Ageing and HIV

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Brighton and Sussex University Hospitals
What is a Geriatrician doing here???
Ageing well with HIV
## Life expectancy at age 65 – United Kingdom and constituent countries

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
<td>Females</td>
<td>Males</td>
<td>Females</td>
<td>Males</td>
<td>Females</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>13.0</td>
<td>16.9</td>
<td>15.2</td>
<td>18.5</td>
<td>18.4</td>
<td>20.9</td>
</tr>
<tr>
<td>England</td>
<td>13.1</td>
<td>17.0</td>
<td>15.3</td>
<td>18.6</td>
<td>18.6</td>
<td>21.1</td>
</tr>
<tr>
<td>Wales</td>
<td>12.5</td>
<td>16.6</td>
<td>14.9</td>
<td>18.2</td>
<td>18.0</td>
<td>20.5</td>
</tr>
<tr>
<td>Scotland</td>
<td>12.3</td>
<td>16.0</td>
<td>14.2</td>
<td>17.5</td>
<td>17.3</td>
<td>19.6</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>12.5</td>
<td>16.3</td>
<td>14.9</td>
<td>18.3</td>
<td>18.1</td>
<td>20.5</td>
</tr>
</tbody>
</table>

Life expectancy at age 85 – United Kingdom and constituent countries

Demographics

People diagnosed with HIV accessing HIV specialist care, by group: UK, 2006–2015

Global demographics

People aged 50 years or older, as a percentage of all adults 15 years or older living with HIV, by region, 1995–2012

Percentage

1995  2012

0%  5%  10%  15%  20%  25%  30%  35%

Western and Central Europe and North America
Eastern Europe and Central Asia
Latin America
Caribbean
Sub-Saharan Africa
Asia and the Pacific
Middle East and North Africa

What is old?

Mean age at which people are perceived to stop being young, and at which old age is perceived to start, by gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Mean age at which people are perceived to stop being young</th>
<th>Mean age at which old age is perceived to start</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>38.5</td>
<td>58.0</td>
</tr>
<tr>
<td>Female</td>
<td>42.8</td>
<td>60.4</td>
</tr>
<tr>
<td>All</td>
<td>40.7</td>
<td>59.2</td>
</tr>
</tbody>
</table>

Definitions

• There is no UN standard numerical criterion, but the UN agreed 60+ to refer to the older population\textsuperscript{1}

• Developing countries use the point at which active contribution is no longer possible\textsuperscript{2}

• In reality: Combination. Chronological, social (i.e. change in work patterns), change in capabilities (i.e. invalid status)\textsuperscript{2}

\textsuperscript{1} UN, United Nations

Normal ageing

Ageing is characterised by many combined changes\textsuperscript{1–3}

- Gradual reduction in height
- Weight loss due to loss of muscle and bone mass
- A lower metabolic rate
- Longer reaction times
- Declines in certain memory functions
- Declines in sexual activity
- A functional decline in hearing, olfaction, and vision
- Declines in kidney, pulmonary, and immune functions
- Declines in exercise performance
- Changes in endocrine axis

Fauja Singh

6:54 AT AGE 89.
5:40 AT AGE 92.
THE KENYANS HAD BETTER WATCH OUT FOR HIM WHEN HE HITS 100.

Fauja Singh runs up marathons between the ages of 87 and 93. Now he has right to run marathons every day and relax with walks, tea, gharj kari, and meditation. It is a training regime he's been working on an hour off his marathon times, and yet I keep doing the same. Will he just keep getting better? We wouldn't just get tired, are you sure he already knows impossible is nothing.
Both 78 years!
Ageing successfully?? Frail??
Is age helpful in best care of older patients?
Frailty
What is frailty?

• Age-related decline in multiple physiological systems
• Threshold of homeostatic reserve reached, resulting in:
  – An ‘at risk’ state
  – Vulnerability to minor stressor events
• **Disproportionate changes** in health status:
  – From mobile to immobile
  – From lucid to confused
  – From independent (‘managing’) to requiring help
• An increased risk of adverse events

Underpins the ‘non-specific nature’ of some medical presentations in older adults

Schematic representation of the pathophysiology of frailty

1. Genetic factors
2. Environmental factors
3. Epigenetic mechanisms
4. Cumulative molecular and cellular damage
5. Reduced physiological reserve
   - Brain
   - Endocrine
   - Immune
   - Skeletal muscle
   - Cardiovascular
   - Respiratory
   - Renal
6. Physical activity
7. Nutritional factors
8. Frailty
9. Stressor event
10. Falls
11. Delirium
12. Fluctuating disability
13. Increased care needs
14. Admission to hospital
15. Admission to long-term care

