

Ageing with HIV

New challenges and unmet needs of PLHIV aged 50+



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UNIVERSITÀ DEGLI STUDI
DI MODENA E REGGIO EMILIA

Menu

- ✓ Care beyond HIV viral load detectability implies new definition of relevant clinical outcomes
- ✓ Assessment implies a switch from a Multi-disciplinary approach into a Multi-dimensional comprehensive assessment

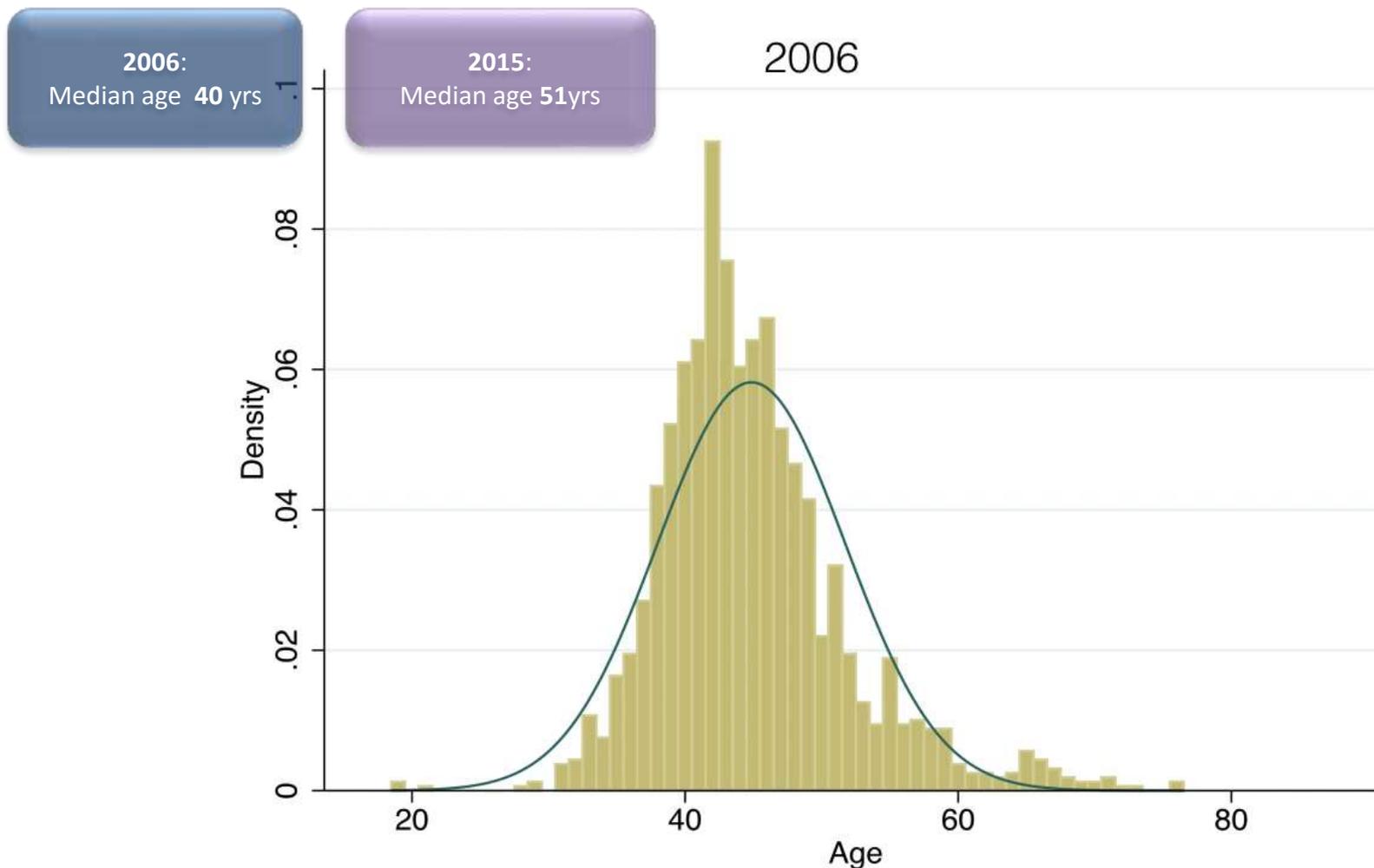
HIV infection detected at an older age

53 yrs
Heterosexual
Live with family and nephews

HIV diagnosis: 2012
CDC group A
CD4 nadir 320/microL
HIV-1 wild type
HIV VL=46000 c/mL

The age profile of people living with HIV is changing

Age distribution of HIV+ patients attending MHMC



Mr. A: HIV infection detected at an older age (2012)

53 yrs
Heterosexual
Live with family and nephews

HIV diagnosis: 2012
CDC group A
CD4 nadir 320/microL
HIV-1 wild type
HIV VL=46000 c/mL

Antropometry

BMI=25.2
Waist=102 cm
Leg fat%=27%
VAT=256cc

Life style

Sedentary
Non smoker
(pack year=58)

Co-morbidities

- ✓ HTN
- ✓ MS
- ✓ Benign prostatic hyperplasia (BPH)

