

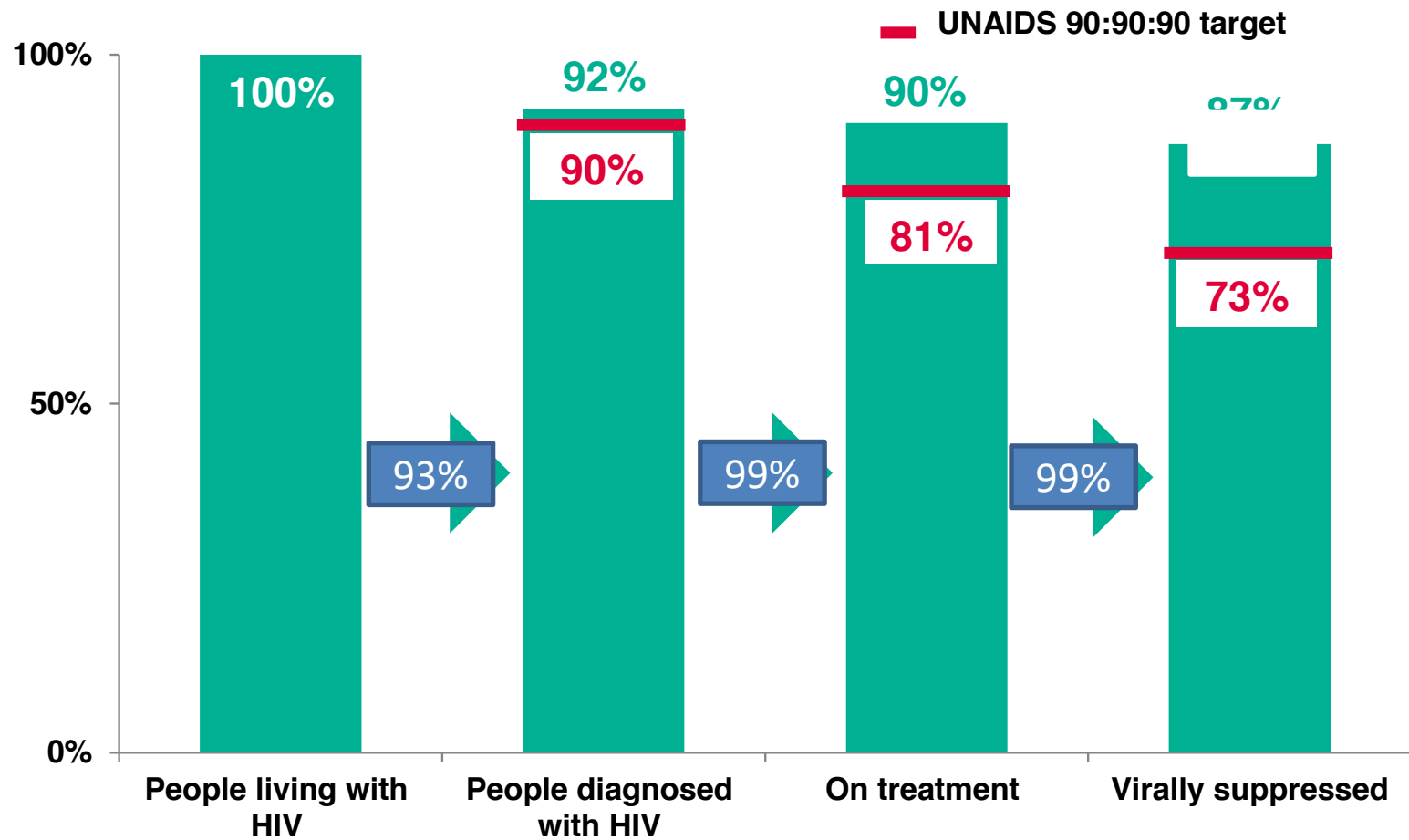
Managing older people with HIV: What are the challenges and what can we do about it

