

Emerging issues in HIV treatment: A clinical perspective on HIV and aging

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Outline

- My experience of delivering care to people ageing with HIV
- Data and clinical concerns
- Quality of life
- Care models: HIV and ageing

A dedicated clinic for the over 50's at CWH – today a pathway for all PLWH > 50


> [Int J STD AIDS](#). 2012 Aug;23(8):546–52. doi: 10.1258/ijisa.2012.011412.



A dedicated clinic for HIV-positive individuals over 50 years of age: a multidisciplinary experience

L Waters ¹, B Patterson, A Scourfield, A Hughes, S de Silva, B Gazzard, S Barton, D Asboe, A Pozniak, M Boffito

> [AIDS Res Hum Retroviruses](#). 2021 Aug 13. doi: 10.1089/AID.2021.0083. Online ahead of print.



Evaluation of a Clinic Dedicated to People Aging with HIV at Chelsea and Westminster Hospital: Results of a 10-Year Experience

Branca Pereira ¹, Maria Mazzitelli ³, Ana Milinkovic ¹, Christina Casley ¹, Javier Rubio ¹, Rachel Channa ¹, Nicola Girometta, David Asboe ¹, Anton Pozniak ¹, Marta Boffito ^{1 2}

Data from the HIV over 50 clinic:

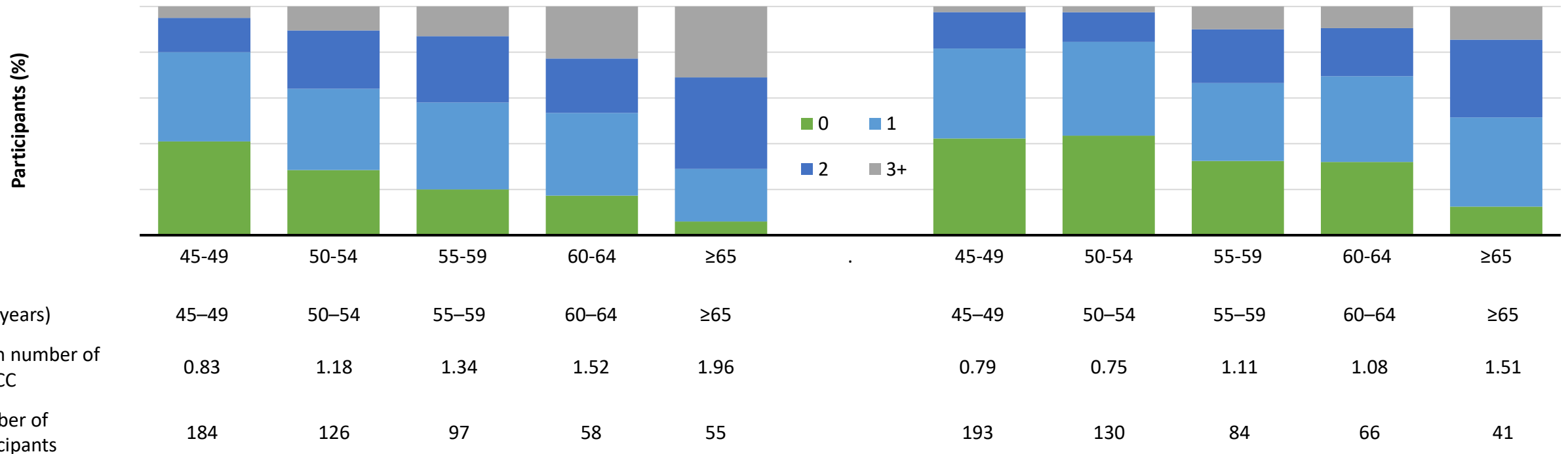
- Showed high rates of comorbidities and polypharmacy
- Led to the implementation of clinical care pathways for all HIV care providers
- Led to the set up of new joint HIV/specialty clinics (cardiology, nephrology, neurology, metabolic, menopause, and geriatric)
- Helped improve prevention, diagnosis, and management of comorbidities and polypharmacy

