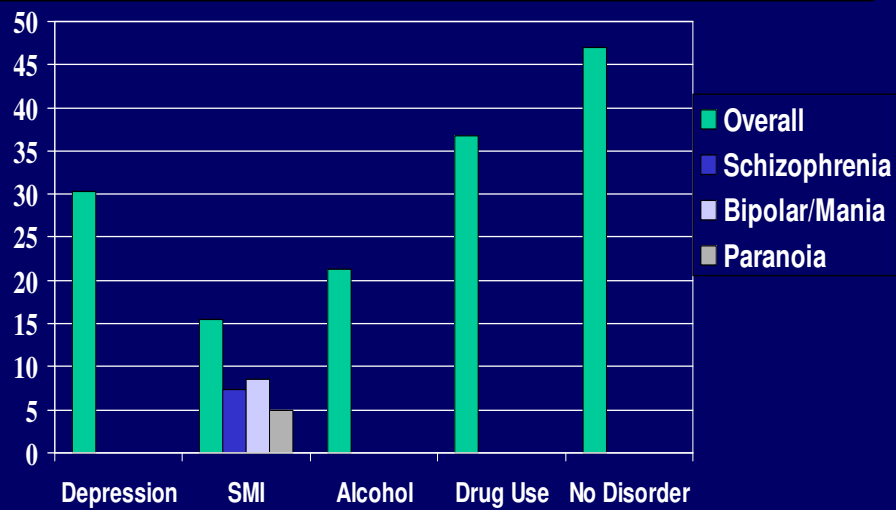
VA Cohort Studies on HIV and Aging

- Unique data base, EMR, excellent follow-up, similar demographics allow for a “control” group, females are underrepresented
- Initial cohort studies were on HIV infected (881 vets)
- Subsequent cohorts include HIV infected (N=approx 1000) and uninfected control group (N= approx 2000)
- Answers sought
 - Are the co-morbidities seen a result of HIV or its treatment?
 - Is the co-morbidity worsened by HIV
 - Is the co-morbidity worsened by HIV’s treatment
 - Does the co-morbidity worsen HIV
- Need for control group of similar demographics very important

Medical Comorbidities in 881 HIV Infected Veterans



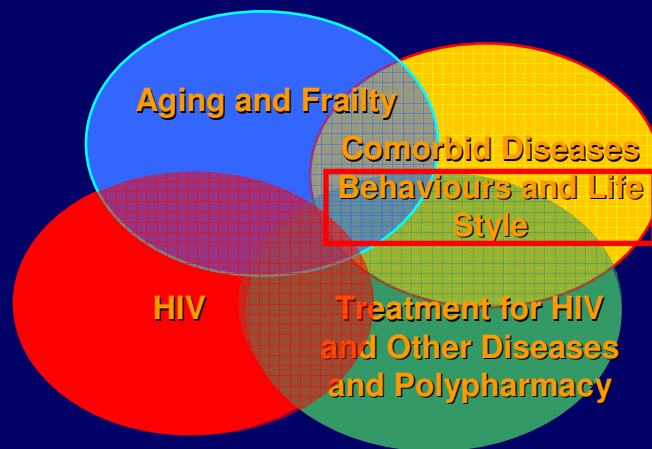
Psych/Substance Use Disorders in 881 HIV Infected Veterans



Observations from the VA Cohort Studies

- Although cardiovascular disease increased with age, it was not increased in comparison to HIV uninfected veterans
- Mental health problems were only increased in the HIV positive age group over age 60
- Substance use, liver disease, pulmonary disease, renal disease and anemia were more common in HIV positive compared to HIV negative controls
- Lifestyle issues and HIV risk factors may play a role in the co-morbidities seen in the VA