Jaime Vera MD PhD

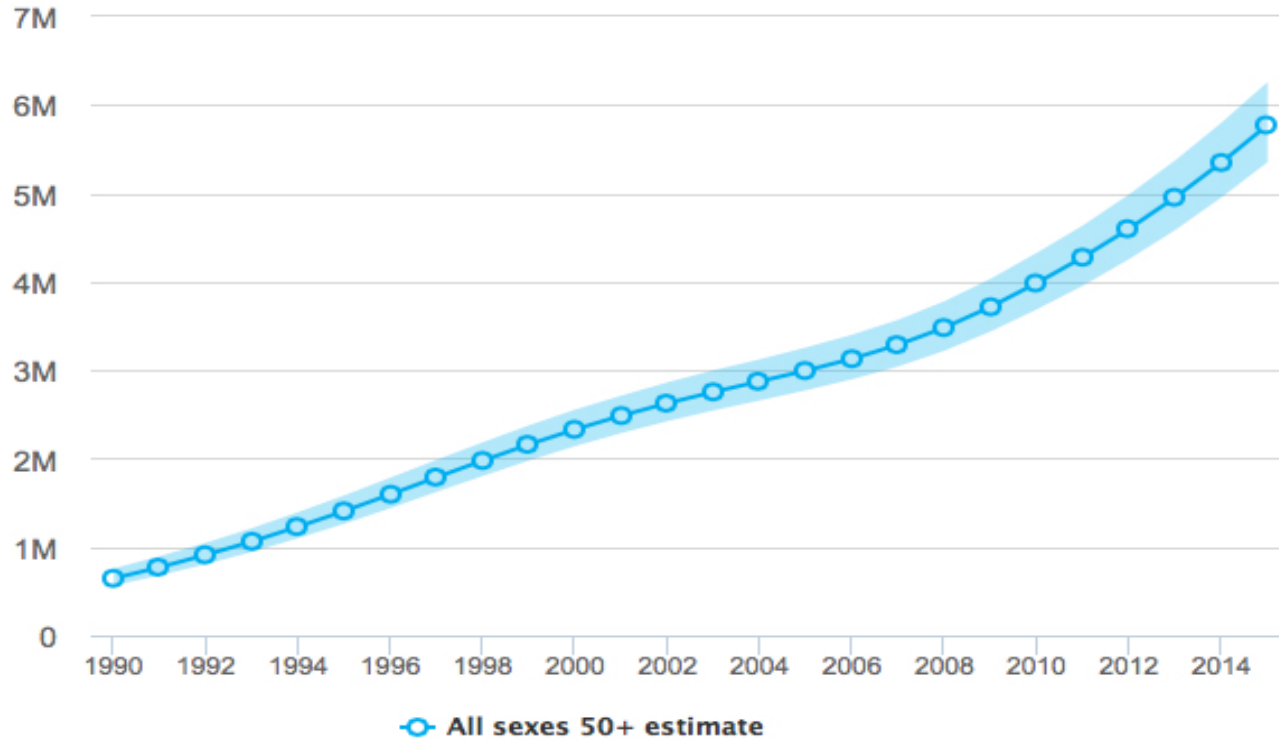
Senior Lecturer in HIV and Consultant

UK cascade of HIV care

Continuum of HIV care, UK: 2017

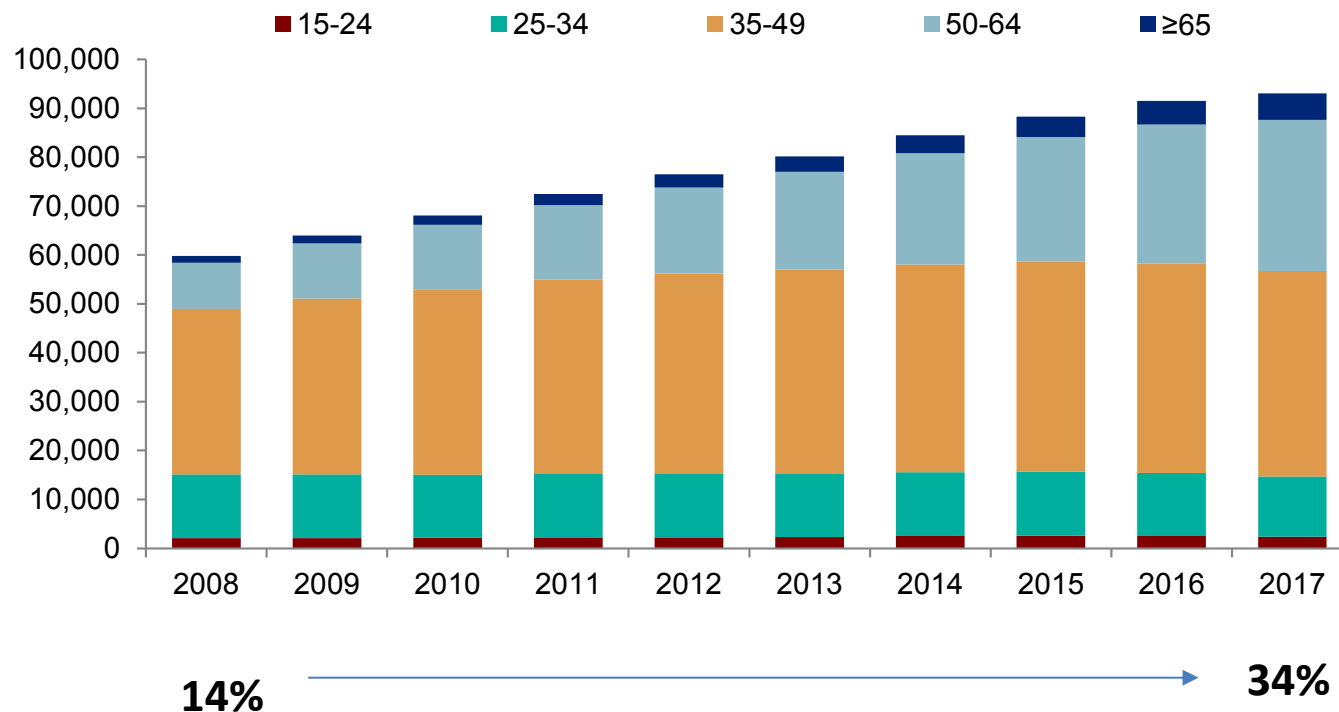


People with HIV aged 50 and over

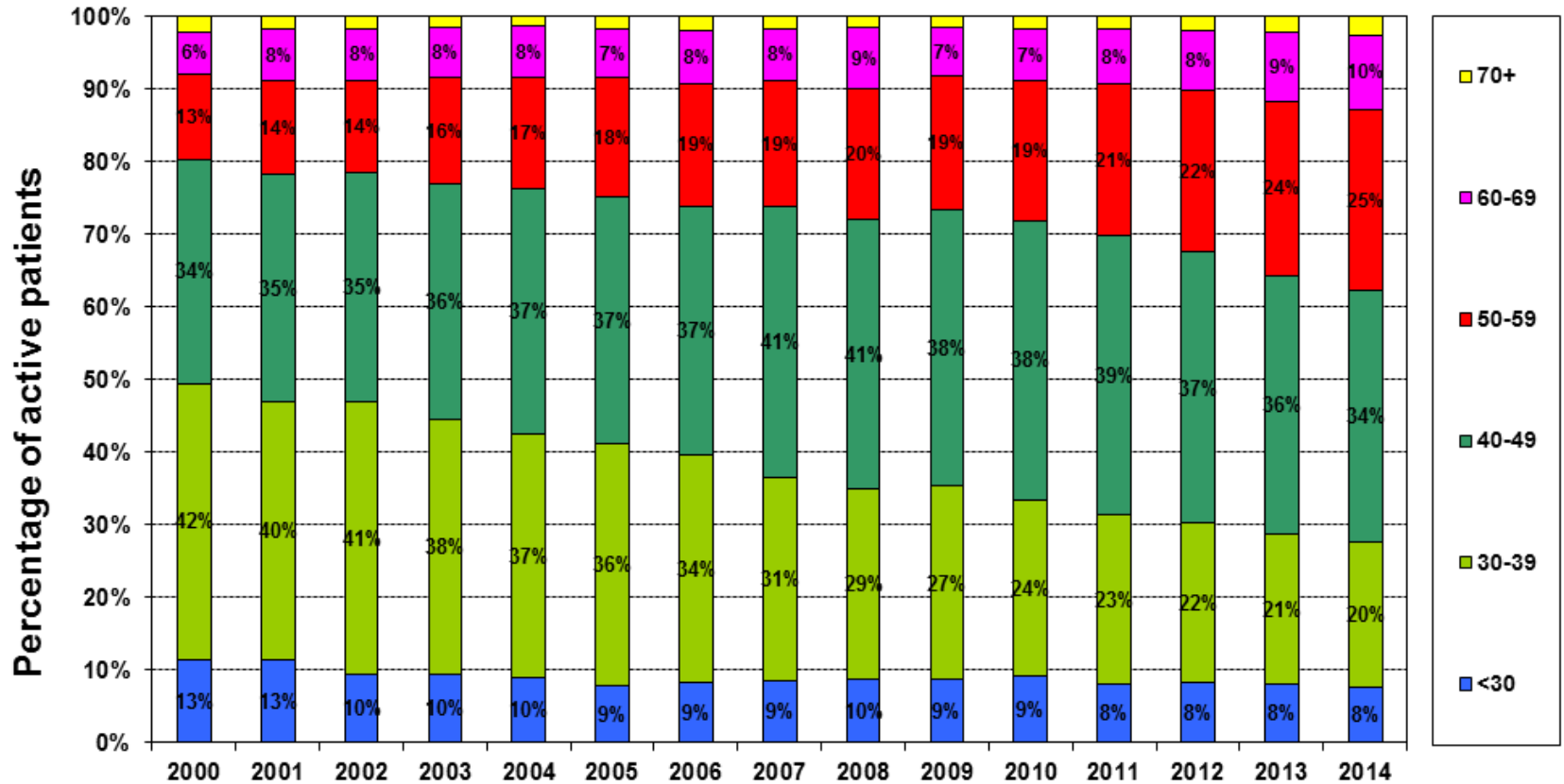


HIV demographics

Figure 9: People diagnosed with HIV receiving specialist care, UK, 2008 to 2017
a) By age group