Co-morbidities are prevalent among ageing people living with HIV

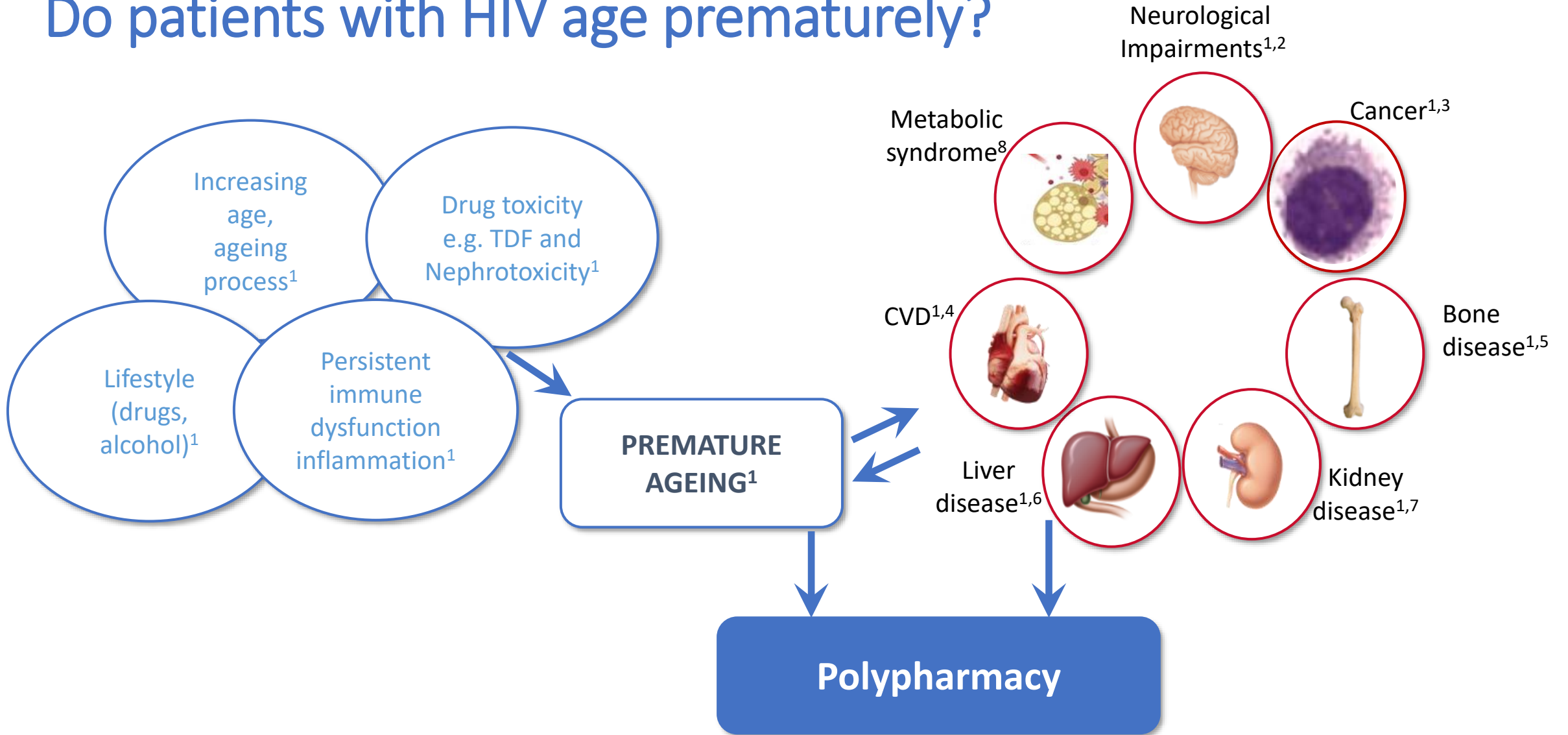
AANCC incidence stratified by age in the AGE_{HIV} Cohort Study, 2010–2012

HIV-infected (N=540)
Mean AANCC/person = 1.3 (SD 1.14)

HIV-uninfected controls (N=524)
Mean AANCC/person = 1.0 (SD 0.96)



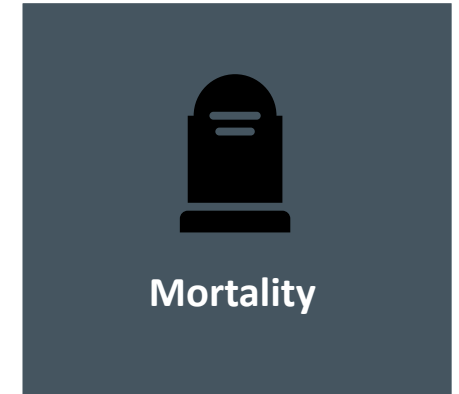
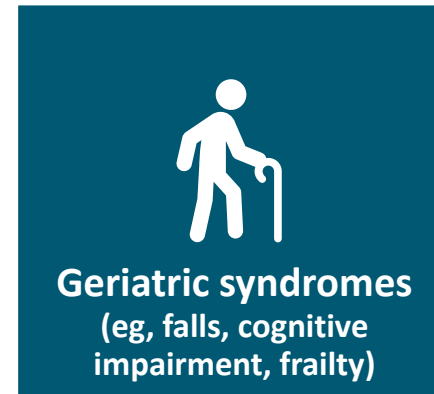
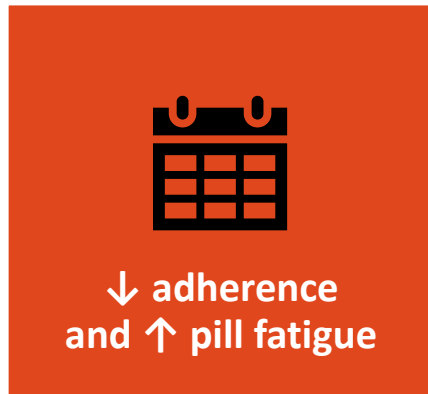
Do patients with HIV age prematurely?



