

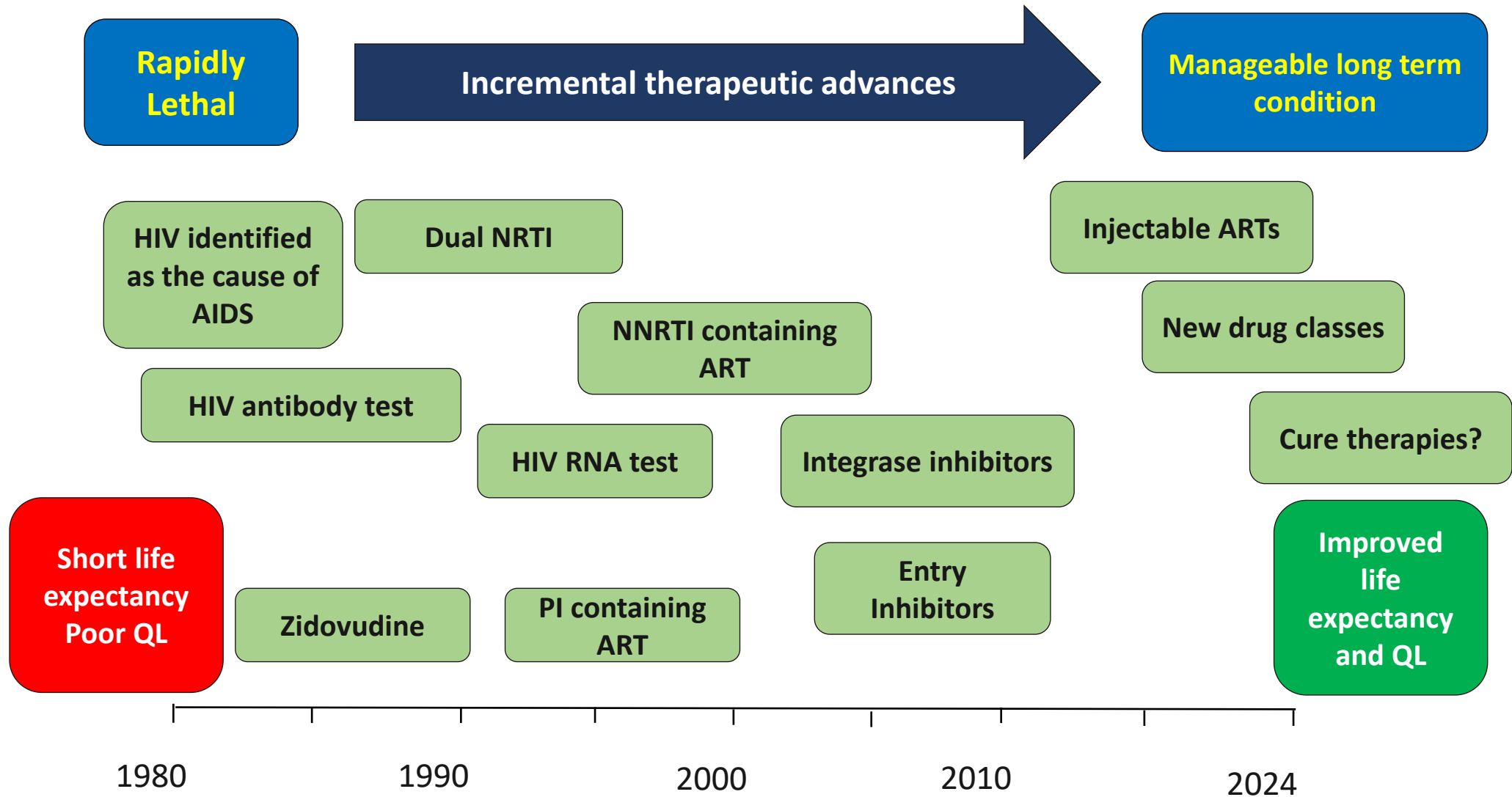


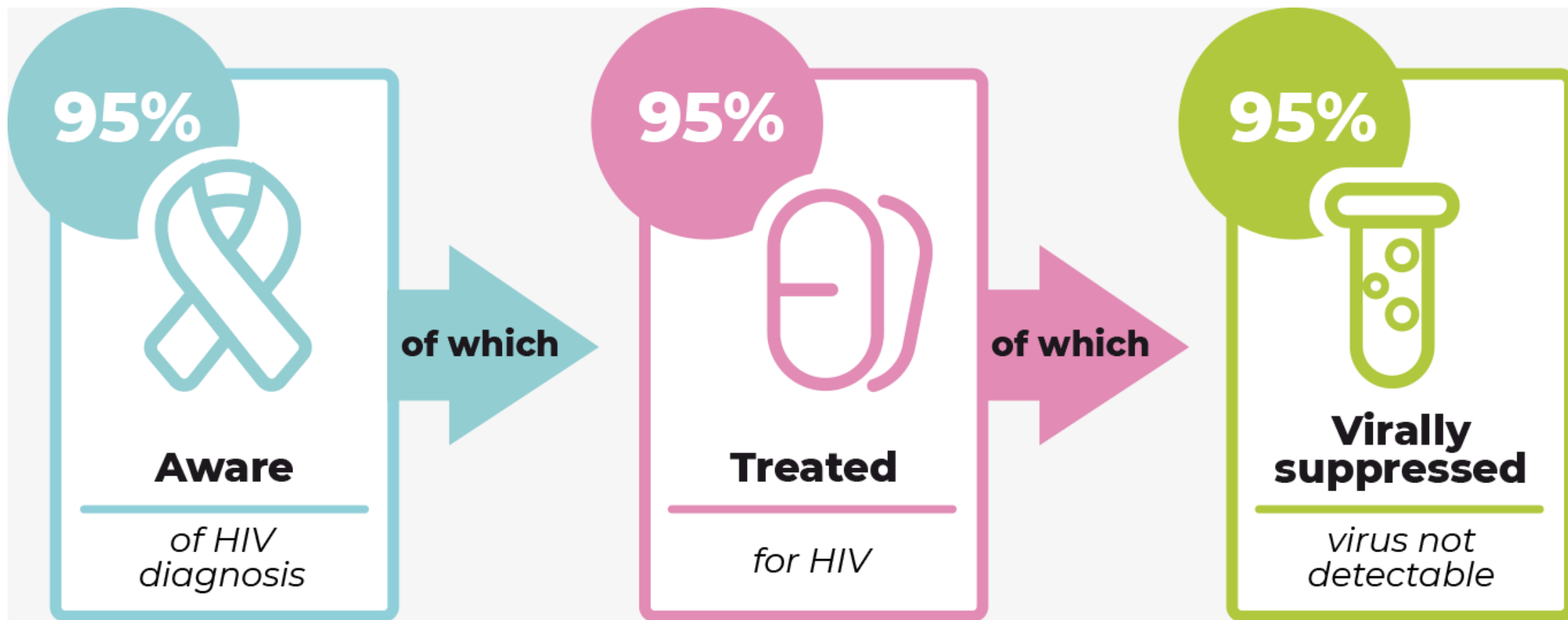
HIV essentials

Jaime Vera
Professor in HIV medicine

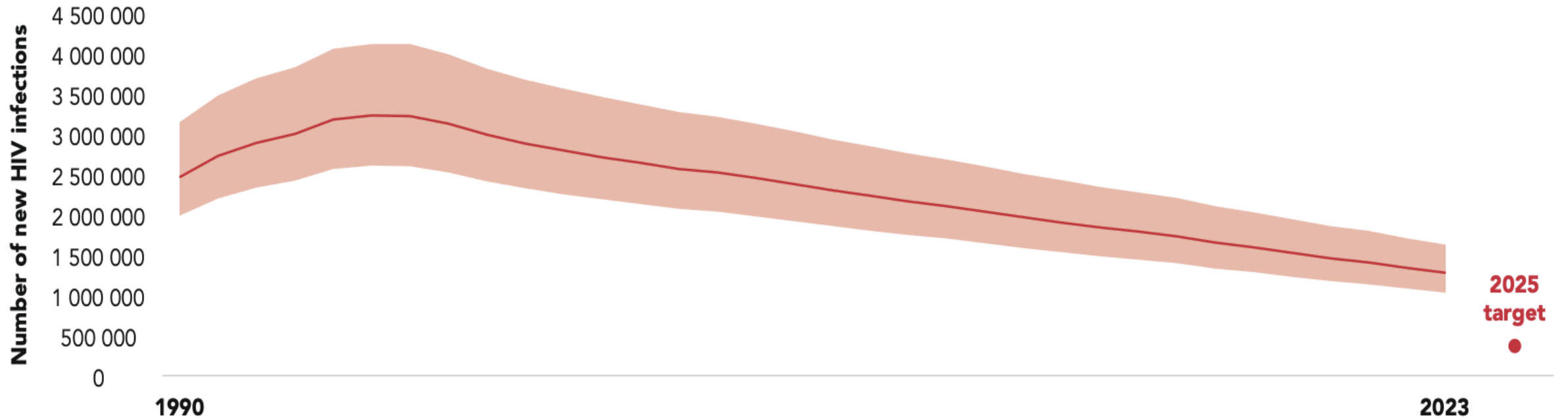


