
Are Older Adults with HIV Aging Differently?

Multimorbidity Management

Stephen E Karpiak PhD

ACRIA

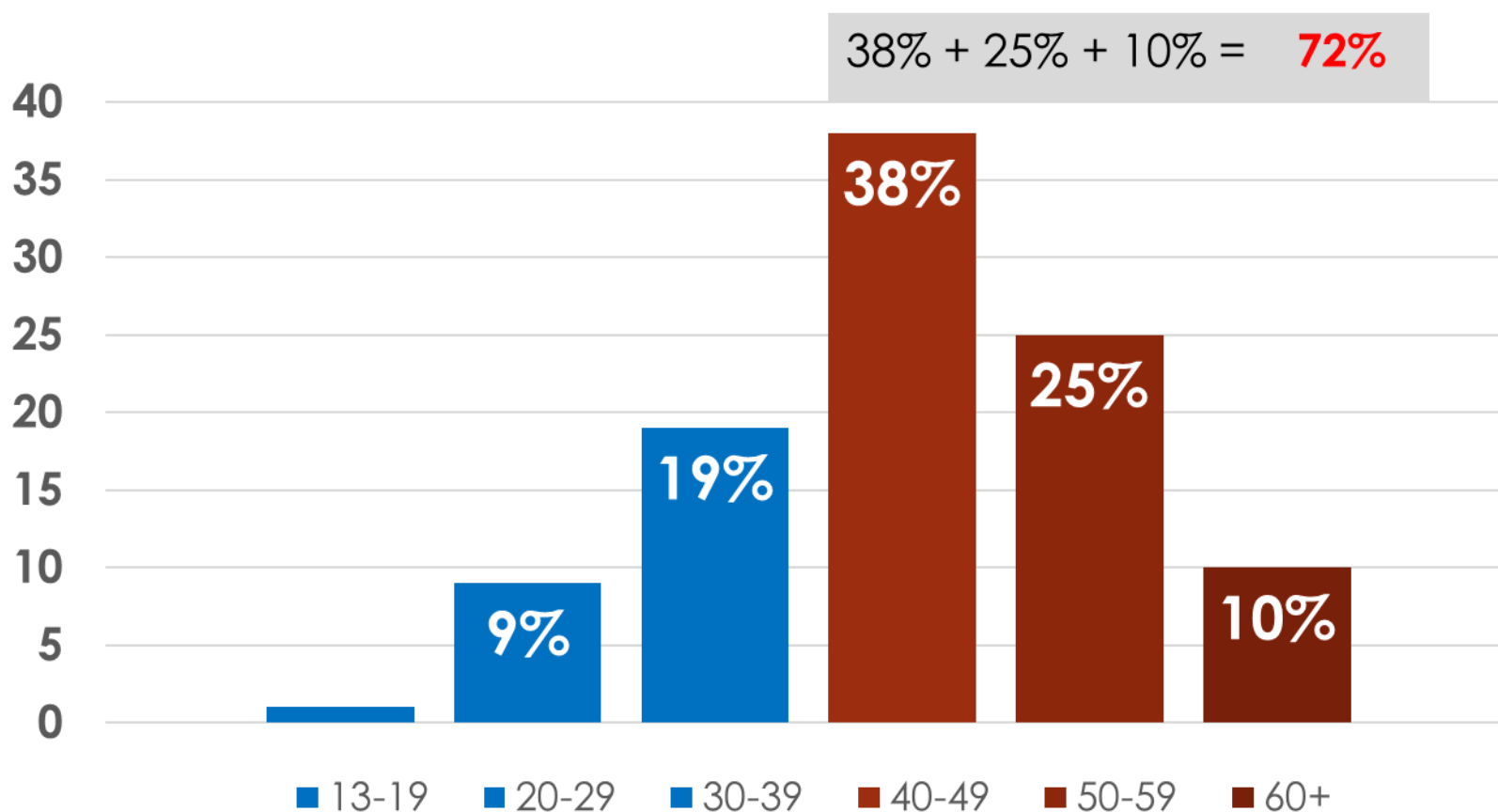
AIDS Community Research Initiative of America

ACRIA Center on HIV and Aging

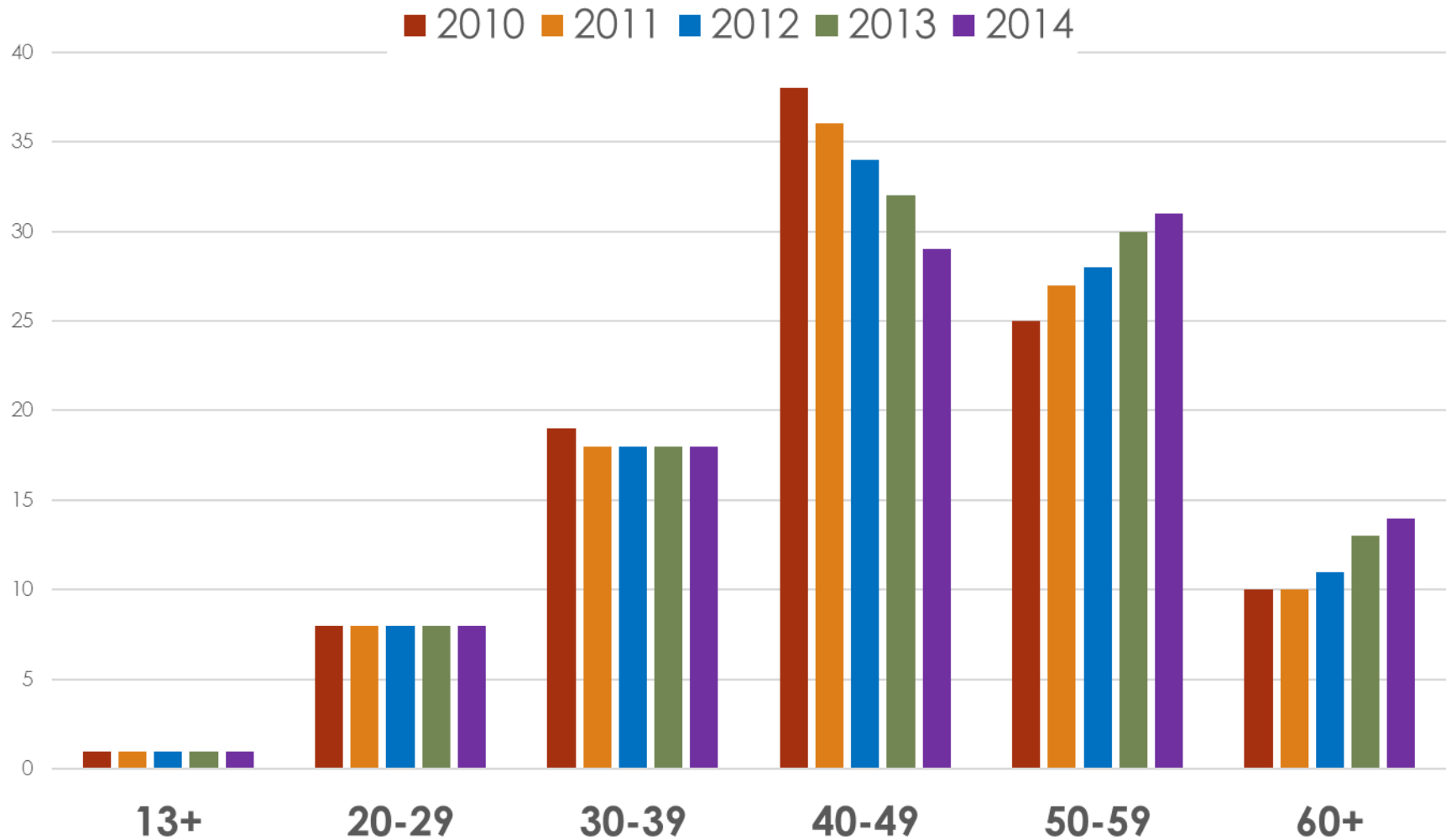
New York University College of Nursing

New York, NY

% Living with HIV in LA County 2010 2020 (Estimation)