Rx

Lisinopril
Tamsulosin

NEAT Trial
Randomised in
TDF/FTC+DRV/r

New challenges and unmet needs of PLHIV aged 50+

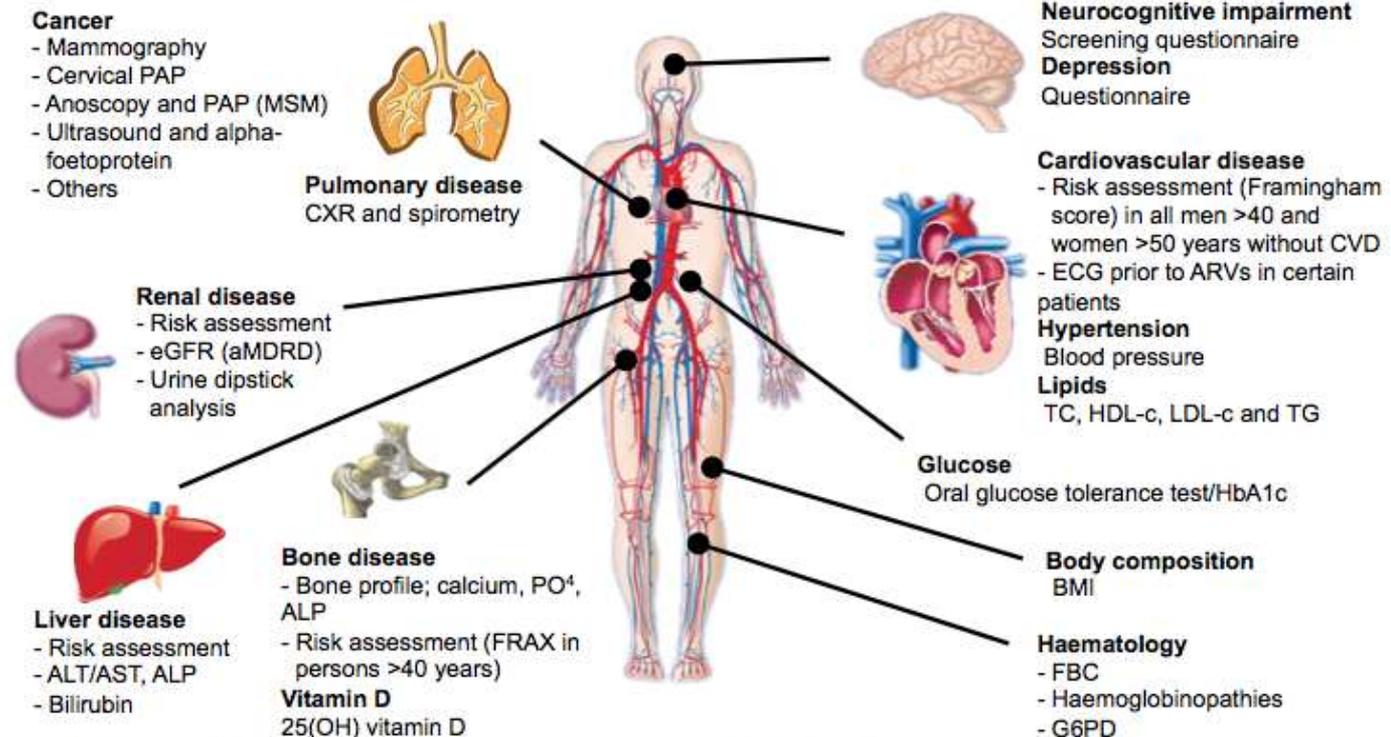
2000

2005

Drug
Toxicities

Co-morbidities

EACS Guideline Recommendations for Screening for Comorbidities*



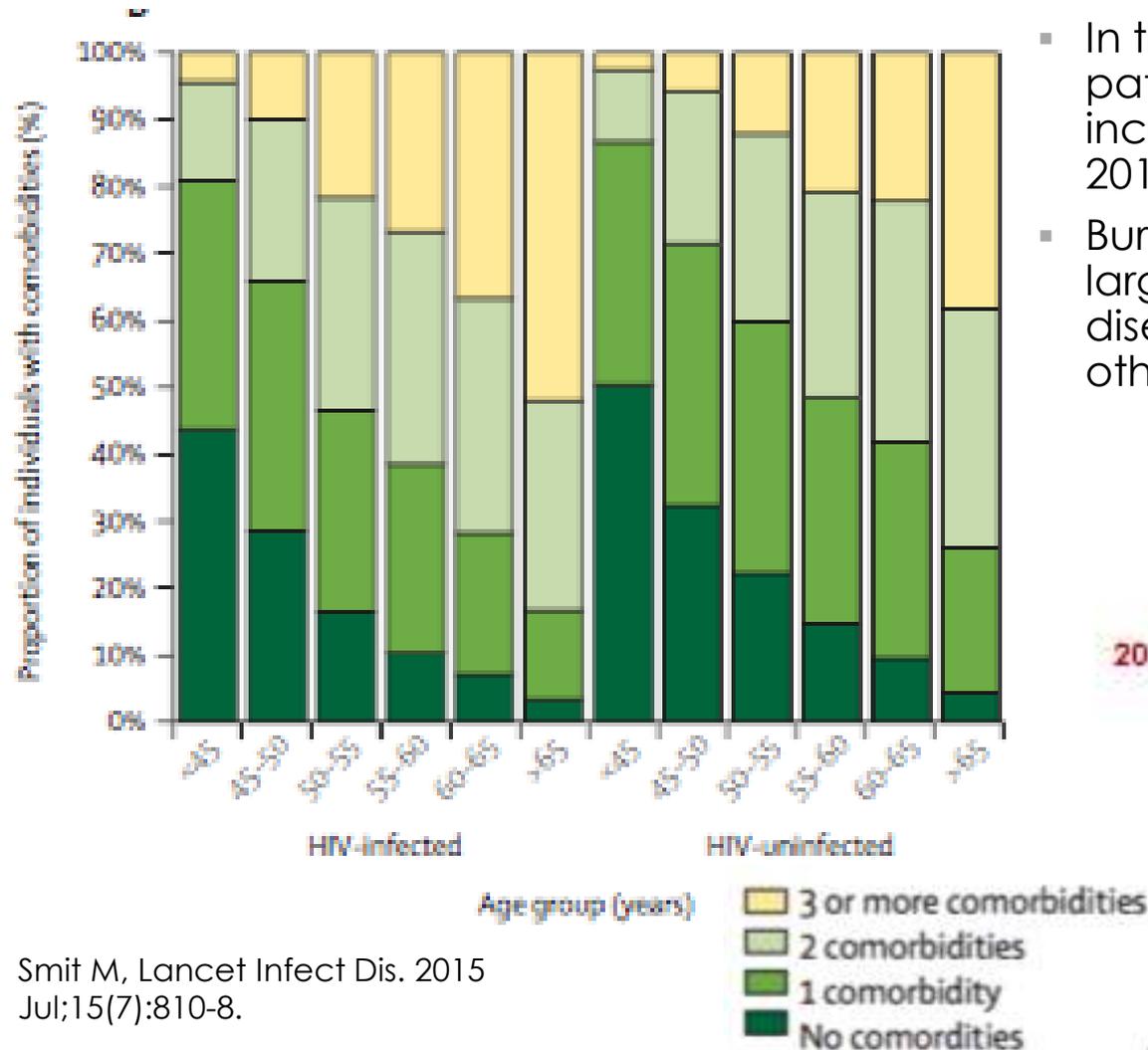
* See guidelines for detail on follow-up frequency, subgroups to be screened and further information

EACS guideline version 7.0, October 2013; Available at: http://www.eacsociety.org/Portals/0/Guidelines_Online_131014.pdf (accessed Apr 2014).

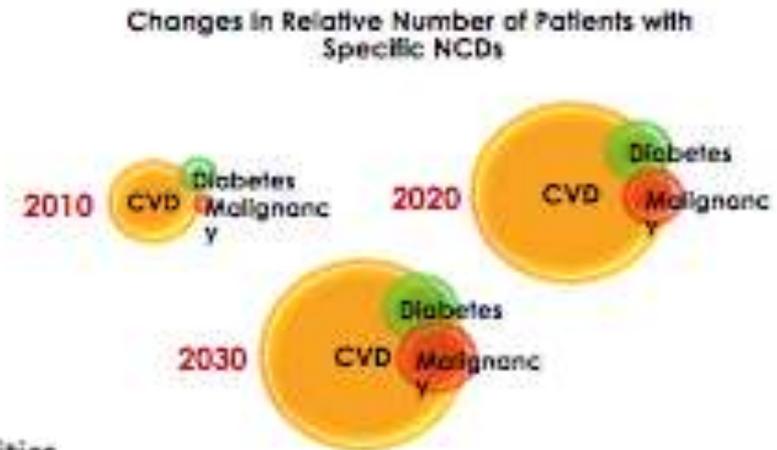
Future challenges for clinical care of an ageing population infected with HIV: a modelling study



Mikaela Smit, Kees Brinkman, Suzanne Geerlings, Colette Smit, Kalyani Thyagarajan, Ard van Sighem, Frank de Wolf, Timothy B Hallett, on behalf of the ATHENA observational cohort



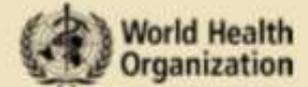
- In the ATHENA cohort, proportion of patients on ART aged ≥ 50 years old will increase from 28% to 73% between 2010 and 2030
- Burden of NCDs mostly driven by larger increases in cardiovascular disease compared with increases in other comorbidities



Multimorbidity (presence of multiple chronic conditions at the same time)

Although multimorbidity refers to the presence of two or more chronic conditions, there is no standard definition or consensus on which conditions should be considered.

The impact of multimorbidity on functioning, quality of life and risk mortality may be significantly greater than the sum of the individual effects that might be expected from these conditions.



WORLD
REPORT
ON
**AGEING
AND
HEALTH**

New challenges and unmet needs of PLHIV aged 50+

2000

Drug
Toxicities

2005

Co-morbidities

2010

Multi-
morbidity

2014

Frailty

Frailty has been proposed as a measure of biological (opposed to chronological) aging



83 years old;
HTN, Hyperlipidemia, prior MI



83 years old;
HTN, Hyperlipidemia, prior MI

This variable vulnerability among people of the same chronological age is known as **frailty**