Evolution of treatment for HIV infection

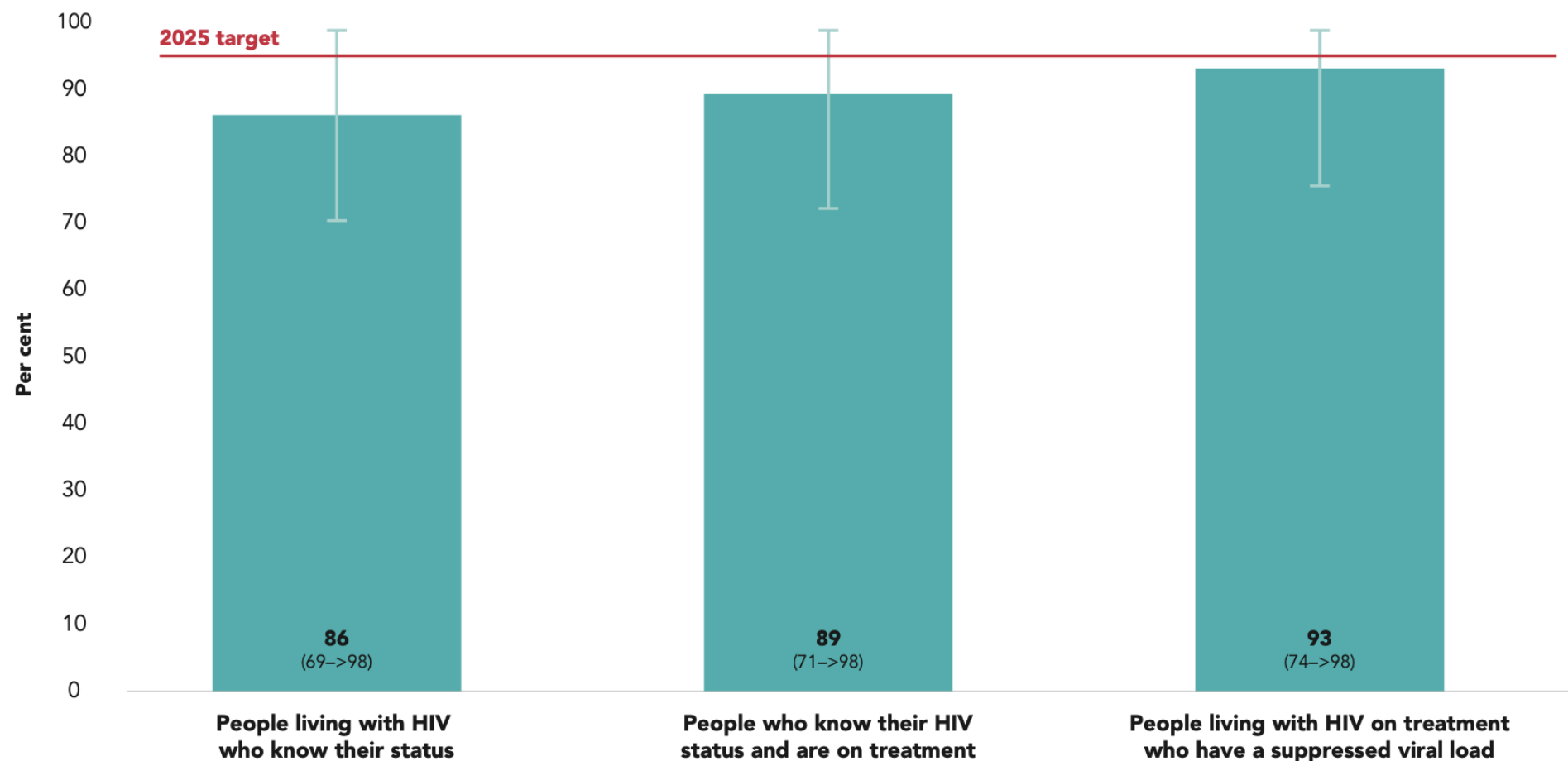




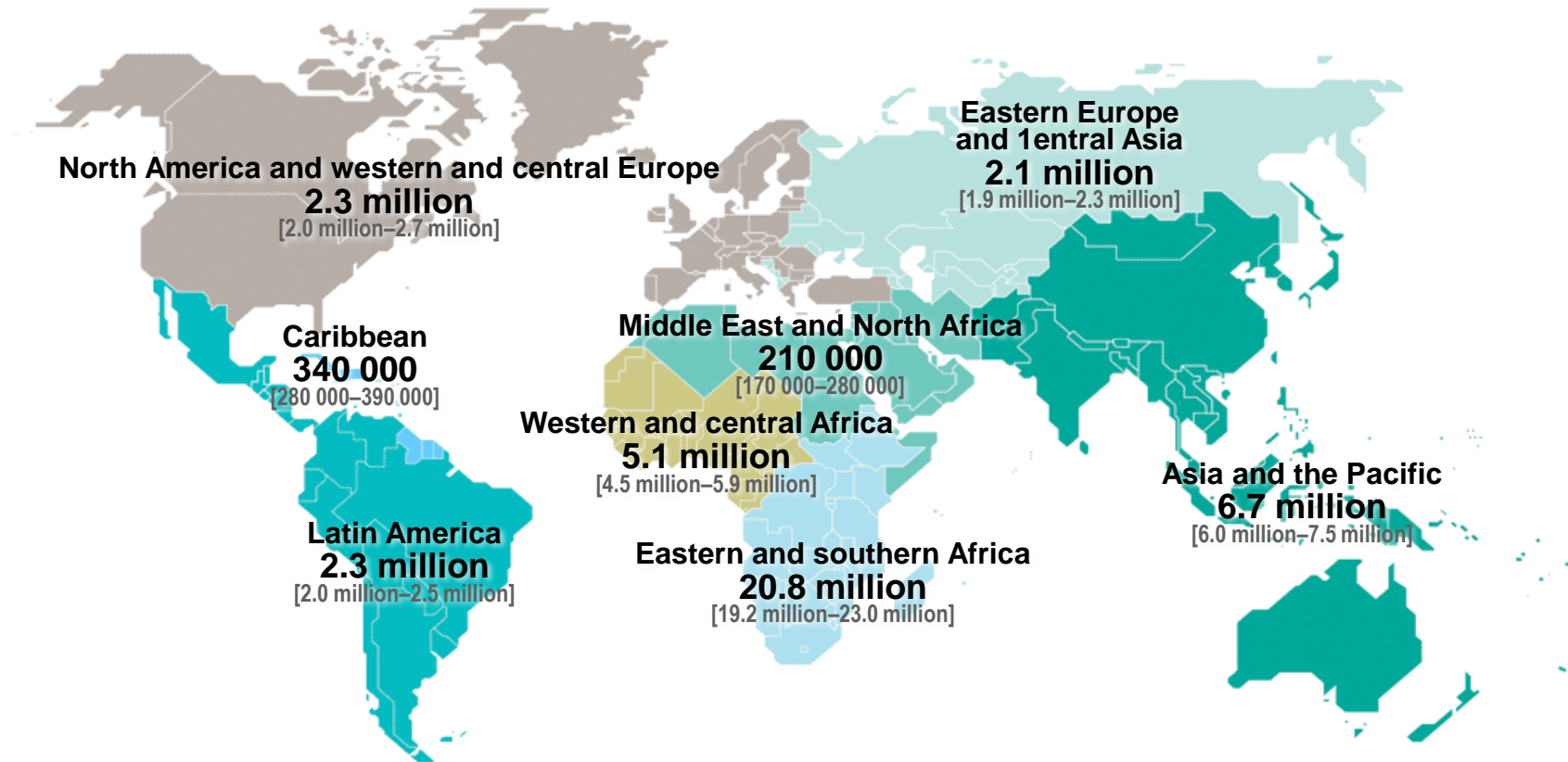
Number of new HIV infections, 1990-2023: Globally