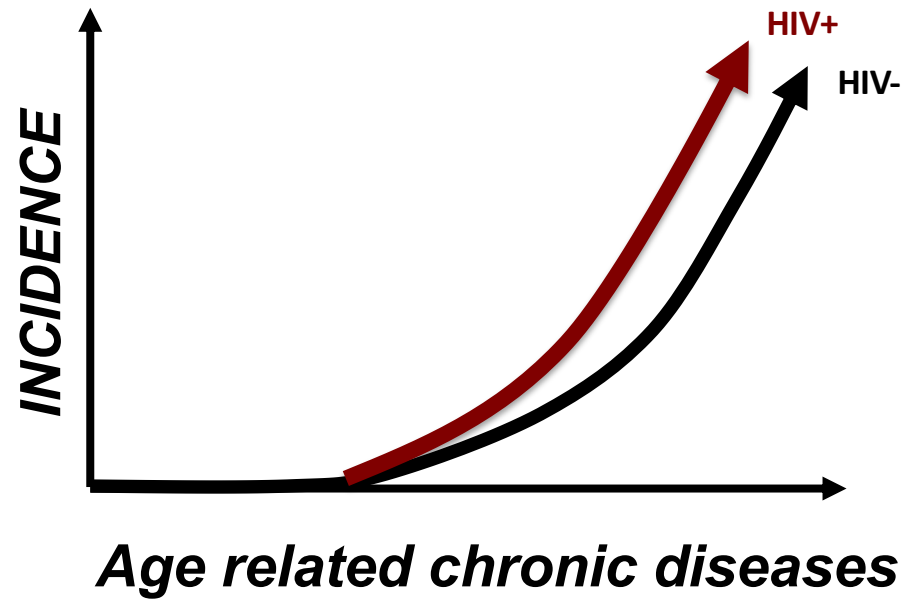


Age distribution of HIV patients in Brighton

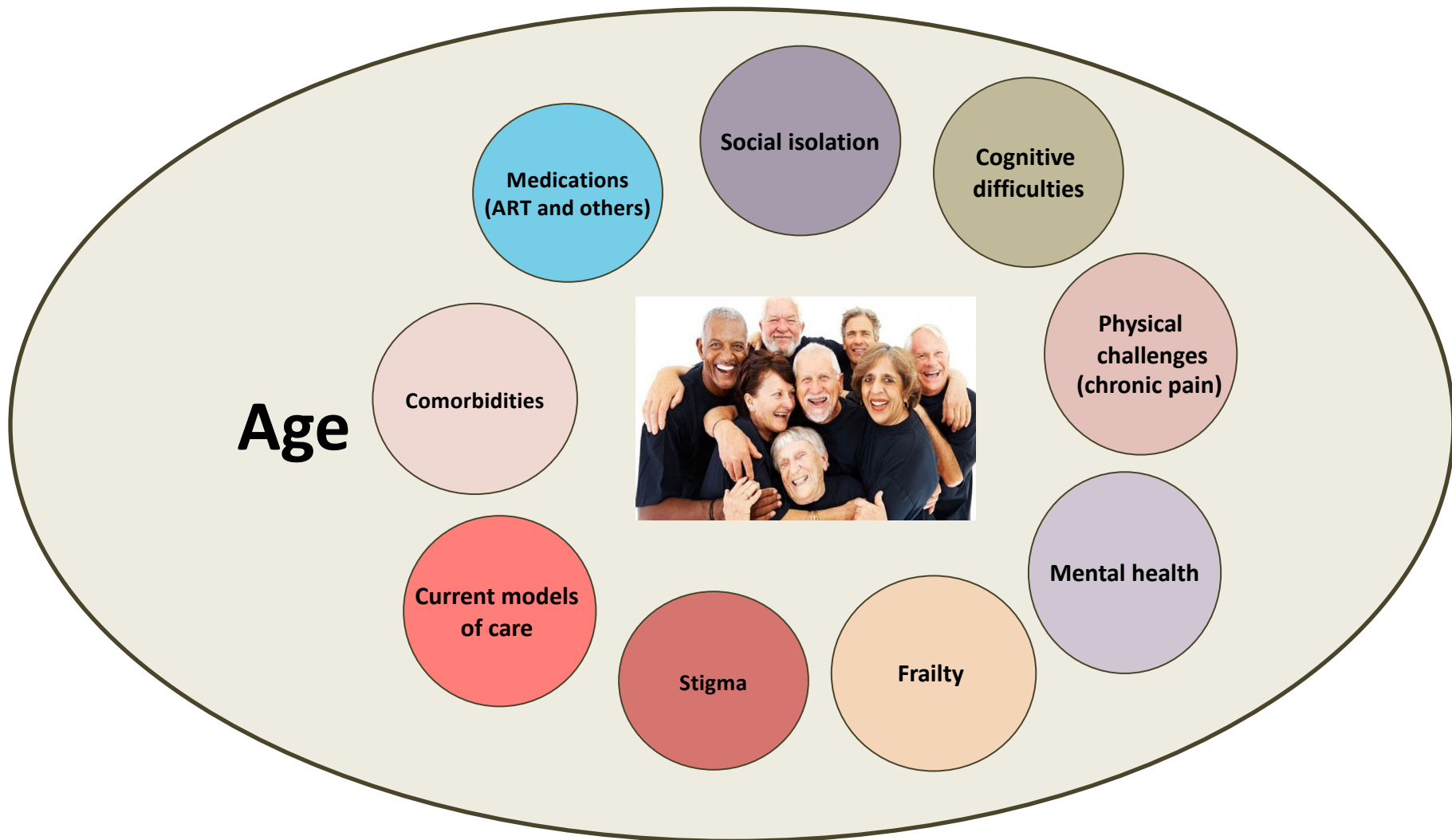


2019 (n=2500; 52% >50 years old)

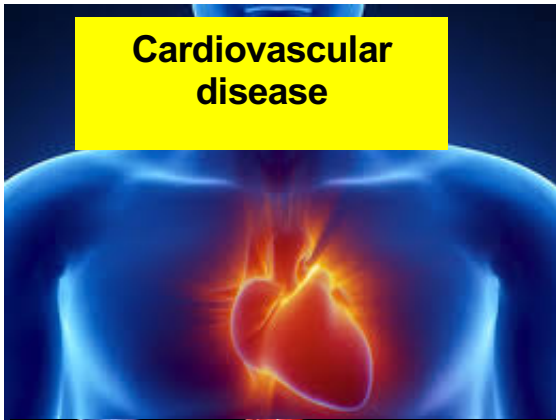
Age-related chronic diseases rises exponentially with age



Challenges facing people ageing with HIV



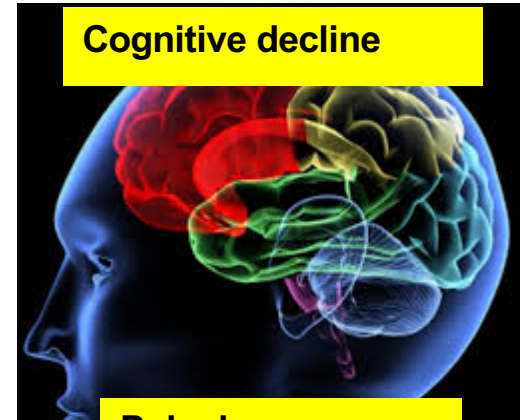
Cardiovascular disease



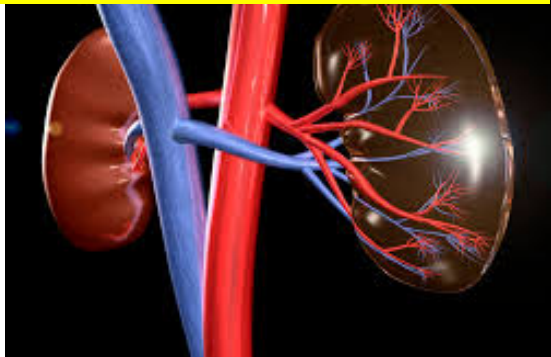
Cancer



Cognitive decline



Chronic kidney disease



Geriatric syndromes



Polypharmacy



Chronic liver disease



Chronic obstructive pulmonary disease



Diabetes mellitus



Impact of comorbidity and ageing on health-related quality of life in HIV-positive and HIV-negative individuals

Nienke Langebeek^{a,b}, Katherine W. Kooij^c, Ferdinand W. Wit^{c,d},
Ineke G. Stolte^e, Mirjam A.G. Sprangers^b, Peter Reiss^{c,d,f},
Pythia T. Nieuwkerk^b, on behalf of the AGE_nIV Cohort Study Group

- HIV-positive status was significantly and independently associated with worse physical and mental HRQL and with an increased likelihood of depression.
- higher number of comorbidities was independently associated with worse physical quality of life

Geriatric syndromes in PWH

- Average age of those with HIV not in the territory of true older age
- But increasing problems seen in older adults including:
 - Cognitive impairment
 - Complex multimorbidity
 - Polypharmacy
 - Mobility decline
 - Falls
 - Functional impairment- difficulties of activities of daily living/self-care
 - **Frailty**

Frailty

Decline in multiple physiological systems resulting in:

- An 'at risk' state
- Vulnerability to minor stressor events (may trigger crisis)
- Disproportionate changes in health status
- An increased risk of adverse events
 - Falls, hospital admission, disability, mortality