% PLWH by YEAR by AGE LA County

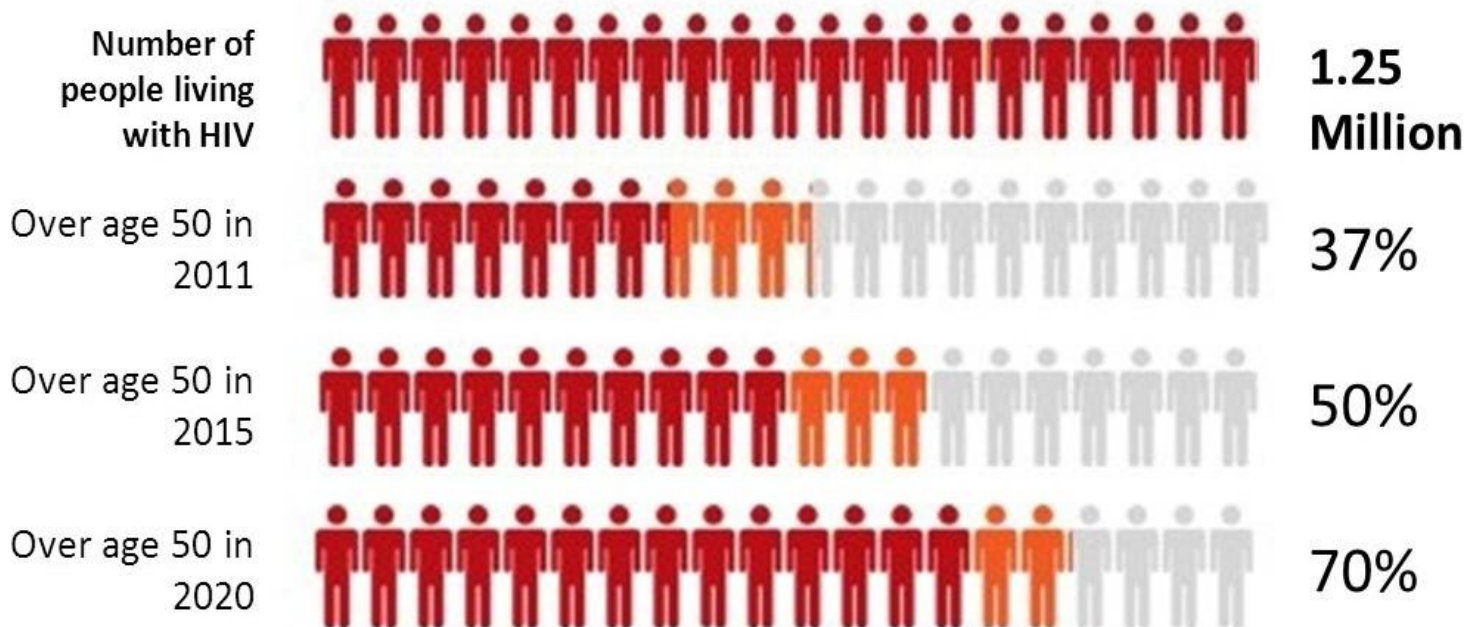


Estimates of the USA HIV Epidemic

Causes for Increasing numbers of Non-AIDS

The Aging of the HIV Epidemic in the United States

CDC Surveillance Data



Today HIV Treating Providers Are
Spending More Time Managing
Non-AIDS Diseases

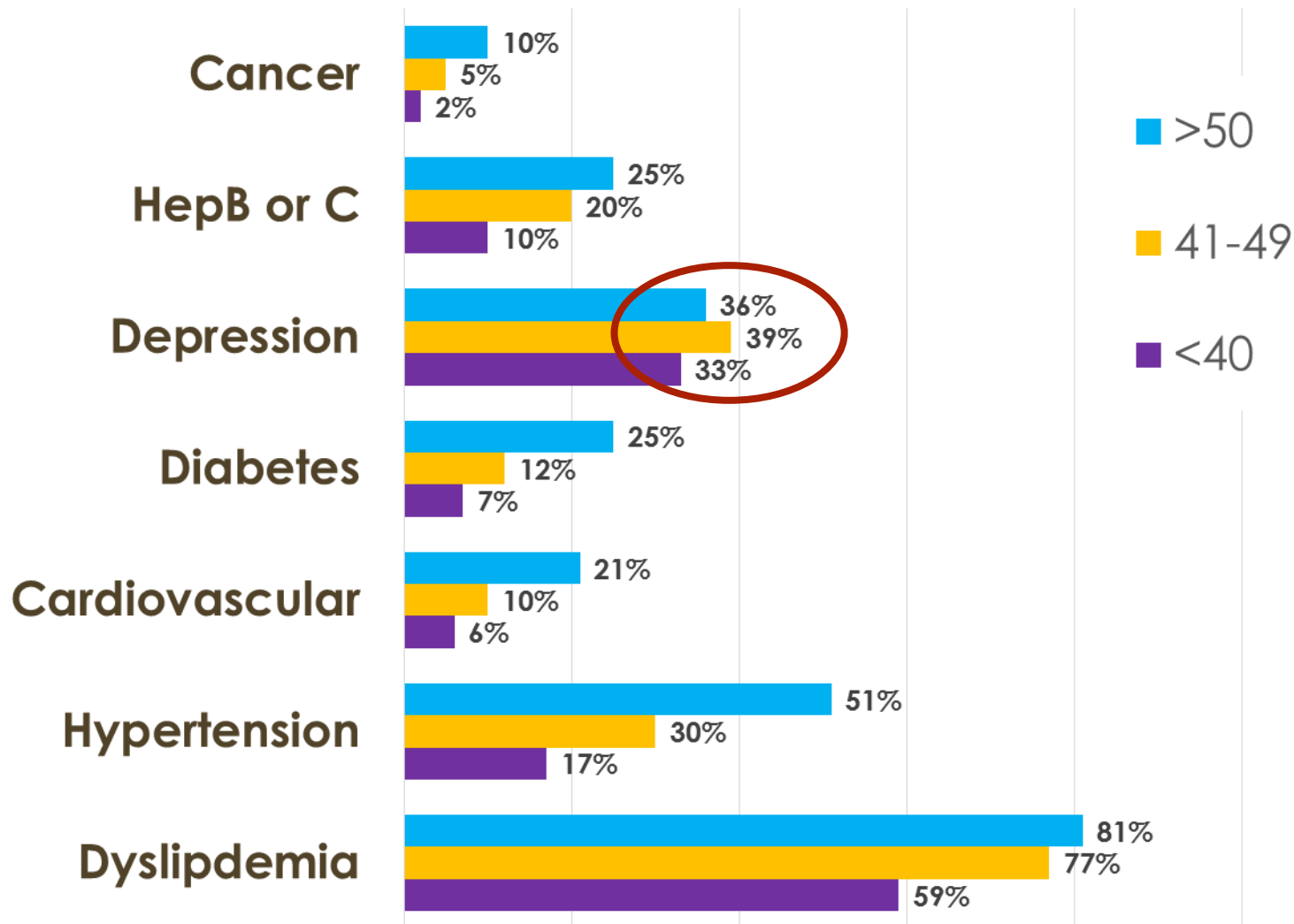


Multimorbidity is 2 or more chronic
illnesses



Multimorbidity is
THE RULE AND NOT THE EXCEPTION for
the older adult living with HIV

Demographic and Clinical Characteristics of the 3,810 Patients at Baseline, Stratified by Age, the HIV Outpatient Study, 2006–2010



THE COMPLICATION OF SUCCESS

Many Age-Associated Diseases are More Common in Treated HIV Patients than in Age-Matched Uninfected Persons

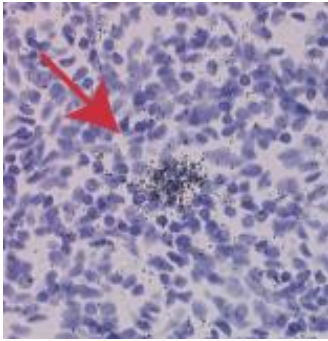
- ⦿ Cardiovascular disease
- ⦿ Cancers
- ⦿ Bone Fractures; Osteopenia
- ⦿ Liver Failure
- ⦿ Kidney Failure
- ⦿ Frailty
- ⦿ Cognitive Dysfunction
- ⦿ Hearing Loss & Macular Degeneration

WHY?