Global HIV cascade of care ,2023

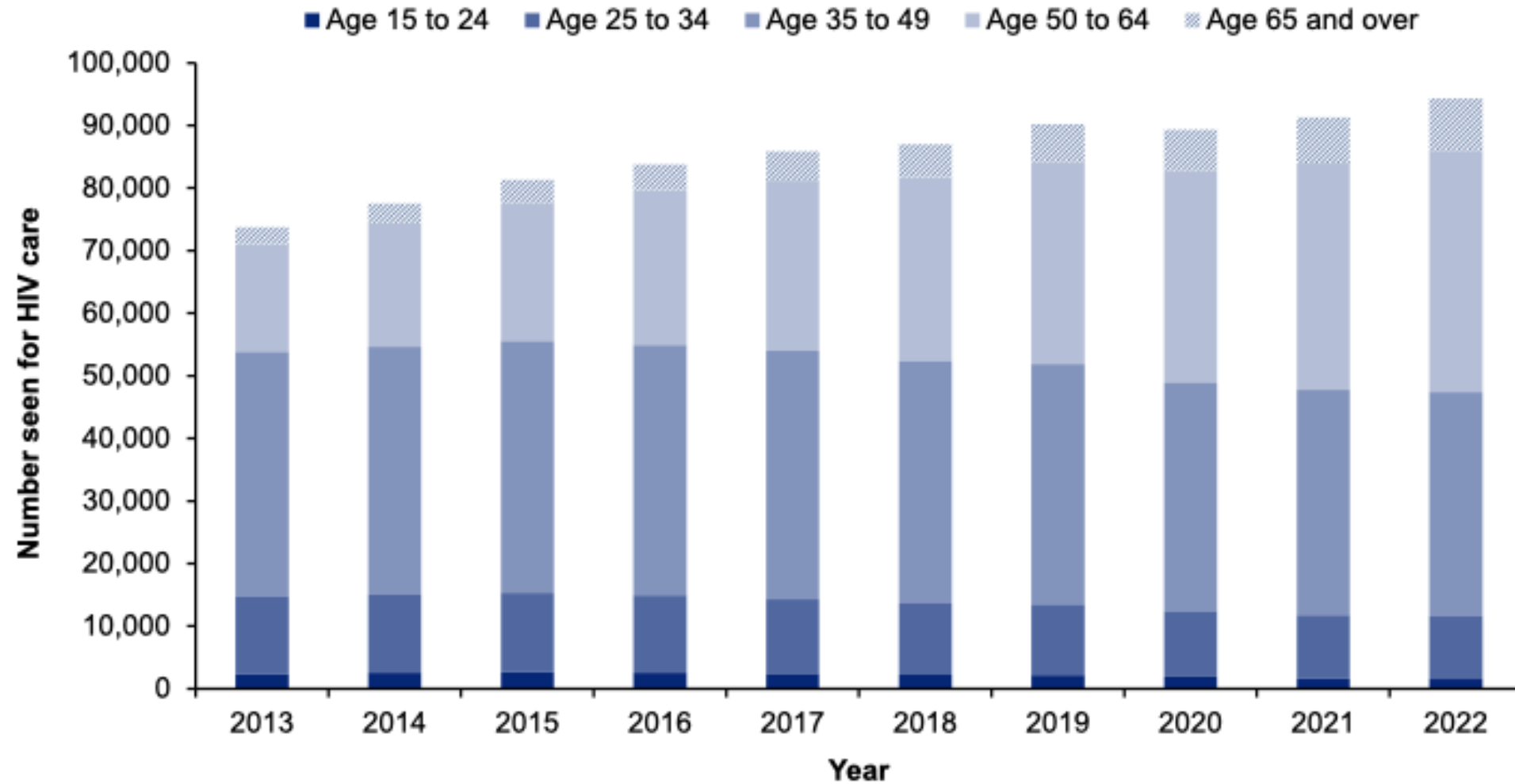


Adults and children estimated to be living with HIV | 2023



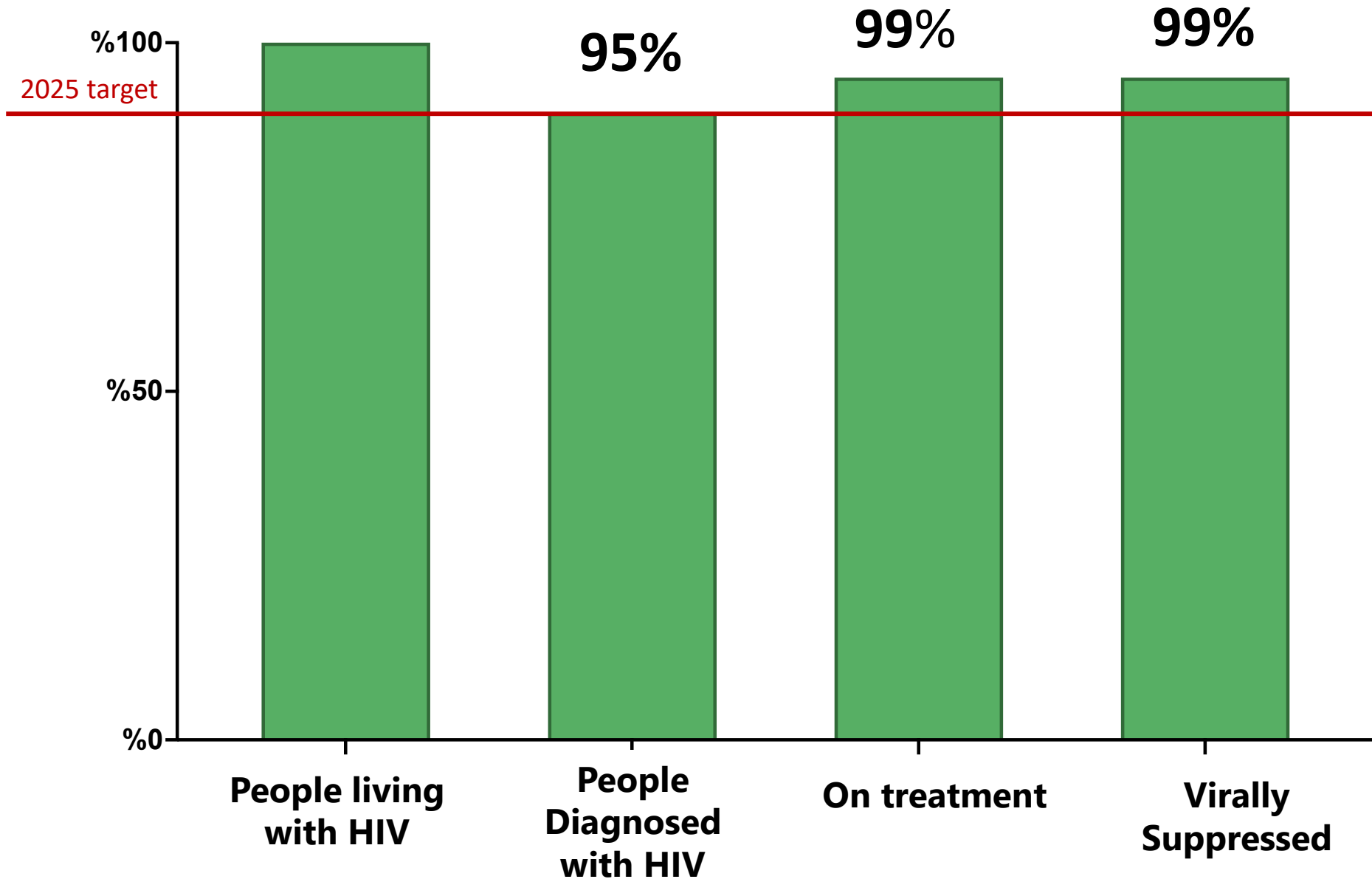
Total: 39.9 million [36.1 million–44.6 million]