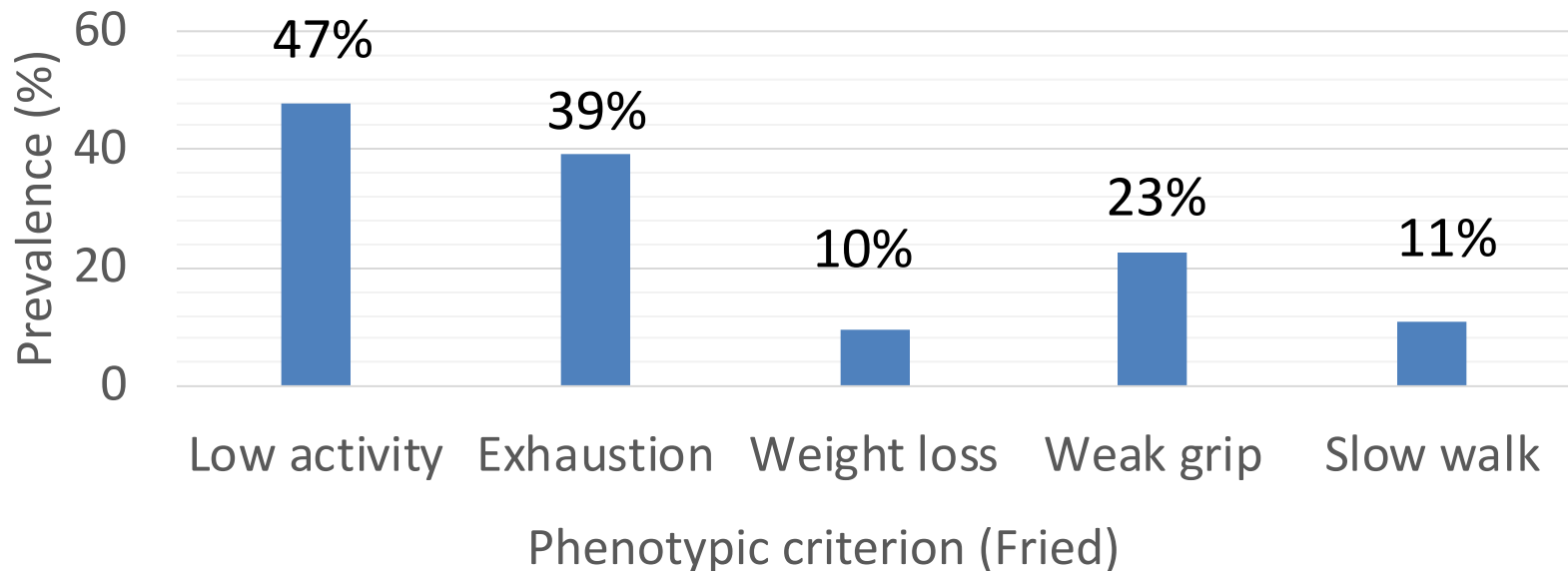


Physiological reserve

Frailty in PWH: Brighton

		Number (N)	%	95% CI
Frailty status	Frail (scores 3-5)	48	19%	14.6-24.3
	Pre-frail (scores 1-2)	111	44%	37.8-50.1
	Robust (scores 0)	94	37%	31.4-43.3

Median age 61 (55-79)



Predictors

Variable	Risk of frailty	AdjOR (95% CI)	p-value
Age (per year)	6% ↑	1.06 (1.01-1.21)	0.018
Comorbidity count	58% ↑	1.58 (1.28-1.95)	<0.001
Moods/anxiety symptoms	17% ↑	1.17 (1.10-1.24)	<0.001
Not working	8-fold ↑	8.43 (1.94-36.6)	0.004
Financial insecurity	3-fold ↑	3.46 (1.54-7.77)	0.003
Current smoker	2-fold ↑	2.35 (1.00-5.50)	0.049
COPD	4-fold ↑	4.53 (1.11-18.6)	0.036
Arthritis	4-fold ↑	3.69 (1.90-8.88)	<0.001
Daily pain	3-fold ↑	3.01 (1.30-7.01)	0.010
No regular exercise	4-fold ↑	3.85 (1.68-8.84)	<0.001
Adjusted for age, gender, comorbidity count and HADS score			

Frailty and falls



Falls but not frailty are common in people living with HIV using an mHealth platform: issues of ageing within the EmERGE cohort

Authors: T Levett¹, J Vera¹, C Jones¹, S Bremner¹, A Leon², J Begovac³, L Apers⁴, M Borges⁵, S Zekan⁶, E Teofilo⁵, F Garcia², J Whetham⁸ on behalf of the EmERGE Consortium. tlevett@nhs.net
¹Brighton & Sussex Medical School, Brighton, United Kingdom, ²Fundació Clínica per a la Recerca, Barcelona, Spain ³Klinika za Infektivne Bolesti, Zagreb, Croatia
⁴Instituut Voor Tropische Geneeskunde, Antwerp, Belgium ⁵Centro Hospitalar de Lisboa Central, Lisbon, Portugal ⁶Brighton and Sussex University Hospitals NHS Trust, Brighton, United Kingdom

n= 891 PWH from 5 European countries
25% pre-frail

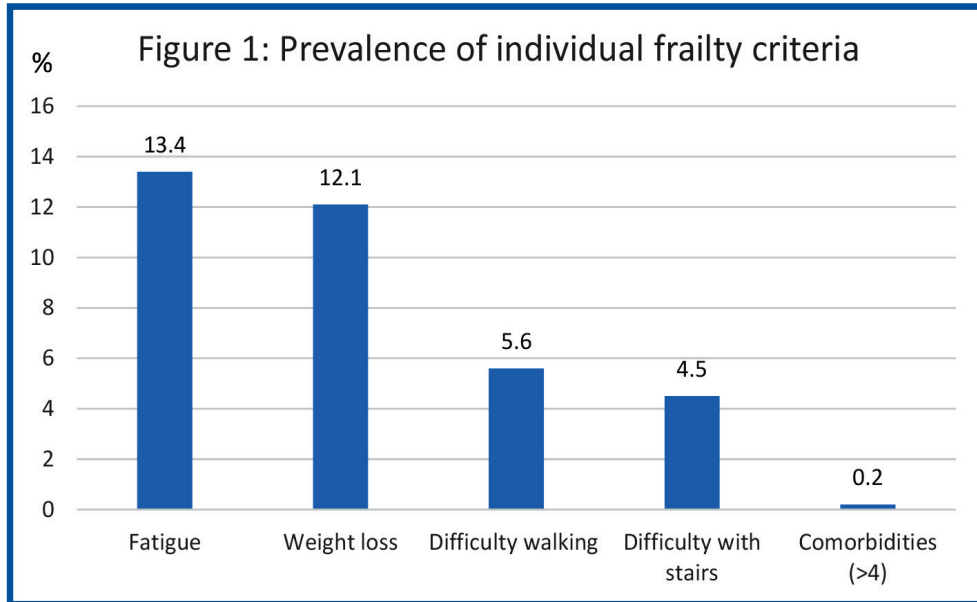


Table 1:
 Relationship between falls and demographic / frailty variables

Variable	No fall	Falls	p-value ^a
Mean Age (sd)	44.1 (9.64)	47.3 (11.2)	0.002 ^b
Age over 50	N=731	N=114	
Yes	224 (30.6)	50 (43.9)	0.005
Gender	N=729	N=114	
Female	62 (8.5)	10 (8.8)	0.924
Frailty	N=782	N=108	
Robust	605 (77.4)	57 (52.8)	
Pre-frail	173 (22.1)	46 (42.6)	
Frail	4 (0.5)	5 (4.6)	<0.001
Frailty criteria			
Weight loss (n=937)	83 (10.2)	30 (25.0)	<0.001
Fatigue (n=939)	97 (11.8)	29 (24.2)	<0.001
Stairs difficulty (n=935)	34 (4.2)	18 (15.1)	<0.001
Walking difficulty (n=939)	30 (3.7)	12 (10.1)	0.002

NB variable N owing to missing data
 a p-value based on Chi squared unless stated b p-value based on t-test
 Significance was taken at 5% level.



Frailty in the Context of Ageing

Frailty defines age-related exhaustion of homeostatic reserves. An individual with frailty is exposed to enhanced vulnerability to stressors, and associated risk of negative health-related outcomes. This geriatric syndrome, comprising biological, psychological and social issues is more prevalent than expected in PLWH compared to HIV-negative matched controls [21]. The most common instruments to measure frailty include the Frailty Phenotype [22] and Frailty Index [23]

Feature	Frailty Phenotype	Frailty Index
Clinical definition	Based on presence of signs, symptoms (pre-disability syndrome)	Based on presence of diseases, disabilities (accumulation of deficits)
How to assess	Assessed by five specific features [22]: 1. self-reported weight loss (a) 2. self-reported exhaustion (b) 3. low levels of physical activity as measured by Minnesota Leisure physical activity questionnaire (c) 4. measured 4 m walk speed time (d) 5. measured grip strength (e)	A frailty index is calculated based on the number of health deficits out of > 30 assessed health deficits [23] Health variables, including signs and symptoms of disease, laboratory measures, and self-reported data Data routinely collected in medical records can be included if they characterise age-related, acquired health deficits which cover a range of physiologic systems
How to interpret	Categorical variables Total score of 5 items: 0 deficits = fit 1-2 deficits = pre-frail 3+ deficits = frail	Continuous variables Index ranges from 0 to 1: > 0.25 = fit 0.25 - 0.4 = frail > 0.4 = most frail
How to address frailty [24]	Promote Comprehensive Geriatric Assessment (CGA), aimed at personalising interventions according to benefits/priorities for a given person through a multidisciplinary diagnostic and treatment process, that identifies medical, psychosocial, and functional limitations aimed at maximising overall health with ageing and the improvement of quality of life	
Recommendations [25], [26]	<div style="border: 1px solid red; padding: 5px;"> In PLWH who are frail: 1. Sustain and recover physical function impairment and sarcopenia prescribing physical activity with a resistance training component 2. Address polypharmacy by reducing or deprescribing any inappropriate/superfluous medications, see Prescribing in Elderly PLWH 3. Screen for, and address modifiable causes of fatigue 4. For PLWH exhibiting unintentional weight loss, screen for reversible causes and consider food fortification and protein/caloric supplementation 5. Prescribe vitamin D for individuals deficient in vitamin D, see page 62 </div>	