JAMDA

journal homepage: www.jamda.com

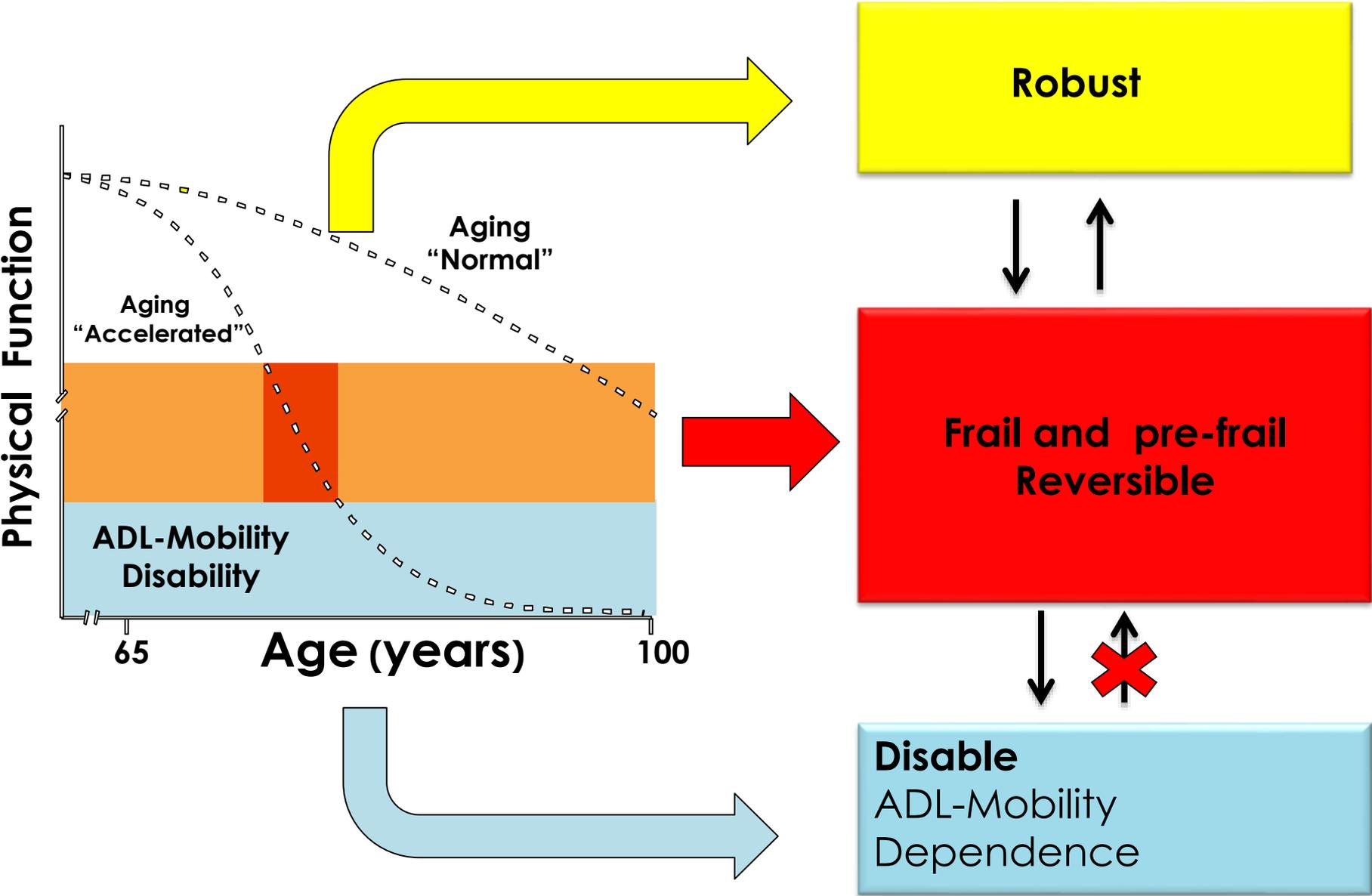
Special Article

Frailty Consensus: A Call to Action

John E. Morley MB, BCh^{a,*}, Bruno Vellas MD^{b,c}, G. Abellan van Kan MD^{b,c}, Stefan D. Anker MD, PhD^{d,e}, Juergen M. Bauer MD, PhD^f, Roberto Bernabei MD^g, Matteo Cesari MD, PhD^{b,c}, W.C. Chumlea PhD^h, Wolfram Doehner MD, PhD^{d,i}, Jonathan Evans MD^j, Linda P. Fried MD, MPH^k, Jack M. Guralnik MD, PhD^l, Paul R. Katz MD, CMD^m, Theodore K. Malmstrom PhD^{a,n}, Roger J. McCarter PhD^o, Luis M. Gutierrez Robledo MD, PhD^p, Ken Rockwood MD^q, Stephan von Haehling MD, PhD^r, Maurits F. Vandewoude MD, PhD^s, Jeremy Walston MD^t

“...A medical syndrome with multiple causes and contributors that is characterized by diminished strength, endurance, and reduced physiologic function that increases an individual’s vulnerability for developing increased dependency and/or death...”

Trajectories of physical function in older subjects



The need of screening for frailty



Geriatric patient
(biologically aged)

versus



Older patient
(chronologically old)

Frailty recognition in clinical practice

Frailty Related Phenotype¹

- A person can be said to be frail if they have any 3 of the following features:
 1. They move slowly
 2. They have a weak handgrip
 3. They have reduced their level of activity
 4. They have (unintentionally) lost weight
 5. They feel exhausted
- “pre-frail” is used when only one or two of these deficits is present
- Clinically recognizable and not otherwise definable as being disabled or as having multiple co-morbid illnesses

The Frailty Phenotype

Table 1. Operationalizing a Phenotype of Frailty

A. Characteristics of Frailty	B. Cardiovascular Health Study Measure*
Shrinking: Weight loss (unintentional) Sarcopenia (loss of muscle mass)	Baseline: >10 lbs lost unintentionally in prior year
Weakness	Grip strength: lowest 20% (by gender, body mass index)
Poor endurance; Exhaustion	“Exhaustion” (self-report)
Slowness	Walking time/15 feet: slowest 20% (by gender, height)
Low activity	Kcals/week: lowest 20% males: <383 Kcals/week females: <270 Kcals/week
	C. Presence of Frailty
	Positive for frailty phenotype: ≥ 3 criteria present
	Intermediate or prefrail: 1 or 2 criteria present

*See Appendix.

HIV infection is independently associated with frailty in middle-aged HIV type 1-infected individuals compared with similar but uninfected controls

Katherine W. Kooij^a, Ferdinand W.N.M. Wit^{a,b}, Judith Schouten^{a,c},
Marc van der Valk^b, Mieke H. Godfried^b, Ineke G. Stolte^{b,d},
Maria Prins^{b,d}, Julian Falutz^e, Peter Reiss^{a,b,f}, on behalf of the
AGE_{HIV} Cohort Study Group

Background: Frailty is an age-related syndrome of decreased physiological reserve and resistance to stressors, associated with increased morbidity and mortality in the general elderly population. An increased prevalence of frailty has been reported amongst HIV-infected individuals.

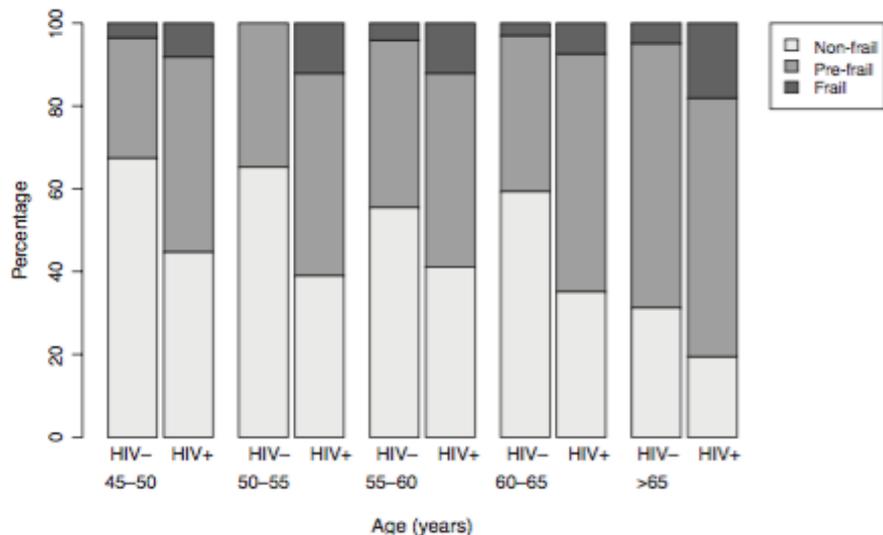
Methods: Frailty phenotype was systematically assessed in predominantly virologically suppressed HIV type 1 (HIV-1)-infected and otherwise comparable HIV-uninfected participants aged at least 45 at enrollment into the AGE_{HIV} Cohort Study. Multivariable ordinal logistic regression was used to investigate associations between HIV- and antiretroviral therapy-related covariates, markers of inflammation and body composition and prefrailty/frailty.

Results: Data were available for 521 HIV-infected and 513 HIV-uninfected individuals. Prevalence of frailty (10.6 versus 2.7%) and prefrailty (50.7 versus 36.3%) were significantly higher in HIV-infected individuals ($P_{trend} < 0.001$). HIV infection remained statistically significantly associated with prefrailty/frailty after adjustment for age, sex, race/ethnicity, smoking, hepatitis C infection, comorbidities and depression [adjusted odds ratio (OR_{adj}) 2.16, $P < 0.001$]. A higher waist-to-hip ratio attenuated the coefficient of HIV-infected status (OR_{adj} 1.93, $P < 0.001$), but not waist- or hip-circumference individually or markers of inflammation. Within the HIV-infected group, parameters related to body composition were most strongly and independently associated with prefrailty/frailty: current BMI less than 20 kg/m² (OR 2.83, $P < 0.001$), nadir BMI less than 20 kg/m² (OR 2.51, $P < 0.001$) and waist-to-hip ratio (OR 1.79 per 0.1 higher, $P < 0.001$).

Conclusion: HIV infection was independently associated with prefrailty/frailty in middle-aged HIV-infected patients compared with HIV-uninfected controls. This partly may be mediated by the higher waist- and lower hip-circumference in the HIV-infected individuals, potentially partially caused by lipodystrophy, and in part be a consequence of historic weight loss associated with advanced HIV-disease.

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Prevalence of frailty by age



Prevalence of frailty criteria.

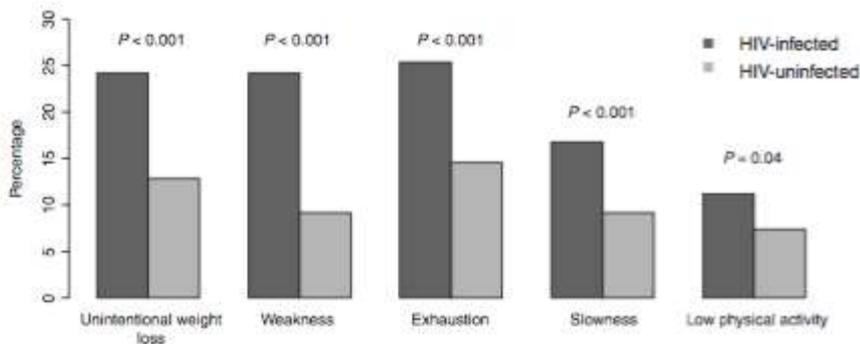


Table 3. Multivariable ordinal logistic regression model, with prefrailty and frailty as outcome.