1. Deeks et al. BMJ 2009 2. McArthur et al. Ann Neurol 2010 3. Nguyen et al. 18th IAC. Vienna, Austria 2010 4. Freiberg et al. JAMA Intern Med 2013
5. Brown et al. AIDS 2006 6. Towner et al. JAIDS 2012 7. Lucas et al. Clin Infect Dis 2014 8. Wold et al. J Diabetes Metab Disord 2020

Polypharmacy

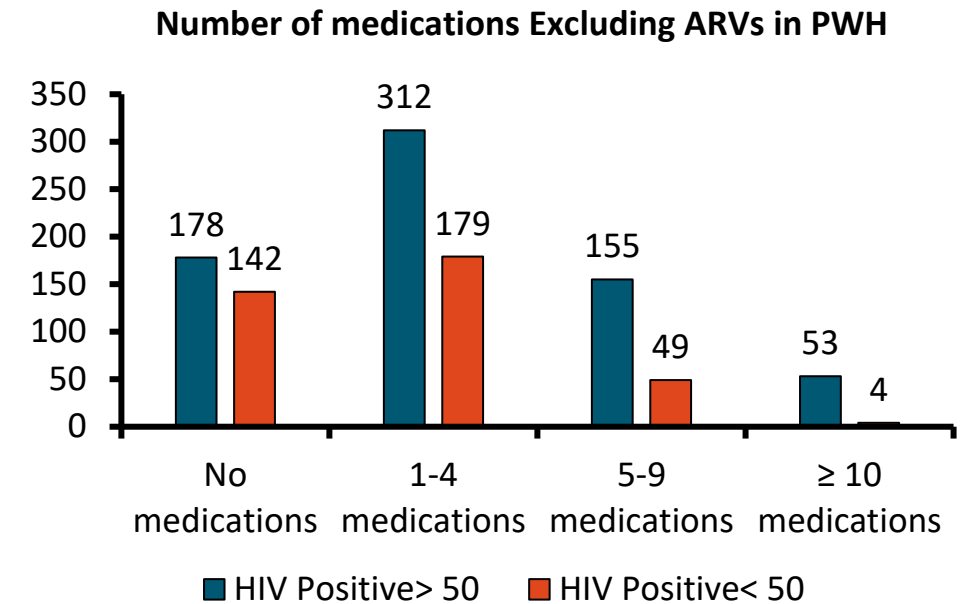
- Definition: use of ≥ 5 medications¹
- Increased medication use is associated with¹:



- Polypharmacy is one of the strongest predictors of serious ADEs,² drug–drug interactions,² and fall risk³
- Dose–response association with all-cause and CVD mortality⁴

POPPY Study: Polypharmacy and drug interactions in Older people with HIV

	PLWH aged >50 years	PLWH aged <50 years	HIV-negative controls aged >50 years	P-Value
Age (years), Median (range)	56 (50-82)	43 (20-49)	58 (50-87)	0.001
Total number of medication				
Median (range)	6 (0-27)	4 (0-17)	1 (0-39)	0.001
n (%) with PP	459 (65.3%)	180 (48.1%)	40 (13.2%)	0.001
PDDI between non-ARV drugs				
n (%) ≥1	252 (36.1%)	76 (20.3%)	49 (16.1%)	0.001
Median (range)	0 (0-48)	0 (0-21)	0 (0-14)	0.001
% on ARVs	98.7%	95.2%	-	
PDDI between ARV & non-ARV drugs				
n (%) ≥1	398 (57.3%)	121 (32.4%)	-	0.001
Median (range)	1 (0-11)	0 (0-5)	-	0.001



- Compared to HIV-negative controls or younger PWH, older PWH were more likely:
 - To have polypharmacy, even when ARVs were excluded
 - To be at risk of a PDDI involving non-ARV/ARV drugs
- Results highlight the need for increased awareness and additional research around polypharmacy and all PDDI