↓ Physical activity
Sarcopenia
Physical deconditioning

Mood

Cognition

Chronic under-nutrition

Common presentations of frailty

- Fatigue, unintentional weight loss, frequent infections
- Falls (a non-faller may fall due to a minor stress event)
- Over time failure of postural and gait systems (vision, balance, muscle strength)
- Unable to guarantee safe navigation of undemanding environments – spontaneous, recurrent falls may occur
- Delirium: Present in 15–30% elderly patients on admission to hospital
- Fluctuating disability (‘good’ and ‘bad’ days)

How do we define it?

- This is difficult
- No consensus definition exists
- Two major schools of thought:
  - The Frailty Phenotype – a frailty syndrome\(^1\)
  - The Frailty Index – a frailty state\(^2\)

Images found in the public domain, no copyright
# The Frailty Phenotype

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shrinkage</td>
<td>Weight loss, unintentional, ( \geq 10 ) pounds in one year, or at follow up of ( \geq 5% ) body weight in the prior year</td>
</tr>
<tr>
<td>Weakness</td>
<td>Grip strength in lowest 20% at baseline, adjusted for gender and BMI</td>
</tr>
<tr>
<td>Poor endurance and energy</td>
<td>Self report of exhaustion, identified from two questions on the CES-D</td>
</tr>
<tr>
<td>Slowness</td>
<td>Slowest 20% of population based on time to walk 15 feet, adjusted for gender and standing height</td>
</tr>
<tr>
<td>Low physical activity</td>
<td>A weighted score of kilocalories expended per week, with low activity if in lowest quintile for gender</td>
</tr>
</tbody>
</table>

Scored as:

- 0 items = Robust
- 1–2 items = Pre-fail
- 3 or more = Frail

**Criticism:**

- Very physically focused
- Does not take in to account individual comorbidities
- Does not include cognition or mood
- Not easy to use clinically

Frailty Index

An alternative frailty model, which utilises a multi-dimensional approach where deficits accumulate across a range of functional, physical and cognitive domains (Rockwood and Mitnitski, 2011) as part of the Canadian Study of Health and Aging. Based on Comprehensive Geriatric Assessment (CGA)

- Deficit accumulation
  - Deficits = symptoms, signs, disease states, specific functional deficits
  - Markers of the decline in physiological reserve
  - The more you have the more likely you are to be frail
  - So if 10/40 deficits present, their FI = 0.25
  - Adverse outcomes proportional to deficits - more you have, worse you do
  - Cut off between fitness and frailty around 0.25
  - Upper FI threshold around 0.67, where any more leads to death

Fl, frailty index
Frailty Index

• This is a favourable model:
  – Appears to fit with theory of declining physiological reserve
  – Idea of gradation of frailty rather than present or absent
  – Clear association with increasing frailty index and worse outcomes
  – Better predictor than actual age

• Drawbacks:
  – A large number of items needed – at least 30, so? easy to apply
  – Cut-offs may vary, at what point should we intervene?
### Clinical Frailty Scale