	OR (95%CI)	P-value
HIV-infected status	1.65 (1.24–2.20)	0.001
Age		
45–50 (reference)	–	–
50–55	1.05 (0.74–1.47)	0.79
55–60	1.47 (1.00–2.16)	0.05
60–65	1.45 (0.94–2.25)	0.10
>65	4.10 (2.53–6.64)	<0.001
Male sex	0.54 (0.34–0.85)	0.008
Black race/ethnicity	1.35 (0.84–2.17)	0.22
Smoking		
Ex-smoker	1.23 (0.90–1.67)	0.20
Current smoker	1.36 (0.98–1.91)	0.07
HCV (co)infection		
Cleared	1.70 (0.83–3.46)	0.15
Chronic	5.26 (2.06–13.48)	0.001
Depressive symptoms		
CES-D 16–24	4.57 (3.00–6.94)	<0.001
CES-D ≥25	6.25 (3.43–11.36)	<0.001
WHR, per 0.1 increase	1.60 (1.30–1.97)	<0.001
BMI <20 kg/m ²		
For HIV-infected individuals	6.14 (3.10–12.18)	<0.001
For HIV-uninfected individuals	0.67 (0.21–2.19)	0.51

HIV infection was independently associated with prefrailty/frailty in middle-aged HIV-infected patients compared with HIV-uninfected controls

Frailty recognition in clinical practice

Frailty as a deficit accumulation²

- Frailty can be operationalized as **deficit accumulation** and can be expressed in a frailty index
- Can be summarised as a scale from Robust to Terminally Ill
- A frailty index derived from routinely collected clinical data can offer insights into the biology of aging using mathematics of complex systems

Appendix 1: List of variables used by the Canadian Study of Health and Aging to construct the 70-item CSHA Frailty Index

- | | | |
|---|---|--------------------------------------|
| • Changes in everyday activities | • Mood problems | • Seizures, partial complex |
| • Head and neck problems | • Feeling sad, blue, depressed | • Seizures, generalized |
| • Poor muscle tone in neck | • History of depressed mood | • Syncope or blackouts |
| • Bradykinesia, facial | • Tiredness all the time | • Headache |
| • Problems getting dressed | • Depression (clinical impression) | • Cerebrovascular problems |
| • Problems with bathing | • Sleep changes | • History of stroke |
| • Problems carrying out personal grooming | • Restlessness | • History of diabetes mellitus |
| • Urinary incontinence | • Memory changes | • Arterial hypertension |
| • Toileting problems | • Short-term memory impairment | • Peripheral pulses |
| • Bulk difficulties | • Long-term memory impairment | • Cardiac problems |
| • Rectal problems | • Changes in general mental functioning | • Myocardial infarction |
| • Gastrointestinal problems | • Onset of cognitive symptoms | • Arrhythmia |
| • Problems cooking | • Clouding or delirium | • Congestive heart failure |
| • Sucking problems | • Paraneof features | • Lung problems |
| • Problems going out alone | • History relevant to cognitive impairment or loss | • Respiratory problems |
| • Impaired mobility | • Family history relevant to cognitive impairment or loss | • History of thyroid disease |
| • Musculoskeletal problems | • Impaired vibration | • Thyroid problems |
| • Bradykinesia of the limbs | • Tremor at rest | • Skin problems |
| • Poor muscle tone in limbs | • Postural tremor | • Malignant disease |
| • Poor limb coordination | • Intention tremor | • Blebit problems |
| • Poor coordination, trunk | • History of Parkinson's disease | • Abdominal problems |
| • Poor standing posture | • Family history of degenerative disease | • Presence of snout reflex |
| • Irregular gait pattern | | • Presence of the palmomental reflex |
| • Falls | | • Other medical history |

A frailty index predicts survival and incident multimorbidity independent of markers of HIV disease severity

Giovanni Guaraldi^a, Thomas D. Brothers^b, Stefano Zona^a, Chiara Stentarelli^a, Federica Carli^a, Andrea Malagoli^a, Antonella Santoro^a, Marianna Menozzi^a, Chiara Mussi^c, Cristina Mussini^a, Susan Kirkland^d, Julian Falutz^e and Kenneth Rockwood^f

Objectives: Aging with HIV is associated with multisystem vulnerability that might be well characterized by frailty. We sought to construct a frailty index based on health deficit accumulation in a large HIV clinical cohort and evaluate its validity including the ability to predict mortality and incident multimorbidity.

Design and methods: This is an analysis of data from the prospective Modena HIV Metabolic Clinic cohort, 2004–2014. Routine health variables were screened for potential inclusion in a frailty index. Content, construct, and criterion validity of the frailty index were assessed. Multivariable regression models were built to investigate the ability of the frailty index to predict survival and incident multimorbidity (at least two chronic disease diagnoses) after adjusting for known HIV-related and behavioral factors.

Results: Two thousand, seven hundred and twenty participants (mean age 46 ± 8; 32% women) provided 9784 study visits; 37 non-HIV-related variables were included in a frailty index. The frailty index exhibited expected characteristics and met validation criteria. Predictors of survival were frailty index (0.1 increment, adjusted hazard ratio 1.63, 95% confidence interval 1.05–2.52), current CD4⁺ cell count (0.48, 0.32–0.72), and injection drug use (2.51, 1.16–5.44). Predictors of incident multimorbidity were frailty index (adjusted incident rate ratio 1.98, 1.65–2.36), age (1.07, 1.05–1.09), female sex (0.61, 0.40–0.91), and current CD4⁺ cell count (0.71, 0.59–0.85).

Conclusion: Among people aging with HIV in northern Italy, a frailty index based on deficit accumulation predicted survival and incident multimorbidity independently of HIV-related and behavioral risk factors. The frailty index holds potential value in quantifying vulnerability among people aging with HIV.

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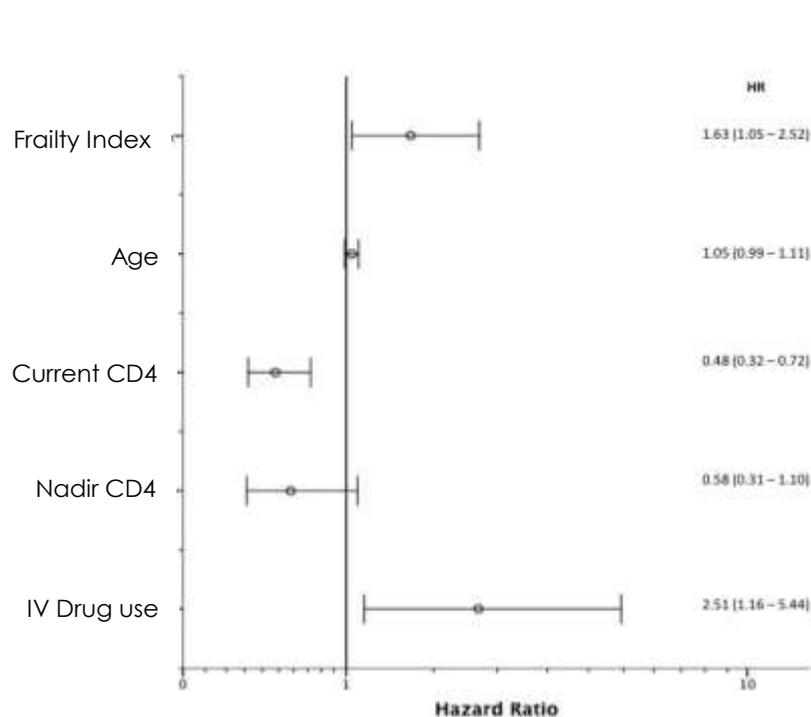
AIDS 2015, 29:1633–1641

No.	Variable
1	Lipoatrophy
2	Lipohypertrophy
3	Non-alcoholic fatty liver disease
4	Menopause or male hypogonadism
5	High or low body mass index
6	High waist circumference
7	High visceral adipose tissue
8	Sarcopenia or presarcopenia
9	Insulin resistance
10	High total cholesterol
11	High low density lipoprotein
12	Low high density lipoprotein
13	High triglycerides
14	High homocysteine
15	Abnormal white blood cell counts
16	Anemia
17	Hepatitis C co-infection
18	Hepatitis B co-infection
19	Vitamin D insufficiency
20	Polypharmacy

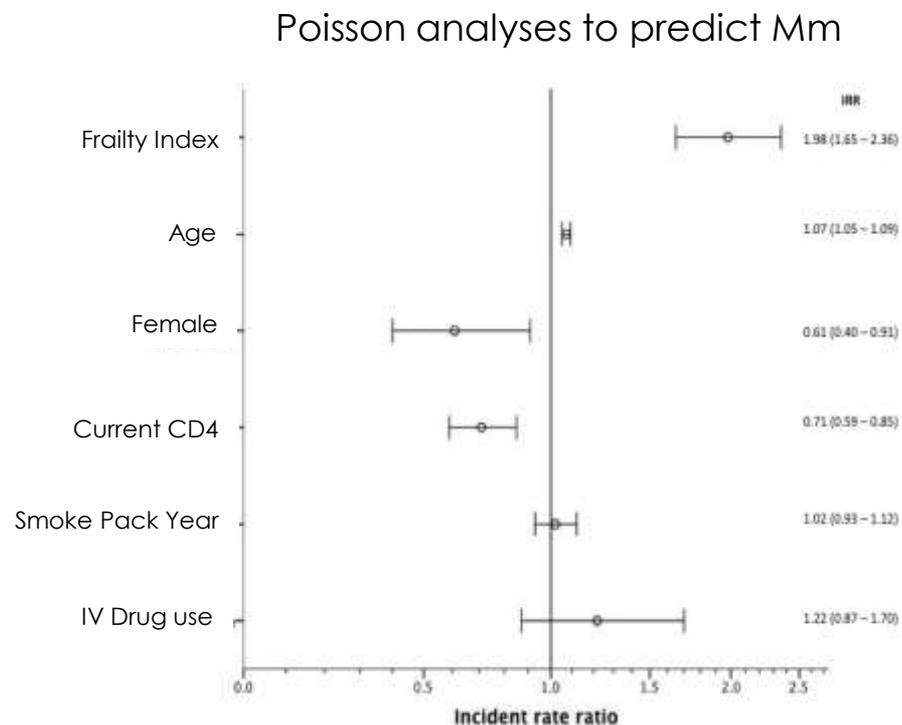
21	Abnormal parathyroid hormone
22	Elevated D-dimer
23	Elevated C-reactive protein
24	Sedentary lifestyle
25	Atherosclerosis
26	Hyponatremia
27	Proteinuria or albuminuria
28	Elevated aspartate transaminase (AST)
29	Elevated alanine transaminase (ALT)
30	Abnormal alkaline phosphatase
31	Elevated gamma-glutamyl transphosphatase (GGT)
32	Low platelets
33	Abnormal potassium
34	Abnormal phosphorus
35	Abnormal thyroid stimulating hormone
36	Elevated total bilirubin
37	Unemployment