(a) Self-reported unintentional weight loss was considered present if exceeding 4.5 kg in the last year or 2.3 kg in the last 6 months

(b) Exhaustion is present if the participant answers “occasionally” or “most of the time” to either one of the following statements: During the last week, how often have you felt that (i) everything you did was an effort, or (ii) you could not ‘get going’

(c) Low physical activity was considered present if participant answered ‘yes, limited a lot’ when asked whether their health limits vigorous activities such as running, lifting heavy objects, participating in strenuous sports

(d) Walk speed time, is measured by a 4-meter walking test in usual pace, one trial) A deficit is assigned according to the following gender-specific criteria
 – Men: height ≤ 173 cm and speed ≤ 0.6531 m/s; height > 173 cm and speed ≤ 0.762 m/s
 – Women: height ≤ 159 cm and speed ≤ 0.6531 m/s; height > 159 cm and speed ≤ 0.762 m/s

(e) Maximum grip strength can be assessed using a handheld dynamometer the mean value of three consecutive measurements of the dominant hand (adjusted by sex and BMI quartile based on CHS population [23]):
 – Men: BMI ≤ 24 kg and strength < 29 kg; BMI 24.1–26 and strength < 30 kg; BMI 26.1–28 and strength < 30 kg; BMI > 28 and strength < 32 kg
 – Women: BMI ≤ 23 and strength < 17 kg; BMI 23.1–26 and strength < 17.3 kg; BMI 26.1–29 and strength < 18 kg; BMI > 29 and strength < 21 kg



Depression and anxiety

- Evidence from the United Kingdom (UK) suggests high rates of depression and suicidal ideation among people with HIV.
- **Positive Voices Survey (2014)¹**
 - **30%** self-reported depression/anxiety; 17% in the general population
 - **32%** among men and **25%** among women
- **ASTRA Study (2011-2012)²**
 - **50%** self-reported anxiety/depression; **10%** severe
 - Significantly higher than in the general population (27%)

Impact of musculoskeletal symptoms on physical functioning and quality of life among treated people with HIV in high and low resource settings: A case study of the UK and Zambia

Nikolien S. Van de Ven¹, Owen Ngalamika², Kevin Martin¹, Kevin A. Davies^{1,3}, Jaime H. Vera^{1,4*}

1 Brighton and Sussex University Hospitals NHS Trust, Brighton, United Kingdom, **2** University Teaching Hospital, Lusaka, Zambia, **3** Department of Medicine, Brighton and Sussex Medical School, Brighton, United Kingdom, **4** Department of Global Health and Infection, Brighton and Sussex Medical School, Brighton, United Kingdom



Pain in people living with HIV and its association with healthcare resource use, well being and functional status

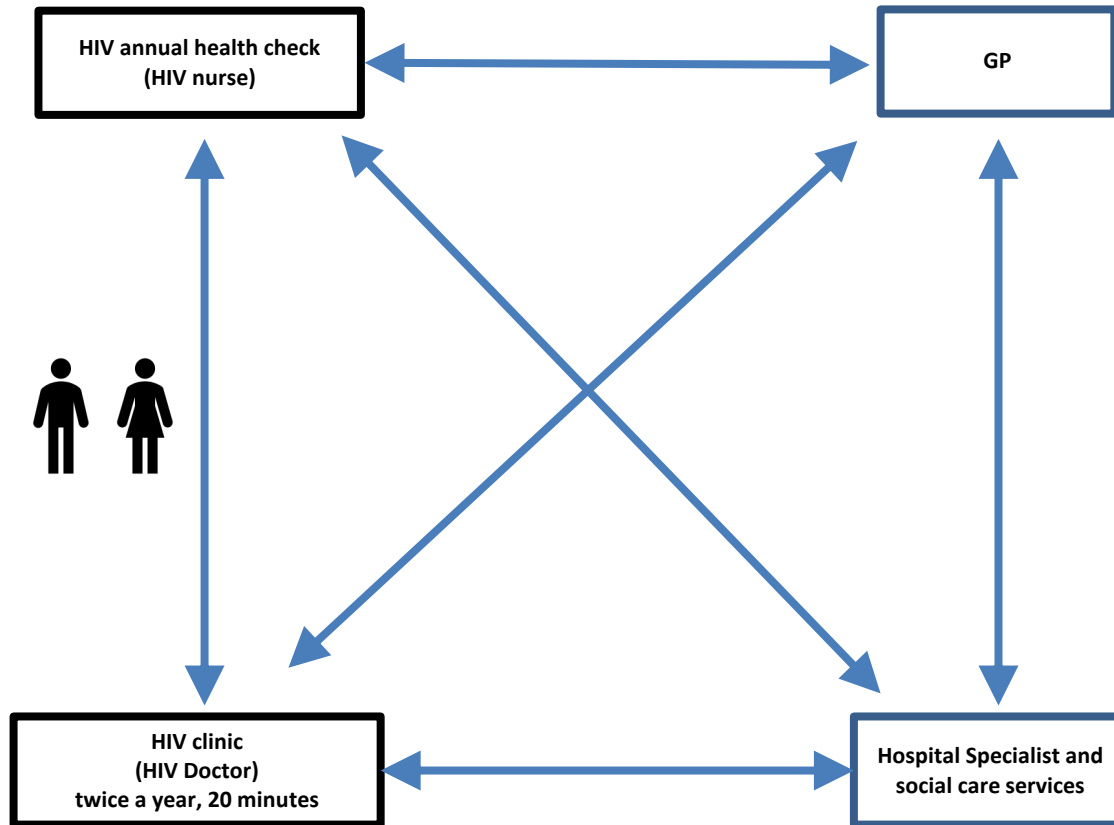
Caroline A. Sabin^a, Richard Harding^b, Emmanouil Bagkeris^a,
Kennedy Nkhoma^b, Frank A. Post^c, Memory Sachikonye^d,
Marta Boffito^e, Jane Anderson^f, Patrick W.G. Mallon^g, Ian Williams^a,
Jaime Vera^{h,i}, Margaret Johnson^j, Daphne Babalis^k and Alan Winston^l

A response:

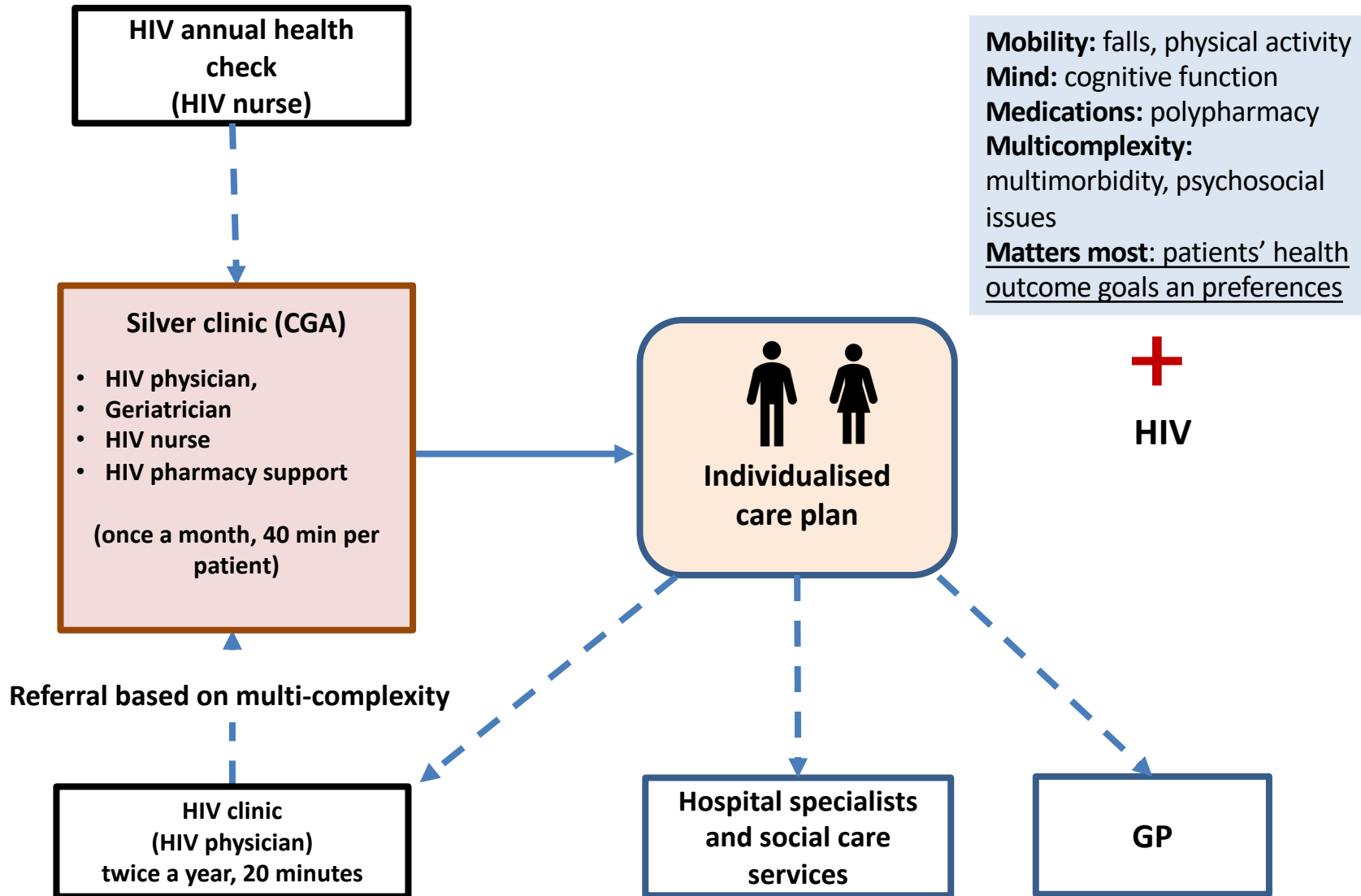
The silver clinic: a clinical service for OPWH with complex issues



Current standard of care for complex Older-PWH



Silver clinic



Silver clinic

Pre-assessments: CNS+Pharmacy

- PROMS:
 - EQ-5D-5L, OPQOL-brief, HIV PROM
- Frailty: frailty scale
- Physical activity: RAPA
- Mental Health: HADS
- Medication review: medication passport*
- Silver clinic proforma
- Bloods: PSA etc

30
minutes

Lying/standing BP	Respiratory
Urinalysis	Gastrointestinal/rectal bleeding/lumps
Weight	Mobility/falls/use of mobility aids?
Bloods	Self care issues?
Slow gait speed	Maintaining safe environment
Timed up and Go test	Mental health /mood/PH9 score
PRISMA questionnaire	Sexual health/relationships
Quality of life questionnaire	Urological symptoms/continence
Number of co-morbidities	Housing issues/social
What are the main areas of concern for the patient?	Financial
Visual/hearing problems	Support network/hobbies/interests
CNS /memory problems?	Medications

Silver clinic

Pre-assessments: CNS+Pharmacy

- PROMS:
 - EQ-5D-5L, OPQOL-brief, HIV PROM
- Frailty: frailty scale
- Physical activity: RAPA
- Mental Health: HADS
- Cognition: MOCA
- Medication review: medication passport*
- Silver clinic proforma
- Bloods: PSA etc

30
minutes

Medical assessment (CGR)

- Interview: patient and carer
- HIV issues
- Physical examination

40
minutes

Individualised care plan

Silver clinic

Indications for referral:

- Patients over 50 years old
- Multiple comorbidities
- Polypharmacy
- Complex issues: falls, frailty, social isolation

Objectives:

- ✓ Polypharmacy and medication related problems (DDI)
- ✓ Optimising the management of comorbidities
- ✓ Supporting the management of social and psychological issues
- ✓ Formulate health interventions:
 - Medical: investigations, referral to other specialties
 - Social: occupational therapy, social services
 - Psychological: referral to mental health
 - Others: **exercise interventions**, peer support groups
- ✓ Improving quality of life with old age: patient reported outcomes (PROMS)

Predictors

Variable	Risk of frailty	AdjOR (95% CI)	p-value
Age (per year)	6% ↑	1.06 (1.01-1.21)	0.018
Comorbidity count	58% ↑	1.58 (1.28-1.95)	<0.001
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Not working	8-fold ↑	8.43 (1.94-36.6)	0.004
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Arthritis	4-fold ↑	3.69 (1.90-8.88)	<0.001
Daily pain	3-fold ↑	3.01 (1.30-7.01)	0.010
No regular exercise	4-fold ↑	3.85 (1.68-8.84)	<0.001
Adjusted for age, gender, comorbidity count and HADS score			

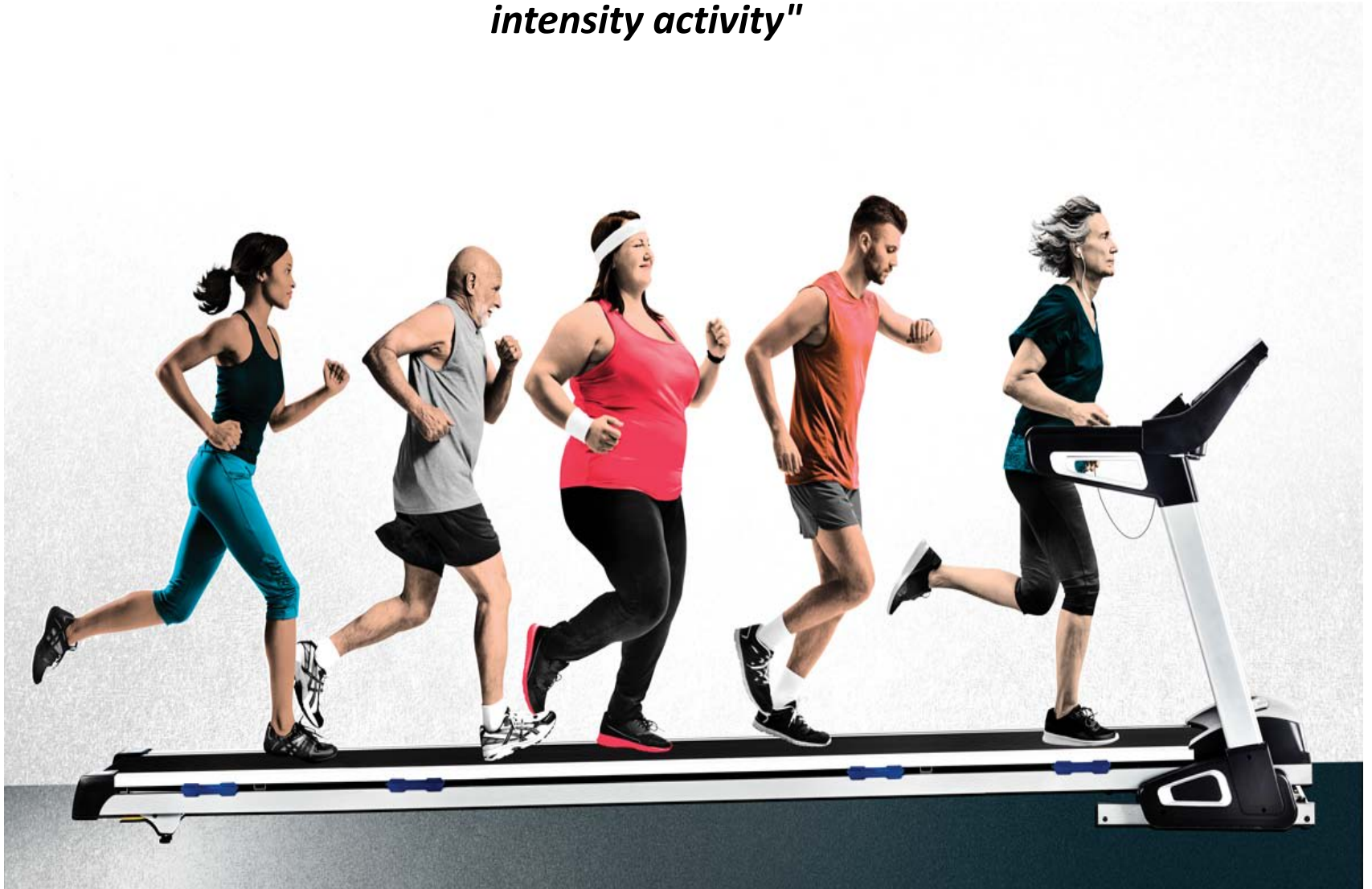
FRUIT ORGANIC CALORIES BALANCE
NATURAL BEAUTY WELLNESS
WALK PLANNING EAT REGENERATION LIFESTYLE
VITAMIN ASSESSMENT EXERCISE ENERGY MOTIVATION WEIGHT LOSS HEALTHY TRAINING
WEIGHT LOSS PERFORMANCE NUTRITION TRANSFORMATION ENERGY PERFORMANCE
CARDIO