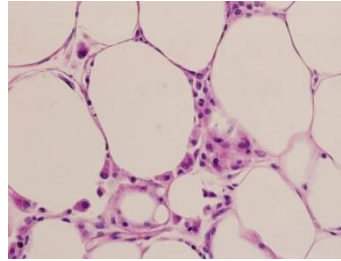
From initial HIV infection there is a cascade of inflammation that occurs

It is not stopped but only blunted by HIV treatment

**HIV production
HIV replication**



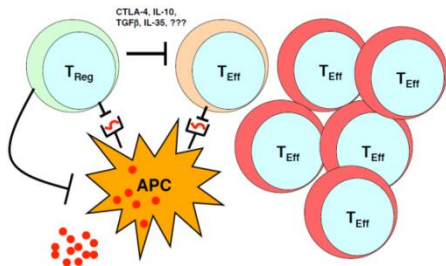
**HIV-associated fat
Metabolic syndrome**



**CMV
Excess pathogens**

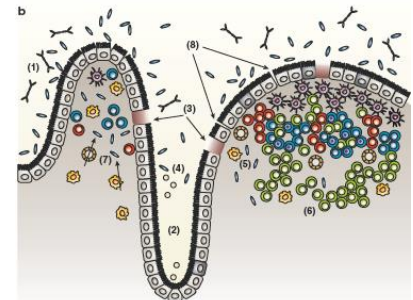


**Loss of regulatory
cells**



Inflammation
↑ Monocyte activation
↑ T cell activation
Dyslipidemia
Hypercoagulation