Number of adults seen for HIV care England | 2013-2022

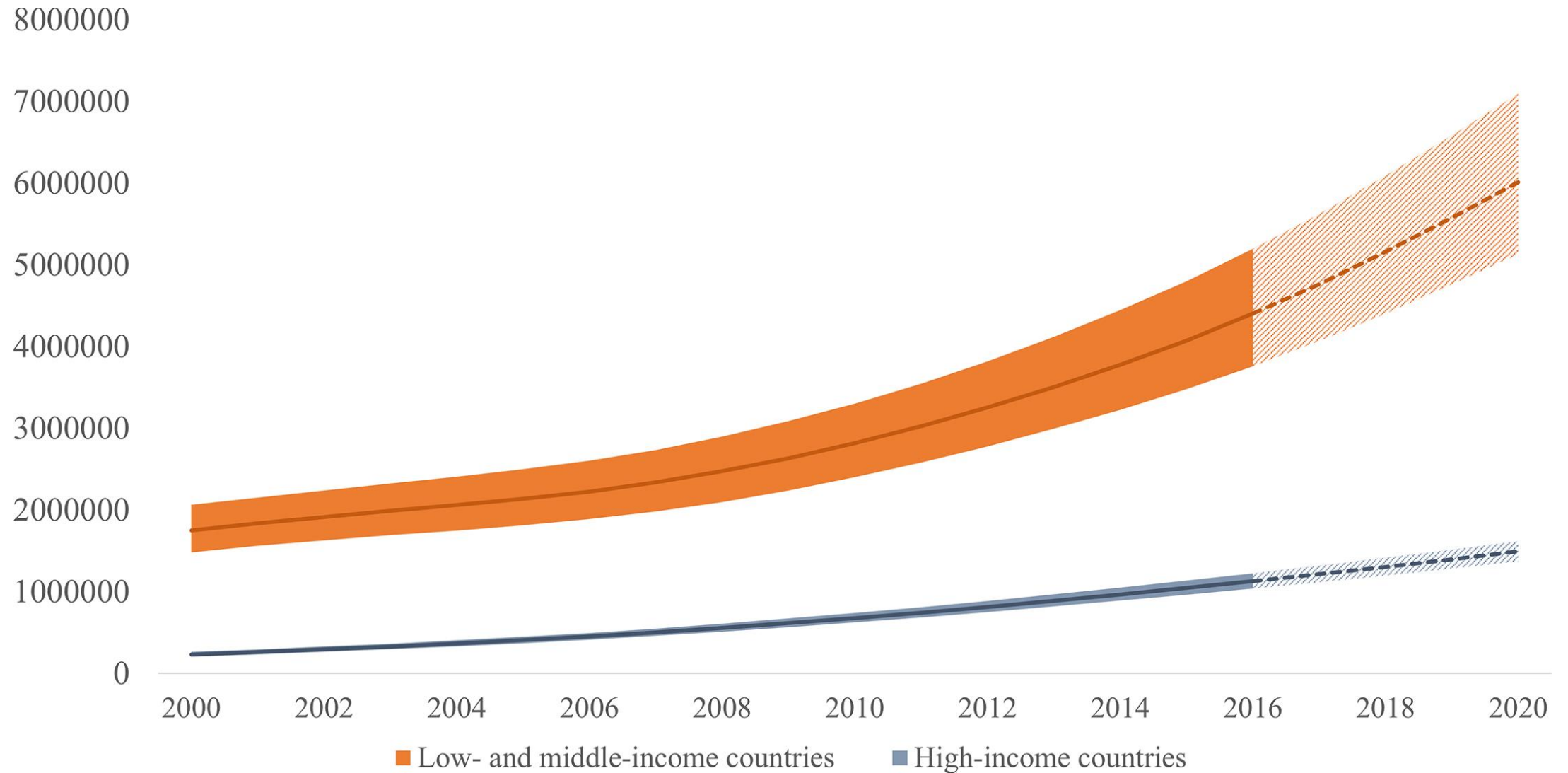


107,000 living with HIV

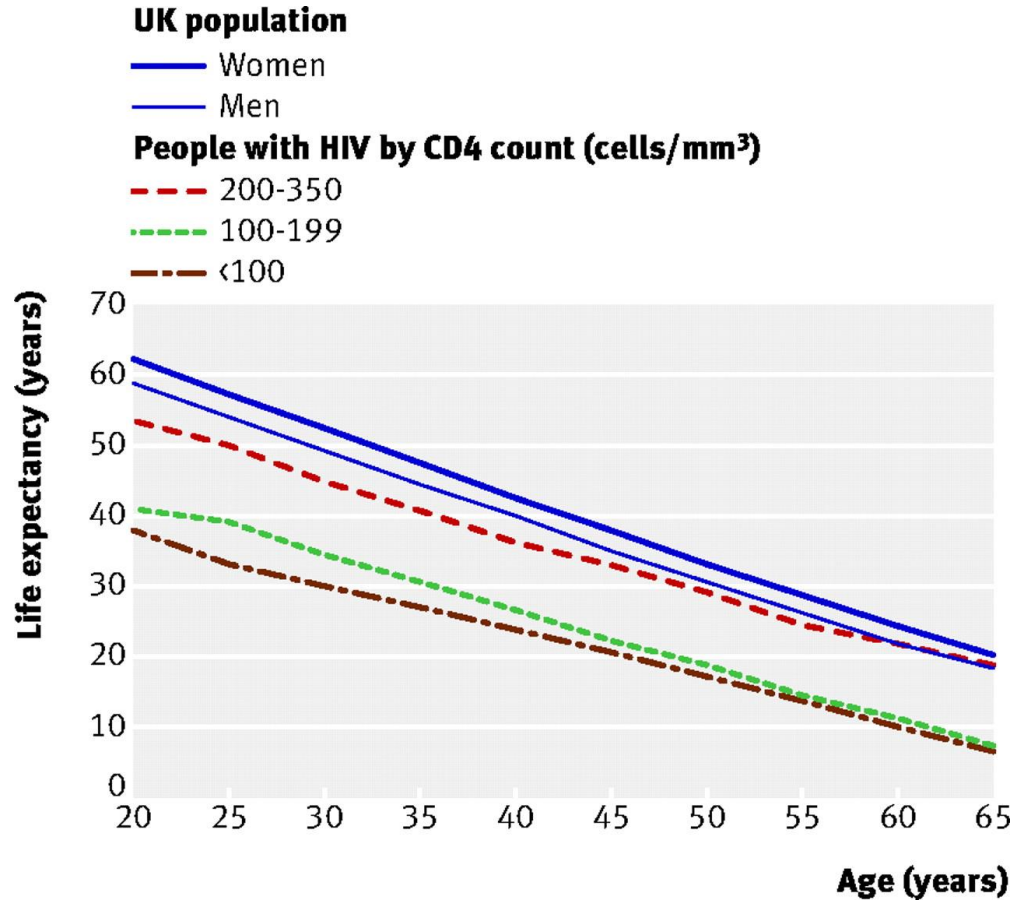
UK cascade of care



People living with HIV aged 50+ globally



Life expectancy of People living with HIV



Life expectancy from age 20-65 of PLWH who started antiretroviral therapy in 2000-8 by compared with that of UK population

