熟齡愛滋對臨床照護的挑戰

施鐘卿

國立臺大醫院 感染管制中心　愛滋個案管理師

護理人員愛滋病防治基金會 董事

台灣愛滋病護理學會 常務理事

主診斷名	藥名	頻率
診斷欠明之腦 疾病	in)	QDPO
		BIDPO
		TIDPO
		TIDPO
		TIDPO
		QDPO
Z21		HSPO
		QDPO
		HSPO
第三期慢性腎 病(中度)	e)	QDPO
陣發性心房		QD
		QD
		TIDPRN
		QD
第二型糖尿病 有其他特定併		BIDPCPO
		BIDPO
		QDPO
	Eurodin Tablets 2mg	HSPO

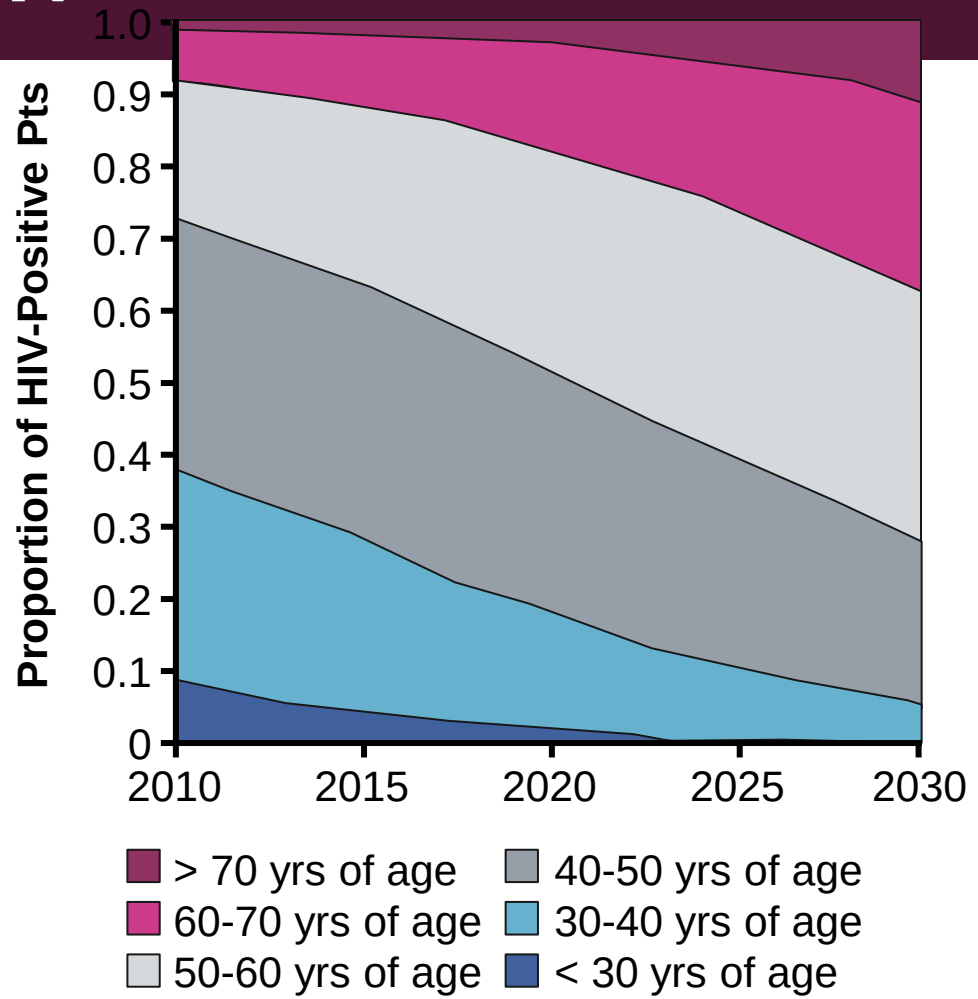
Multicomorbidity?
Aging?
→Polypharmocy!!

HIV感染者與一般人的老化過程一樣嗎?

61歲的HIV感染者，和街上的61歲大叔，
有點不一樣....

ATHENA: OLDER PTS BECOMING MORE PREVALENT IN THE HIV-INFECTED POPULATION

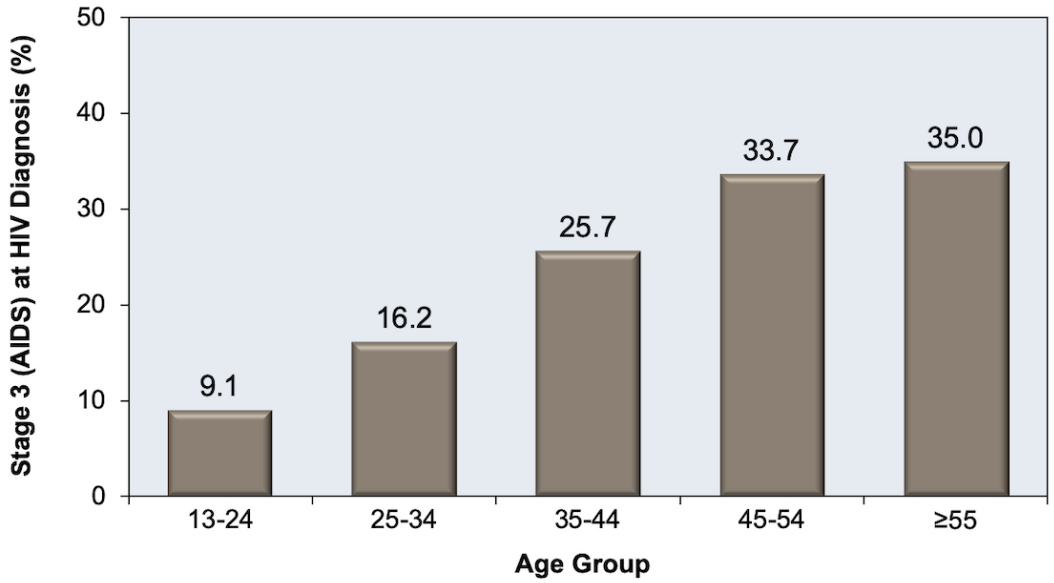
- Observational cohort of 10,278 HIV-infected pts in the Netherlands
- Modeling study projections:
  - Proportion of HIV-positive pts ≥ 50 yrs of age to increase from 28% in 2010 to 73% in 2030
  - **Median age of HIV-positive pts on combination ART to increase from 43.9 yrs in 2010 to 56.6 yrs in 2030**



Smit M, et al. Lancet Infect Dis. 2015;15:810-818.