<table>
<thead>
<tr>
<th>Number</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Very fit</td>
<td>People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.</td>
</tr>
<tr>
<td>2</td>
<td>Well</td>
<td>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.</td>
</tr>
<tr>
<td>3</td>
<td>Managing well</td>
<td>People whose medical problems are well controlled, but are not regularly active beyond routine walking.</td>
</tr>
<tr>
<td>4</td>
<td>Vulnerable</td>
<td>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.</td>
</tr>
<tr>
<td>5</td>
<td>Mildly frail</td>
<td>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.</td>
</tr>
<tr>
<td>6</td>
<td>Moderately frail</td>
<td>People need help with all outside activities and with keeping house. Inside, they often have problems with stairs ad need help with bathing and might need minimal assistance (cuing, standby) with dressing.</td>
</tr>
<tr>
<td>7</td>
<td>Severely frail</td>
<td>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).</td>
</tr>
<tr>
<td>8</td>
<td>Very severely frail</td>
<td>Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.</td>
</tr>
<tr>
<td>9</td>
<td>Terminally ill</td>
<td>Approaching the end of life. This category applies to people with a life expectancy &lt;6 months, who are not otherwise evidently frail.</td>
</tr>
<tr>
<td><strong>Fred's Frailty Phenotype</strong></td>
<td><strong>Outcomes (hazard ratio and 95% confidence interval for death and institutionalisation respectively)</strong></td>
<td><strong>Pros</strong></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Frail = &gt;/=3 characteristics</td>
<td>1.17 (1.13–1.20)</td>
<td>Four of the five items are objective (performance can be measured). Extensively validated to predict health outcomes. Correlation with physiologic markers of poor health outcomes including haemoglobin and pro-inflammatory markers.</td>
</tr>
<tr>
<td>Pre-frail = &gt;/=2 characteristics</td>
<td>1.27 (1.19–1.35)</td>
<td></td>
</tr>
<tr>
<td>Robust = none</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Clinical Frailty Scale</strong></th>
<th><strong>Outcomes (hazard ratio and 95% confidence interval for death and institutionalisation respectively)</strong></th>
<th><strong>Pros</strong></th>
<th><strong>Cons</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification on ordinal scale according to global clinical assessment</td>
<td>1.30 (1.27–1.33)</td>
<td>Clinically feasible.</td>
<td>Requires additional data on feasibility and validity in clinical settings</td>
</tr>
<tr>
<td></td>
<td>1.46 (1.39–1.53)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Frailty Index</strong></th>
<th><strong>Outcomes (hazard ratio and 95% confidence interval for death and institutionalisation respectively)</strong></th>
<th><strong>Pros</strong></th>
<th><strong>Cons</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of health deficits present/number of possible health deficits</td>
<td>1.26 (1.24–1.29)</td>
<td>Precise measurement. Reproducible across populations and disease states.</td>
<td>Cumbersome to use in clinical settings.</td>
</tr>
<tr>
<td></td>
<td>1.56 (1.48–1.65)</td>
<td></td>
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</tr>
</tbody>
</table>

There are many!

- Edmonton Frail Scale\textsuperscript{1}
- FRAIL score\textsuperscript{2}
- SHARE frailty index\textsuperscript{3}
- Groningen Frailty Indicator\textsuperscript{4}
- Tilburg Frailty Indicator\textsuperscript{5}
- Study of Osteoporotic fractures\textsuperscript{6}
- CGA based FI\textsuperscript{7}
- Prisma \textsuperscript{8}
- Clegg et al – electronic frailty index\textsuperscript{9}

But:

- What should they include?
- Different for different specialities/interventions?
- Should social factors be included?
- What about cognition and mood?
- Should we use physical, self reported, objective, laboratory results, biomarkers (IL6, CRP)?
- Is the scale clinically applicable?

Frailty in HIV

- There is a literature base around this now:
  - Mostly cross-sectional work
  - Embedded within some key longitudinal studies (MACS\textsuperscript{1}/VACS\textsuperscript{2}/WIHS\textsuperscript{3})
  - European data: AgehiV\textsuperscript{4} and POPPY\textsuperscript{5} (+ our study: FOAL\textsuperscript{6})

- Heterogeneity across the studies:
  - Populations
  - Younger cohorts (median age 39–57\textsuperscript{1–5}, 59.6 in ours\textsuperscript{6})
  - Frailty measures – most popular: Fried Frailty Phenotype

- Prevalence:
  - Min 3.9% to max 28.6%
  - To compare in HIV-ve: 9.9% in >65s and 4.1% in 50–64 (SHARE-FI)\textsuperscript{7}

**Why is frailty important?**

*Because frailty causes problems (which are costly)*

<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>Country</th>
<th>Participants (n)</th>
<th>Length of follow-up (years)</th>
<th>Falls (HR/OR [95% CI])</th>
<th>Worsening disability (HR/OR [95% CI])</th>
<th>Hospitalisation (HR/OR [95% CI])</th>
<th>Care home admission (HR/OR [95% CI])</th>
<th>Mortality (HR/OR [95% CI])</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular Health Study (CHS)</td>
<td>2001</td>
<td>USA</td>
<td>5317</td>
<td>7</td>
<td>1.12 (1.00–1.26)</td>
<td>1.23 (1.50–2.21)</td>
<td>1.55 (1.38–1.75)</td>
<td>1.79 (1.47–2.17)</td>
<td>NA</td>
</tr>
<tr>
<td>Canadian Study of Health and Aging (CSHA)</td>
<td>2004</td>
<td>Canada</td>
<td>9008</td>
<td>5</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Women’s Health and Aging Study (WHAS)</td>
<td>2006</td>
<td>USA</td>
<td>1438</td>
<td>3</td>
<td>0.92 (0.63–1.64)</td>
<td>1.18 (0.63–2.19)</td>
<td>NA</td>
<td>NA</td>
<td>5.16 (3.00–12.08)</td>
</tr>
<tr>
<td>Study of Osteoporotic Fractures (SOF)</td>
<td>2008</td>
<td>USA</td>
<td>6701</td>
<td>4.5</td>
<td>1.23 (1.02–1.48)</td>
<td>2.44 (1.95–3.04)</td>
<td>1.89 (1.66–2.14)</td>
<td>2.79 (2.31–3.37)</td>
<td>1.54 (1.40–1.69)</td>
</tr>
</tbody>
</table>

HR, hazard ratio; NA, not available; OR, odds ratio

Is frailty permanent?...