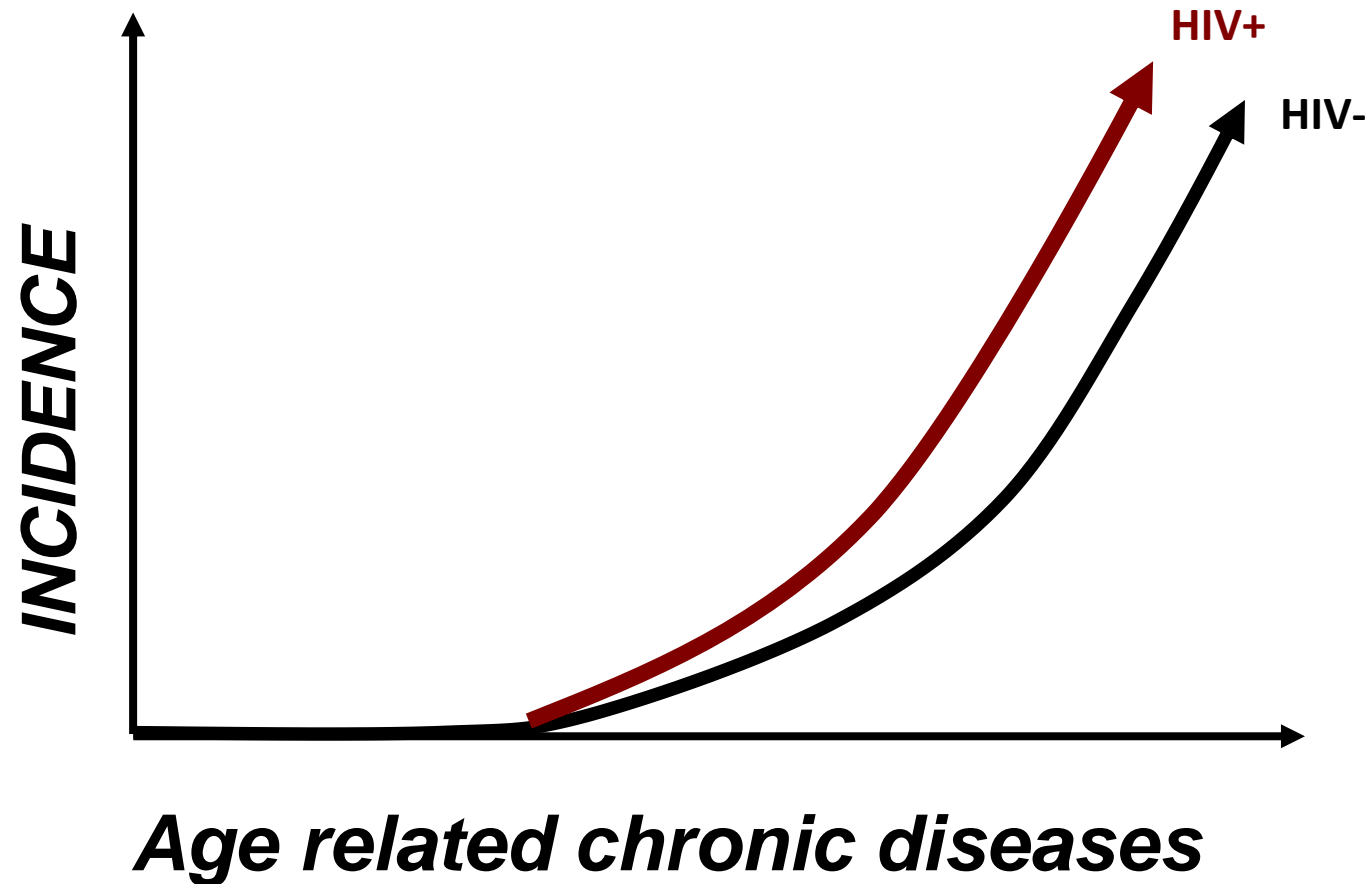
Survival of HIV-positive patients starting antiretroviral therapy between 1996 and 2013: a collaborative analysis of cohort studies

The Antiretroviral Therapy Cohort Collaboration*

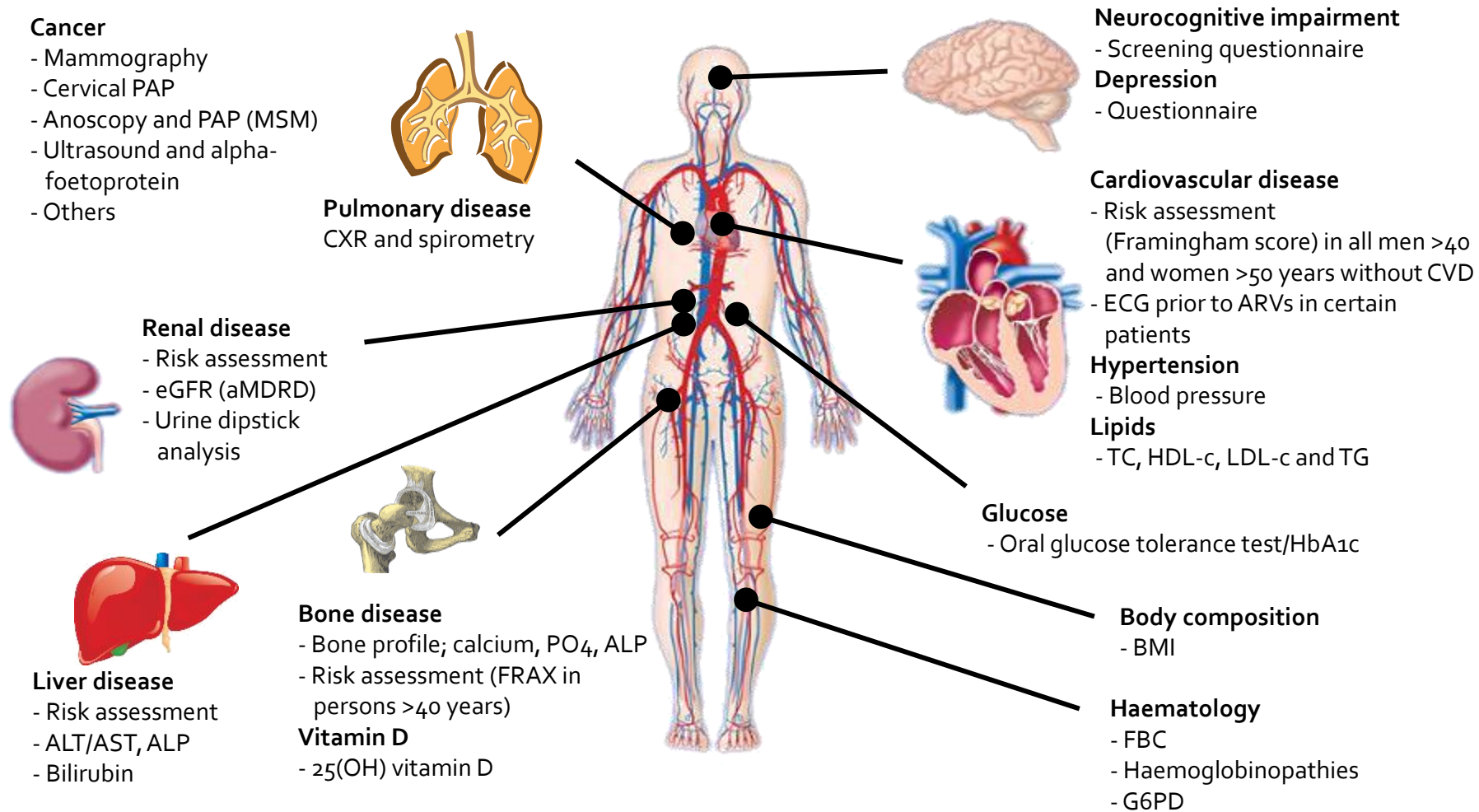
Interpretation Even in the late ART era, survival during the first 3 years of ART continues to improve, which probably reflects transition to less toxic antiretroviral drugs, improved adherence, prophylactic measures, and management of comorbidity. Prognostic models and life expectancy estimates should be updated to account for these improvements.

The screenshot shows the top portion of a BBC News article. The navigation bar includes 'BBC', 'Sign in', and various news categories. The main header is 'NEWS' in a red bar. Below it, the 'Health' category is selected. The article title is 'HIV life expectancy 'near normal' thanks to new drugs'. The author is listed as 'By Philippa Roxby, Health reporter, BBC News'. The date is '11 May 2017' and the category is 'Health'. Social media sharing icons for Facebook, Twitter, and Email are visible.