Slide credit: clinicaloptions.com

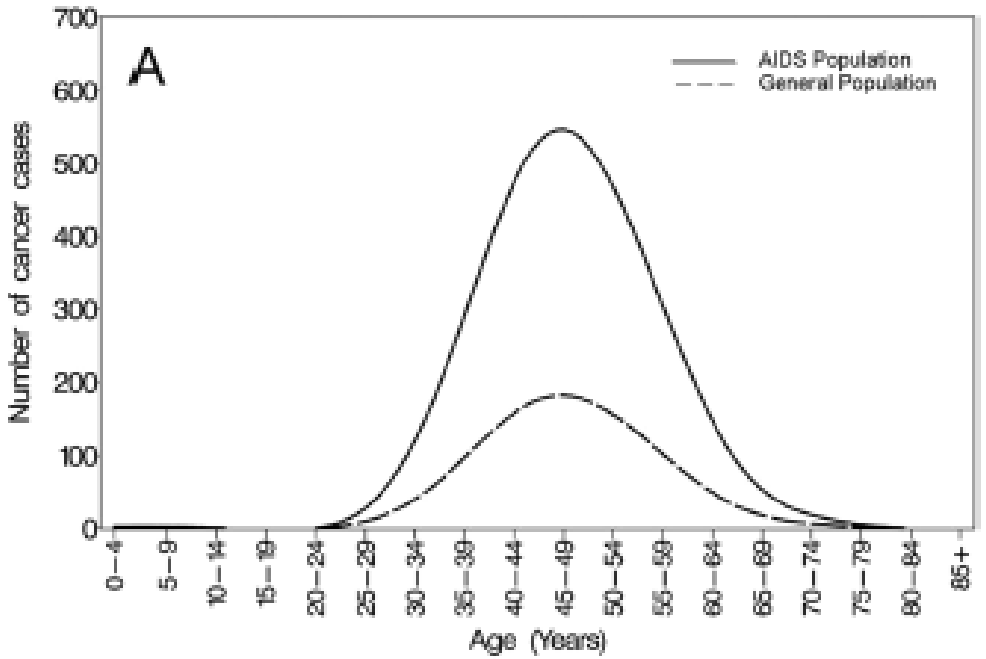
熟齡在HIV疫情的樣貌



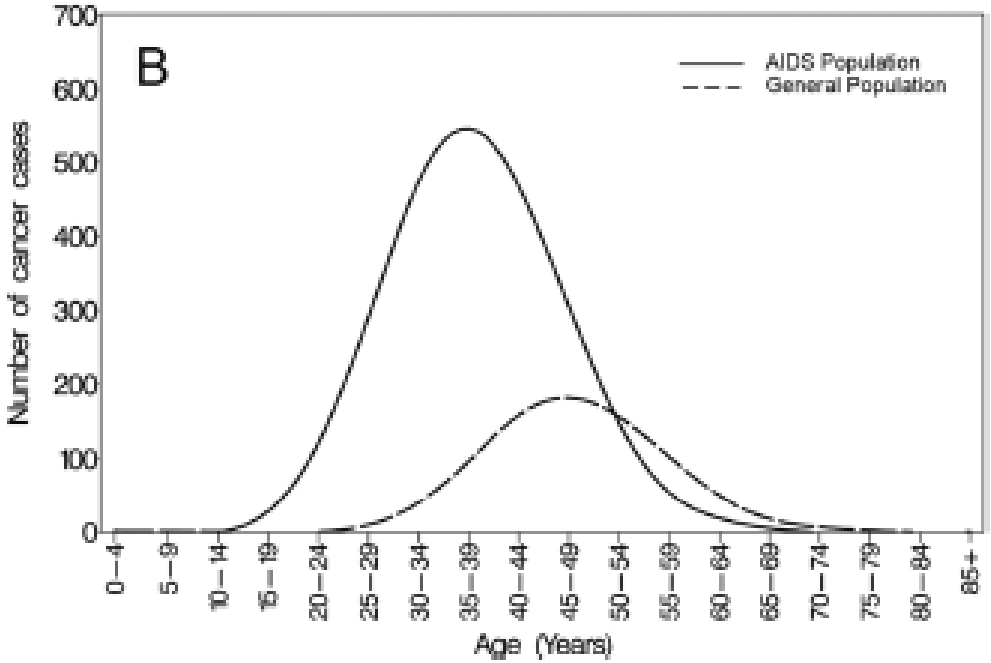
- 2017年美國資料顯示>55歲，AIDS比例大增

ACCENTUATED VS. ACCELERATED AGING

Accentuated增強



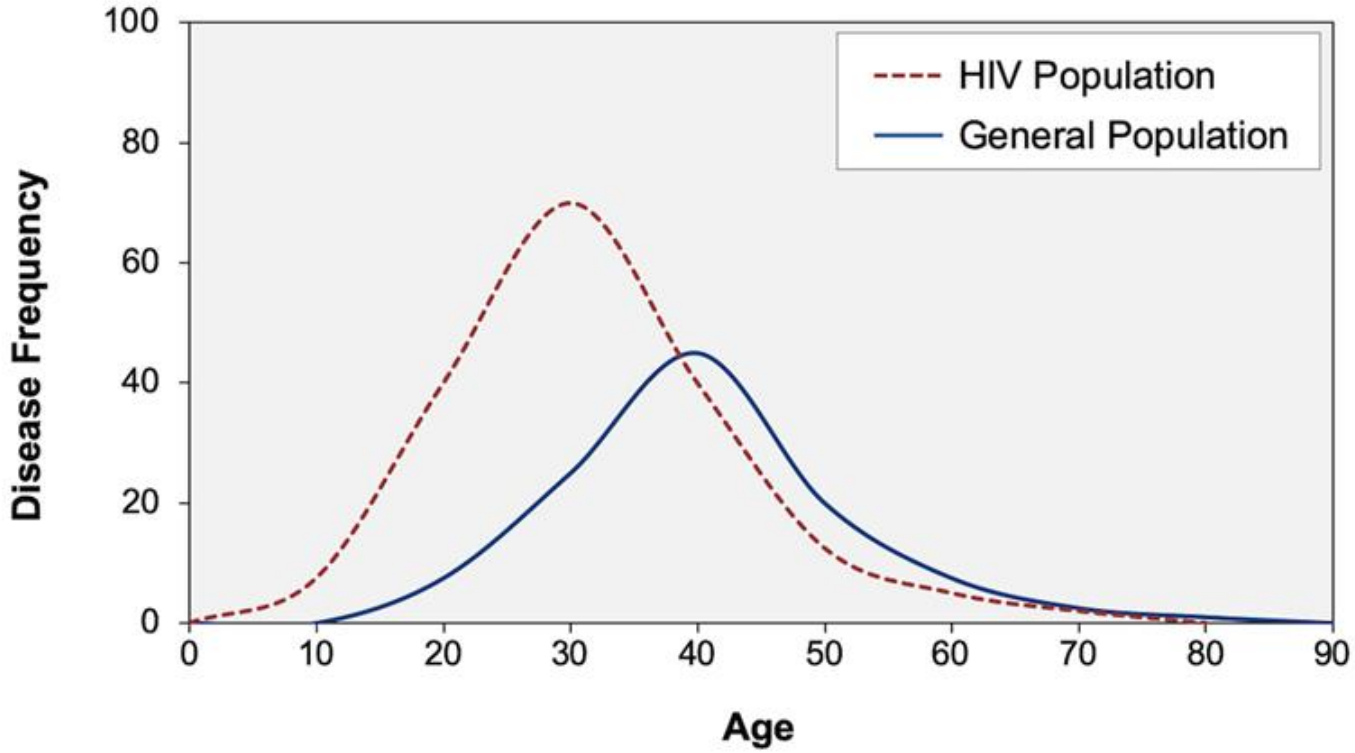
Accelerated 加速



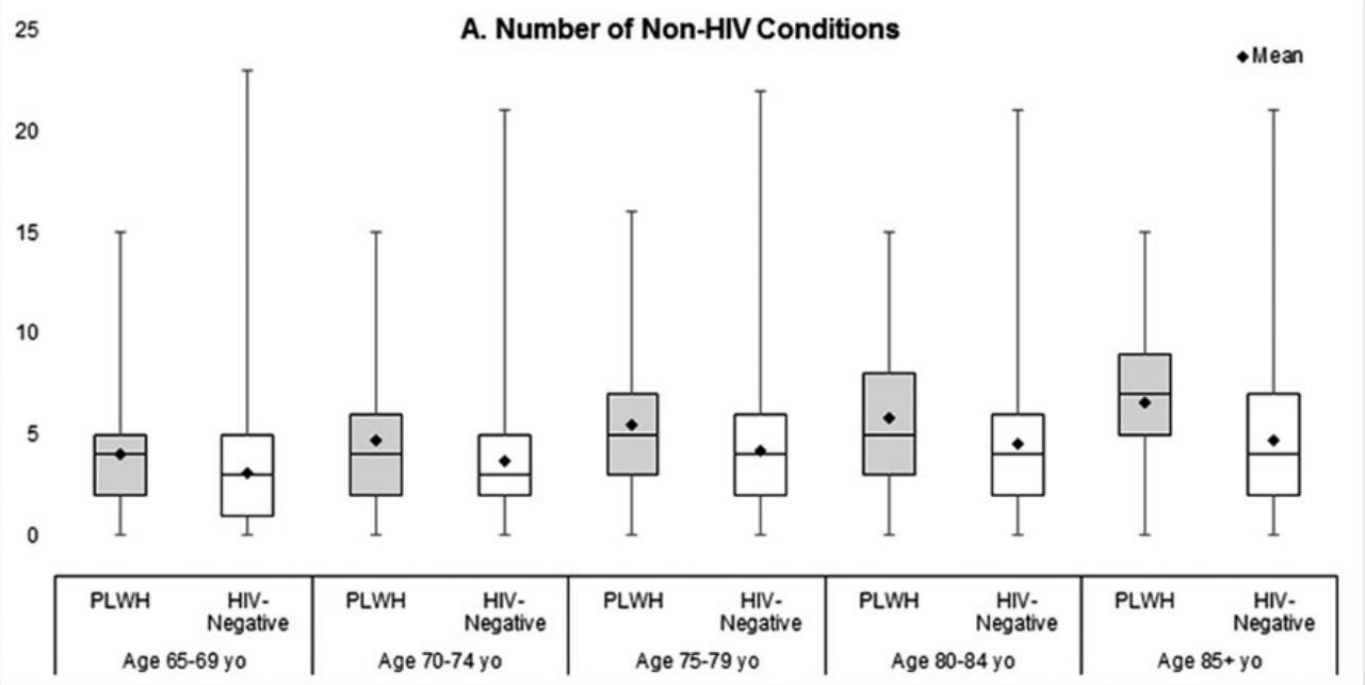
Pathai S, *J Gerontol A Biol Sci Med Sci.* 2014; 69(7): 833-42.

MODEL OF ACCELERATED AND ACCENTUATED AGING IN PERSONS WITH HIV

- HIV感染者，提早老化症狀&老化症狀更嚴重



COMORBIDITY AMONG ELDERLY PLWH

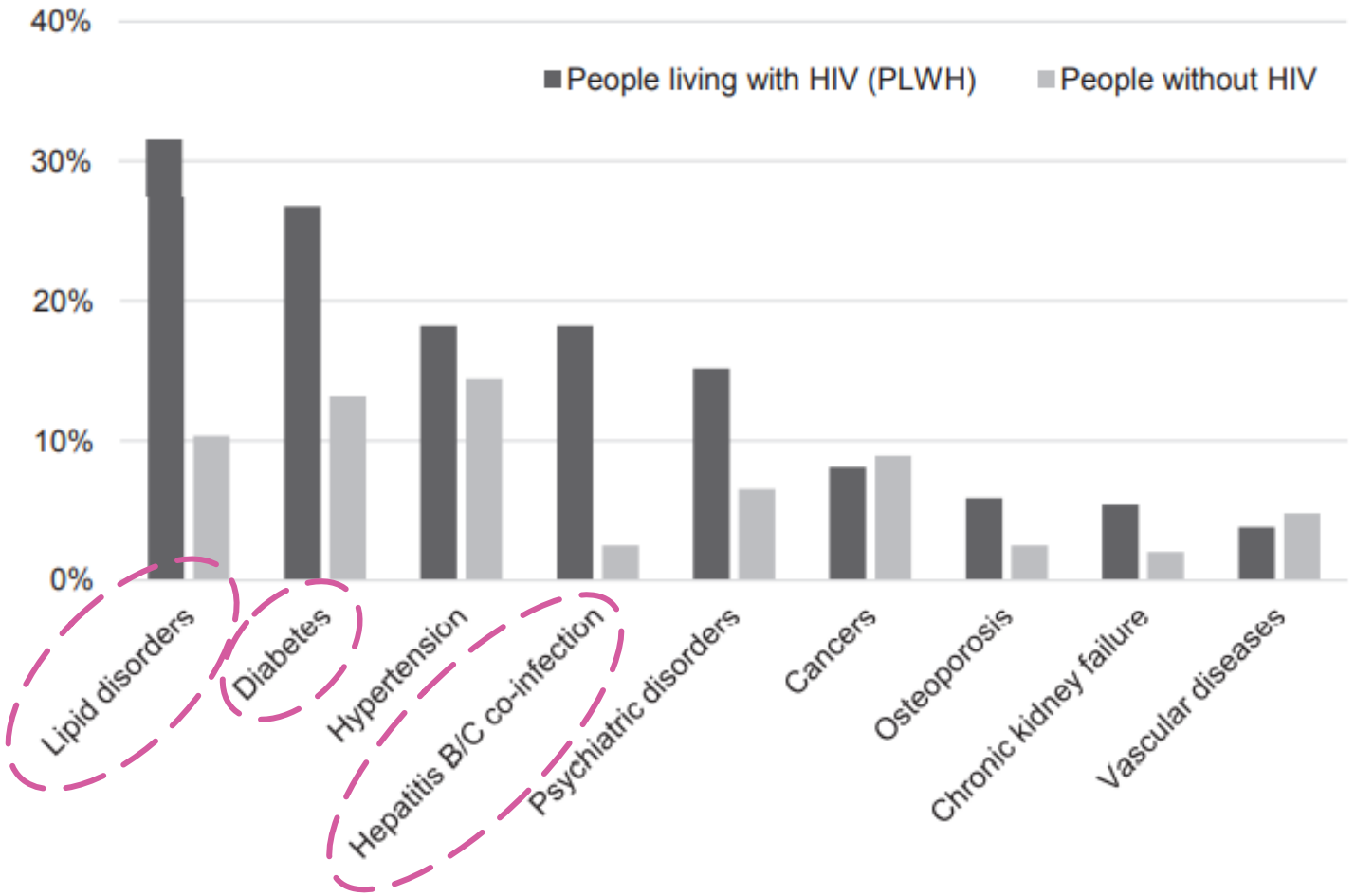


- **HIV(+)的共病較HIV(-)高，且隨年紀差異加大**
- →PLWH had significantly more non-HIV conditions than HIV negative individuals [ratios: men = 1.272, (95% confidence interval, 1.233–1.312); women = 1.326 (1.245–1.413)].
- →Among those with >0 daily non-ART medications, men with HIV had significantly more non-ART medications than HIV-negative men [ratio = 1.178 (1.133–1.226)].

(Kong, Pozen, Anastos, Kelvin, & Nash, 2019)

AIDS Patient Care STDS. 2019 Mar;33(3):93-103

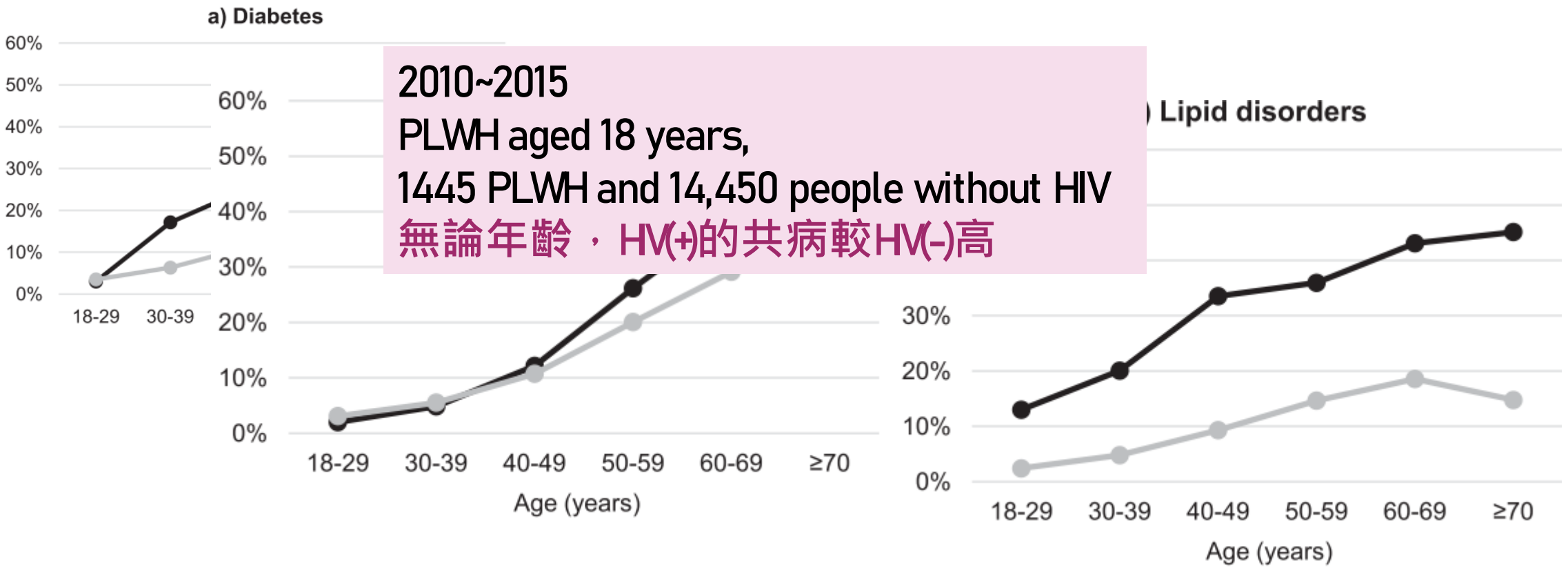
PREVALENCE OF EACH TYPE OF CHRONIC COMORBIDITY AMONG PEOPLE LIVING WITH AND THOSE WITHOUT HIV ~ JAPAN