General De-Prescribing

ART

- VL undetectable
- ARV history & archived resistance testing results support alternative options
- Lower DDI and toxicity
- Maintain undetectable VL

Non-ART

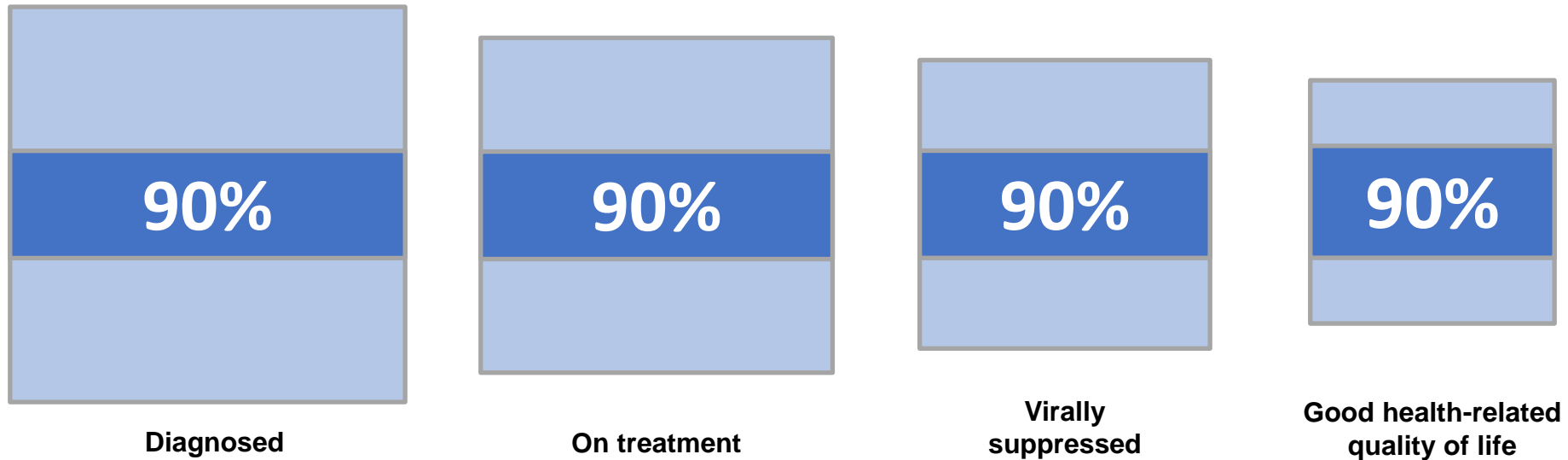
- Supervised by a health care professional
- Goal = managing polypharmacy/reduce risks and improving outcomes
- Discontinue inappropriate meds
- Use evidence that is feasible and safe

Recent evidence on cardiometabolic outcomes

OUTCOME MEASURE	AUTHOR	PUBLICATION/PRESENTATION	YEAR	N	OUTCOME
<u>BMI</u>	Bansi-Matharu et al.	Lancet HIV, 2021;September:S2352	2021	14703	Compared with 3TC; DTG (OR 1.27), RAL (OR 1.37), and TAF (OR 1.38) were significantly associated with more than 7% BMI increase
<u>DYSLIPIDEMIA</u>	Byonanebye DM et al.	AIDS 2021, 35:869–882	2021	4577	Participants taking InSTI had a lower incidence of dyslipidemia compared with those on PI/b (adjusted IRR 0.71), but higher rate compared with those on NNRTI (1.35) .
<u>HYPERTENSION</u>	Byonanebye DH et al.	HIV Med. 2022 Mar	2022	4606	PLWH receiving InSTI had a 76% higher incidence of HTN than those receiving NNRTIs (aIRR=1.76)
	Byonanebye DH et al.	IAS2023 OALBB0505	2023	9704	Impact of INSTI and TAF-related BMI changes and risk on hypertension and dyslipidemia in RESPOND
<u>DIABETES MELLITUS</u>	O’Halloran JA et al.	CID, 2022; ciac355, https://doi.org/10.1093/cid/ciac355	2022	42382	PWH starting an InSTI were 31% more likely to develop DM vs. those starting a non-INSTI (NNRTI or PI)
<u>NAFLD</u>	Bischoff J, et al.	EClinicalMedicine. 2021 Sep 5;40:101116	2021	319	A BMI>23 kg/m² (OR: 4.24), TAF (OR: 5.07); and InSTI (OR: 2.35), as well as type 2 DM (OR: 7.61) were independent predictors of de novo steatosis in multivariable analysis
<u>CV EVENTS</u>	Neesgaard et al.	Lancet HIV. 2022 Jun 7:S2352-3018(22)00094-7.	2022	29340	InSTI exposure was associated with an aIRR of 1.85 for CVD events in the first 6 months after InSTI initiation compared with no exposure
<u>CV EVENTS</u>	Donga et al	AIDS2022 EPB108	2022	14076	Patients initiating InSTI were significantly more likely to experience congestive heart failure (HR=2.12), myocardial infarction (HR=1.79), and lipid disorders (HR=1.26) than those initiating non-InSTI.