Age-related chronic diseases rises exponentially with age

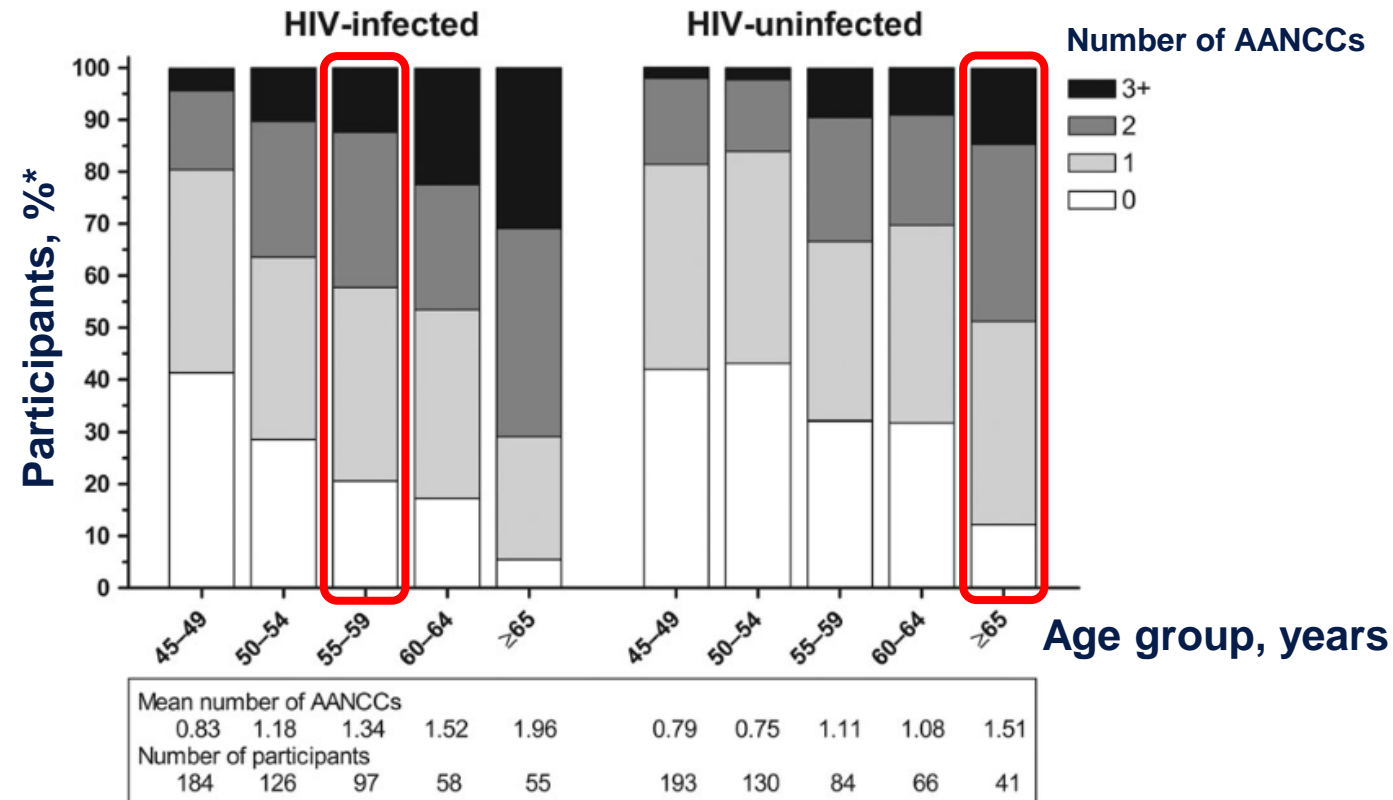


Chronic diseases in people with HIV

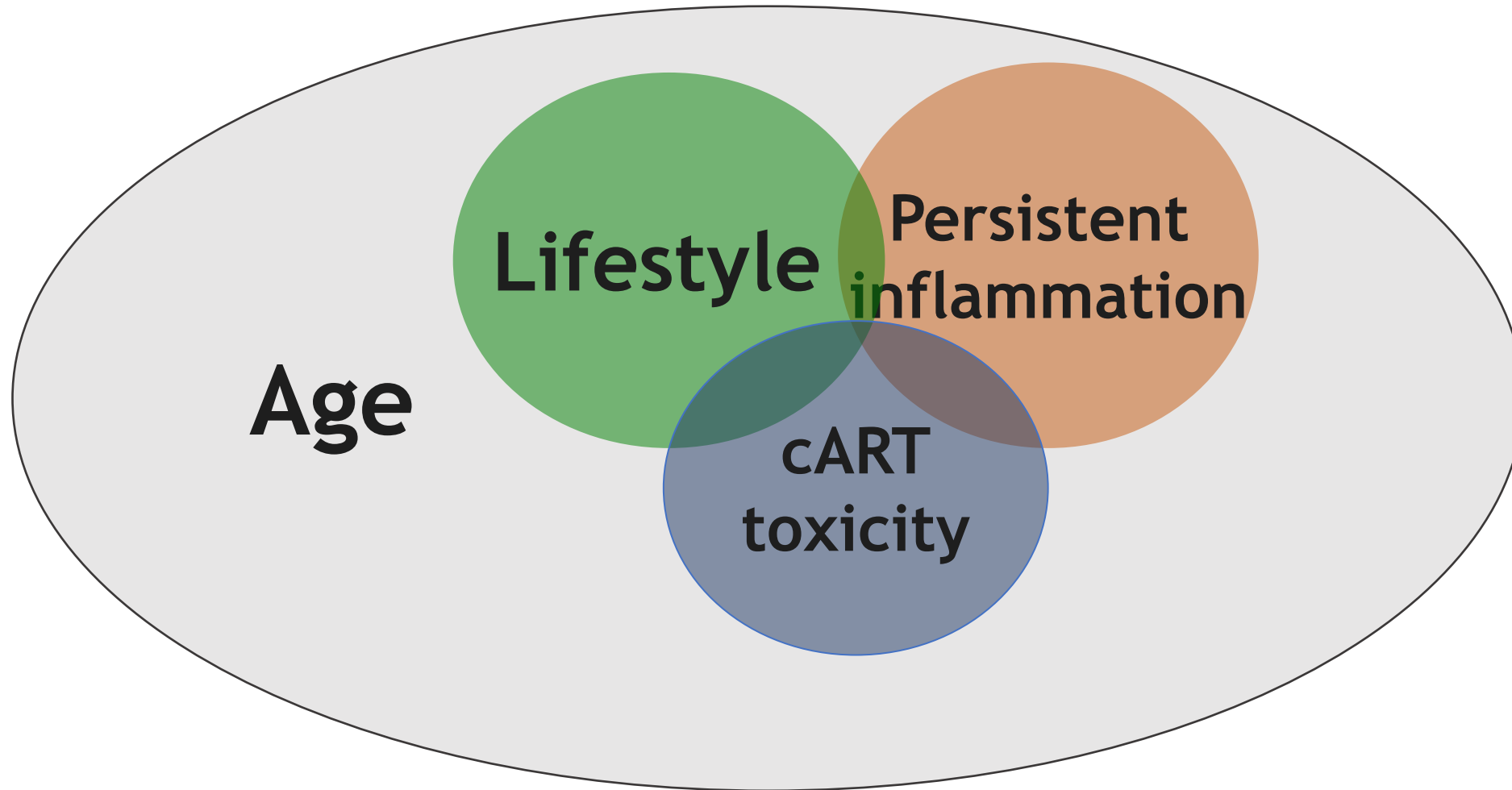


Prevalence of comorbidities in people with HIV

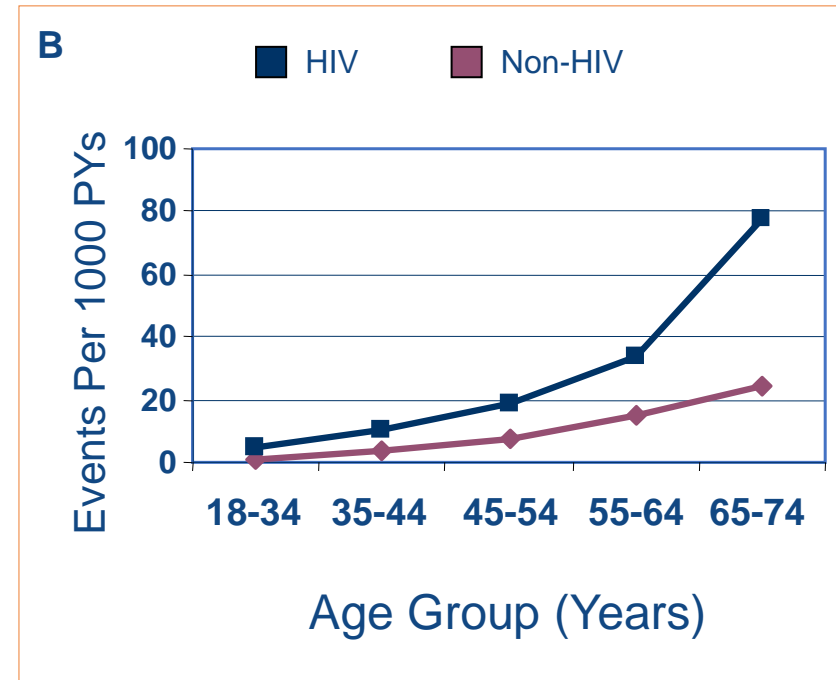
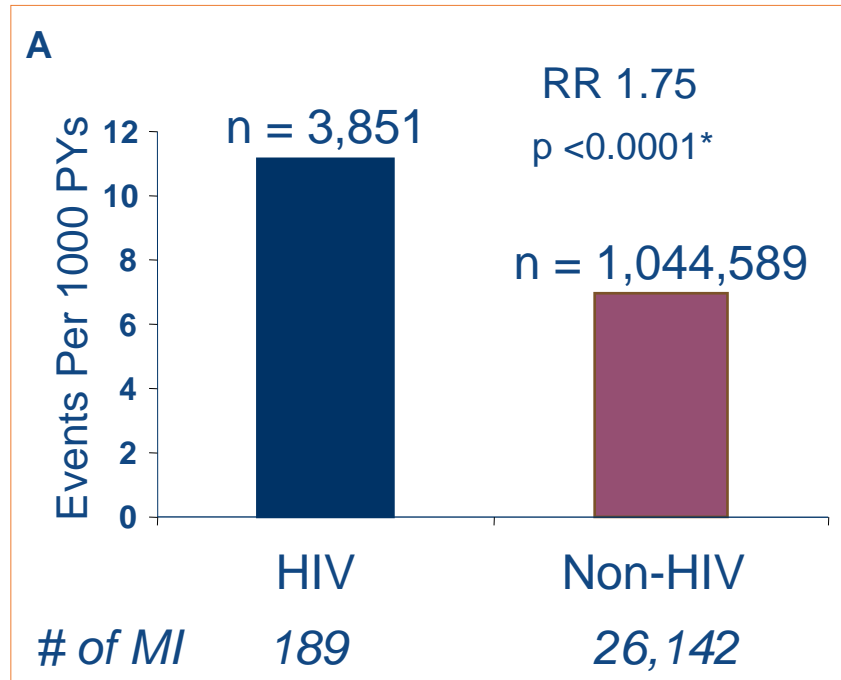
- / Cohort study of HIV and comorbidities in The Netherlands (n=524 HIV-negative and n=540 HIV-positive persons)
- / Significantly more **hypertension, peripheral arterial disease, MI, liver disease, impaired renal function and cancer in PLWH**



Drivers of chronic diseases in people with HIV



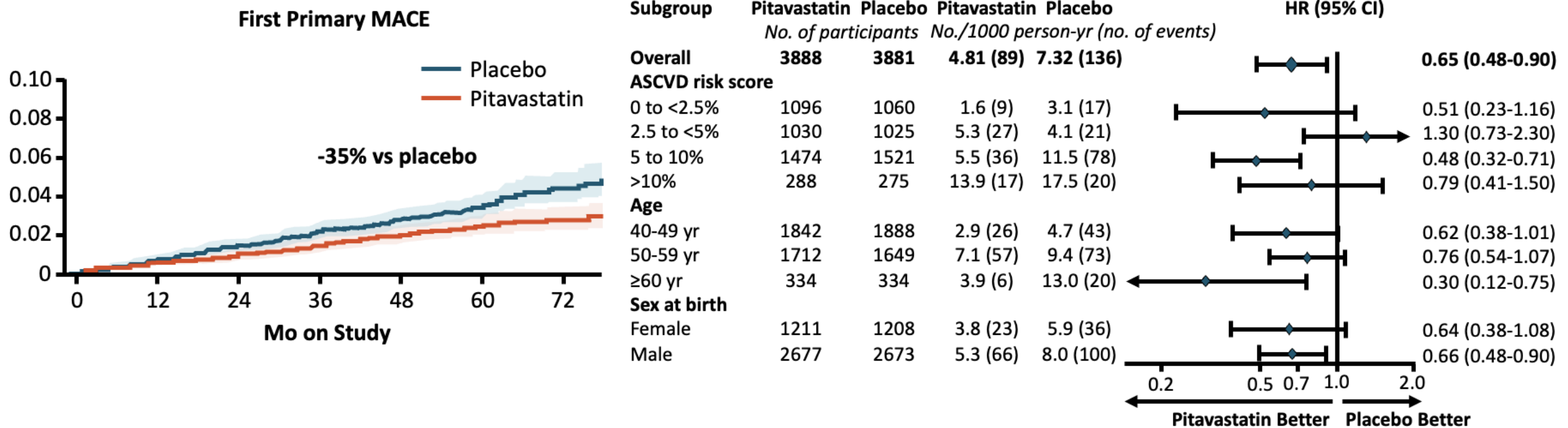
Risk of MI in patients presenting at least twice to either of two hospitals in Boston (1996–2004) according to HIV status