2010~2015
PLWH aged 18 years,
1445 PLWH and 14,450 people without HIV

J Infect Chemother. 2019 Feb;25(2):89-95

PREVALENCE OF EACH TYPE OF CHRONIC COMORBIDITY BY AGE AMONG PEOPLE LIVING WITH AND THOSE WITHOUT HIV ~ JAPAN

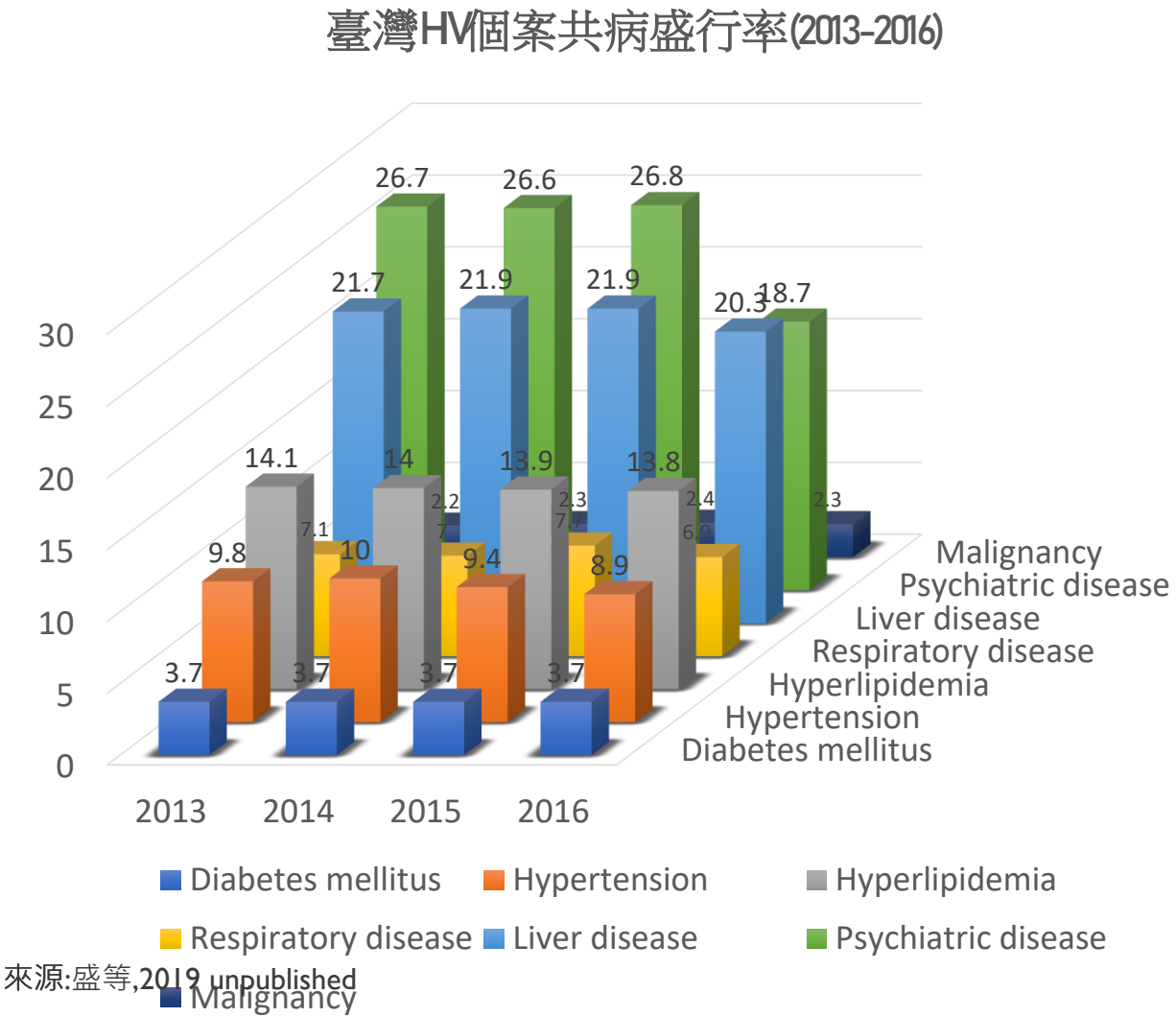


2010~2015
PLWH aged 18 years,
1445 PLWH and 14,450 people without HIV
無論年齡，HV(+)的共病較HV(-)高

Journal of Infection and Chemotherapy,Volume 25, Issue 2,February 2019, Pages 89-95
Daniel J. Ruzicka, Kentaro Imai, Kenichi Takahashi, Toshio Naito

台灣HIV感染者 >50歲 ??

台灣HIV感染者共病概況



來源:盛等,2019 unpublished

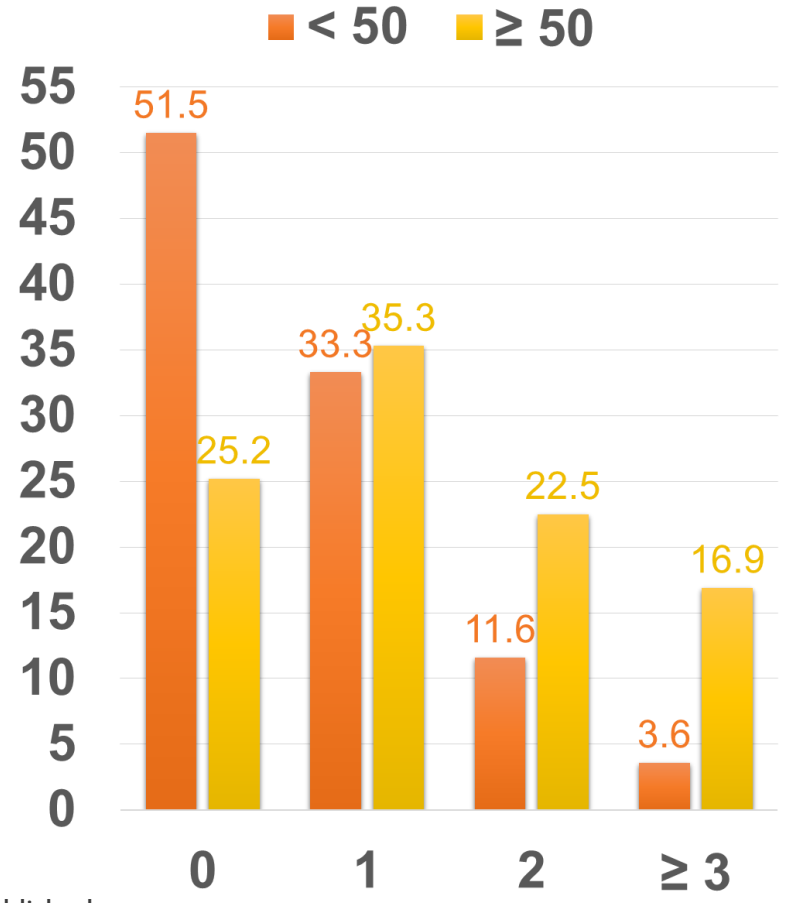
- Patients with HV during 2013-2016
- National Health Insurance program in Taiwan
- Psychiatric disease, liver disease, and hyperlipidemia were the most prevalent conditions

Comorbidities, N (%)	2013	2014	2015	2016	p value
Diabetes mellitus	750 (3.7)	812 (3.7)	891 (3.7)	959 (3.7)	0.8868
Hypertension	1989 (9.8)	2215 (10.0)	2257 (9.4)	2305 (8.9)	<.0001*
Hyperlipidemia	2856 (14.1)	3118 (14.0)	3344 (13.9)	3566 (13.8)	0.2949
Respiratory disease	1440 (7.1)	1555 (7)	1699 (7.1)	1775 (6.9)	0.3583
Liver disease	4399 (21.7)	4856 (21.9)	5272 (21.9)	5241 (20.3)	<.0001*
Psychiatric disease	5420 (26.7)	5908 (26.6)	6448 (26.8)	4829 (18.7)	<.0001*
Malignancy	449 (2.2)	512 (2.3)	572 (2.4)	603 (2.3)	0.3853