The Fourth 90 (or 95): Quality of Life, Not Just Quantity of Life

“90-90-90” target championed by UNAIDS



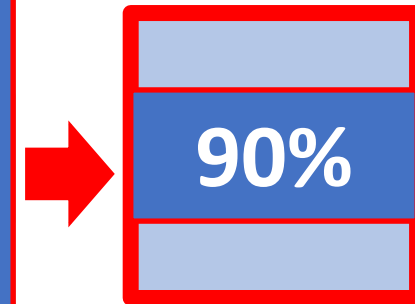
The ‘fourth 90’:

**To ensure that 90% of people with viral load suppression
have a good health-related QoL**

The Fourth 90 (or 95): Quality of Life, Not Just Quantity of Life

“90-90-90” target championed by UNAIDS

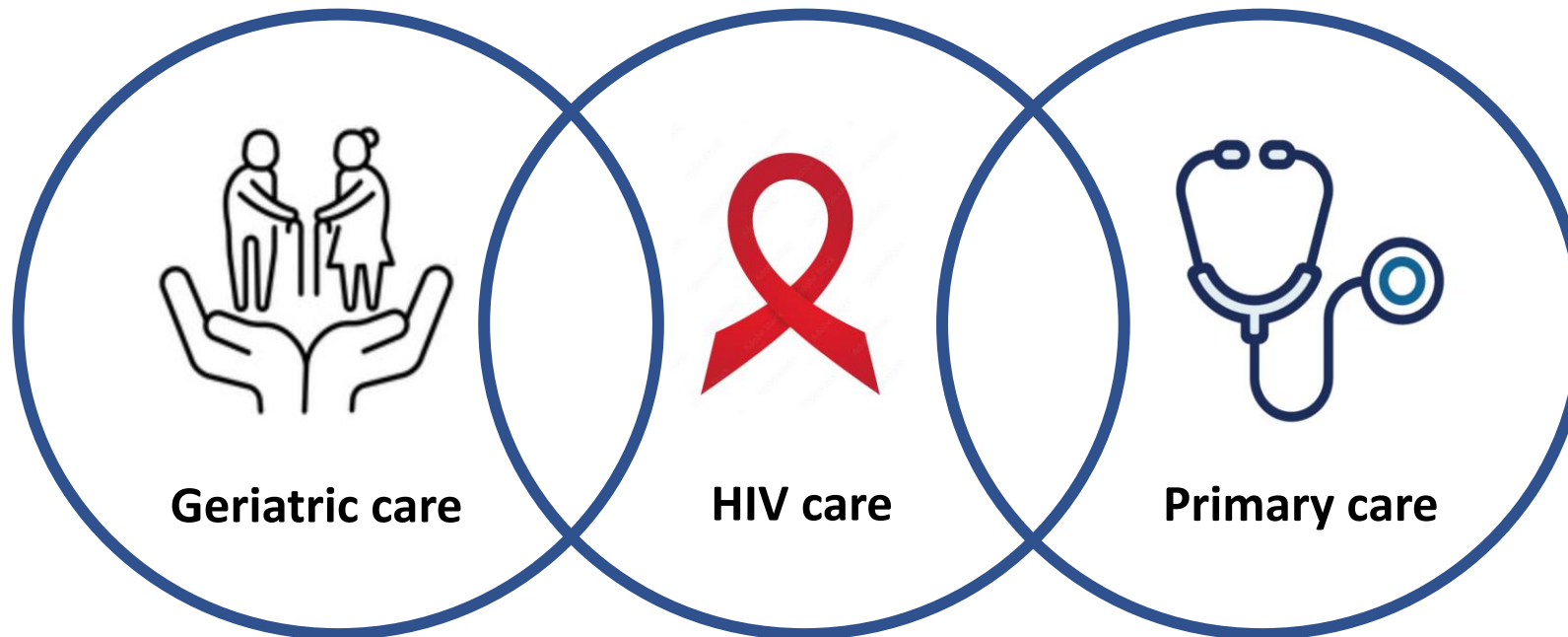
How can clinical and scientific knowledge contribute to the achievement of health equity by eliminating health disparities and achieving optimal health for all?