We constructed a Frailty Index (FI) from health variables collected as part of routine assessments in an HIV clinic

Frailty index predicts survival and incident multimorbidity independently from markers of HIV disease severity among people ageing with HIV



33 deaths over 8150 person-years follow-up
(mortality rate; 0.40/100 PYFU)



228 (9.4%) new MM over 6925 person-years follow-up
(incident rate 3.29/100 PYFU)

Frailty implication for clinical practice

Frailty Phenotype



Risk prediction

Frailty Index



Trajectories of changes in the health status (Health transitions)

Clinical Frailty Scale*



1 Very Fit – People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.



2 Well – People who have **no active disease symptoms** but are less fit than category 1. Often, they exercise or are very **active occasionally**, e.g. seasonally.



3 Managing Well – People whose **medical problems are well controlled**, but are **not regularly active** beyond routine walking.



4 Vulnerable – While **not dependent** on others for daily help, often **symptoms limit activities**. A common complaint is being "slowed up", and/or being tired during the day.



5 Mildly Frail – These people often have **more evident slowing**, and need help in **high order IADLs** (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.



6 Moderately Frail – People need help with all **outside activities** and with **keeping house**. Inside, they often have problems with stairs and need **help with bathing** and might need minimal assistance (cuing, standby) with dressing.



7 Severely Frail – **Completely dependent for personal care**, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).



8 Very Severely Frail – Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.



9. Terminally Ill - Approaching the end of life. This category applies to people with a **life expectancy <6 months**, who are **not otherwise evidently frail**.

Scoring frailty in people with dementia

The degree of frailty corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In **severe dementia**, they cannot do personal care without help.

* 1. Canadian Study on Health & Aging, Revised 2008.
2. K. Rockwood et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005; 173:489-495.



Le Gérontopôle de Toulouse a pour objectifs de fédérer autour d'une même structure des équipes de recherche et des cliniciens afin de dynamiser la recherche, la prévention et de promouvoir la santé des personnes âgées.

Patients aged 65 years and older without both functional disability (Activities of Daily Living score $\geq 5/6$) and current acute disease.

	YES	NO	Do not know
Does your patient live alone?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has your patient involuntarily lost weight in the last 3 months?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has your patient been more fatigued in the last 3 months?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has your patient experienced increased mobility difficulties in the last 3 months?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has your patient complained of memory problems?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does your patient present slow gait speed (i.e., >4 seconds to walk 4 meters)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you have answered YES to one or more of these questions:

Do you think your patient is frail?	YES <input type="checkbox"/>	NO <input type="checkbox"/>
If YES, is your patient willing to be assessed for his/her frailty status at the Frailty Clinic?	YES <input type="checkbox"/>	NO <input type="checkbox"/>

New challenges and unmet needs of PLHIV aged 50+

2000

2005

2010

2013

2015

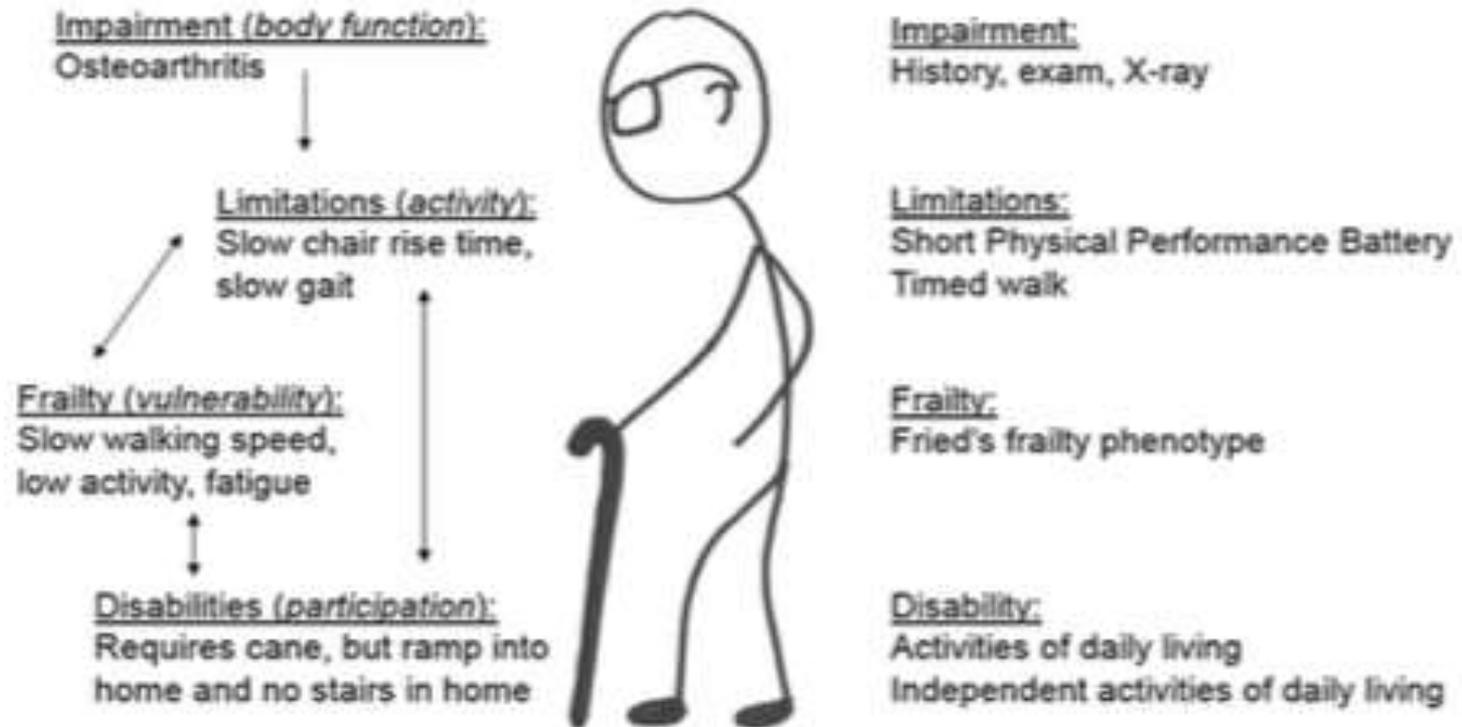
Drug toxicities

Co-morbidities

Multi-morbidities

Frailty

Disability

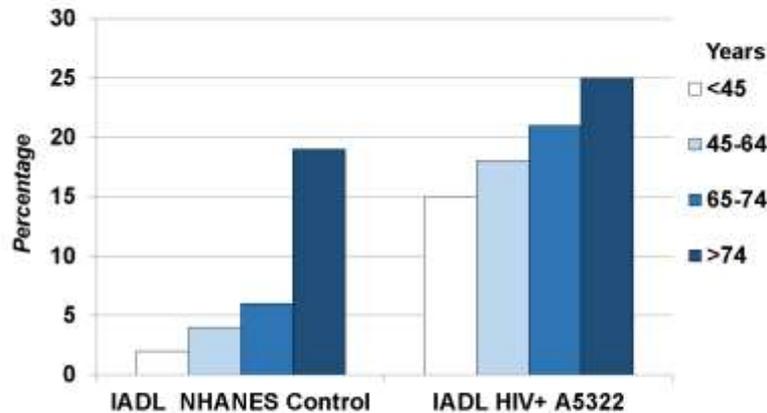


Factors Associated With Limitations in Daily Activity Among Older HIV+ Adults

Frequency of IADL Impairment in HAILO

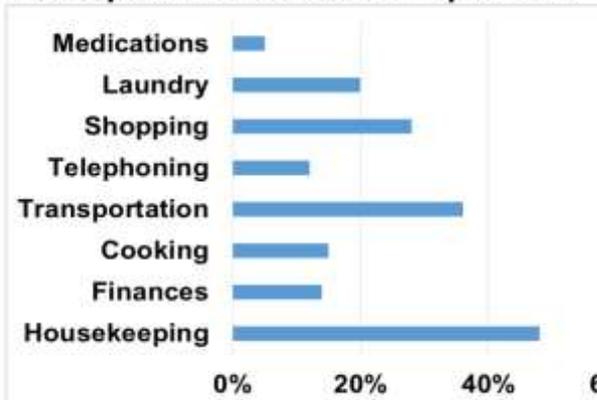


IADL Impairment by Age in NHANES* vs HAILO

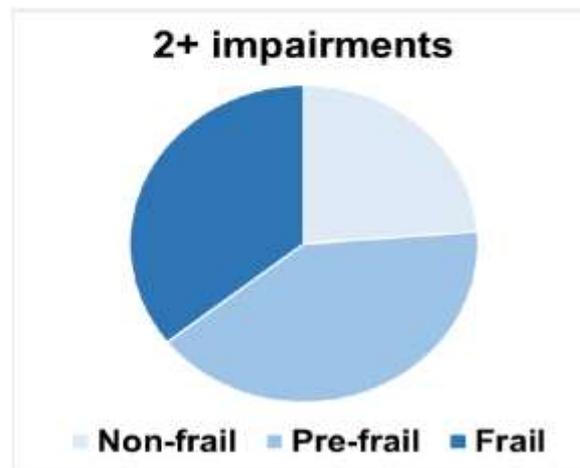


- ✓ In HIV+ older adults, IADL impairment occurs more frequently among those with neuroimpairment or frailty.
- ✓ Modifiable risk factors (smoking, low physical activity) provide targets for interventions to help maintain independent living

Types of IADL Impairment among Participants with at least 1 Impairment



2+ impairments



Do you recommend to treat Bone Comorbidity?