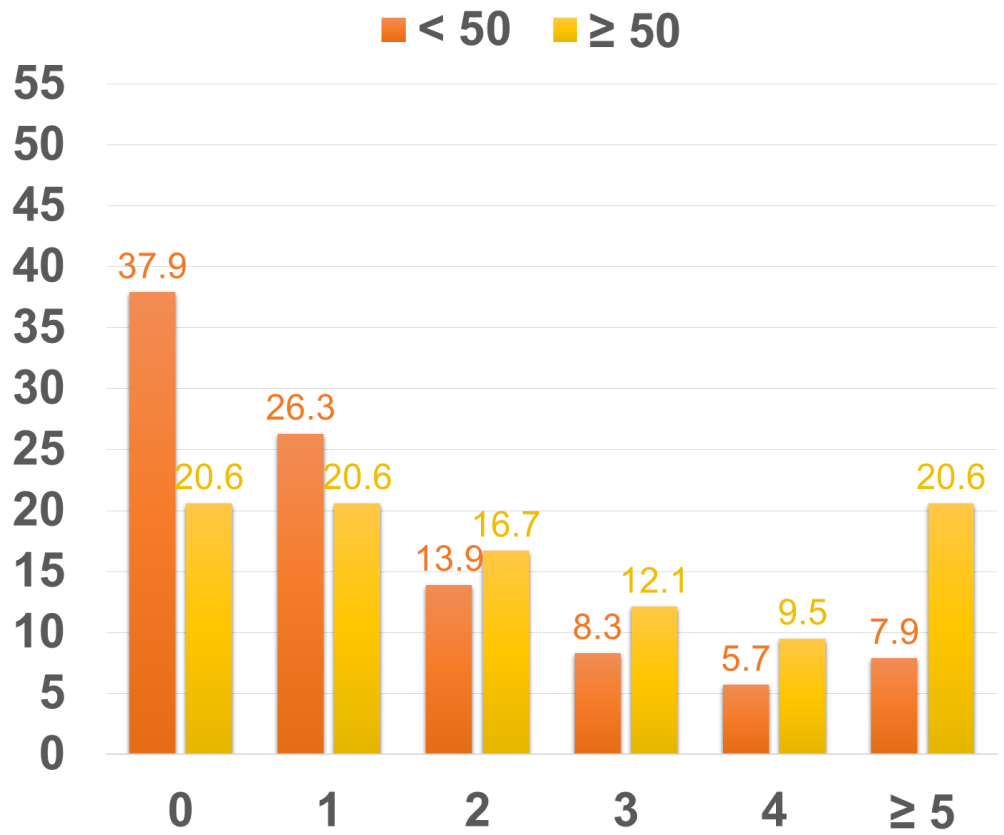
HV-INFECTED NO. OF COMORBIDITIES AND COMEDICATIONS STRATIFIED BY AGE

50歲分水嶺，共病多、服藥多

Comorbidity

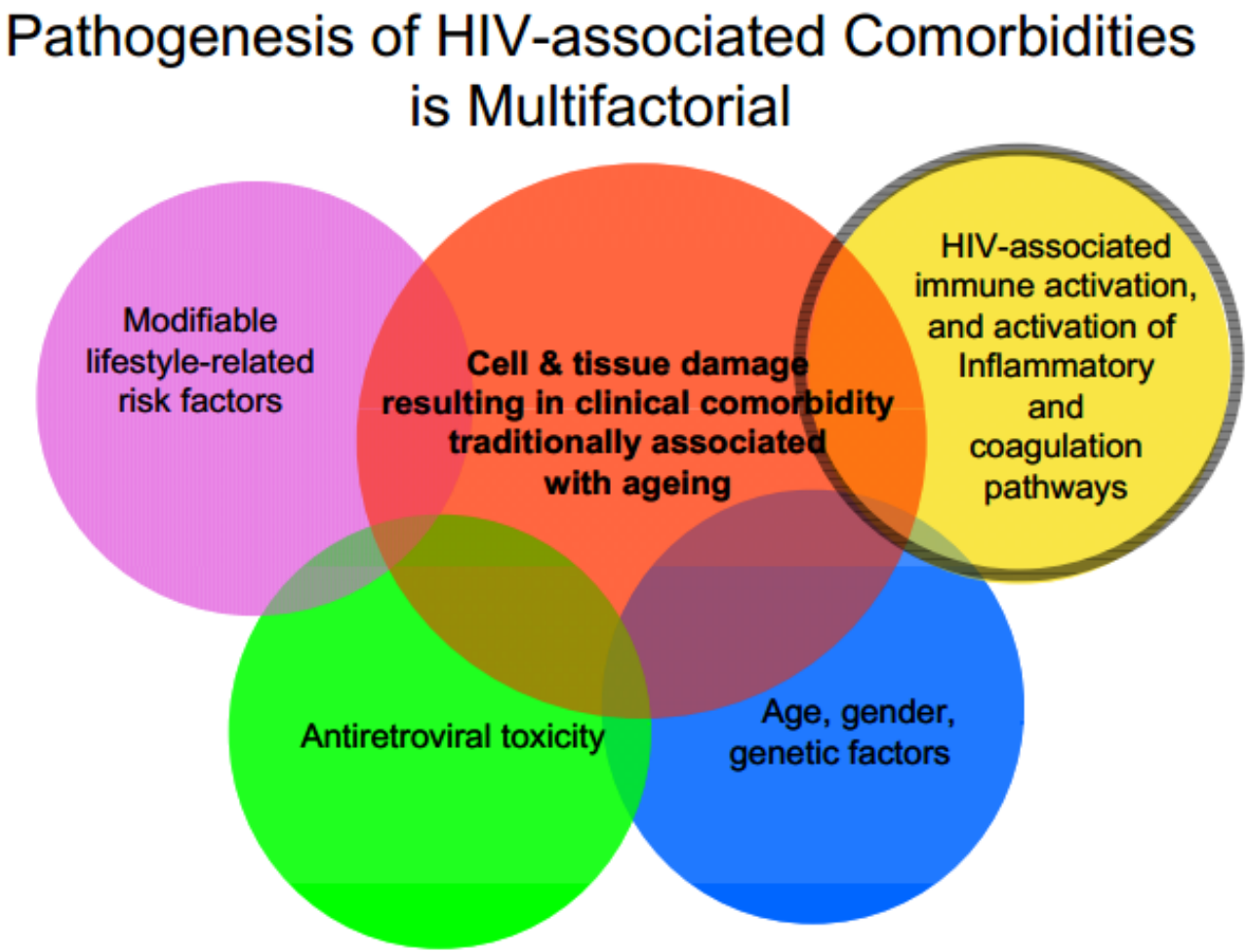


Comedication



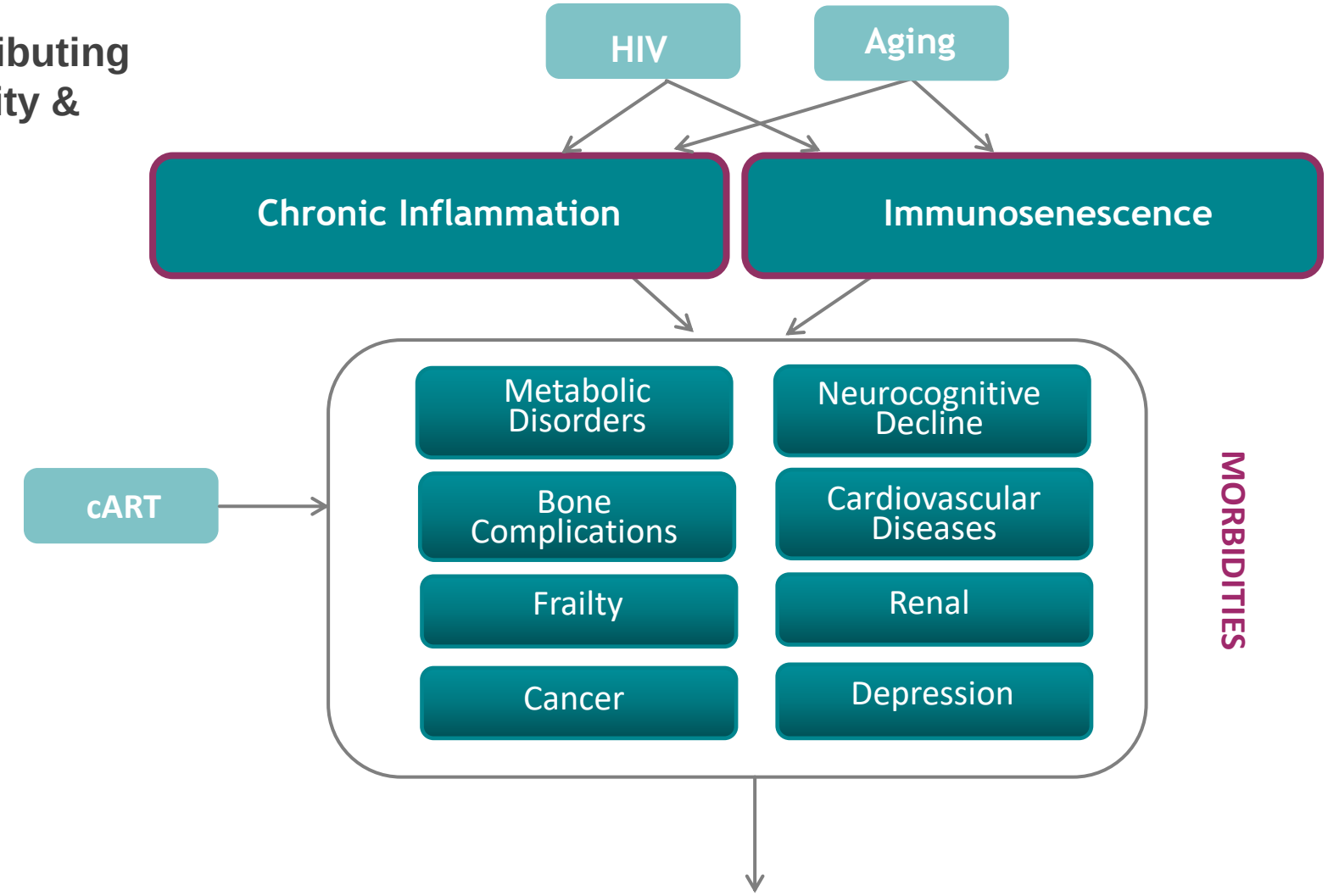
來源:盛等,2019 unpublished

多因子的愛滋共病


Pathogenesis of HIV-associated Comorbidities is Multifactorial
Modifiable lifestyle-related risk factors
Cell & tissue damage resulting in clinical comorbidity traditionally associated with ageing
HIV-associated immune activation, and activation of Inflammatory and coagulation pathways
Antiretroviral toxicity
Age, gender, genetic factors

INTERACTIONS OF COMORBIDITIES AND THEIR IMPACT ON MORTALITY
INFLAMMATION IS ASSOCIATED WITH DISEASE IN TREATED HIV INFECTION

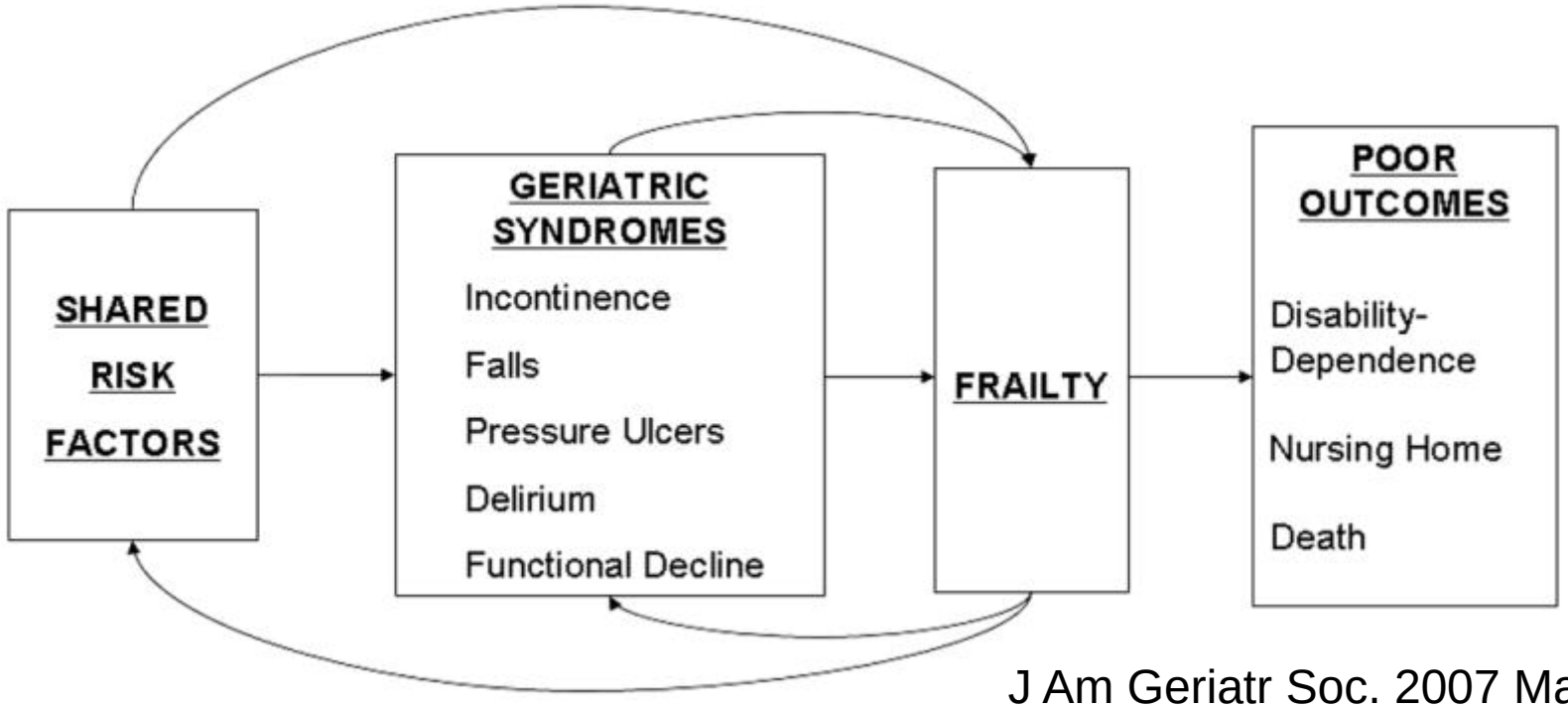
Factors Contributing to HIV Morbidity & Mortality



cART, combination antiretroviral therapy.

Nasi M, et al. *Clin Exp Immunol.* 2017;187(1):44–52.

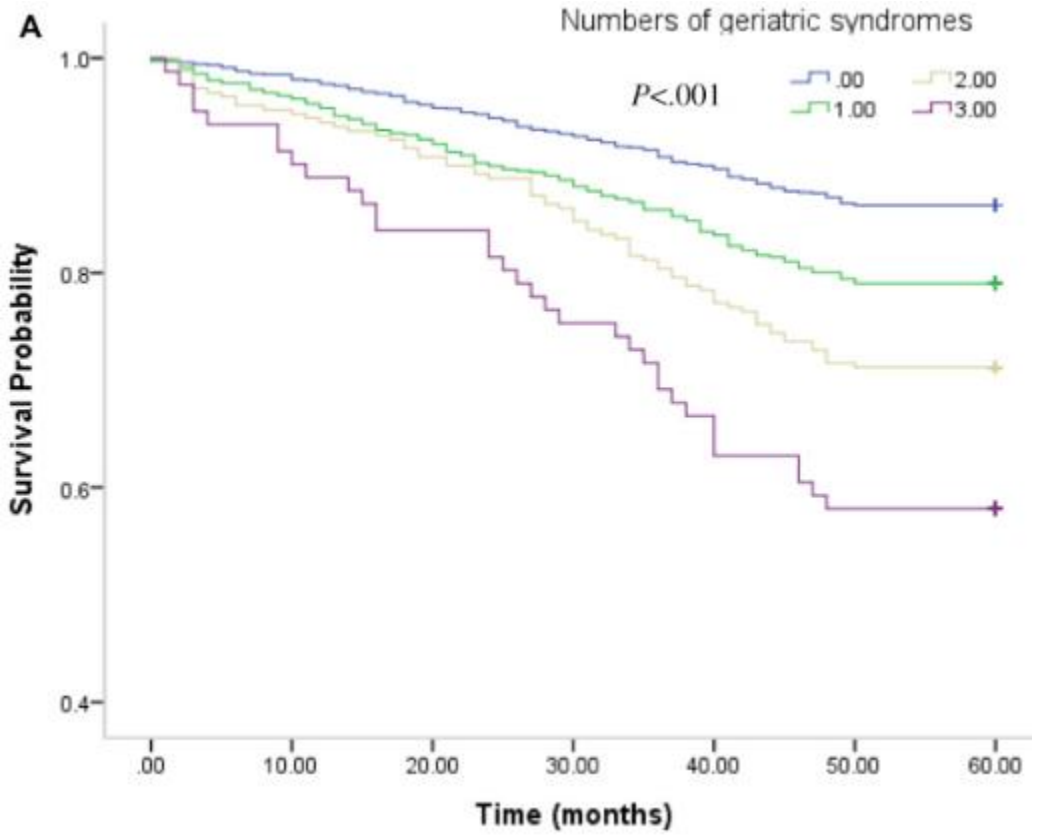
GERIATRIC SYNDROMES~~HIV(-)

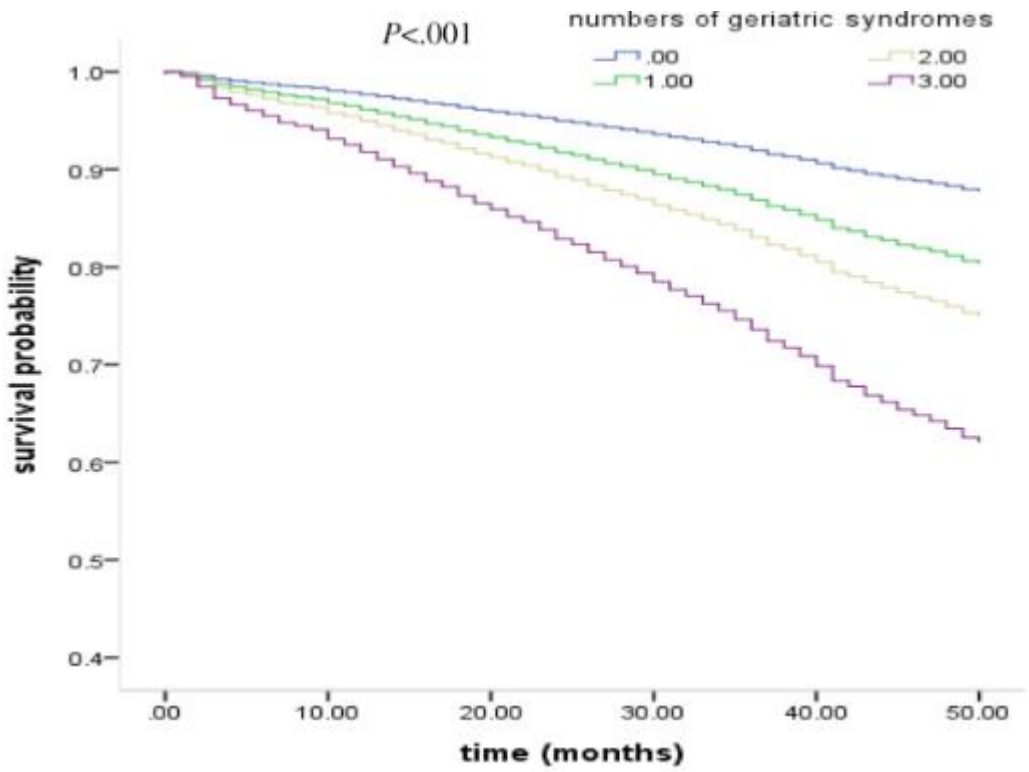


J Am Geriatr Soc. 2007 May; 55(5): 780–791.

A unifying conceptual model demonstrates that shared risk factors may lead to geriatric syndromes, which may in turn lead to frailty, with feedback mechanisms enhancing the presence of shared risk factors and geriatric syndromes. Such self-sustaining pathways may result in poor outcomes involving disability-dependence, nursing home placement, and ultimately death, thus holding important implications for elucidating pathophysiologic mechanisms and designing effective intervention strategies.