**Microbial
translocation**



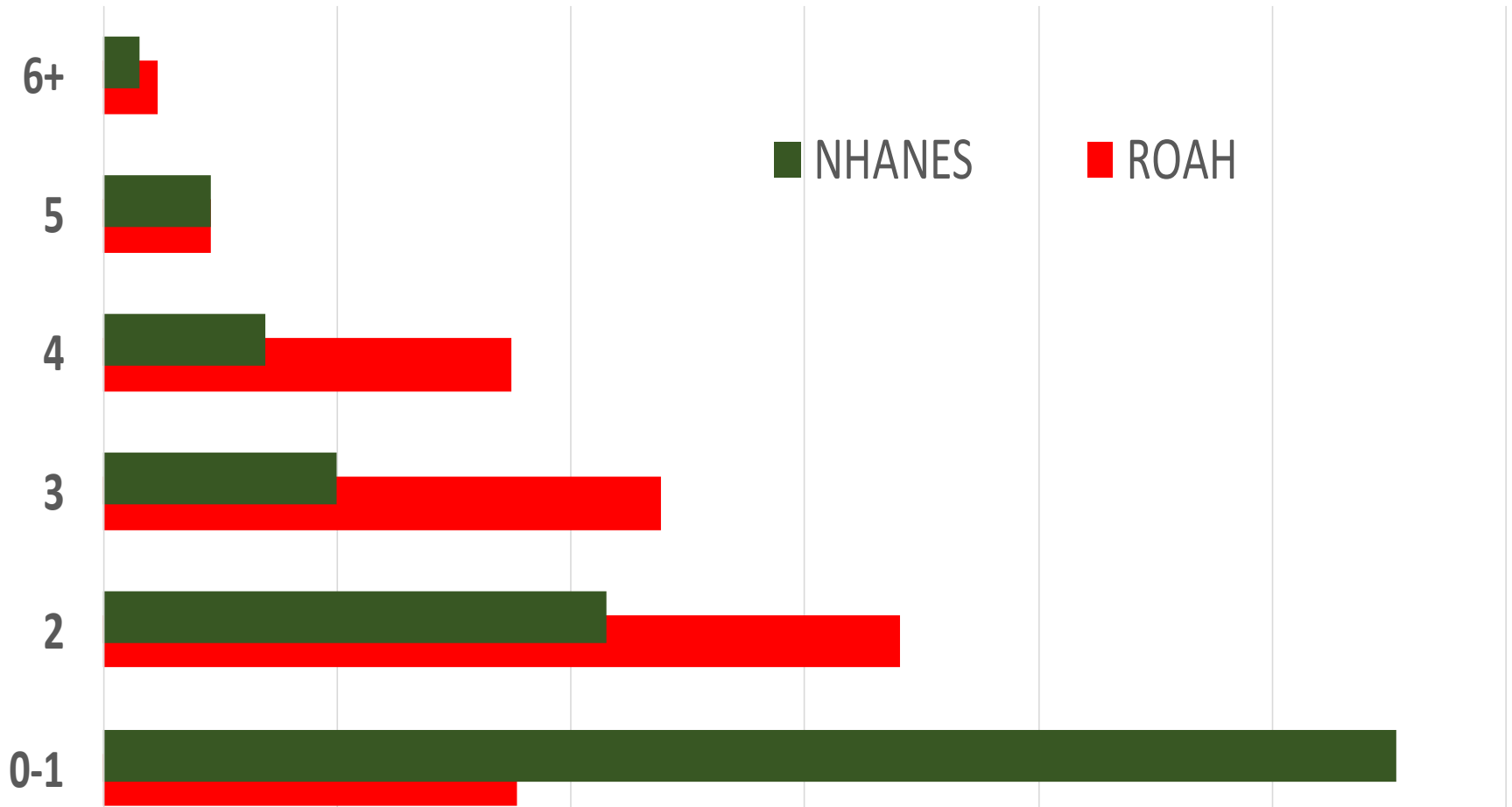
**Co-morbidities
Aging**



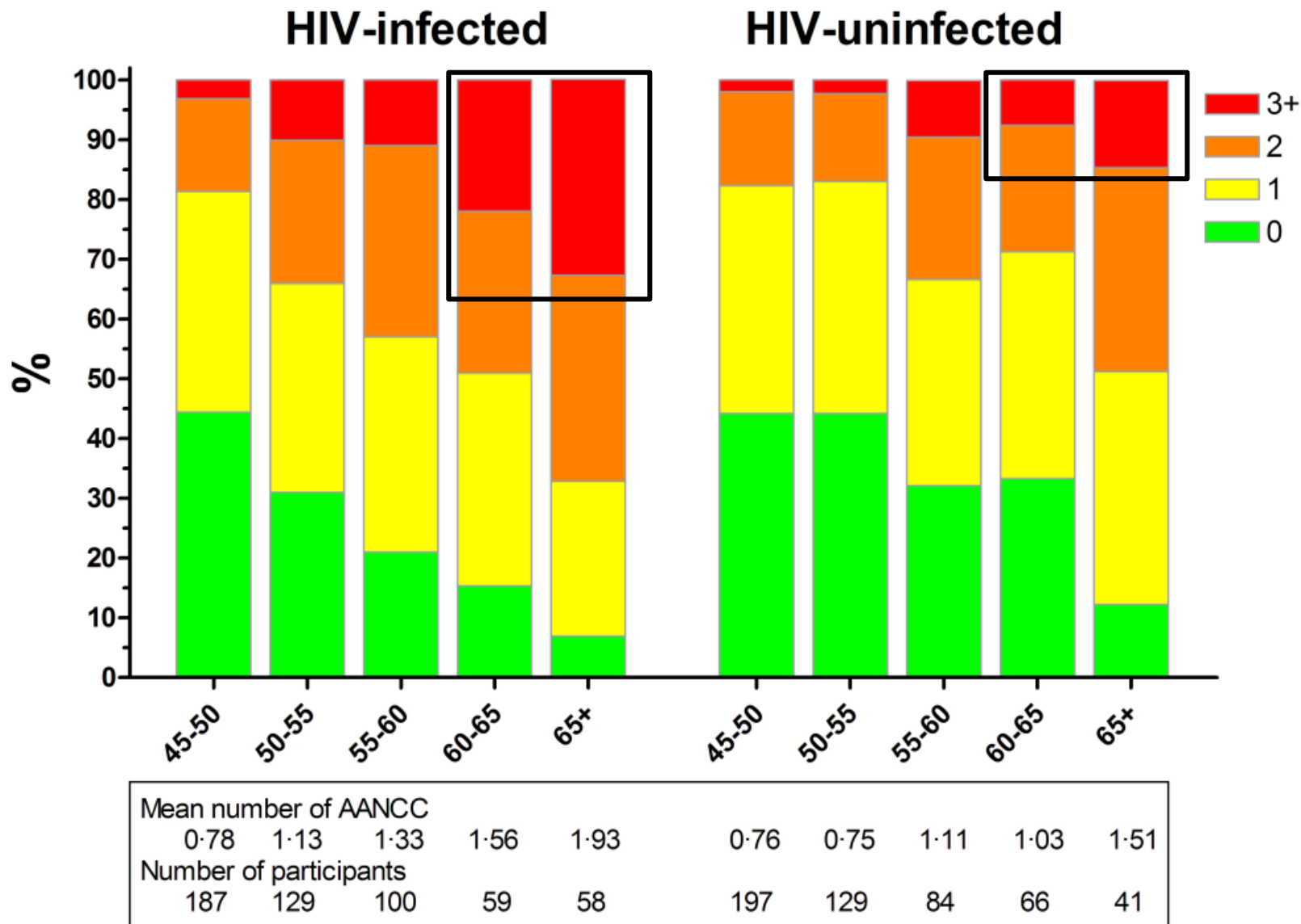
Inflammation predicts disease risk in those on ART and in the general population

- **Mortality** (Kuller, PLoS Med, 2008, Sandler JID 2011, Tien JAIDS 2011)
- **Cardiovascular Disease** (Baker, CROI 2013)
- **Lymphoma** (Breen, Cancer Epi Bio Prev, 2010)
- **Venous Thromboembolism** (Musselwhite, AIDS, 2011)
- **Type II Diabetes** (Brown, Diabetes Care, 2010)
- **Cognitive Dysfunction** (Burdo AIDS 2012)
- **Frailty** (Erlandson, JID 2013)

% Number of Comorbid Illnesses 0-6+ for Each Person: ROAH HIV + vs USA (NHANES) Age 50+ (2006)



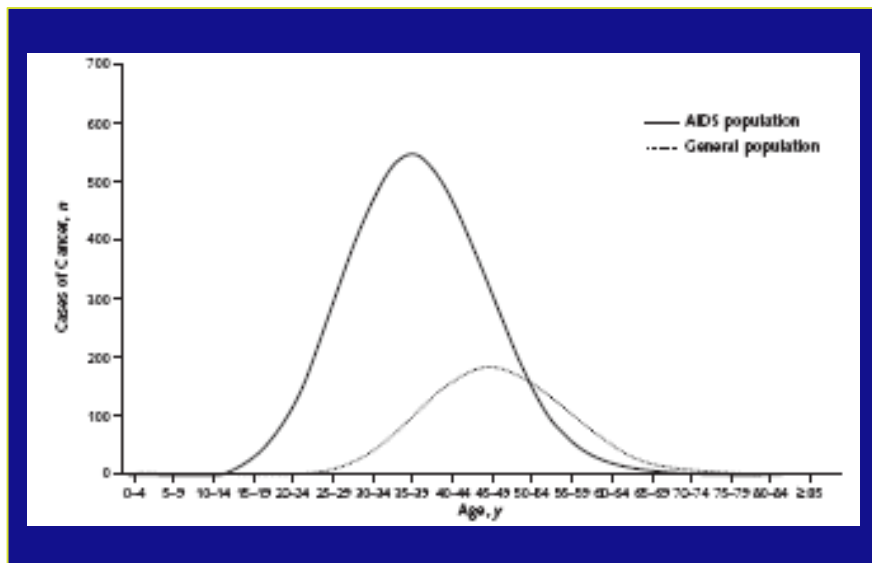
More multimorbidity at higher age in HIV



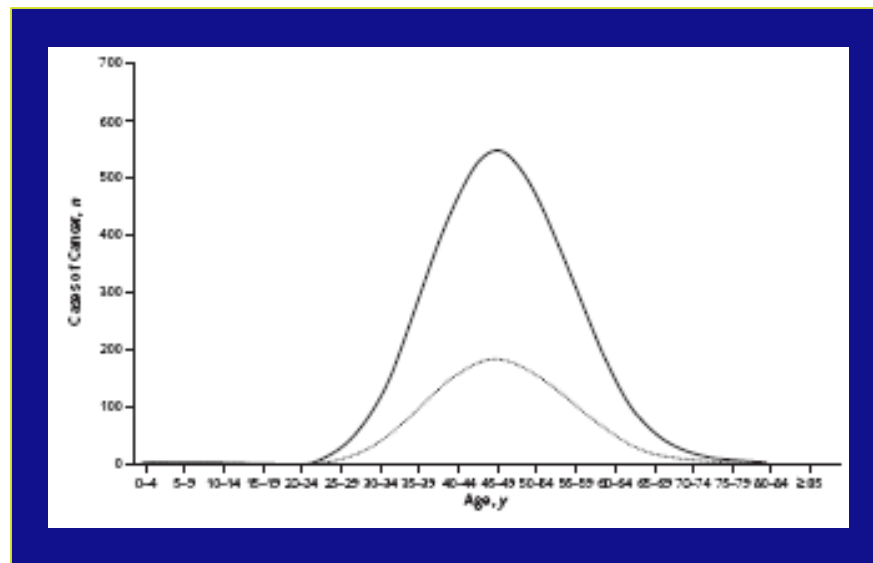
**Are Older Adults with HIV Aging
Differently?**

Are they experiencing accelerated aging?

Are these age-related chronic conditions just Accentuated or/and/not Accelerated?