- Not necessarily!
- Frailty does appear to be a dynamic process\(^1\)
- But… trajectory is mainly toward more frail states\(^1\)
- Based on FFP (Fried Frailty Phenotype)\(^2\):
  - If pre-frail:
    - Those scoring 1 – more likely to become non-frail
    - Those scoring 2 – more likely to progress to frail
  - If frail:
    - Those scoring 3 – best chance of becoming pre-frail
    - Those scoring 4 or 5 – more likely to progress to death
- Very rare to revert from frail to non-frail (0–0.9% chance)\(^1\)
- In most people, frailty is progressive

What can we do about it?

- **Fried**: Yes
  - Improve physical function
  - Improve nutrition
  - Improve psychological status

- **Rockwood**: Yes
  - Ameliorate physical deficits
  - Improve physiological reserve
  - Treat medical conditions

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Risk factors: Potential targets for intervention

- Alcohol misuse
- Cognitive impairment
- Falls
- Functional impairment
- Hearing problems
- Mood disorder
- Poor nutritional status
- Physical inactivity
- Obesity avoidance
- Polypharmacy
- Smoking
- Social isolation
- Loneliness
- Poor vision
- Incontinence

**When to assess frailty**

Any interaction with an older person and health or social care:

- Routine outpatients in ALL departments
- Social services assessments
- Review by community care teams
- Primary care review
- Home carers
- Ambulance crews

Why? Presence of frailty may alter risk/benefit of intervention.
Different Model of Care

Today

‘The Frail Elderly’
(a label)

‘Presentation late and in crisis’
(geriatric syndromes)

Hospital-based care:
Episodic, uncoordinated

Tomorrow

‘An older person living with frailty’
(a long-term condition)

Timely identification for preventative, proactive care by supported self-management and personalised care planning

Community-based: Person centred, multi-agency and coordinated

Long-term condition:
• Progressive
• Incurable
• Episodic deteriorations
• Preventable components
• May impact QoL
• Expensive
• May improve reporting
• May aid in improving health and care planning

QoL. quality of life
Youngm J. A primary-care based model for frailty, presented to the King’s Fund, Innovations in the delivery of care for older people, 18th June, 2014.
• BGS best practice guidance for frailty
• Aimed at outpatient and community settings
• Acknowledges that frailty:
  – Varies in severity
  – Is a dynamic process that may be made better or get worse
  – Is not an inevitable part of ageing

BGS, British Geriatrics Society
How to assess

- **Prisma-7 screening Q**
  - Can be self completed
  - Can use based on premorbid status is unwell

- **Walking speed**
  - Less than 0.8m/sec
  - >5 secs to walk 4m

- **TGUG**
  - Over 10 seconds

- **Prisma-7 (≥3 = frail)**
  1. Age >85
  2. Male sex
  3. Any health problems that require you to limit activities?
  4. Do you need help on a regular basis?
  5. Any health problems that require you to stay at home?
  6. In case of need can you count on someone close to you?
  7. Do you regularly use a mobility aid to get about?

TGUG, timed up and go test; BGS, British Geriatrics Society
Comprehensive Geriatric Assessment (CGA)

Full CGA likely to take 1.5–2.5 hours

Common problems:
Falls
Cognition
Continence
Mood
Mobility
Weight loss/nutrition
Polypharmacy
Physical inactivity
Alcohol excess
Smoking
Visual loss
Social isolation and loneliness
Physical exam – eyes, ears, neuro – VITAL

Recognition of frailty in an individual
- Either by encounter screening or
- by frailty presentation (or by systematic screening – not yet recommended)

Holistic medical review including
- Identification and optimisation of medical illnesses plus onward referral to other specialists
- Individualised goal setting
- Drug setting
- Anticipatory care planning (which may include escalation plans, emergency plans, end of life care (EOLC) plans)