ASSOCIATIONS BETWEEN GERIATRIC SYNDROMES AND MORTALITY IN COMMUNITY-DWELLING ELDERLY: RESULTS OF A NATIONAL LONGITUDINAL STUDY IN TAIWAN





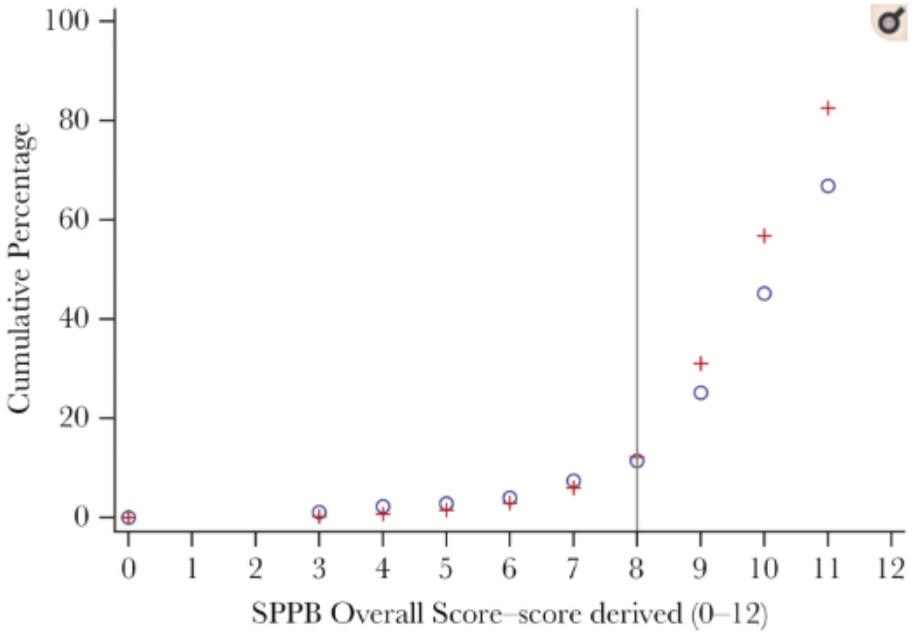
Journal of the American Medical Directors Association, 2017-03-01, Volume 18, Issue 3, Pages 246-251

HIV感染者與一般人的老化過程一樣嗎?

PHYSICAL FUNCTIONING AMONG PATIENTS AGING WITH HUMAN IMMUNODEFICIENCY VIRUS (HIV) VERSUS HIV UNINFECTED: FEASIBILITY OF USING THE SHORT PHYSICAL PERFORMANCE BATTERY IN CLINICAL CARE OF PEOPLE LIVING WITH HIV AGED 50 OR OLDER

Characteristic	PLWH[a] Mean (SD) or N (%) N = 176	Health ABC Cohort Mean (SD) or N (%) N = 3075
Age, years (mean, SD)	54.6 (6.5)	73.6 (2.9)
Race/Ethnicity		
White	88 (50%)	1794 (58%)
African American/Black	80 (45%)	1281 (42%)
Other/Unknown	8 (5%)	
Sex		
Female	33 (19%)	1584 (52%)
Male	143 (81%)	1491 (48%)
HIV Risk Factor		
Heterosexual	41 (23%)	
IDU	25 (14%)	
MSM	106 (60%)	
IDU and MSM	4 (2%)	
CD4 nadir count (cells/mm^3)	222 (194); median = 170	
<200	92 (53%)	
200–349	42 (24%)	
350–499	30 (17%)	
≥500	11 (6%)	
Current CD4 count (cells/mm^3)	643 (356); median = 601	
Current Viral Load (Copies/mL)		
<40 (undetectable)	157 (90%)	
40–199	7 (4%)	
≥200	10 (6%)	

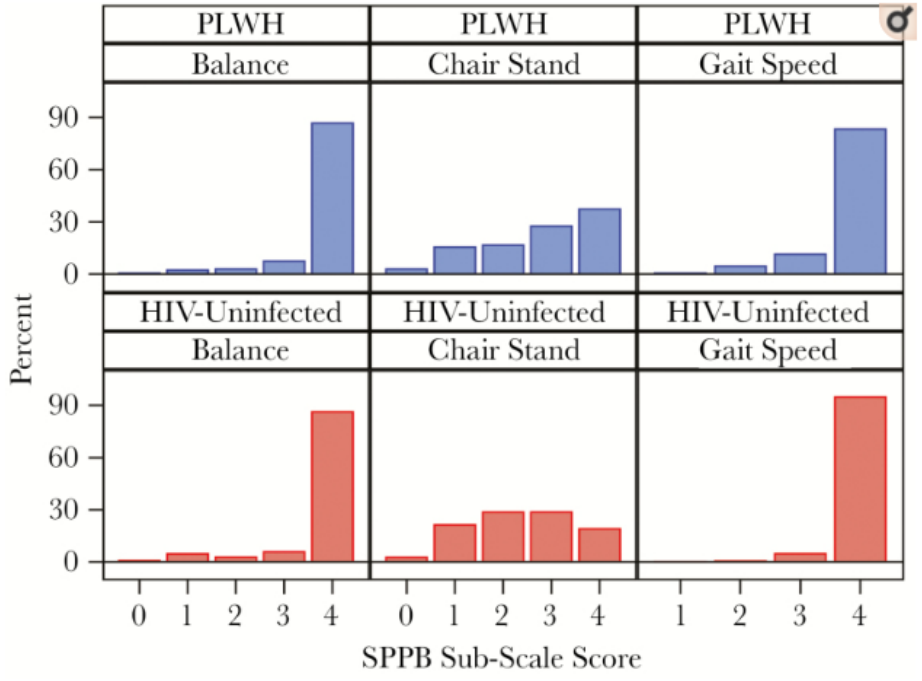
People living with HIV were younger than HIV-uninfected individuals (55 vs 74 years old).



Open Forum Infect Dis. 2019 Mar; 6(3): ofz038.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6411210/

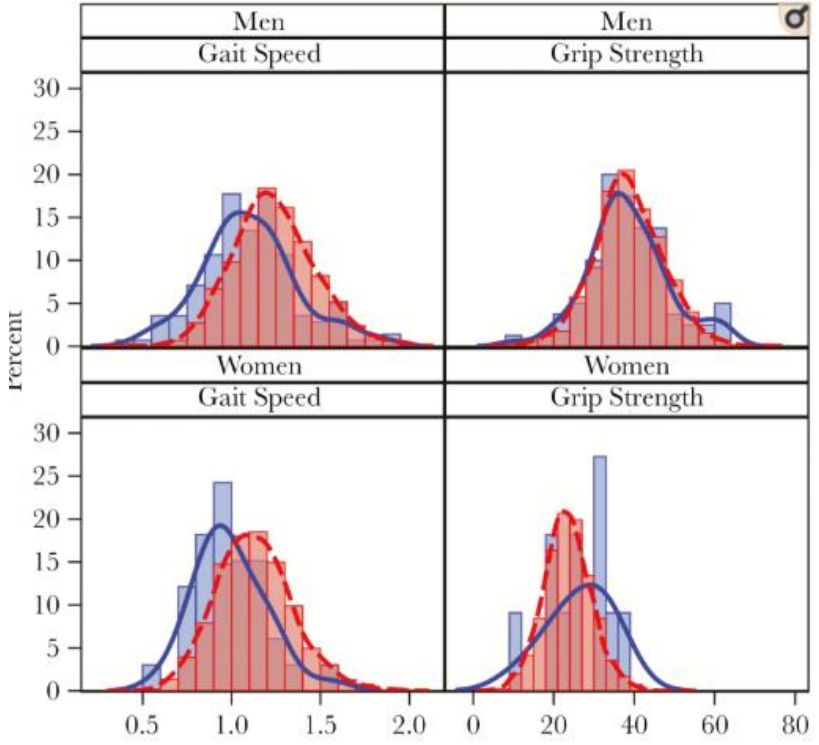
PLWH VS. HIV-UNINFECTED

Distribution of SPPB sub-scale scores among PLWH and aging HIV-uninfected adults from the Health ABC study.



Open Forum Infect Dis. 2019 Mar; 6(3): ofz038.

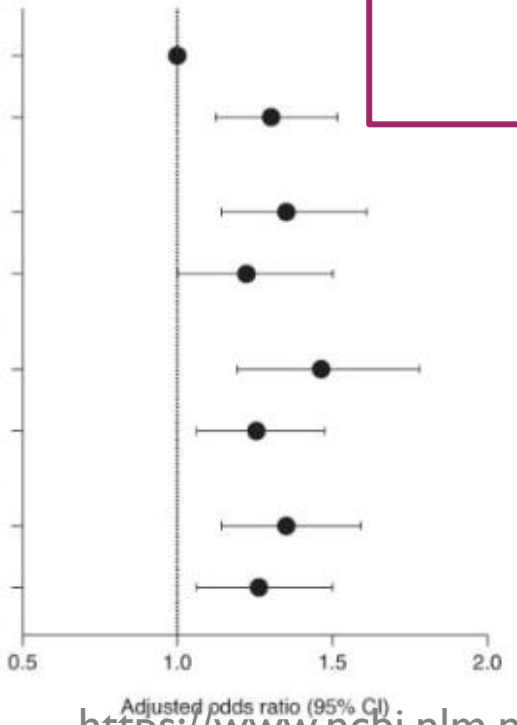
Histogram and density plot of grip strength† and gait speed by sex among PLWH and aging HIV-uninfected adults from the Health ABC cohort.



https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6411210/

THE RELATIONSHIP OF PHYSICAL PERFORMANCE WITH HIV DISEASE AND MORTALITY

	No. (%) with SPPB ≤10 4001 (32.6% of all study visits)	Unadjusted OR (95% CI)	Adjusted* OR (95% CI)
HIV-uninfected	2701 (31.6)	Ref	Ref
HIV-infected	1300 (35.0)	1.30 (1.12–1.51)	1.30 (1.12–1.52)
CD4 nadir < 200 cells/μl	830 (35.9)	1.38 (1.17–1.65)	1.36 (1.14–1.62)
CD4 nadir ≥ 200 cells/μl	457 (33.4)	1.18 (0.98–1.44)	1.22 (1.00–1.50)
CD4 count < 200 cells/μl	343 (36.0)	1.44 (1.19–1.75)	1.46 (1.20–1.79)
CD4 count ≥ 200 cells/μl	944 (34.7)	1.25 (1.07–1.47)	1.25 (1.06–1.47)
Detectable viral load	654 (34.4)	1.31 (1.11–1.55)	1.36 (1.14–1.60)
Undetectable viral load	636 (35.7)	1.30 (1.09–1.54)	1.26 (1.06–1.50)



HIV感染者身體功能退化較多

死亡率也較高

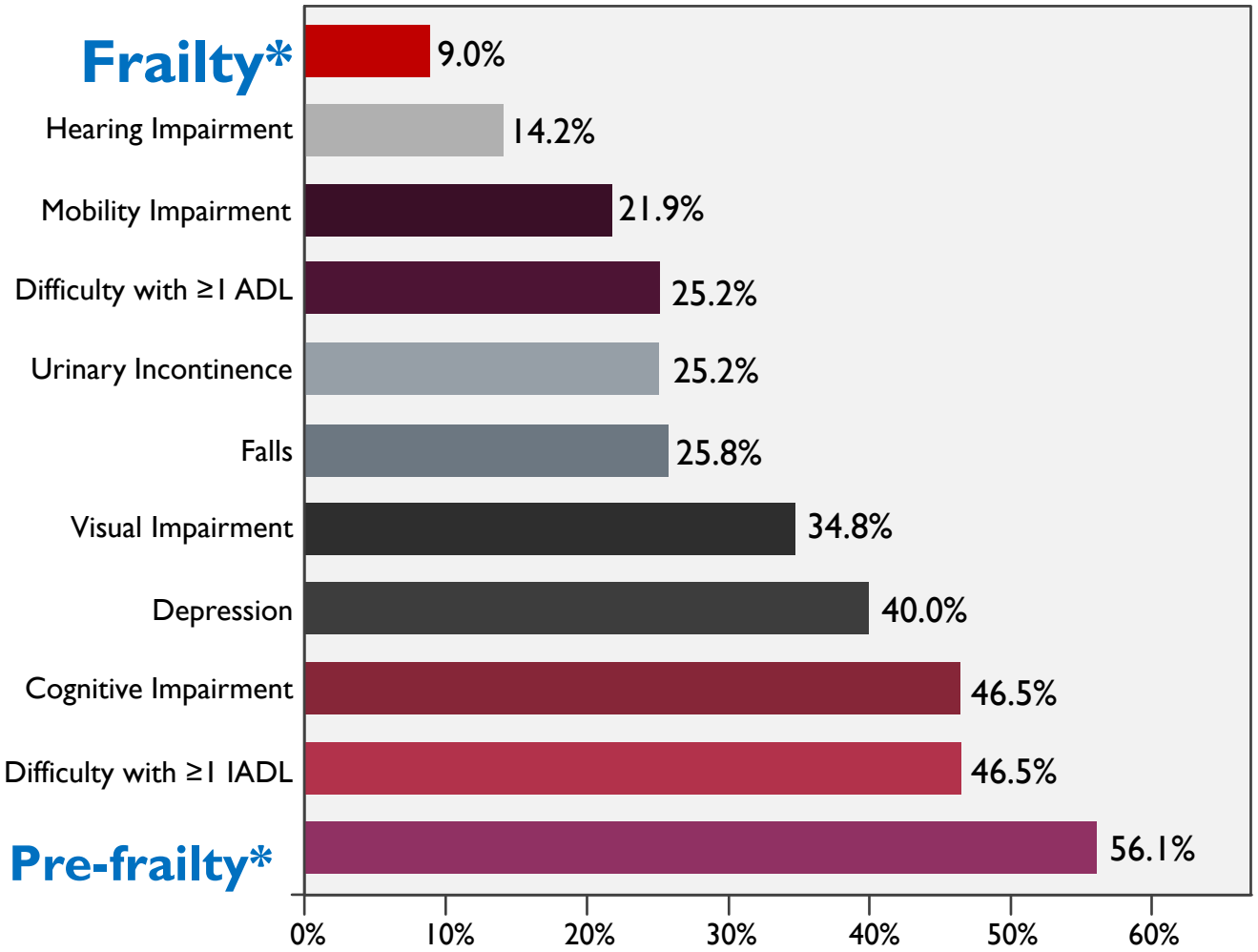
AIDS. 2014 Nov 28; 28(18): 2711–2719.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4380225/

Association of HIV infection and HIV-related disease markers with reduced physical performance (Short Physical Performance Battery score ≤ 10) among AIDS Linked to the Intra-Venous Experience participants across all visits (*n* = 12 270)

FREQUENCIES OF GERIATRIC SYNDROMES IN HIV: UCSF SCOPE COHORT

- SCOPE cohort
  - 155 adults living with HIV
  - Heavily pre-treated, long-term survivors
  - **Age 50 years and over (median, 57 years)**
  - 94% male; 63% Caucasian
  - HIV RNA <40 copies/mL for at least 3 years prior to enrollment
  - On ARV therapy
  - 23% of subjects in this cohort were current smokers, and IVDU was the mode of HIV acquisition in 12% of the study population, with 5% reporting ongoing use of intravenous drugs.
  - 74% subjects had exposure to older-generation ART such as ddI,ddC,D4T,and AZT.