EXERCISE

PERFORMANCE WEIGHT LOSS ACTIVE TRAINING
ENDURANCE MOVE SUCCESS
HEALTHY FOOD FITNESS
RESOLUTION CARDIO TRANSFORMATION
POWER MAINTAIN
FOOD ACHIEVE
MOTIVATION BODY



“150 minutes of moderate-intensity aerobic PA throughout the week or at least 75 minutes of vigorous-intensity aerobic PA throughout the week, or an equivalent combination of moderate- and vigorous-intensity activity”

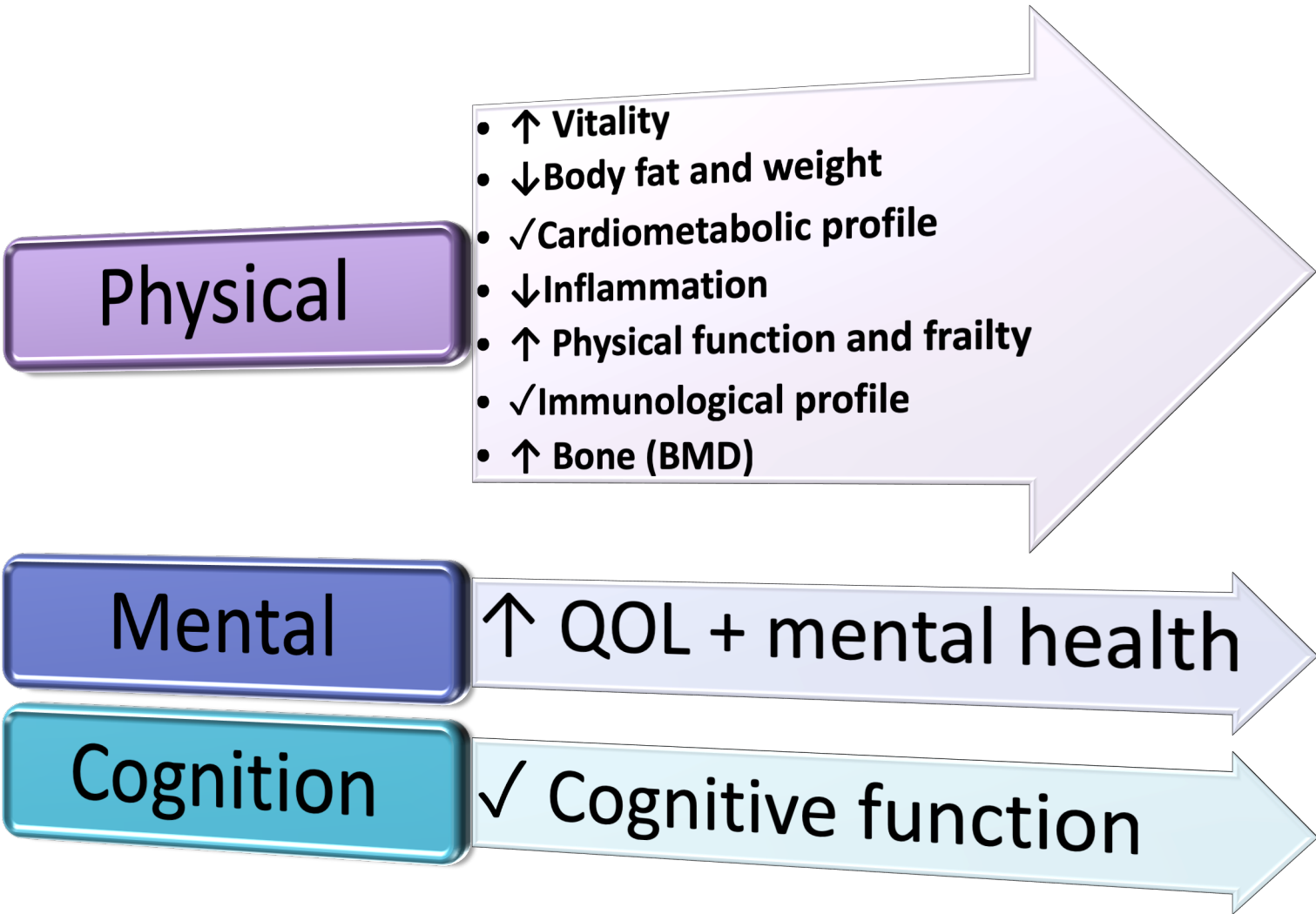


Physical activity if people with HIV in Brighton

Variable		PWH (110)	HIV negative (110)	p-Value
RAPA 1 score, <i>n</i> (%)	1: Rarely or never does any physical activities	7 (6.4%)	1 (0.9%)	0.043
	2: Does some light or moderate physical activities, but not every week	5 (4.5%)	3 (2.7%)	
	3: Does some light physical activity every week	16 (14.5%)	7 (6.4%)	
	4: Does moderate physical activities every week, but less than 30 minutes a day or 5 days a week	20 (18.2%)	18 (16.4%)	
	5: Does vigorous physical activities every week, but less than 20 minutes a day or 3 days a week	7 (6.4%)	10 (9.1%)	
	6: Does 30 minutes or more a day of moderate physical activities, 5 or more days a week	29 (26.4%)	29 (26.4%)	
	7: Does 20 minutes or more a day of vigorous physical activities, 3 or more days a week	26 (23.6%)	42 (38.2%)	
RAPA 2 score, <i>n</i> (%)	0: Does not do activities to increase muscle strength or flexibility at least once a week	56 (51.4%)	37 (33.9%)	0.013
	1: Does activities to increase muscle strength, once a week or more	15 (13.8%)	25 (22.9%)	
	2: Does activities to improve flexibility, once a week or more	18 (16.5%)	13 (11.9%)	
	3: Both 1 and 2	20 (18.3%)	34 (31.2%)	

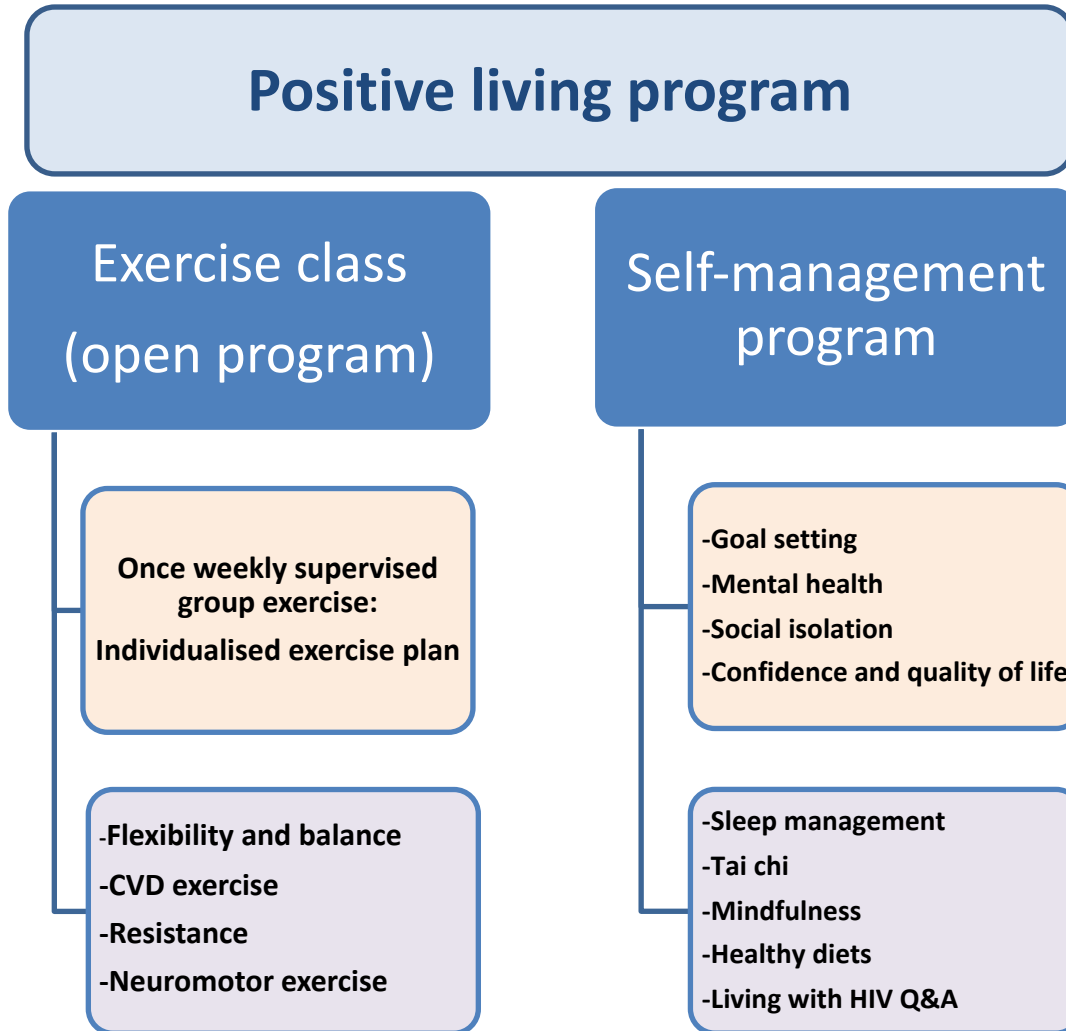
Only 50% of PWH meet the recommendation for PA vs 64% in HIV-