Geriatrician
Therapist or other community care team member
Specialist nurse
Older people’s mental health team

Individualised care and support plan
With details of personal goals, optimisation plans, escalation and emergency plans as well as advance care plans for some

Holistic review likely to take 45–60 minutes
Capacity should be assessed

Care and support plan:
Named individuals
Health and social care summary
Optimisation and maintenance plan
Escalation plan
Urgent care plan
Advanced care plan

British Geriatrics Society. Fit for Frailty. Available at: www.bgs.org.uk/campaigns/fff/fff_full.pdf

CGA
Age distribution of HIV patients in Brighton

BSUH Local Data. Unpublished.
Frailty prevalence and predictors in older adults with HIV

A prospective observational study recruited PLWHIV aged ≥50 from 5 HIV clinics across Sussex from October 2014–October 2015

- Frailty was defined by modified Fried Frailty Phenotype (FFP)

- Predictors of frailty were evaluated from collected demographic, clinical, HIV, psychosocial and functional parameters

Dr T Levett, Prof J Rusted, Dr J Wright

22nd Annual Conference British HIV Association 2016 (Poster)
Results

- 253 participants were recruited, of which 90.9% were male
- Median age was 59.6 (IQR 54.9–65.6)
- 48/253 met frailty criteria, giving a prevalence of 19% (95% CI 14.6–24.3)
- A further 111/253 (43.9%) were pre-frail
- 94/253 (37.1%) robust

Levett T, Rusted J, and Wright J, Poster presented at the 22nd Annual Conference of the British HIV Association (BHIVA), Manchester, UK.
How common was frailty?

FP, frailty phenotype
Levett T, Rusted J, and Wright J, Poster presented at the 22nd Annual Conference of the British HIV Association (BHIVA), Manchester, UK.
<table>
<thead>
<tr>
<th></th>
<th>Crude OR (95% CI)</th>
<th>aOR (95% CI)**</th>
<th>P-value**</th>
<th>Likelihood of frailty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age by group (10yrs)</td>
<td>1.21 (0.77–1.90)</td>
<td>1.04 (0.63–1.71)</td>
<td>0.887</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>2.02 (0.78–5.24)</td>
<td>3.14 (1.09–9.05)</td>
<td>0.034 ↑</td>
<td></td>
</tr>
<tr>
<td>Education (yrs)</td>
<td>0.87 (0.78–0.94)</td>
<td>0.88 (0.78–0.99)</td>
<td>0.040 ↓</td>
<td></td>
</tr>
<tr>
<td>Financial insecurity</td>
<td>3.33 (1.39–7.98)</td>
<td>3.83 (1.37–10.70)</td>
<td>0.011 ↑</td>
<td></td>
</tr>
<tr>
<td>CD4 &lt;350</td>
<td>2.26 (0.95–5.37)</td>
<td>2.41 (0.96–6.04)</td>
<td>0.061</td>
<td></td>
</tr>
<tr>
<td>HIV duration (yrs)</td>
<td>1.03 (0.99–1.07)</td>
<td>1.01 (0.96–1.05)</td>
<td>0.734</td>
<td></td>
</tr>
<tr>
<td>Comorbidity count</td>
<td>1.63 (1.35–1.96)</td>
<td>1.67 (1.37–2.02)</td>
<td>&lt;0.001 ↑</td>
<td></td>
</tr>
<tr>
<td>Non-ARV drugs</td>
<td>1.39 (1.23–1.57)</td>
<td>1.26 (1.09–1.47)</td>
<td>&lt;0.001 ↑</td>
<td></td>
</tr>
<tr>
<td>Current smoking</td>
<td>2.00 (0.99–4.04)</td>
<td>2.10 (0.96–4.61)</td>
<td>0.063</td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>5.80 (2.30–14.63)</td>
<td>5.25 (1.87–14.77)</td>
<td>0.002 ↑</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>4.63 (2.36–9.09)</td>
<td>4.80 (2.25–10.22)</td>
<td>&lt;0.001 ↑</td>
<td></td>
</tr>
</tbody>
</table>

*adjusted for age, gender, CD4 count, no. of comorbidities.
Levett T, Rusted J, and Wright J, Poster presented at the 22nd Annual Conference of the British HIV Association (BHIVA), Manchester, UK.
Falls