*Pre-frailty defined as 1 or 2 of the following criteria: unintentional weight loss, exhaustion (self-report), low physical activity, slow walking speed, weakness. Frailty defined as 3 or more of these criteria

ADL, activity of daily living; ARV, antiretroviral; IADL, instrumental activity of daily living; RNA, ribonucleic acid; SCOPE, OBSERVATIONAL STUDY OF THE CONSEQUENCES OF THE PROTEASE INHIBITOR ERA; UCSF, University of California, San Francisco.

Greene M, et al. *J Acquir Immune Defic Syndr.* 2015;69(2):161–167.

POLYPHARMACY

- Standard definition:
  >5 (non-HIV) prescription medications[1]
- Extreme polypharmacy:
  >10 medications[2]
- Non-medically prescribed drugs also a concern[3]
  - Over the counter drugs
  - Recreational drugs
  - Alternative care-related drugs
- More common in PLWH compared to uninfected[1]

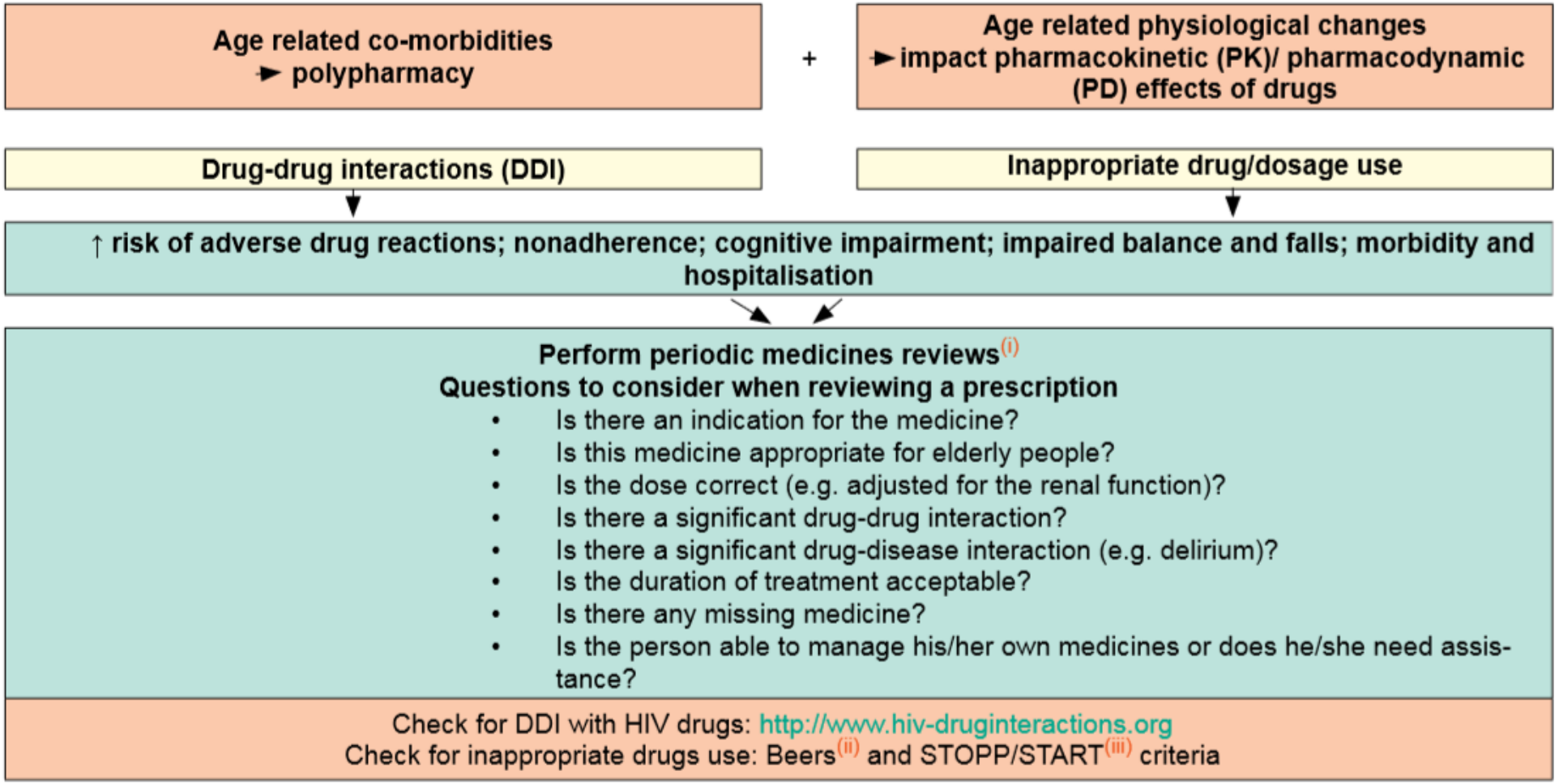
First-generation HAART

Today's ART

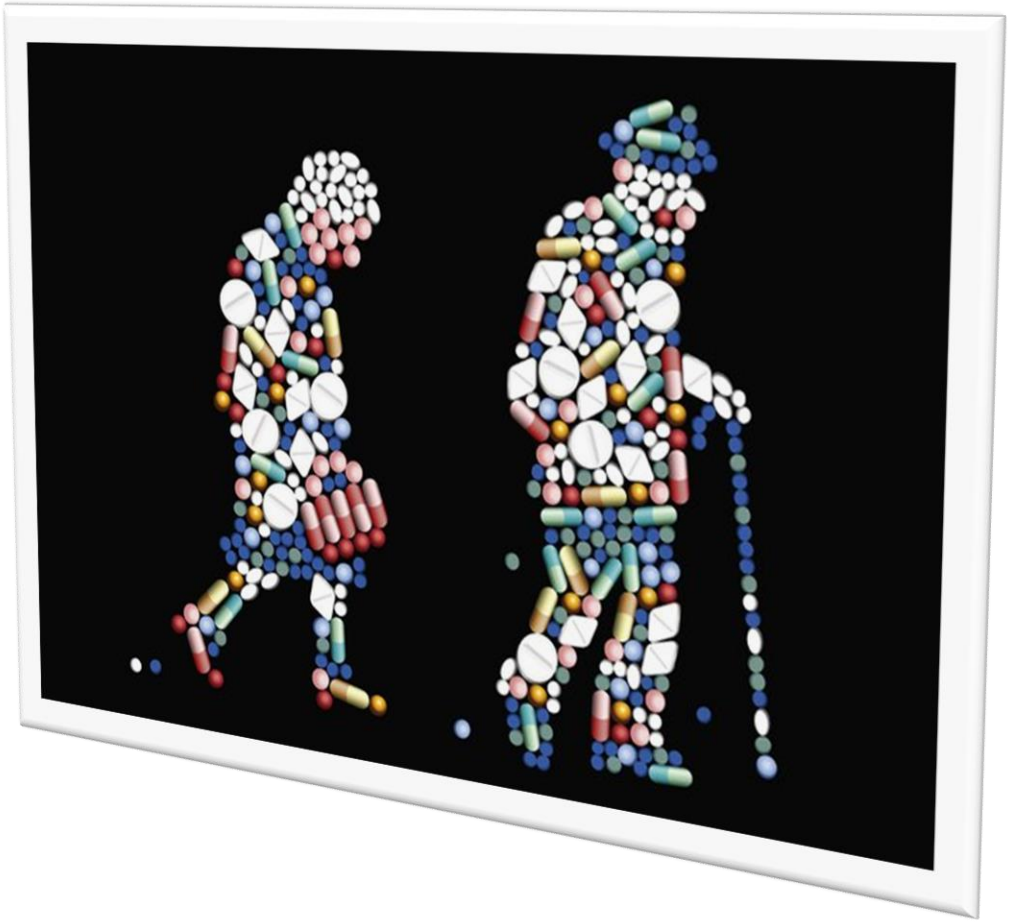
ART, antiretroviral therapy; HAART, highly active antiretroviral therapy; PLWH, people living with HIV.

1. Edelman EJ, et al. *Drugs Aging.* 2013;30(8):613–628. **2**. Olsson IN, et al. *Health and Quality of Life Outcomes.* 2011;9:95. **3**. Tseng A, et al. *Br J Clin Pharmacol*. 2014;79(2):182–194.

PRESCRIBING IN THE ELDERLY – (EACS 9.0)



HIV　熟齡照護與挑戰



HIV　熟齡照護與挑戰~歐洲觀點

Frailty and the Risk of Falls in HIV-Infected Older Adults in the ACTG A5322 Study

Challenges Faced

- Multi-morbidities
- Access to care
- Transportation
- Activities of daily living
- Economic issues
- Social isolation/stigma
- Depression
- Chronic pain/addiction
- Housing/homelessness
- Incarceration
- End of life issues

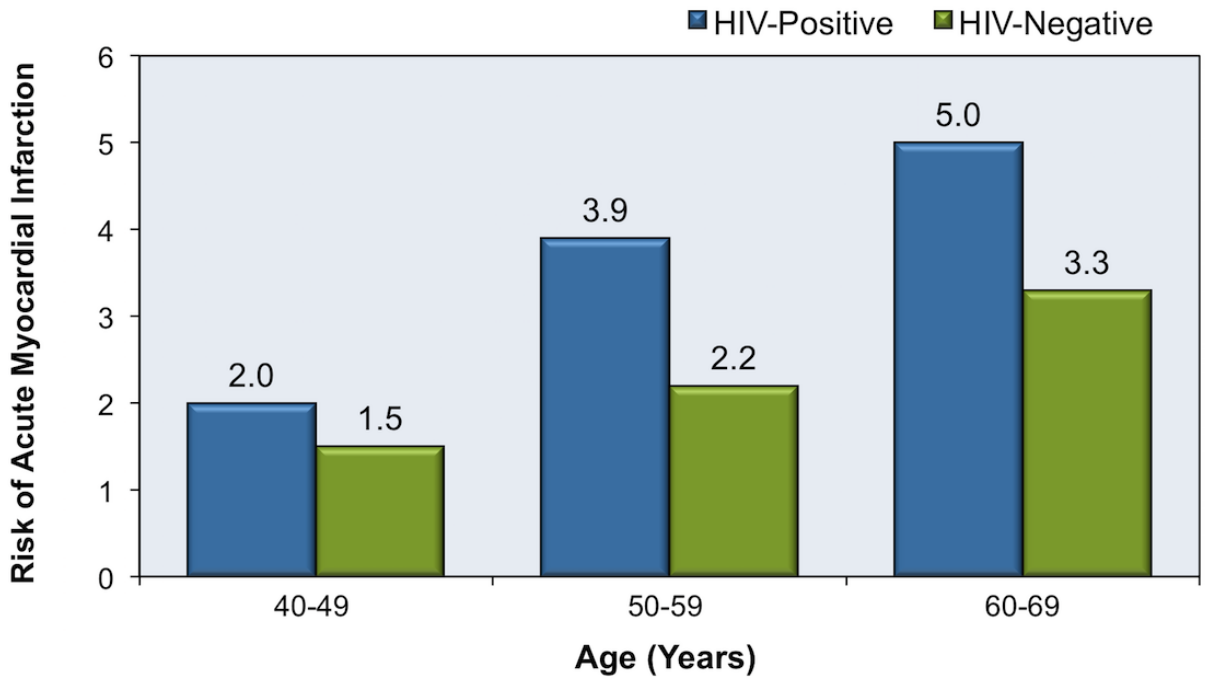
Preventive Care

- Immunizations – flu, Tdap, pneumococcal
- Smoking cessation
- Alcohol screening and treatment
- Cancer screening
- Chronic hepatitis B and C screening/treatment
- Sexual health – screening for STIs
- Diet and exercise - obesity
- Neurocognitive function