Good health-related
quality of life

Health equity is achieved when every person has the opportunity to “attain his or her full health potential” and no one is “disadvantaged ... Health inequities are reflected in differences in length of life; **quality of life**; rates of disease, disability, and death; severity of disease; and **access to treatment**.

Implementation of new models of care



Behavioral Health
E.g., Substance use, insomnia

Existential
E.g., Loneliness, fear

Mental Health
E.g., depression, anxiety

Practical needs
E.g., nutrition, housing

Social stressors
E.g., stigma, isolation

Mental Health Impairment Contributes to Poorer Outcomes

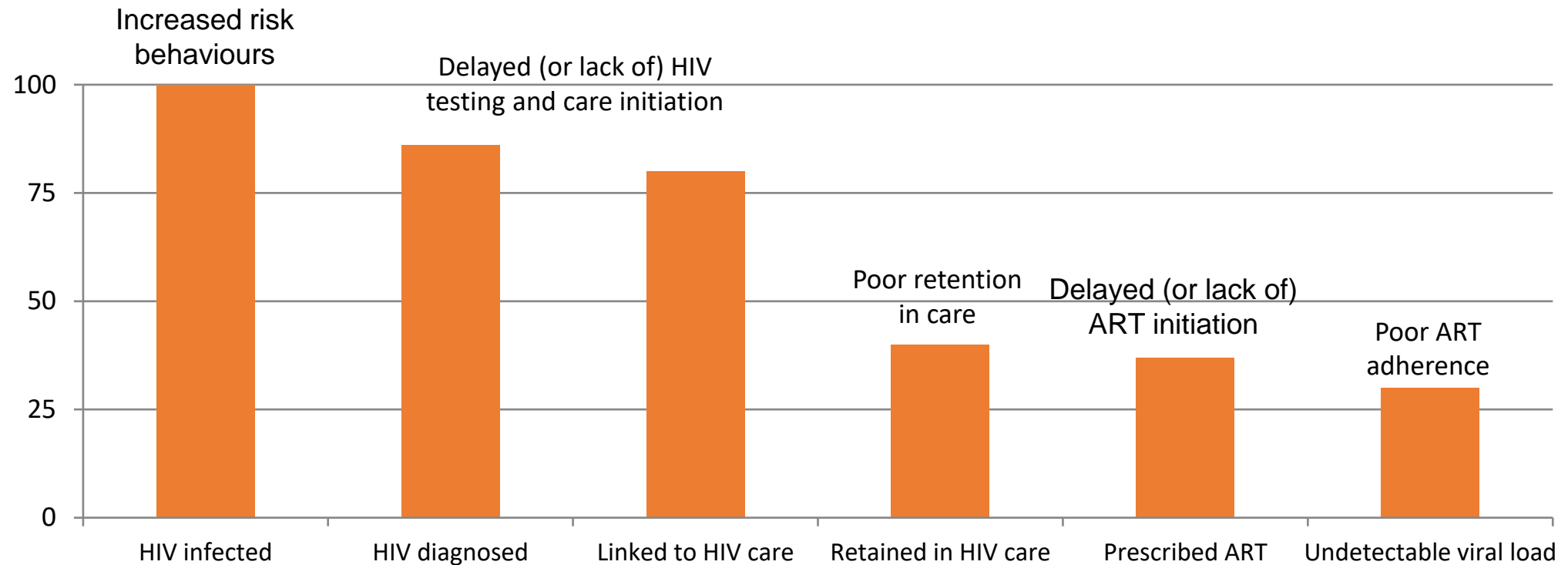


Figure adapted from Remien RH.

- All lead to non-optimal HIV treatment and poorer health outcomes (for self and for others)
- Whatever the pathway, it is clear that we need to address mental health problems if we want to improve health outcomes along the HIV prevention and HIV care continua