Data	Lumbar BV	V_LBM	Lumbar T	Lumbar	Femoral BV	V_FBMD	Femoral	Femoral
02/12/2015	0,835	-1,53%	-2,3	-1,8	0,628	-3,09%	-2,2	-1,3
11/11/2014	0,848	0,24%	-2,2	-1,7	0,648	0,15%	-2,1	-1,2
01/10/2013	0,846	0,59%	-2,2	-1,8	0,647	-2,12%	-2,1	-1,2
14/03/2012	0,841		-2,3	-1,8	0,661		-2	-1,2

QLW0247(A5322)01-31-14
Page 1 of 2

ACTG A5322 FALL HISTORY QUESTIONNAIRE
NIAID AIDS CLINICAL TRIALS GROUP

Patient Number Date of Patient
 Visit/Contact
 Protocol Number Institution Code
 Form Week *Seq No. **Step No. Key Operator Code

* Enter a '1' if this is the first of this form for this date. Designate subsequent forms on the same date with a 2, 3, etc.
 ** Enter the subject's current study step number. Enter '1' if the study does not have multiple steps.

FOR OFFICE USE ONLY - TEAR OFF SHEET

SITE PERSONNEL INSTRUCTIONS:
 The following interview asks the participant about falls that he/she may have experienced during his/her usual daily activities. **The interview should be conducted prior to the clinical exam and preferably in a quiet secluded area (e.g., exam room or other office). This form must be interview er-administered.** It is important to be familiar with the content and format of the interview before administering it to the study participants. At the visit, please begin by telling the participant:

"We are now going to ask you some questions about falls that may have happened during your usual daily activities. For the following questions, by a 'fall' or 'falling', we mean an unexpected event, including a slip or trip, in which you lost your balance and landed on the floor, ground or lower level, or hit an object like a table or chair. Falls that result from a major medical event (for example, a stroke, or seizure) or an overwhelming external hazard (for example, hit by a truck or pushed) should not be included.

The interview is very brief and should take no more than 10 minutes to complete. Complete the header prior to interviewing the participant.

INSTRUCTIONS TO THE INTERVIEWER:
PLEASE COMPLETE THE FOLLOWING ITEMS AFTER THE PARTICIPANT COMPLETES THE QUESTIONNAIRE OR AFTER YOU ASCERTAIN THAT THIS IS NOT POSSIBLE.

1. Was the interview completed? .. (1-Yes, 2-No)
 If Yes, go to question 2.
 If No, complete 'a' and STOP.

a. Indicate reason ..
 1-Participant declined
 2-Not enough time to complete form in clinic
 9-Other, specify

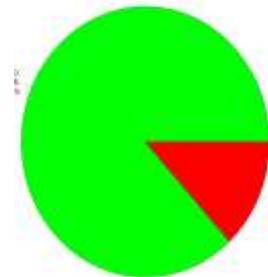
Specify [70]: _____

2. Enter the language used to complete the form. Refer to Appendix 80 for Language Codes.
 Language:

01-31-14 30854

- ✓ Fall history
- ✓ Risk factors for falls

No falls
86%



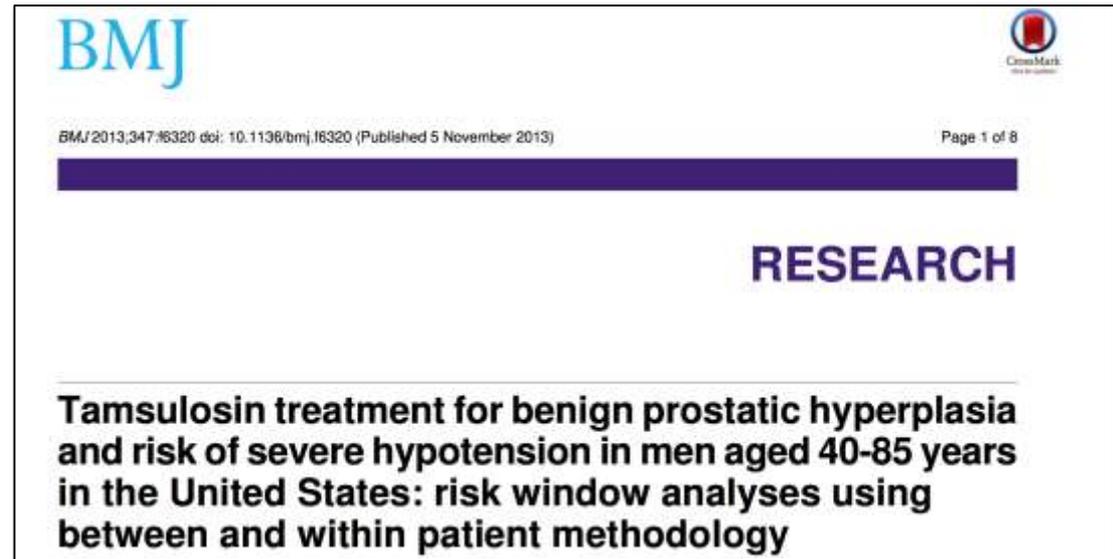
Falls
14%

Geriatrician assessment:

- ✓ Fall history
- ✓ Risk factors for falls

Clinistatic BP=140/90 mmHg

Orthostatic BP=105/75 mmHg



Rx: switch tamsulosin with finasteride

Theoretical model which put in relation Clinical Syndromes Disability

Clinical Syndromes	Co-morbidity T2DM HTN BPH MS MM	Frailty Phenotype Unintentional weight loss <input type="checkbox"/> Weakness <input type="checkbox"/> Exhaustion <input checked="" type="checkbox"/> Slowness <input type="checkbox"/> Low physical activity <input type="checkbox"/> Frailty Index=0.31	Disability -ADLs I-ADLs
---------------------------	---	--	--

Geriatric Syndromes in Older HIV-Infected Adults

Meredith Greene, MD,† Kenneth E. Covinsky, MD, MPH,*† Victor Valcour, MD, PhD,*‡
Yinghui Miao, MD, MPH,*† Joy Madamba, BS,§ Harry Lampiris, MD,#|| Irena Stijacic Cenzer, MA,*†
Jeffrey Martin, MD, MPH,¶ and Steven G. Deeks, MD§*

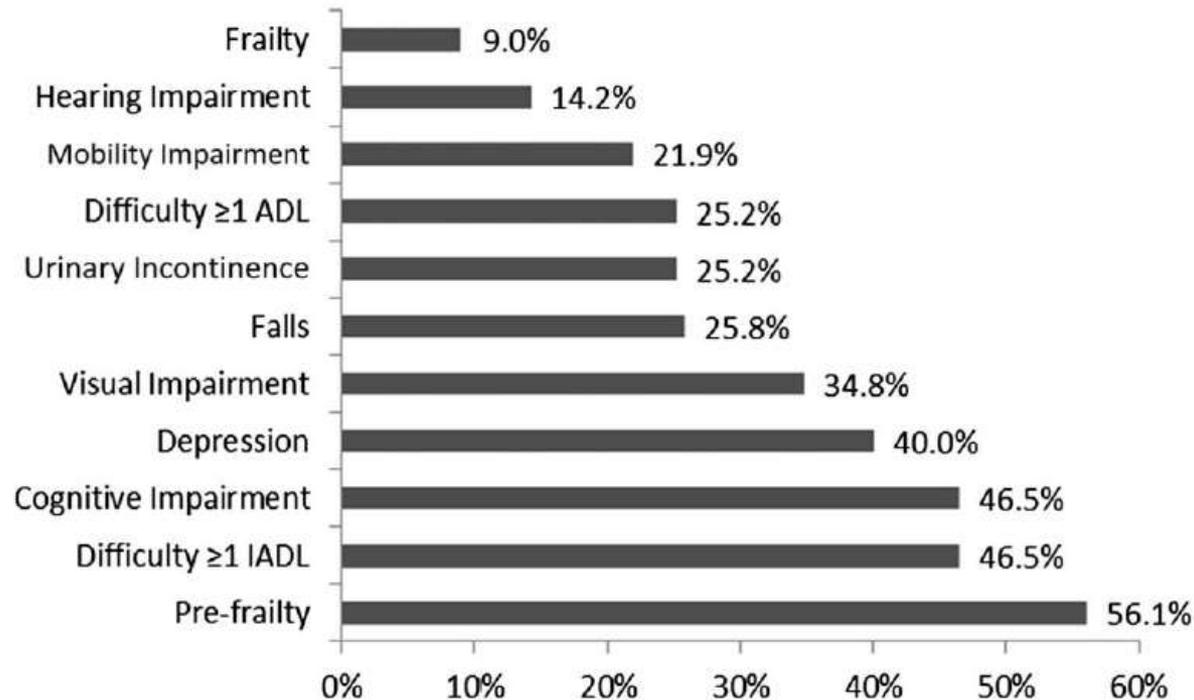


FIGURE 1. Frequencies of geriatric syndromes. Each bar reflects the percentage of participants with each geriatric syndrome. Actual percentages are shown at the end of each bar. Horizontal axis only shown to 60%.