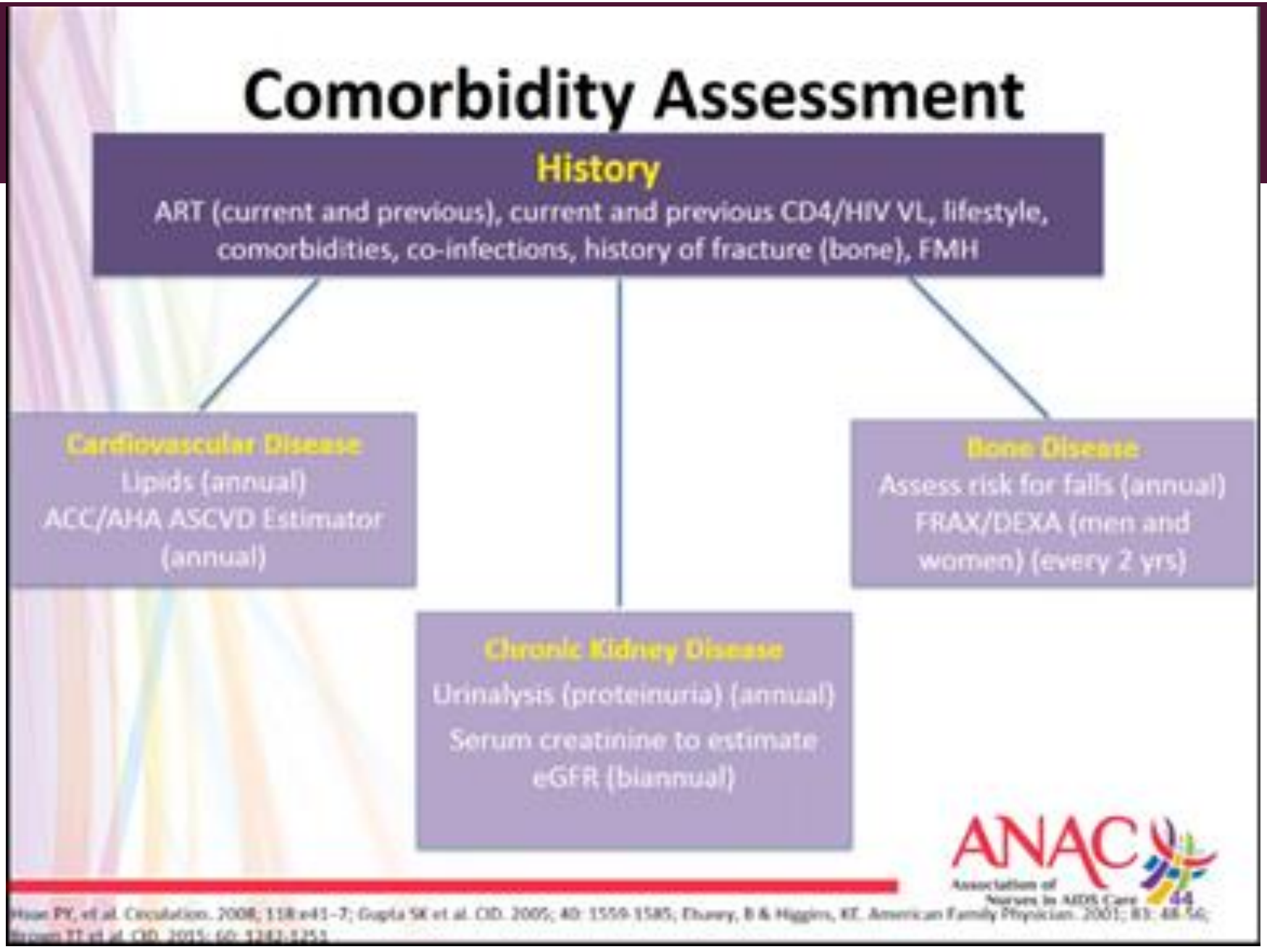
AGE-RELATED HEALTH CONDITIONS AND HIV

- There is evidence that older people living with HIV have a greater risk of developing certain age-related illnesses, including:
- cardiovascular disease
- kidney failure
- liver failure
- cancer
- type 2 diabetes
- osteoporosis (weakened bones)
- memory problems.

HIV感染者 心肌梗塞率



Comorbidity Assessment



Hsue PY, et al. Circulation. 2008; 118:e41–7; Gupta SK et al. CID. 2005; 40: 1559-1585; Ebuary, B & Higgins, KE. American Family Physician. 2001; 63: 48-56;

SCREENING TOOLS

SCREENING TOOLS

- **Osteoporosis:** Bone density, vitamin D
- **Cardiovascular disease risk:** Framingham risk score assessment, lipid profile including total cholesterol, HDL, LDL, and triglycerides (at least annually, repeat before initiating ART, and within 4 to 8 months after initiating)
- **Activities of daily living** [Katz 1983; Lawton et al. 1969]: Ask patient and/or caregivers whether patient can perform the following activities with or without assistance from others or from assistive devices:
  - Basic ADLs: Feeding, toileting, continence, bathing, grooming, dressing, ambulation, transfers (to or from bed or chair)
  - Instrumental ADLs: Telephone, shopping, food preparation, housekeeping, laundry, transportation, medication management, financial management
- **Pain, range of motion, gait:** Note whether patient is impaired by pain, joint stiffness, or abnormal or unsteady gait and is at risk for falls

SCREENING TOOLS

- **Frailty** [See Fried et al. 2001 for full validated assessment]: Using a phenotype assessment, frailty is indicated by the presence of three or more of the following five factors.
  - Shrinking: unintentional weight loss (>10 lbs in prior year)
  - Weakness: as determined by grip strength
  - Poor endurance and energy: self-report of exhaustion
  - Slowness: more than 6-7 seconds (depending on height) to walk 15 ft
  - Decreasing physical activity
- **HIV disease progression** [Justice et al. 2013]: The VACS Index, a prognostic tool based on a calculation of age and eight routine laboratory tests, helps monitor HIV disease progression and response to therapy. An online calculator can be accessed at: http//vacs.med.yale.edu

COMPONENTS OF COMPREHENSIVE GERIATRIC ASSESSMENT
熟齡族的全面性評估

- Basic activities of daily living
- Instrumental activities of daily living
- Frailty
- Nutritional status
- Social network and financial status
- Living situation and accessibility
- Affective assessment
- Cognitive assessment
- Medical comorbidities
- Medication appropriateness
- Advance directives

Singh, H. K., Del Carmen, T., Freeman, R., Glesby, M. J., & Siegler, E. L. *Clin Infect Dis, 65*(3), 501-506

RISK OF FRAILTY AMONG PEOPLE WITH HIV

- **"Frailty"**
- Defined: the presence of 3 or more of the following 5 characteristics: unintentional weight loss, exhaustion, weakness, low physical activity, and slowed walking speed.
- Female sex
- Receiving Medicaid or Medicare benefits
- Older age
- Smoking
- Less education
- Lower physical activity
- HCV antibody positivity
- Neurocognitive impairment
- Obesity

HIV INFECTION IN OLDER ADULTS:

- **Initiation of ART in Patients Over 50**
- All patients, regardless of CD4 count, should be evaluated for ART. Patients >50 years of age are a high-risk group for whom initiation of ART is particularly urgent.
- **Polypharmacy**
- Perform medication review at every visit
- Discontinue medications that are no longer needed
- Encourage patients to use one pharmacy
- Consider obtaining a dispensing history from the pharmacy

HIV INFECTION IN OLDER ADULTS:

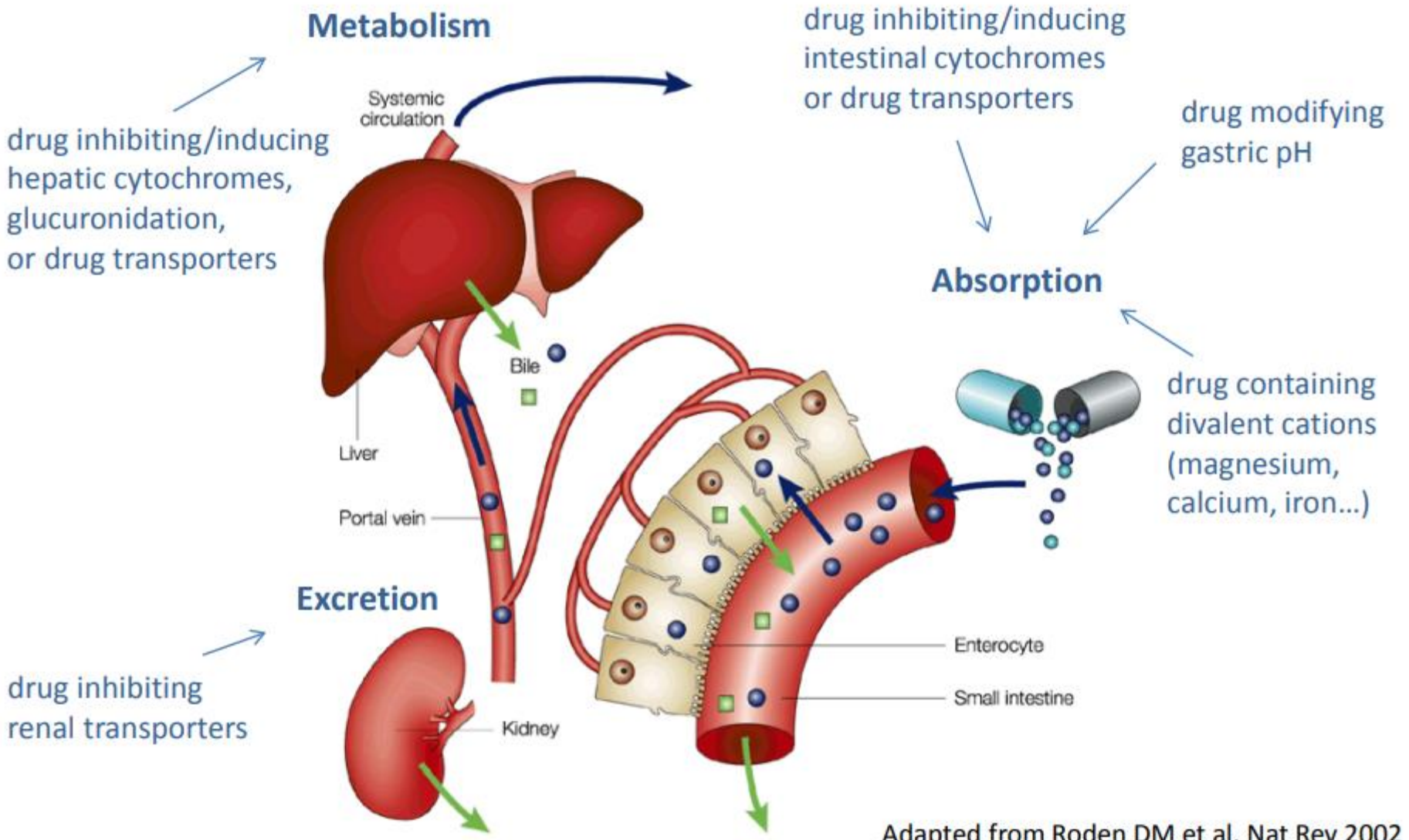
- To prevent or delay disability, the following assessments are particularly important for older adults with HIV/AIDS:
- Total HIV and non-HIV disease burden and functional status
- Medication adherence, side effects, drug-drug interactions, need for dose adjustments
- Alcohol and substance use, including prescription drugs
- Mental and cognitive status
- Social support

POLYPHARMACY IN ELDER HIV PEOPLE

EACS European AIDS Clinical Society

UNIVERSITY OF LIVERPOOL

Mechanisms of drug-drug interactions at the level of absorption, metabolism and excretion



Adapted from Roden DM et al. Nat Rev 2002

MEDICATION LIST AND ADHERENCE VERIFICATION:

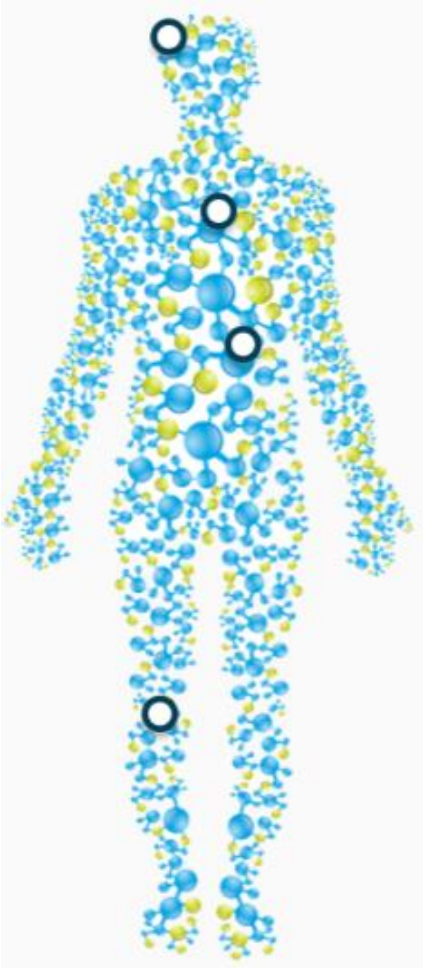
- Create/update medication list, including over-the-counter drugs, supplements, and complementary and alternative medications.
- Verify current pharmacy and check prescription pattern and fill dates.
- Ask patients to bring pill bottles to visits, compare with medication list, and perform pill counts.
- Cross-reference information with home health agency or other caregivers.
- Consider use of customized pill cards, pill boxes (for those who can fill them on their own), home delivery, prepackaging of medication, "easy-open" containers.
- Ensure that instructions on medication dosing are appropriately conveyed.