Benefits of Integrating Mental Health Screening and Treatment into HIV Care

First critical step

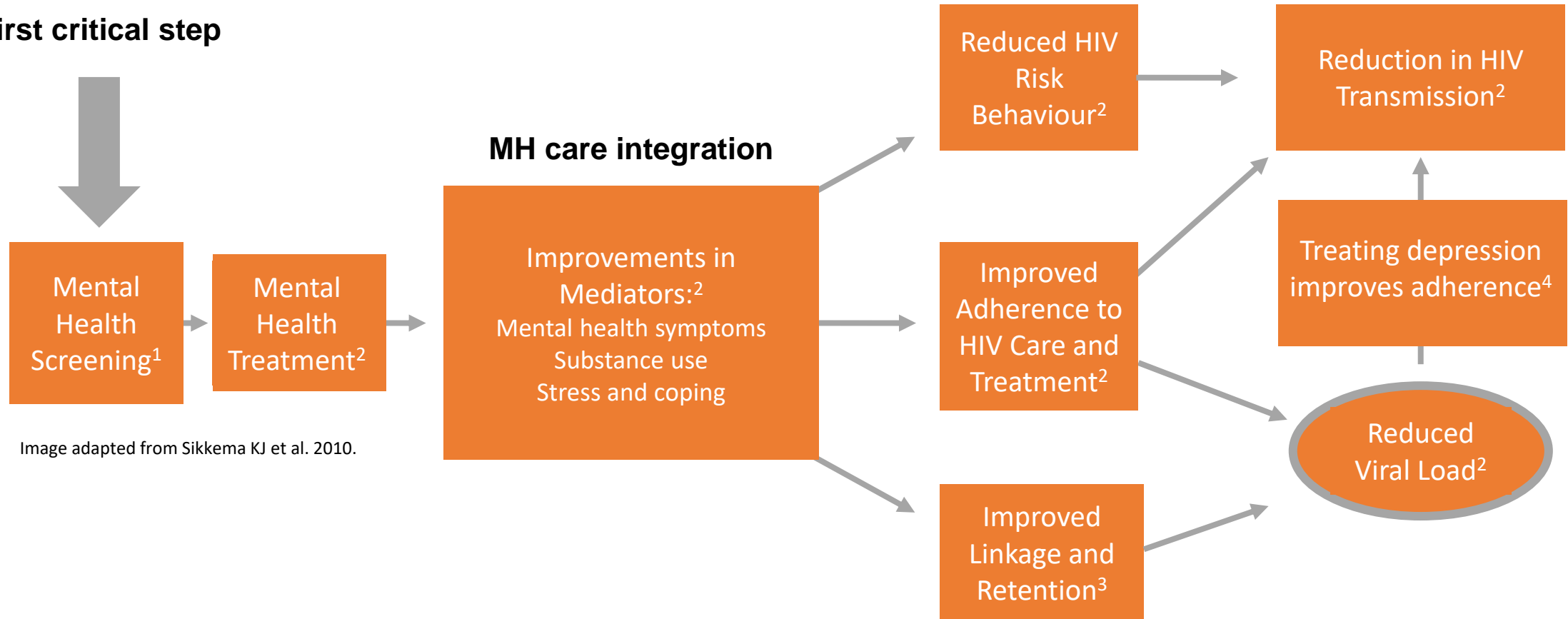


Image adapted from Sikkema KJ et al. 2010.

HIV, human immunodeficiency virus; MH, mental health; PTSD, post-traumatic stress disorder; SUD, substance use disorders