Theoretical model which put in relation Clinical Syndromes with the Comprehensive Geriatric assessment and specific assessment tools in the pathway from disease to disability

Clinical Syndromes	Co-morbidity MM	Frailty Frailty Phenotype Frailty Index			Geriatric Syndromes -falls -Urinary incontinence -visual/sight impairment	Disability -ADLs I-ADLs
CGA	Disease	Impairment			Functional limitation	Disability
Assessment tools	Clinical and instrumental Diagnostic tools	Strength-GRIP, LE power, exercise tolerance	Gait speed, Short performance physical battery (SPPB), Timed up and go	Neurocognitive assessment	-functional disability -Patient Reported outcomes PRO) -Polypharmacy	Mobility Momentary ecological assessment
	Quality of life					

SPPB and diagnosis of physical frailty

Short Physical Performance Battery can be used to detect physical frailty (impairment) (cut off=9)

(Da Câmara 2013)

It is composed by three tests

Balance



5 Chair Stand



4m Walk



Each test has a score: from 0 to 4
points

Maximum Score= **12 points**
(subject fully performant)

The comprehensive Geriatric assessment is a Total Patient Care model suitable to address a comprehensive coordinated care in HIV patients





Fit for Frailty

Consensus best practice guidance for the care
of older people living with frailty in community
and outpatient settings

A report by the
British Geriatrics Society
*in association with the Royal College of
General Practitioners and Age UK*

June 2014

3. Recognising and identifying frailty in individuals

Recommendations

- ▶ Older people should be assessed for the possible presence of frailty during all encounters with health and social care professionals. Slow gait speed, the PRISMA questionnaire, the timed-up-and-go test are recommended as reasonable assessments. The Edmonton Frail Scale is recommended in elective surgical settings.
- ▶ Provide training in frailty recognition to all health and social care staff who are likely to encounter older people.
- ▶ Do not offer routine population screening for frailty.



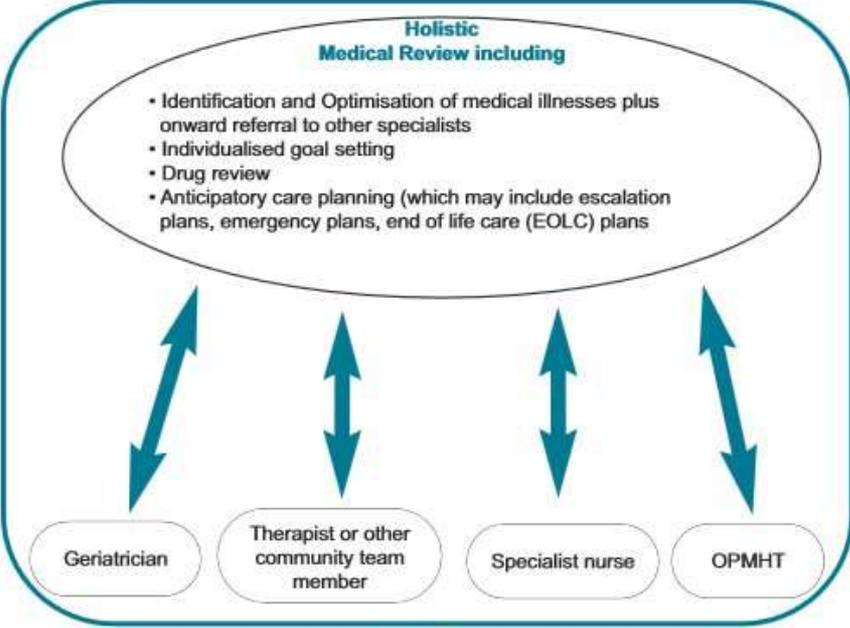
Fit for Frailty

Consensus best practice guidance for the care of older people living with frailty in community and outpatient settings

Recognition of Frailty in an individual

- Either by encounter screening or
- by frailty presentation (or by systematic screening - not yet recommended)

CGA



Individualised Care and Support Plan –
With details of personal goals, optimisation plans, escalation and emergency plans as well as advance care plans where these are indicated.



Fit for Frailty

Consensus best practice guidance for the care of older people living with frailty in community and outpatient settings

The End of the Disease Era

Mary E. Tinetti, MD, Terri Fried, MD

The time has come to abandon disease as the focus of medical care. The changed spectrum of health, the complex interplay of biological and nonbiological factors, the aging population, and the interindividual variability in health priorities render medical care that is centered on the diagnosis and treatment of individual diseases at best out of date and at worst harmful. A primary focus on disease may inadvertently lead to undertreatment, overtreatment, or mistreatment. The numerous strategies that have evolved to address the limitations of the disease model, although laudable, are offered only to a select subset of persons and often further fragment care. Clinical decision making for all patients should be predicated on the attainment of

individual goals and the identification and treatment of all modifiable biological and nonbiological factors, rather than solely on the diagnosis, treatment, or prevention of individual diseases. Anticipated arguments against a more integrated and individualized approach range from concerns about medicalization of life problems to “this is nothing new” and “resources would be better spent determining the underlying biological mechanisms.” The perception that the disease model is “truth” rather than a previously useful model will be a barrier as well. Notwithstanding these barriers, medical care must evolve to meet the health care needs of patients in the 21st century. **Am J Med.** 2004;116:179–185. ©2004 by Excerpta Medica Inc.

"...The time has come to abandon disease as the primary focus of medical care. When disease became the focus of Western medicine in the 19th and early 20th century, the average life expectancy was 47 years and most clinical encounters were for acute illness. Today, the average life expectancy in developed countries is 74 years and increasing, and most clinical encounters are for chronic illnesses or non-disease-specific complaints..."



JAMDA

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Special Article

Frailty: An Emerging Public Health Priority

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Key points for the detection and management of frailty

Raise awareness about age-related conditions among policymakers, public health authorities, practitioners, and general population

Promote healthy lifestyle and behaviours in the population starting since younger age and adulthood

Healthcare authorities should maximize efforts in the detection/care of frailty, **balancing priorities, needs, and resources**

Enhance access to care through a simple process possibly based on a single-point entry into the system and the “case manager” model

The choice of the specific frailty instrument should rely on the purpose of the evaluation, the outcome of interest, the validity of the tool, the studied population, and the setting

The detection of frailty should lead to a multidomain and person-centred evaluation (i.e., **CGA**) for supporting the design of an individualized plan of intervention