CONDITIONS OF AGING THAT MAY AFFECT ADHERENCE:

- Impaired hearing: Perform screening test to determine need for formal testing
- Impaired vision: Perform vision screening every 1-2 years in pts >65; every 1-3 years in pts 55-64; annually for pts with CD4
- Cognitive impairment: Assess cognitive function at baseline and at least annually*
- Polypharmacy (higher pill burden, greater cumulative side effects, medication fatigue): Perform medication review at every visit; discontinue medications that are no longer needed
- Social isolation and lack of support: Assess social support at least annually*
- Depression: Screen for depression at every visit*
- Substance use, including misuse of prescriptions: Screen for substance use at baseline and at least annually

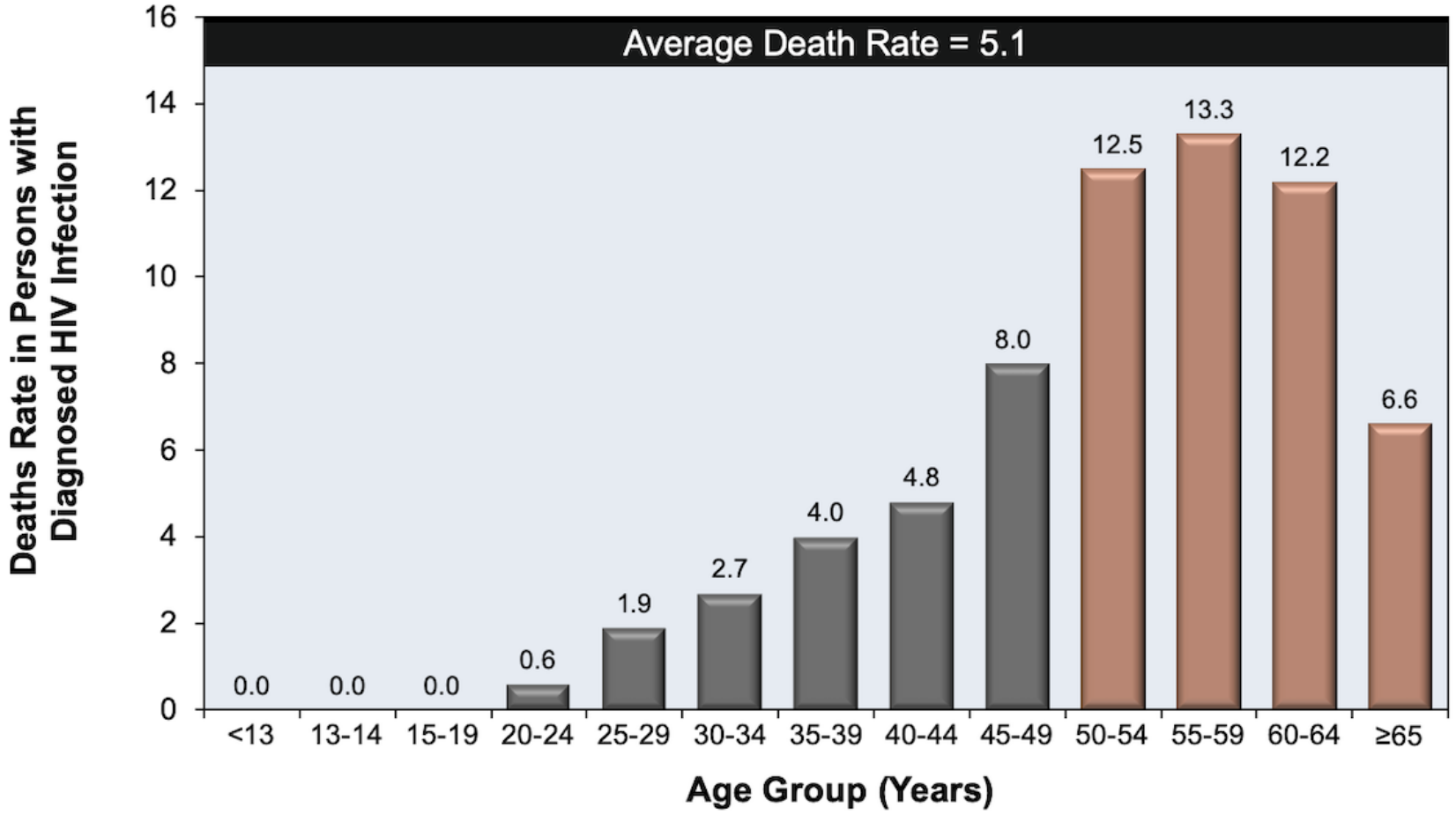
MENTAL HEALTH AND COGNITIVE STATUS

- As with all HIV-infected patients, clinicians should perform a comprehensive mental health screening at baseline and at least annually.
- **Assess:**
- **Depression,** anxiety, PTSD
- Psychiatric history
- **Cognitive function**
- Suicidal/violent ideation
- Sleep habits and appetite
- **Psychosocial status, 孤寂感**
- Screening tools for cognitive function and depression are provided.



HIV感染者的癌症風險...

HIV感染者 死亡率?


Average Death Rate = 5.1
Deaths Rate in Persons with Diagnosed HIV Infection
16
14
12
10
8
6
4
2
0
0.0
0.0
0.0
0.6
1.9
2.7
4.0
4.8
8.0
12.5
13.3
12.2
6.6
<13
13-14
15-19
20-24
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60-64
≥65
Age Group (Years)

熟齡HIV最關心的事

2013台灣愛滋感染者生活現況調查

- **超過半數的帕斯堤對「老年生活」尚未有心理準備**
- 高達**六成五的帕斯堤目前並沒有對退休做任何準備**
- 老年後最多的擔心與焦慮，則是以**「沒有收入/經濟不穩定」、「照顧與安養」**及**「沒有醫療保險與伴侶陪伴」**等議題為主。
- 高達四成六的受訪者**認為自己「應該活不到老年」**，對於老年生活的安排，多半期盼與伴侶、帕斯堤朋友及家人同住；也有**25%的受訪者認為自己老年後應會獨居**
- 有**近二成**的受訪者認為**自己發病後，會處於完全孤立無援、沒人照顧的窘境**，顯見對生活的不安與無望。

資料來源:露德協會

LACK OF SUPPORT, ISOLATION, LONELINESS IN HIV+

- May affect medication adherence
- Increased sexual risk taking behaviors
- Tobacco and other substance use
- Mood symptoms – depression

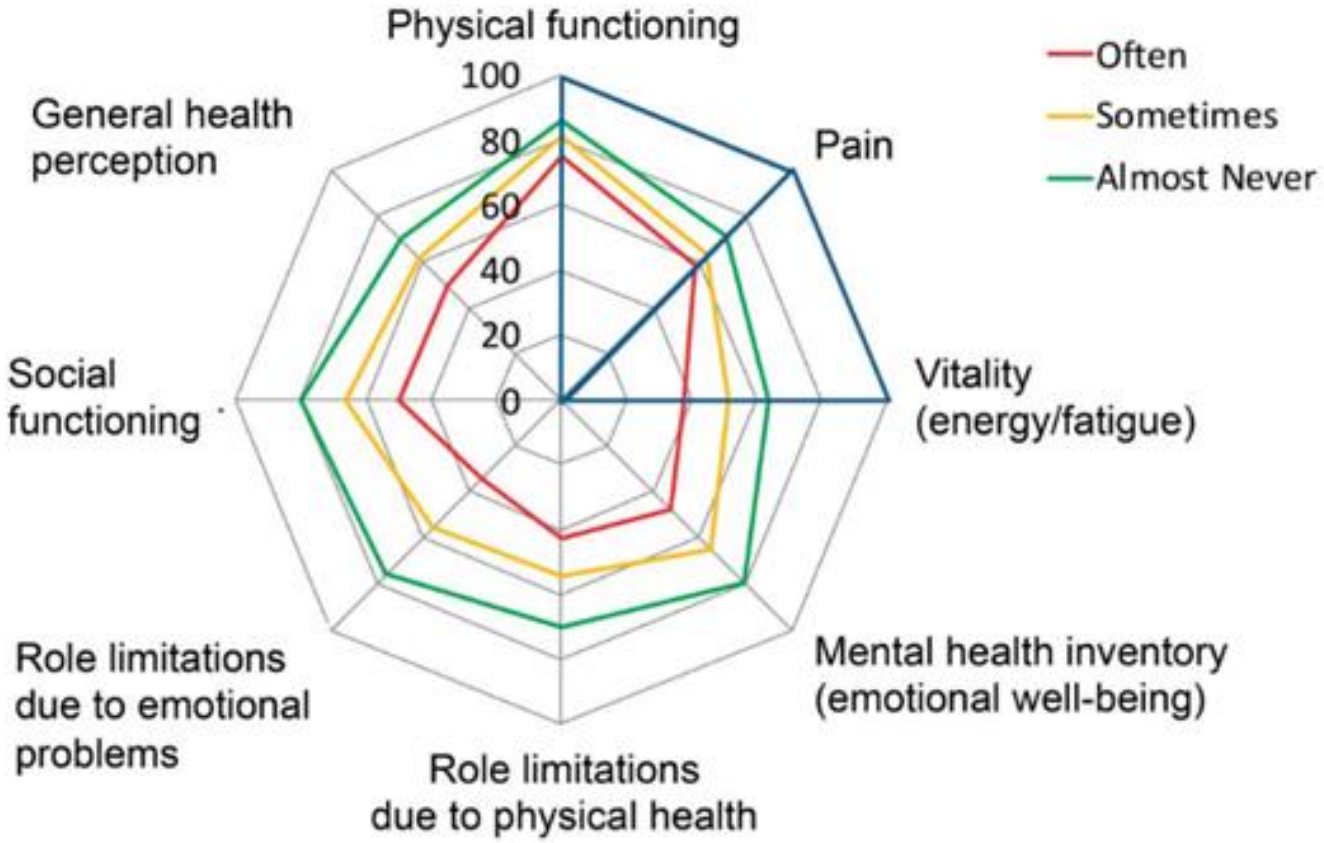
Johnson CJ AIDS Care. 2009, Bianco AIDS Behavior 2011, Golub STD 2010, Hubach IAS 2015; Grov AIDS Care 2010; Stanton AIDS Care 2010

LONELINESS IN OLDER ADULTS LIVING WITH HIV

- HIV-positive adults age ≥ 50 in San Francisco (N = 356)
- predominately male (85%); 57% were white; median age was 56.
- **58% – any loneliness symptoms，mild-24%, moderate- 22%, severe loneliness -12%.**
- **Lonely** were more likely to report depression, alcohol and tobacco use, and have fewer relationships.
- unadjusted models, loneliness was associated with functional impairment and poor HRQoL. In adjusted models, low income and depression remained associated with poor HRQoL, while low income, higher VACS index and depression were associated with functional impairment.
- A comprehensive care approach, incorporating mental health and psychosocial assessments with more traditional clinical assessments, will be needed to improve health outcomes for the aging HIV-positive population.

AIDS Behav. 2018 May;22(5):1475-1484

寂寞對HIV感染者生活的衝擊



STANDARDS OF CARE FOR PEOPLE LIVING WITH HIV 2018(BHIVA)

- **Person-centred care**
- Peer support may be particularly important
- Peer support needs (issues such as historic stigma and discrimination, community-level loss and survivor guilt)
- Proactive screening for and identification of potential comorbidities according to national guidelines (e.g. cardiovascular risk, **osteoporosis**, diabetes, breast and prostate cancer), encouraging smoking cessation, and facilitating access to active lifestyles
- HIV pharmacists, older age pharmacists, physiotherapy and occupational therapy
- care coordinators where possible for those experiencing complex care issues, particularly where care is across multiple health and social care service provision

Standards of care for people living with HIV 2018(BHIVA)

STANDARDS OF CARE FOR PEOPLE LIVING WITH HIV 2018(BHIVA)

- **Psychological care**
- the experience of multiple loss over many years, the cumulative effects of community-level stigma and discrimination, differing reference points for self-assessment of health and well-being (e.g. having been near to death), and a history of activist engagement with HIV.
- Those diagnosed in older age may include familiarity with HIV issues, terminology and services, differences in peer and family understandings of HIV, and the primacy of other health concerns.

Standards of care for people living with HIV 2018(BHIVA)

HIV個案失能時，照顧者是否知情? 如何面對? 調適?

HIV感染者對家人病情揭露程度?

- 評估HIV感染者向陪伴者揭露病情了嗎?
- 向誰揭露病情?
- 揭露病情的程度?
- 揭露病情前後，關係是否改變?
- 陪伴者或家人知道病情後，對個案的看法如何?

面對熟齡HIV個案，我們準備好了嗎? TAKE HOME MESSAGES

- 1.愛滋個案**提早老化**，多因子誘發慢性病，須及早發現、及早預防。
- 2. **『維持良好服藥順從性』+『健康生活型態』**仍是不二法門
- 3.及早發現、避免藥物影響，是最佳預防慢性共病的最佳策略
- 4.愛滋個案更須及早預防癌症!!
- 5. **『U=U』**➔照顧愛滋個案與一般人相同

HIV熟齡族照護

- 強化對共病、提早衰老及老年議題的熟悉與敏感度
- 全面性評估檢視HIV熟齡者的身、心、社會及經濟層面現況，提供必要的整合性照護服務及轉介（老年醫學門診）
- 照護時的廣度，，了解疾病、知情及照護支持程度應擴及其家屬與照顧者
- 鼓勵建立銀髮族社群
- **愈早與HIV個案討論照顧議題**、可以有更好的準備

來不及變老的ARTHUR ASHE~美國網球球王

~謝謝聆聽~