Accelerated risk Condition occurs more often and at younger age among those with HIV than among HIV-uninfected comparators



Accentuated risk Condition occurs at the same age but more often in those with HIV than among HIV-uninfected comparators

Non-HIV RISK Factors that Characterize HIV Older Adults

All Can contribute to Multimorbidity

Smoking (50-65 %)

History of Substance Use

Poor Diet/Food Scarcity

No Exercise

1/3 Co-infected with HepC

Minimal Alcohol Use is Detrimental

Stress from Chronic Depression

Low Socio Economic Status/Resource

Stigma Induced Social Isolation

Not working

Long Term Opioid Use

Patient Factors

Non-Modifiable

- Age
- Sex
- Genes

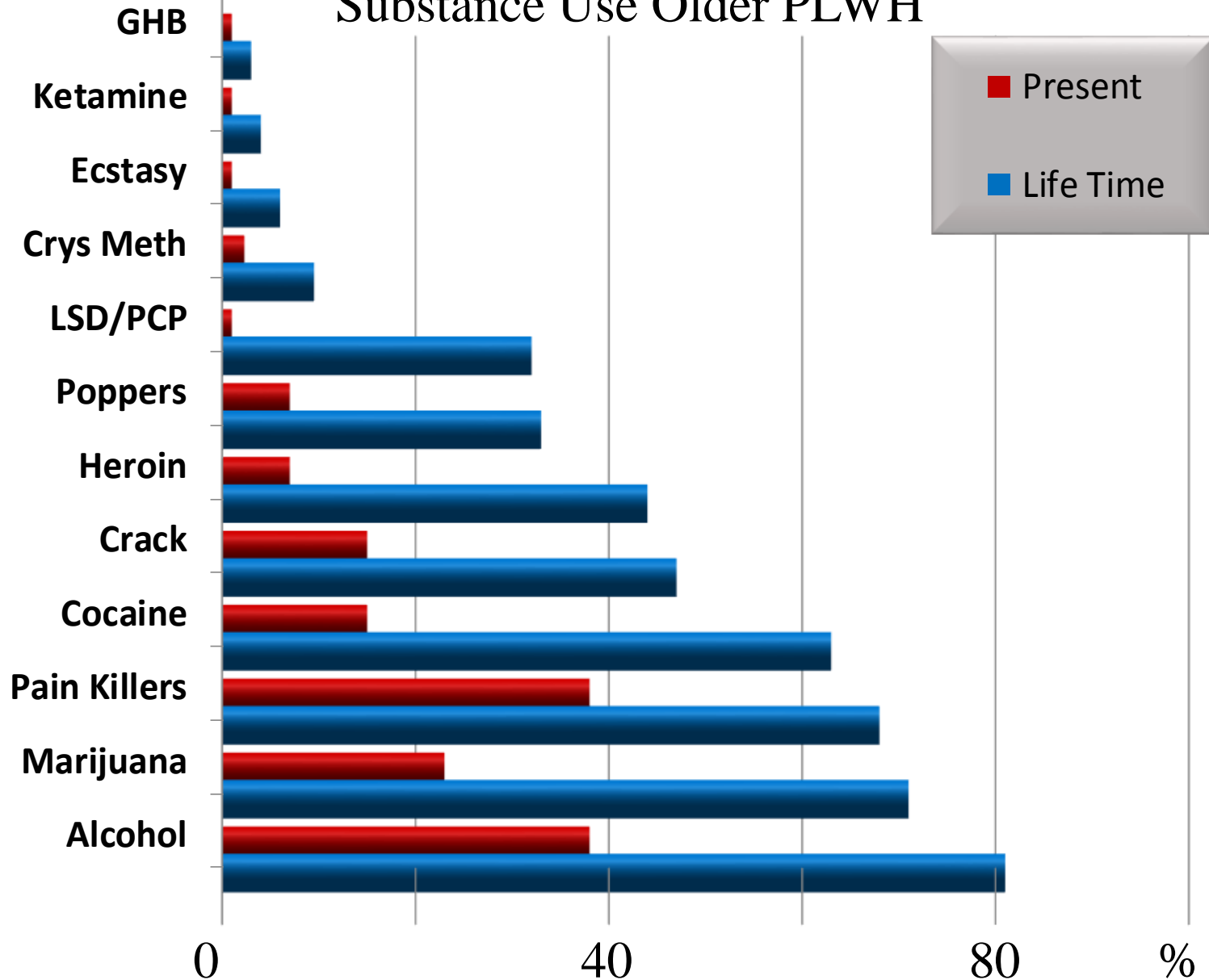
Modifiable

- Weight
- Smoking
- Alcohol
- Illicit Drugs
- Exercise
- Diet
- Adherence to ART

ROAH: Co-occurrence of Substance Use and Behavioral Health Issues

<u>Recovery Status</u>	<u>%</u>
■ Ever enrolled in 12-step	62
■ Currently in recovery	54
■ No substance use in past 3 months	48
■ In recovery for more than 1 year	44