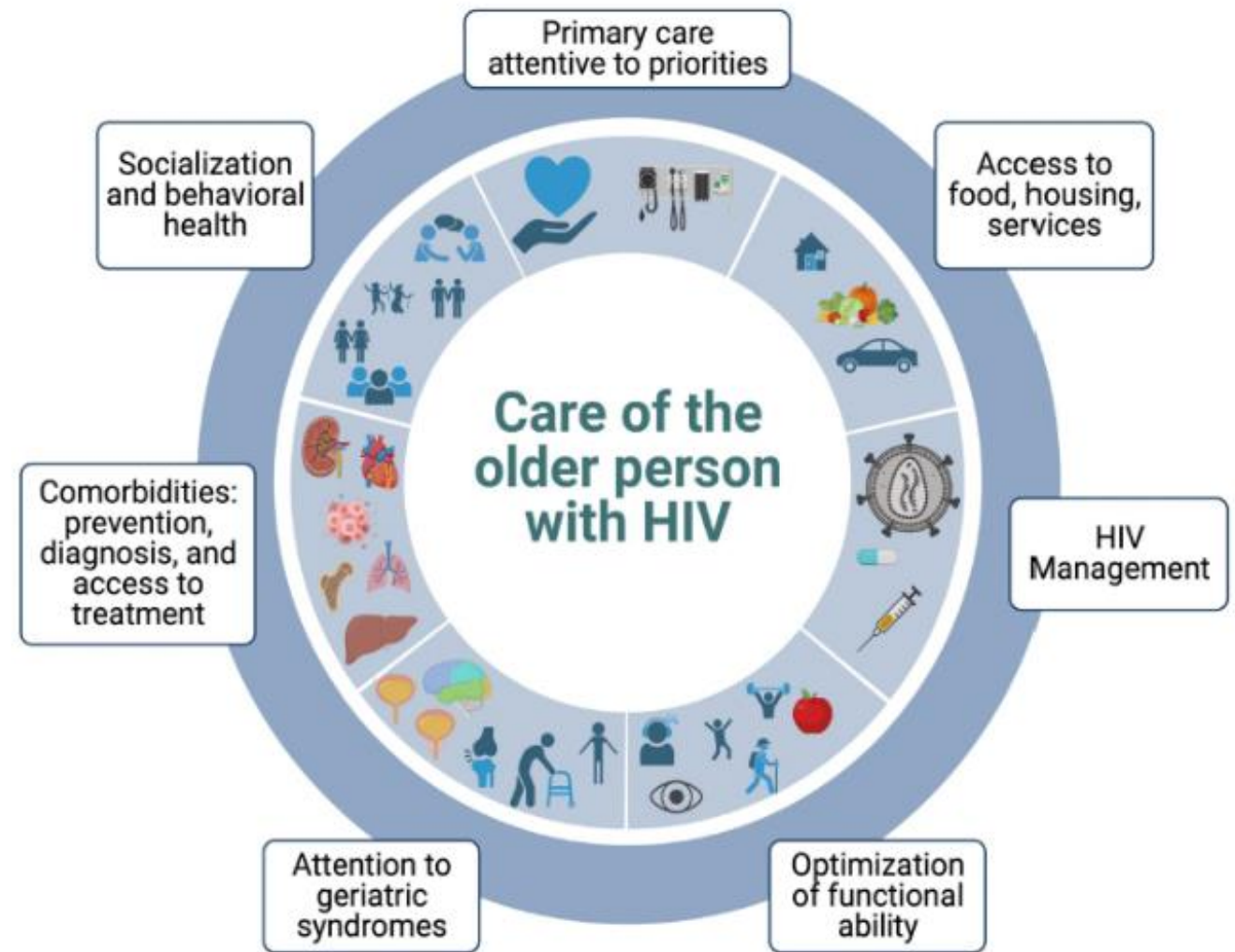
1. Shim RS et al. Psychiatr Serv. 2012;63:1231–1233; 2. Sikkema KJ et al. AIDS Behav. 2010;14:252–262; 3. Tucker JD et al. EBioMedicine. 2017;17:163–171; 4. Safren SA et al. Lancet HIV. 2016;3:e529–e538.

Strengths and Challenges of Various Models of Geriatric Consultation for Older Adults Living With Human Immunodeficiency Virus

Model Type	Overall Description	Institution Name	Location
Model 1: Outpatient referral/consultation	Referral to a geriatrician for recommendations to enhance a patient's care plan; HIV provider remains as primary provider	Positive Aging Consultation, University of Colorado	Aurora, Colorado
Model 2: Combined HIV/geriatric multidisciplinary clinic	A multidisciplinary team is incorporated into existing HIV/infectious disease clinics to provide a comprehensive assessment and evaluation of each patient; primary care providers are provided with full evaluation and recommendations from the multidisciplinary team	The THRIVE Program	Baltimore, Maryland
		Comprehensive HIV and Aging Initiative of the Chronic Viral Illness Service, McGill University Hospital Center	Montreal, Quebec, Canada
		Chelsea and Westminster Hospital [11]	London, United Kingdom
		Silver Clinic [12]	Brighton, United Kingdom
		Golden Compass Program, University of California; San Francisco/Zuckerberg San Francisco General Hospital [14, 16]	San Francisco, California
		Center for Special Studies, New York Presbyterian/Weill Cornell Medical Center [13, 15]	New York City, New York
Model 3: Dually trained providers	An HIV provider with an invested interest in geriatric care performs assessments and provides recommendations	Age Positively Program, Massachusetts General Hospital	Boston, Massachusetts
	Dually boarded provider: a single provider with both geriatric and HIV expertise in 1 clinical home	Penn Community Practice and Penn Geriatrics, University of Pennsylvania Medical Center	Philadelphia, Pennsylvania

Challenges

- Knowledge on all the components of care
- Availability of HCPs
- Engagement from HCPs
- Engagement from service users
- Funding and sustainability
- Absence of guidelines



Conclusions

- Global population of older people with HIV growing
- Supporting healthy aging in stretched healthcare is challenging
- Older people with HIV deserve comprehensive healthcare: prevention, diagnosis, management of HIV, polymorbidity and polypharmacy
- New models of healthcare needed in both HIC and LMIC
- Learn from pilot programs, research, and models used in other fields (e.g., geriatrics)
- Implement local pathways
- Creation of guidelines