- 29 patients (30.9%) fell in the last month
- 65 patients (69.1%) reported recurrent falls.
- median number of falls was 2 (IQR 1–4)
<table>
<thead>
<tr>
<th></th>
<th>Non-faller</th>
<th>Faller</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=159 (%)</td>
<td>N=94 (%)</td>
<td></td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>59.9 (54.3–66.3)</td>
<td>59.6 (55.9–63.7)</td>
<td>0.594</td>
</tr>
<tr>
<td><strong>Female</strong></td>
<td>13 (8.2)</td>
<td>10 (10.6)</td>
<td>0.516</td>
</tr>
<tr>
<td><strong>Education (yrs)</strong></td>
<td>13 (11–16)</td>
<td>12 (11-15)</td>
<td>0.073</td>
</tr>
<tr>
<td><strong>HIV duration (yrs)</strong></td>
<td>12.9 (7.5–18.7)</td>
<td>16.5 (9.7–23.5)</td>
<td>0.007</td>
</tr>
<tr>
<td><strong>CD4 &lt;350</strong></td>
<td>17 (10.7)</td>
<td>11 (11.7)</td>
<td>0.061</td>
</tr>
<tr>
<td><strong>AIDS</strong></td>
<td>41 (25.8)</td>
<td>37 (39.4)</td>
<td>0.024</td>
</tr>
<tr>
<td><strong>Comorbidities</strong></td>
<td>2 (0–3)</td>
<td>3 (2–4)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Frailty</strong></td>
<td>12 (7.6)</td>
<td>36 (38.3)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Pain</strong></td>
<td>35 (22.0)</td>
<td>63 67.0</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Non-antiretroviral drugs</strong></td>
<td>2 (0–4)</td>
<td>4 (3–6)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Depression</strong></td>
<td>7 (4.4)</td>
<td>14 (14.9)</td>
<td>0.003</td>
</tr>
<tr>
<td><strong>Anxiety</strong></td>
<td>25 (15.7)</td>
<td>32 (34.0)</td>
<td>0.001</td>
</tr>
<tr>
<td><strong>Walk speed (m/sec)</strong></td>
<td>1.16 (0.24)</td>
<td>1.01 (0.27)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Weak grip</strong></td>
<td>20 (12.6)</td>
<td>37 (39.4)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Mobility poor</strong></td>
<td>21 (13.2)</td>
<td>57 (60.6)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Disability</strong></td>
<td>5 (3.1)</td>
<td>19 (20.2)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Levett T, Saxena O, and Wright J, Poster presented at the 22nd Annual Conference of the British HIV Association (BHIVA), Manchester, UK.
The Silver Clinic

• Indications for referral:
  – Patients over 50 years old
  – Multiple comorbidities
  – Polypharmacy
  – Difficulties coping at home

• The Silver Clinic team:
  – HIV physician
  – Geriatrician
  – HIV Clinical Nurse specialist
  – Pharmacist
Pre-assessments: (HIV-CNS; pharmacist)

- Health: EQ-5D-5L
- Frailty: Frailty scale
- QUALY: OPQOL-brief
- Cognitive: MoCA
- Mental health: Hospital anxiety and depression questionnaire
- Medication review: MMOR
- Routine bloods: Including B12, folate, PSA, TSH

CNS, central nervous system; QUALY, quality-adjusted life year; OPQOL, older people’s quality of life; MoCA, Montreal Cognitive Assessment; MMOR, major molecular response; PSA, prostate specific antigen; TSH, thyroid-stimulating hormone
The Silver Clinic

Clinical assessment:
1 clinic session a month, max 4 patients, 40 minutes per patient

Objectives:
• Polypharmacy and DDI
• Optimising the management of comorbidities
• Identifying, social and psychological problems
• 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)

DDI, drug-drug interaction
Specialist care of older adults with HIV infection in the UK: a service evaluation

- 102 clinics responded
- 2 dedicated HIV ageing services
- 3 more in development
- 23% reported a NEED for an ageing service
- 68% felt dedicated guidance on monitoring and was needed

Insufficient numbers of older patients was the main reason for the lack of a current need for a dedicated HIV ageing service.
Summary

- It’s not age, it’s frailty!
- How to define it
- Why it’s important
- How to assess for frailty
- Strategy for intervention – FFF¹
- Importance of mood
- Importance of falls
- Prescribing – STOPP/START criteria²
- Individualised care!

FFF, fit for frailty; STOPP, screening tool of older people’s prescriptions; START, screening tool to alert to right treatment

It’s not about age – it’s about individualised care
Acknowledgements

Silver clinic team:

Martin Fisher
Jaime Vera
Linda Parker-Joyce
HIV Pharmacy team
Community HIV nursing team
Tracey Buckingham
Eileen Nixon
Tom Levett