Substance Use Older PLWH



Depression in ROAH vs. Other Older Adults

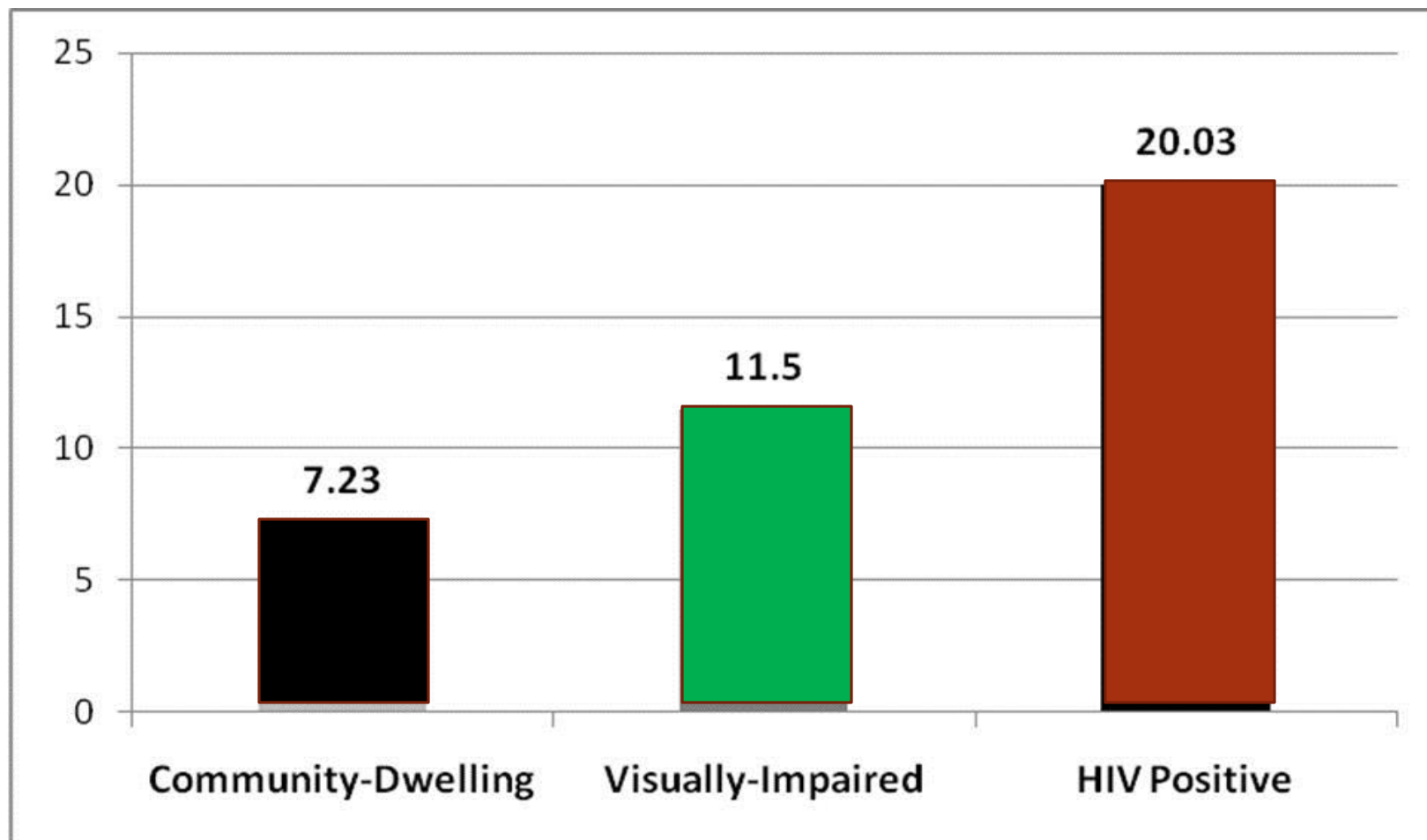
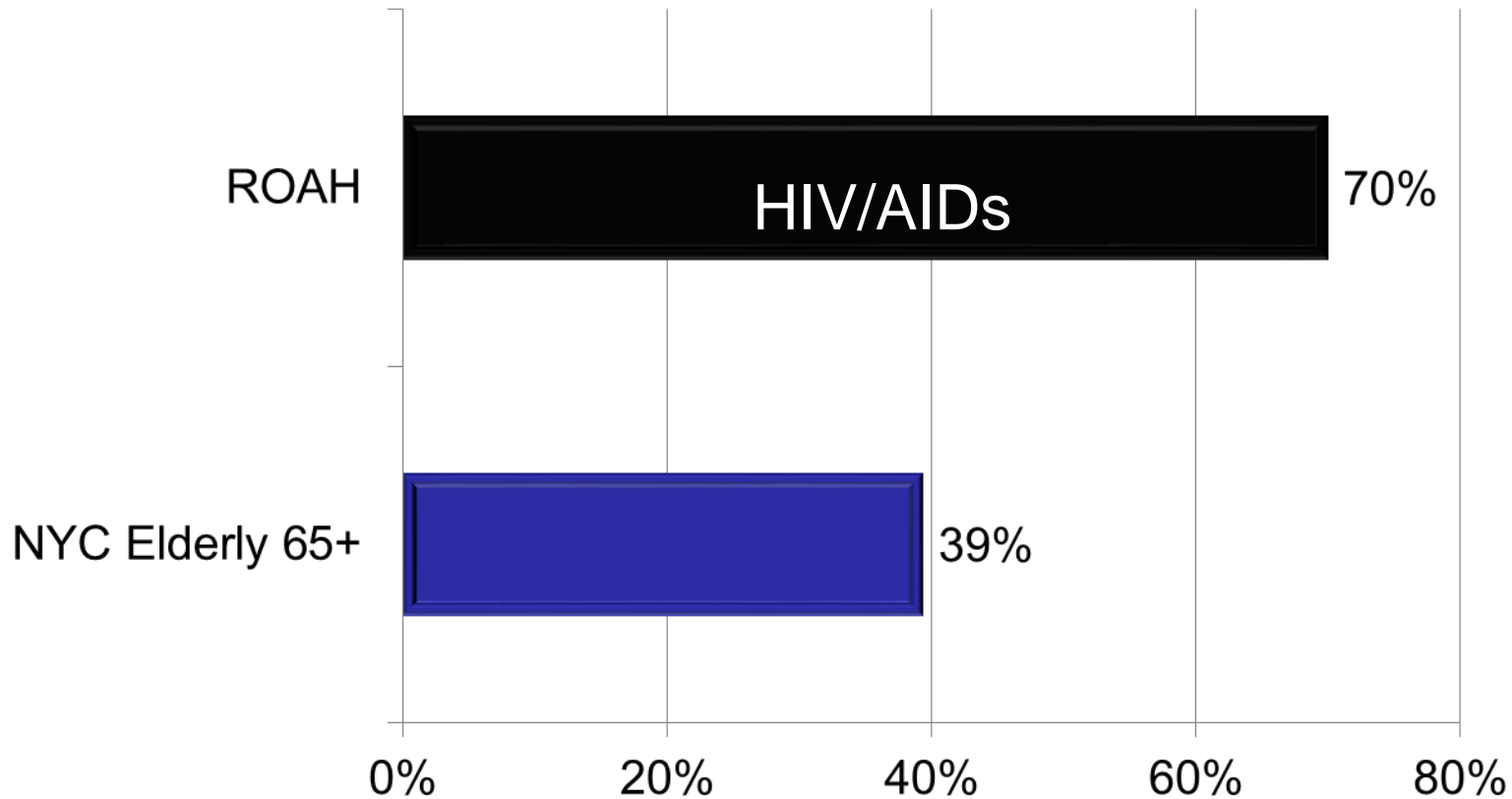


Figure 2 Comparison of Average CES-D Scores among Middle-age and Older Adults who are Community-dwelling, Visually-Impaired, or Living with HIV in ROAH. Data on Community-dwelling adults and visually impaired adults were obtained from Gump et al. (2005) and Horowitz et al. (2006), respectively.

Proportion Living Alone: ROAH vs. Community-Dwelling NYC Elderly



¹ Brennan, M., Karpiak, S. E., Shippy, R. A., & Cantor, M. H. (2009). *Older adults with HIV: An in-depth examination of an emerging population*. New York: Nova Science Publishers.

Need for Multimorbidity Management

**This multimorbidity
contributes to
overlapping injury to
multiple organ systems**

(Justice 2010; Deeks & Phillips 2009).

- **The result is the transformation of HIV infection into a complex chronic disease associated with multi-morbidity requiring the attention and expertise of multiple health care domains and their providers** (Sevick et al. 2007).

Geriatric Care Principles

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graph TD; A[Geriatric Care Principles] --- B[Patient-Centered Care]; A --- C[Social Supports]; A --- D[Patient Involvement in Care Decisions]; A --- E[Polypharmacy]; A --- F[Integrated Care];
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Patient-Centered Care

Social Supports

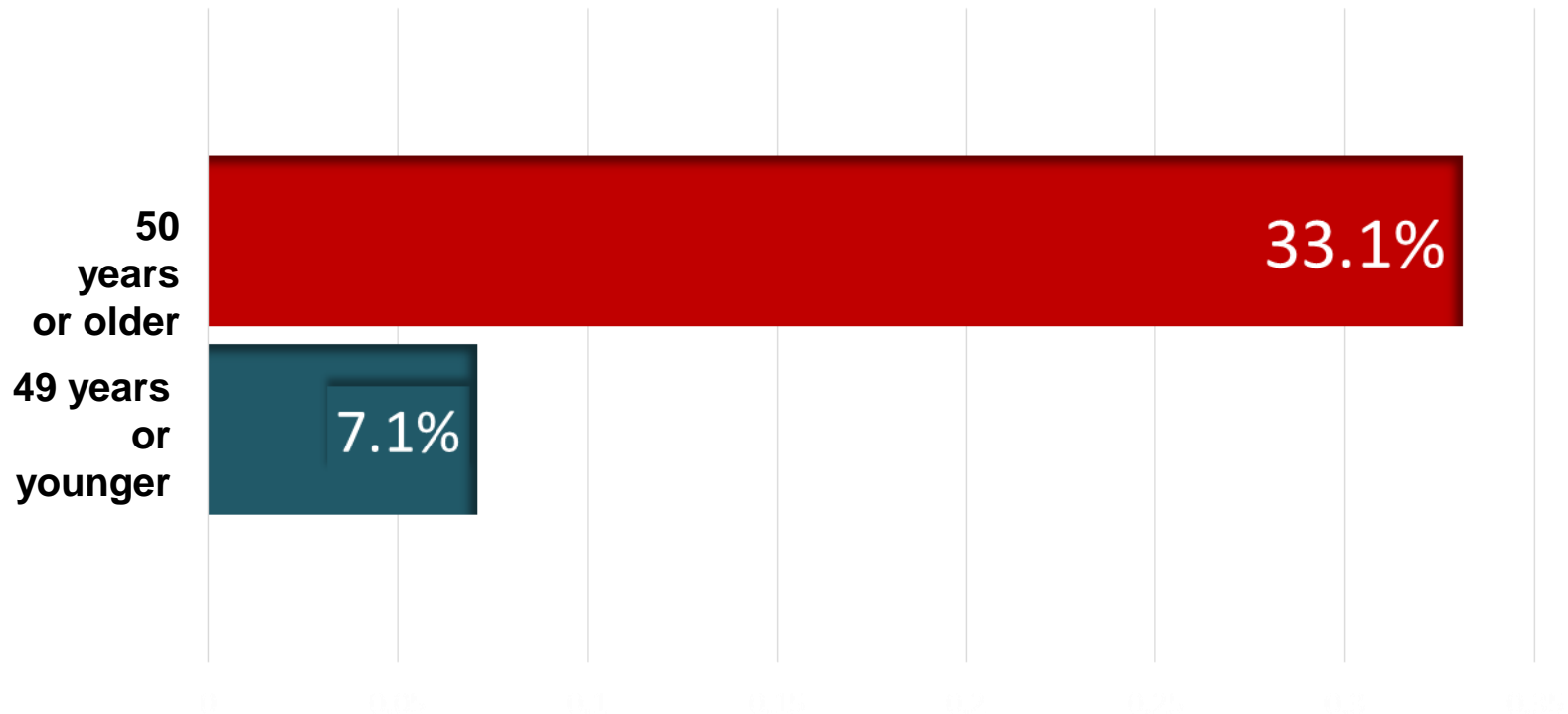
**Patient Involvement in
Care Decisions**