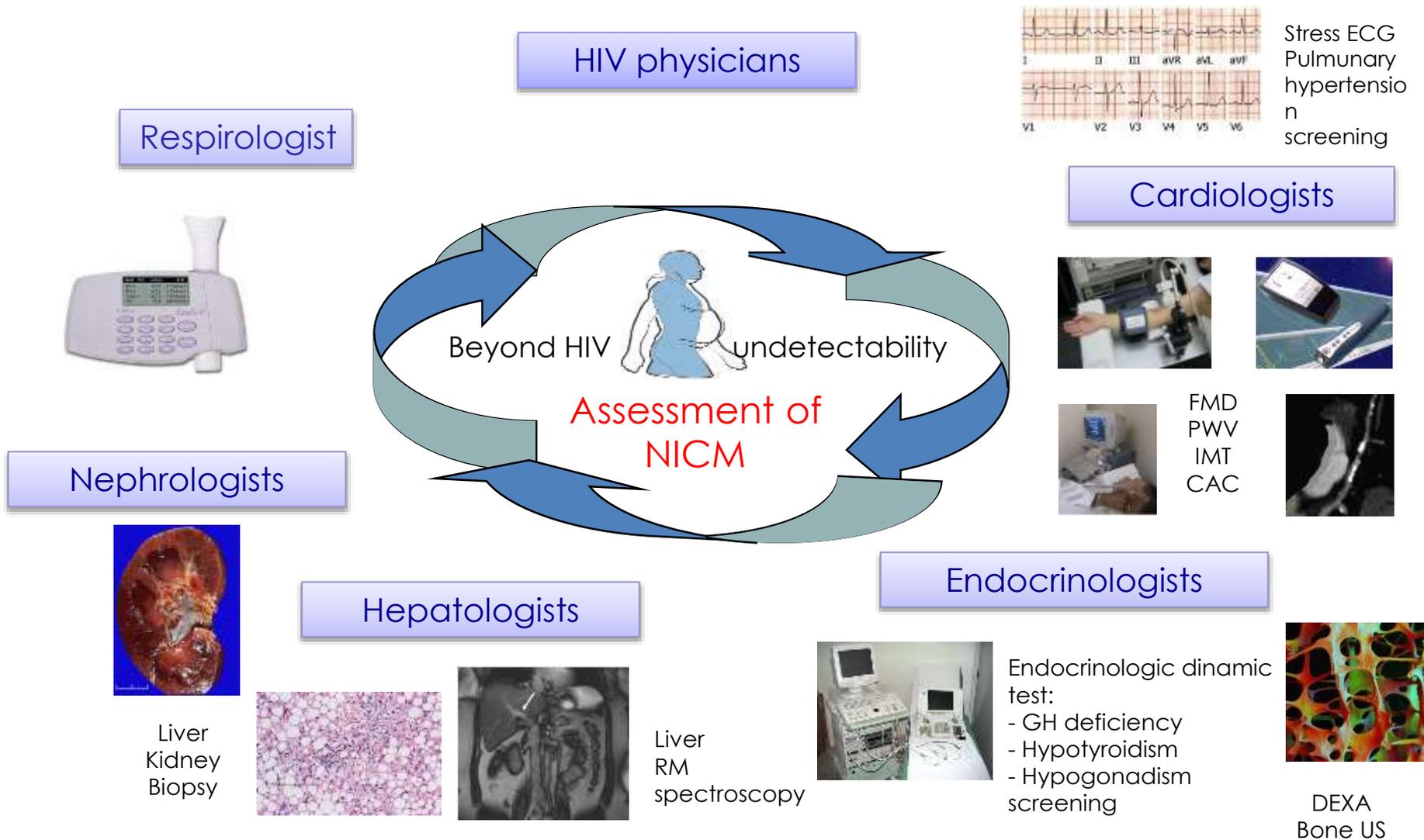
Total Patient Care

Care beyond HIV viral load undetectability

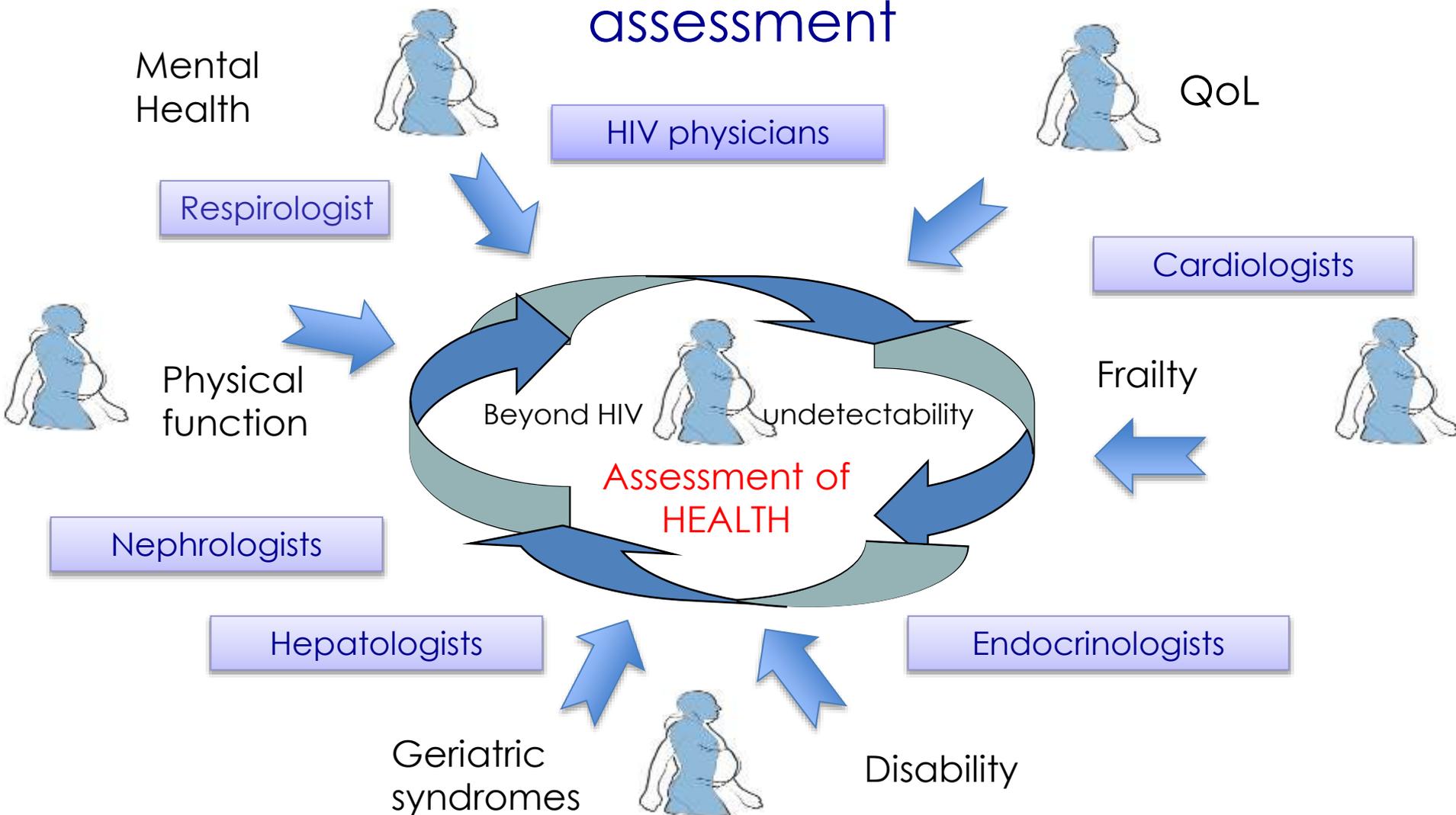
TPC is a comprehensive approach to patient care that considers the **physical, emotional, social, economic, and spiritual needs** of the HIV-infected person, his or her response to illness and the effect of the illness on the ability to meet self-care needs.

It implies a transition away from a model of single referral center for care provision to a system of **comprehensive coordinated care** that incorporates both primary care and specialized support for HIV-infected persons.

The switch from an integrated multidisciplinary approach to a Multi-dimensional comprehensive assessment



The switch from an integrated multidisciplinary approach to a Multi-dimensional comprehensive assessment



My Smart Age with HIV: Smartphone self-assessment of frailty and information - communication technology (ICT) to promote healthy ageing in HIV.



PURPOSE AND OBJECTIVES OF THE STUDY

In this study we plan to empower elderly HIV patients via health promotion, assessing reduction in health deficit and improvement in quality of life using My Smart Age – application.

A frailty Index will be generated from **physiological data** collected by a wellness tract device and PRO obtained by **ecological momentary assessment** data generated by MYSAWH app



OBJ 1. Compare Pt generated FI with Clinic generated FI

OBJ2. Promote wellness behaviour with the support of a dedicated coach

Self management: Wellness checklist

Daily

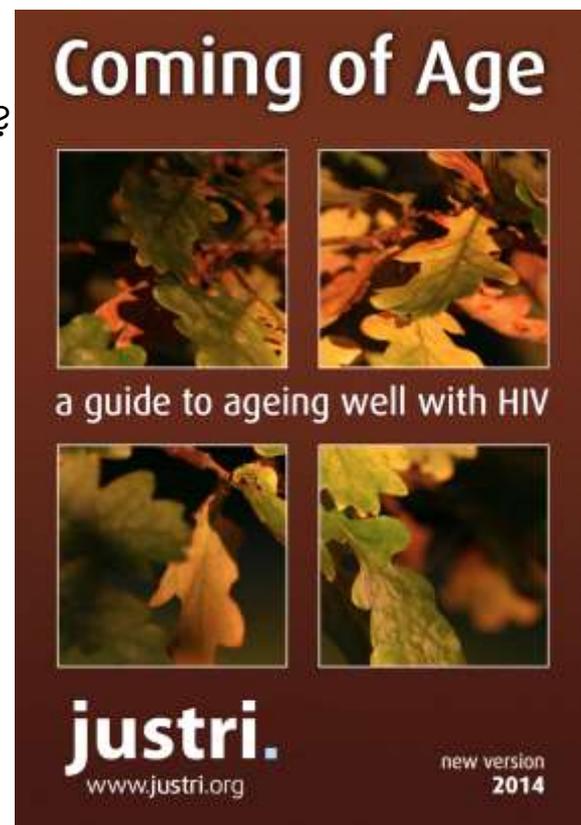
1. Could I exercise more today?
2. Have I bought the right food?
3. Should I drink less alcohol today?
4. Am I doing the right thing to help me sleep properly?
5. Am I doing something new today?
6. Am I keeping my brain active?

Weekly

1. Am I doing something nice with a friend this week?
2. What is my weight and is it changing?
3. Have I planned an active weekend?
4. Am I eating healthy?

Every three to four months

1. Do I feel well or unwell?
2. Have I had my checkup at the clinic?
3. What are my blood results?
4. Have I stopped smoking?
5. Are my finances in order?
6. How has my mood been recently?
7. What are my plans for the next few months?



Take home messages

- The traditional paradigm of stand-alone HANA conditions has become out-of-date in the ageing HIV epidemic dominated by older individuals presenting multiple chronic comorbidities and mutually interacting syndromes
- When Multi-morbidity is the norm, frailty and disability turn to be relevant clinical outcomes
- Assessment implies a switch from a Multi-disciplinary approach into a Multi-dimensional comprehensive assessment
- There is an increasing risk of a HIV medicine done by non-HIV physicians, exposing the patients to multiple specialists without an integrated care model and the expertise at managing the complexity of frail HIV elders.

The new target

90-90-90-90-90

90% diagnosed

90% on treatment

90% virally suppressed

90% fit at 90 years



Thank you....
...and stay fit!