Benefits of physical activity in PWH



Barriers and facilitators for CBE in PWH

Facilitators	Barriers	Motivators
<ul style="list-style-type: none">• Structured exercise routine with specific exercise guidelines• Low cost of program• Group-based exercise that provides social interaction and support• Guidance on exercise safety from knowledgeable health care or fitness professionals	<ul style="list-style-type: none">• Lack of knowledge of how to exercise safely• Periods of physical or mental illness (eg., fatigue, anxiety, depression)• Negative life event• Parenting or employment responsibilities resulting in lack of time to exercise• Falling out of exercise routine• Cost of gym membership	<ul style="list-style-type: none">• Enjoyment with exercise• Social benefits (eg., creating friendships)• Recommendation to exercise from health care providers• Reduce side-effects of medications• Reduce or prevent onset of comorbidities or disability





Name

Date Start.....

Date Finish.....

Progress	Goal One	Goal Two	Goal Three	Goal Four	Goal Five	Goal Six
Goal Description						
-2						
-1 What can you do now.....						
0 Expected level of achievement						
+1 Further Achievement						
+2 Even further Achievement						
How Important is this goal to you?						
Comments						



- ✓ 1 class a week.... soon twice a week
- ✓ Lots of equipment
- ✓ 45 minutes max 6 people per class
- ✓ 1 physio and 2 facilitators (trained Beacon staff)
- ✓ Each class followed by tea and or food

Open access- assessments of goals at week 10

Name:

Sessions Attended: /20

Hospital ID:

Start Date: Finish Date:

	Week 0		Week 10		Does this patient consent to being contacted in the future by telephone or email, for follow up and research purposes relating to the class? Yes No
Height					
Weights					
Resting heart rate					
Goals completed	Yes	No	Yes	No	

Disability:

WHODAS .012. Self esteem	Week 0	Week 10
Complex sum score		

Function

5 x sit to stand	Week 0	Week 10
Time (seconds)		

Timed Up and Go	Week 0	Week 10
TUG		

Sub maximal exercise test

6 minute walk test	Week 0		Week 10	
Time completed				
Heart rate	Pre test:	Post test:	Pre test:	Post test:
SaO2 Saturations	Pre test:	Post test:	Pre test:	Post test:
Total Distance				
Comments				

Flexibility and frailty status

Timed Up and Go	Week 0	Week 10
TUG		
Frailty status (fried)		

Quality of Life

FAH	Week 0	Week 10
Physical well being		
Emotional		
Functional / global		
Social well being		
Cognitive		
Total		

- ✓ Anthropometric
- ✓ Disability
- ✓ Function
- ✓ Mobility
- ✓ Flexibility
- ✓ Frailty
- ✓ Quality of life

How do I refer a patient?

- Open to all patients
- Referral process:
 - Health care professionals:
 - T drive: specialist clinic: silver clinic: positive living program
 - Patients:

<https://www.sussexbeacon.org.uk/services-we-provide/positive-living-programme/>

REFERRAL FORM – Physiotherapy Exercise programme

Please send completed referral form securely to: hattie.yannaghas@sussexbeacon.org.uk

Client Information

Client Name: _____ DOB: _____
 SB Number: _____ Clinic No: _____
 Address: _____
 Gender: _____ Ethnic Origin: _____
 Telephone Phone No: _____ Preferred Contact: _____
 Consent to leave answerphone message: Yes No
 Consent to Text messages: Yes No

GP Name and address: _____

GP Phone No. _____

Referrer's details:

Referring Clinic / Service: _____

Referrer Name and contact details: _____

Consent to referral: Yes No

Reason for Referral

Reason for referral: _____

Primary impairment: _____

Please complete referral criteria below.

Impaired Mobility		Side effects of HIV and/or treatments	
Cardiovascular risks		Side effects of cancer and/or treatments	
Neurological challenges		Disclosure related challenges	
Multi-morbidity (≥2 chronic conditions)		Challenges related to social participation	
Frailty		Challenges to community life	
Pain or difficulty with movements of joints		Sedentary Lifestyle	
		Mental health needs	

If not relevant to the referrer, has the service user checked with their Consultant or GP or relevant medical professional, that they are fit to take part in this programme or current referrer? If not please make the service user aware that they will need to do this before taking part.

Please do not hesitate to contact us to talk discuss your referral.

Please contact Hattie Yannaghas, Senior Project Coordinator, Health Management Team
 01273 694222 or Hattie.yannaghas@Sussexbeacon.org.uk

10 Bevendean Road, Brighton, Bn2 4DE www.sussexbeacon.org.uk

The Positive Living programme

- Positive fitness classes: 19
- Total attendances in this period: 55
- 10 are currently assessed
- 9 men
- 2 women
- **8 out of 10 are over 50**
- 2 of these have attended over 10 classes. Both have shown significant improvement in all areas.

Promoting positive living through physiotherapy

A new exercise programme is helping to address the physical, mental and social health related challenges faced by people living with HIV.

The Positive Living Programme at Sussex Beacon provides people with HIV the opportunity to participate in a physiotherapy supervised group based on individualised exercises, in a supportive and friendly environment.

After being referred to the programme, people are offered an assessment to help determine the exercises they can do in the class and establish some practical goals. The classes, which involve exercises using an exercise bike, weights, resistance bands and floor mats, have been running every Wednesday for 1.5 hours at the Sussex Beacon since March this year.

The programme was developed in collaboration by Dr Jaime Vera, Senior Lecturer in HIV Medicine and Honorary Consultant Physician at BSMS, and Hattie Yannaghas, Senior Project Coordinator at the Sussex Beacon.

Pete* has been attending the classes for nine weeks.

“I get to meet people and it’s a sociable thing for me. It is just a friendly room with friendly people. I’ve been a member at gyms before but I never enjoyed it as it’s been too competitive. It’s not like that here – we’re helping each other, not competing against each other.”

Tim*, who has been coming for six weeks,

“I have been a diabetic for 10 years and my condition flared up again recently. This programme was recommended to me and it has been great. What I really like is the class size – I’ve joined gyms before and felt lost, but here you can talk with the instructors and really benefit from their expertise.”

Acknowledgements

Hattie Yannaghas
Bill Puddicombe
Sarah Silberston
Silver Clinic Team
Natalie St Cair-Sullivan
Kelly O'Brien
Darren Brown
Claire Hebron
Bettina Karsten
Fernando Naicero
Tania Knights


The Lawson Unit
LEADING HIV CARE FOR BRIGHTON




University of Brighton

KOBLER
Rehabilitation Class
www.chelwest.nhs.uk/HIVrehab



j.vera@bsms.ac.uk



<https://www.youtube.com/watch?v=t0Zyx-pVGfc>