Polypharmacy

Integrated Care

Polypharmacy Issues

During five-year period, % of patients prescribed at least one ARV/non-ARV combination that was contraindicated or had moderate or high evidence of interaction (N=1,534)



Holtzman et al. (2013) Polypharmacy and Risk of Antiretroviral Drug Interactions Among the Aging HIV-Infected Population J Gen Intern Med 28(10):1302–10

HIVAge.org

YOUR **GO-TO** SITE FOR AGING WITH HIV



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Grand Opening: The Go-To Place On HIV And Aging

Editorial February 5, 2014 3 Comments

In the U.S. the HIV population is aging. By 2015 half of the over 1.4 million people infected with HIV will be age 50 and older. Each day 80 more people become part of this older adult group. And, 1 in every 6 new HIV diagnoses occurs in the age 50 and older population. This graying of... [Continue Reading](#)

Card For Clinicians Caring For HIV-Infected Older Adults

Science Spotlight February 5, 2014

CARD FOR CLINICIANS CARING FOR HIV-INFECTED OLDER ADULTS The Quick Reference Card for Managing Older Adults with HIV was developed out of the New York State Dept. of Health AIDS Institute Office Of The Medical Director. To obtain a copy, access www.hivguidelines.org. The AIDS Institute determined HIV and Aging as a priority over ten years ago. The number... [Continue Reading](#)