* Adjusted for age, gender, race, hypertension, diabetes and dyslipidaemia. Proportion of patients with hypertension, diabetes and dyslipidaemia significantly higher in HIV-positive vs HIV-negative cohort

REPRIEVE: Statins for Cardiovascular Disease Prevention in People Living With HIV

- Randomized, prospective trial of persons living with HIV aged 40-75 yr on stable ART with low to moderate ASCVD risk receiving **pitavastatin** 4 mg QD (n = 3888) vs **placebo** (n = 3881)
- Reduced MACE incidence with pitavastatin (4.81 per 1000 PY) vs placebo (7.32 per 1000 PY) (HR: 0.65; 95% CI: 0.48-0.90)**



Geriatric syndromes in people with HIV

Complex multimorbidity

Polypharmacy

Mobility decline

Falls

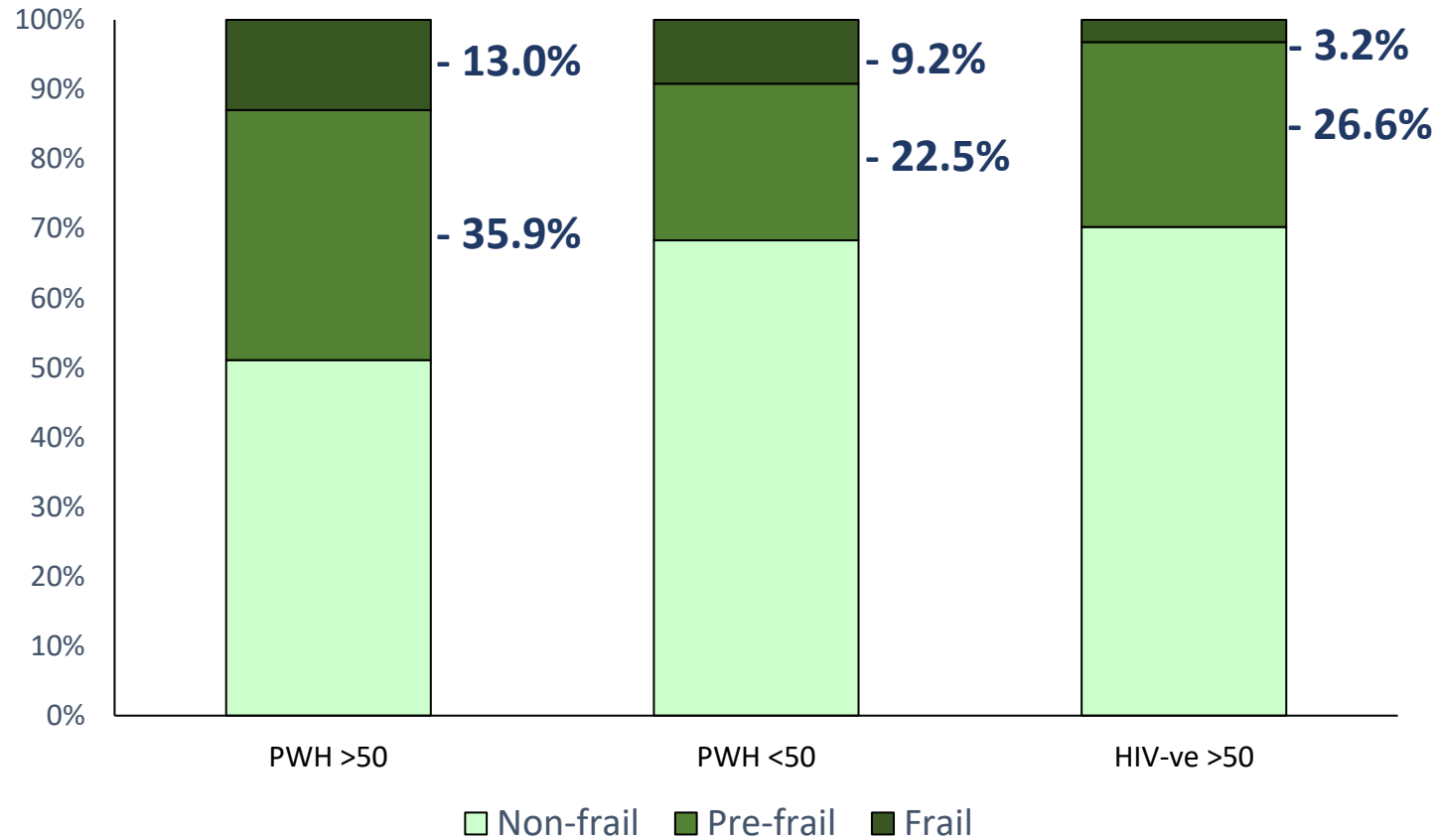
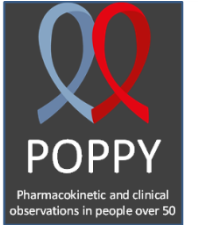
Functional impairment- difficulties of activities of daily living/self-care