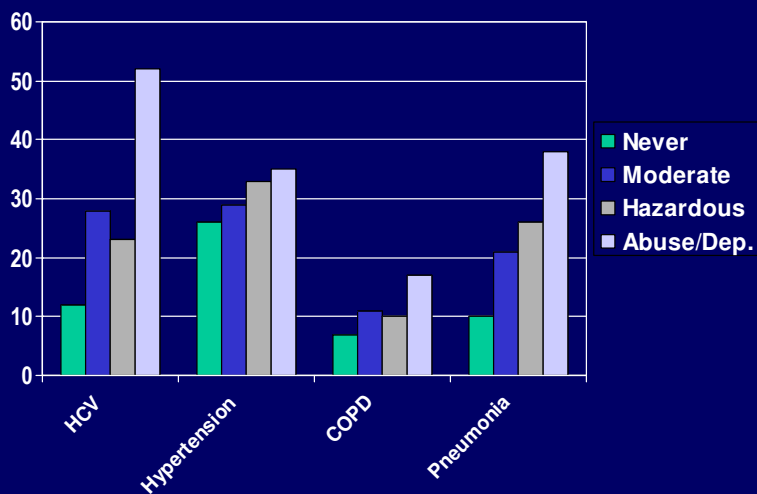
Care of the HIV Positive Patient is Complex



Contributory Behaviors: VA Study on HIV and Aging

- Alcohol (60-75% active)
 - Exacerbation of HCV
 - Harder to treat HCV
 - Mitochondrial Injury
 - Liver disease
 - Liver cancer
 - Hypertension
 - Pneumonia
 - Anemia
 - Dementia
 - Risky sex
 - Poor adherence
- Other Drug use (~30% active)
 - Obstructive lung disease (marijuana)
 - Lung disease (talc - heroin)
 - Heart disease (cocaine)
 - Kidney disease (IDU)
 - Risky sex
 - Poor adherence

Alcohol Use and Comorbidity in HIV



Justice AC et al. Medical Care 2006;44:S52-S60.

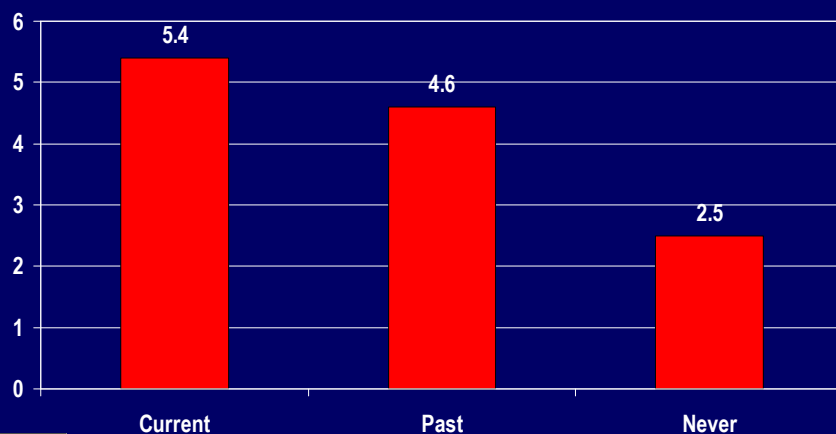
Smoking and Health

40-70% HIV Positive smoke compared to 20% in general US pop.

- Accelerates aging and shortens life expectancy by up to 10 years
- Obstructive lung disease
- Pneumonia - bronchitis
- Vascular disease (heart, brain, peripheral)
- Hypertension
- Cancer - lung, head and neck, bladder, esophageal, etc.
- Bone Disease – osteopenia and osteoporosis

VA Cohort Study: HIV Mortality Rate by Smoking Status

Mortality Rate =Deaths/100 Person Years $p<0.001$



After adjustment for age, race/ethnicity, CD4 count, viral load, hemoglobin, drug and alcohol use HR for death for current smokers was 2.0 ($p=0.04$).

Crothers K, et al, *J Gen Intern Med* 2005;20:323-331

Summary and Conclusions:

- Prevalence of HIV and AIDS among persons > 50 years will continue to increase
- These patients are going to require multiple services
 - Housing and social support
 - Complicated medical illnesses and treatment
 - Mental health
 - Prevention
 - Substance and alcohol use treatment
 - Home health care
- Providers will need to design programs that will engage the elderly HIV infected and provide for the prevention needs of the HIV uninfected
- Providers for the HIV infected and the elderly will need to effectively collaborate and coordinate their services