SEARCH

Type to search, then press enter

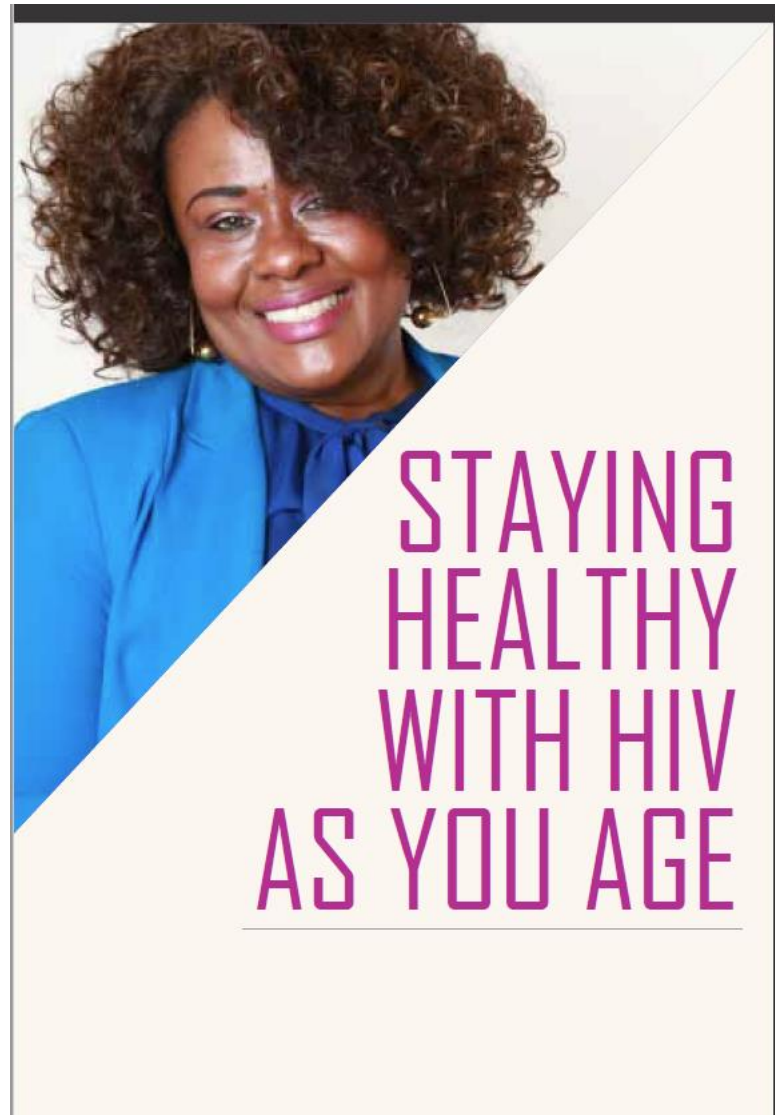
PARTNERS



acria



First Guide for Older Adults With HIV

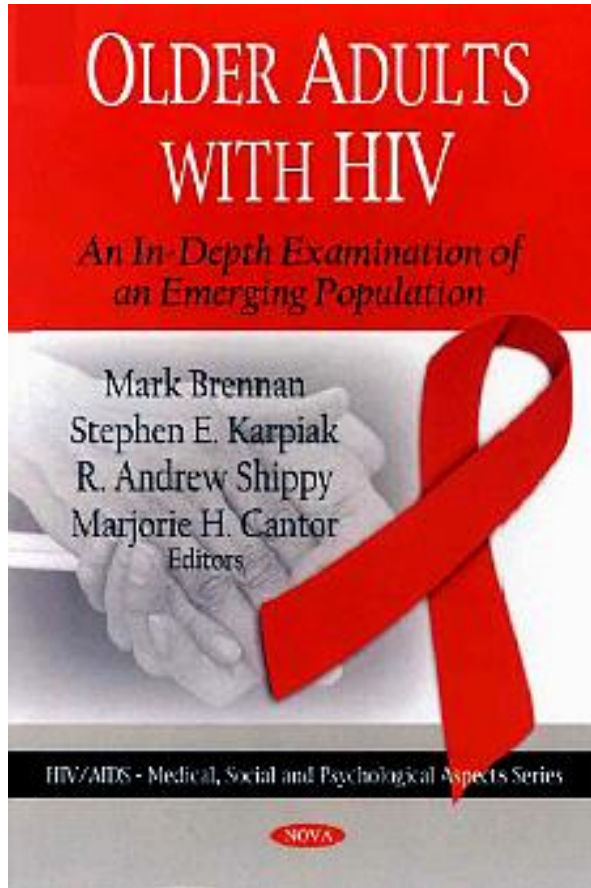


Go to www.ACRiA.org or www.HIV-AGE.org

acRiA

RESEARCH on OLDER ADULTS with HIV

N=1000 NYC HIV+ Older Adults



Demographics

Sexual Behavior

Social Networks

Psychological Well-Being

Distress – Depression

HIV Status/Health

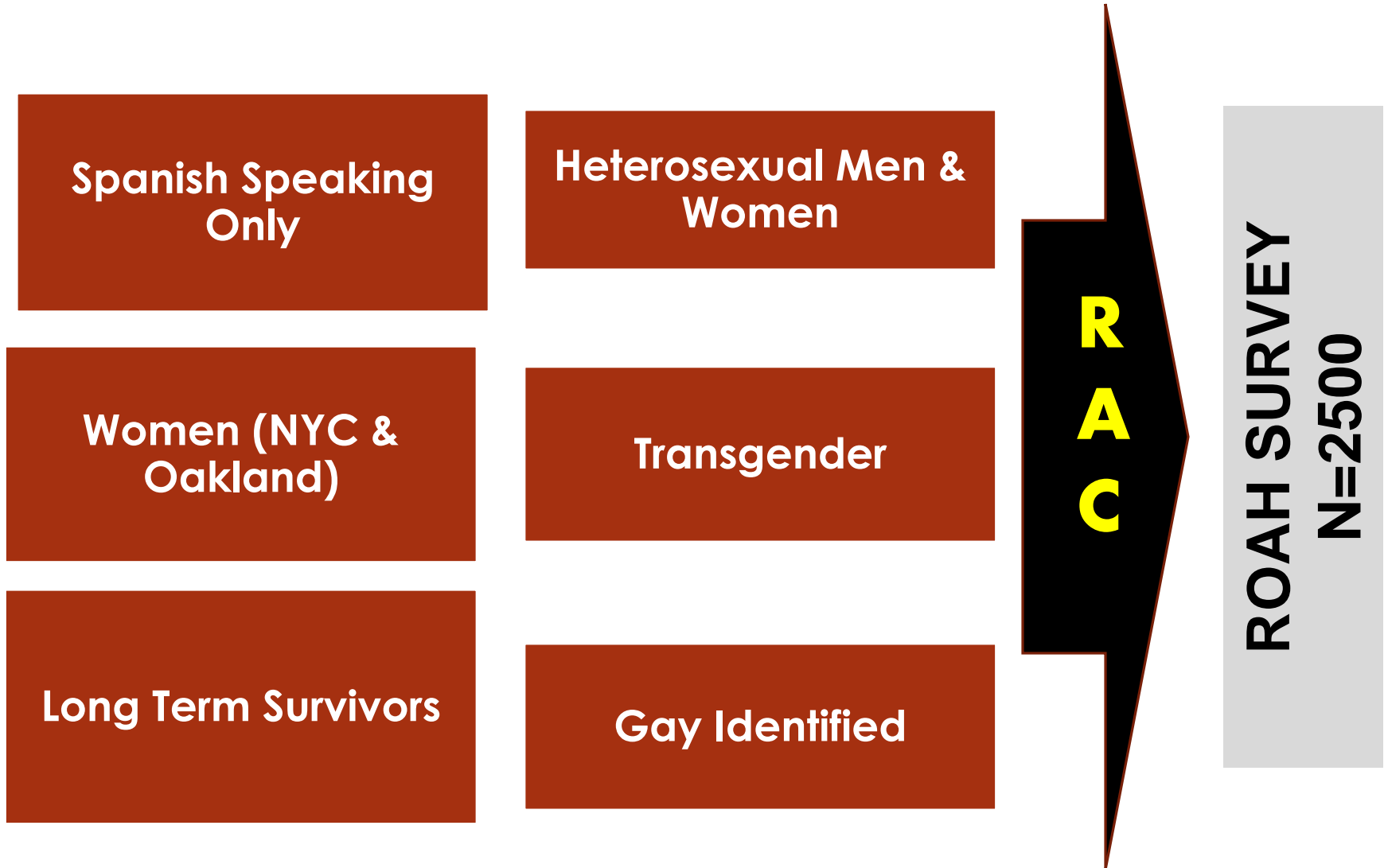
Religiousness & Spirituality

Loneliness Among Older Adults

HIV Stigma and Disclosure

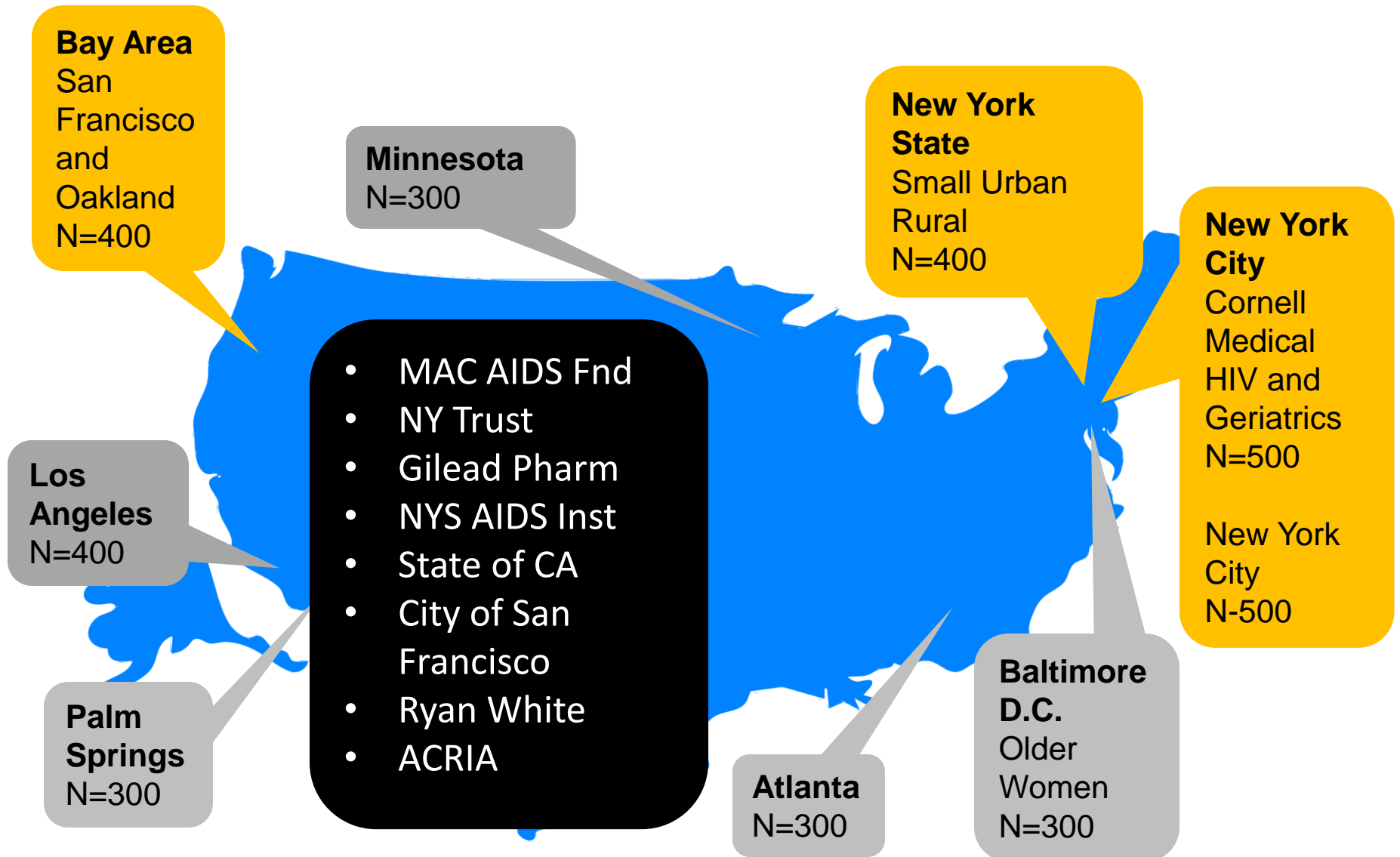
ROAH 2.0: Focus Groups (N=105)

New York City, San Francisco, Oakland and....



ROAH 2.0

Multi-Site Effort: All Data Stored in RedCap



Conclusions

- With the aging HIV population, multi-morbidity is increasingly common
- Multi-morbidity will have profound effects on lifespan and health-span in older HIV-infected persons
- Interventions and infrastructure will be needed to prevent and treat multi-morbid conditions and their consequences.

Thank you....

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