Frailty (Sarcopenia)

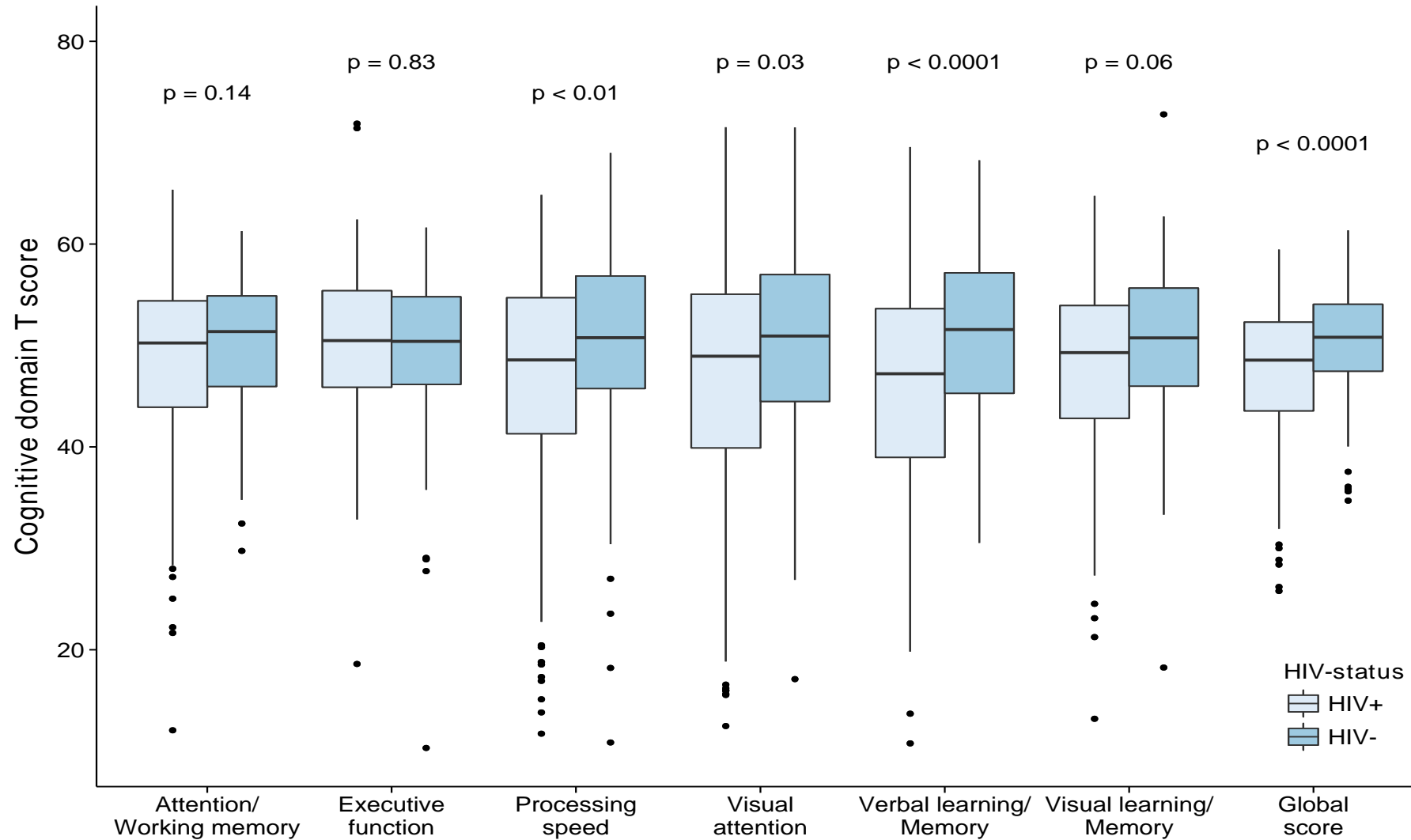
Cognitive decline

Presenting **10 years** earlier than in the general population

Frailty prevalence UK

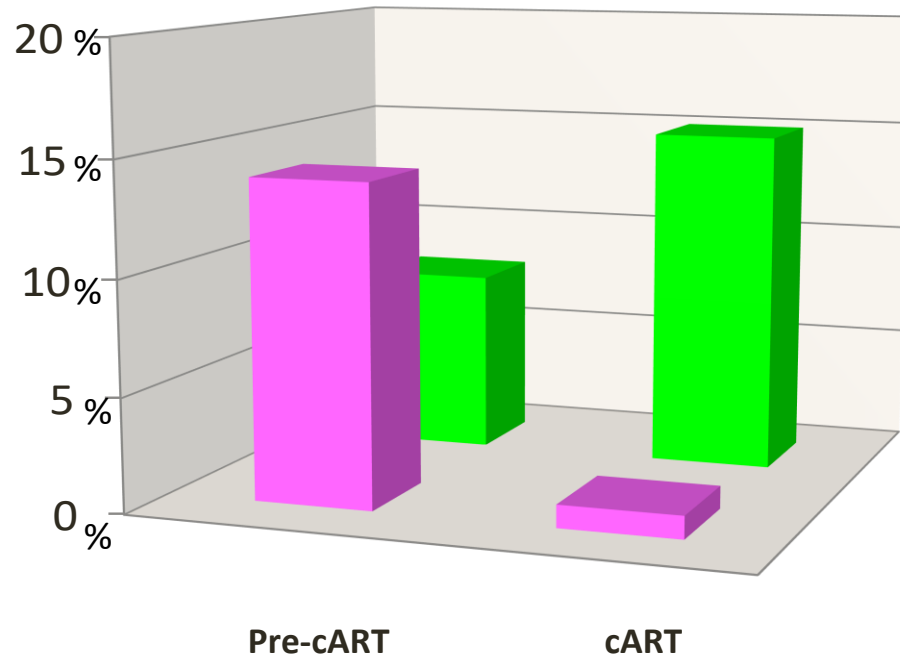
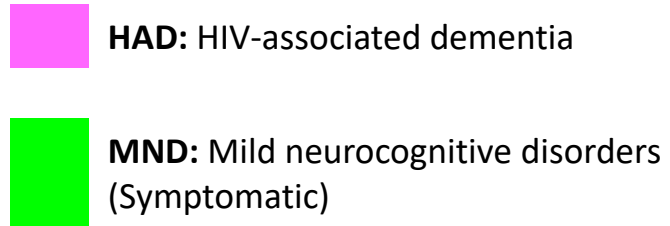


Cognitive impairment Prevalence in PLWH >50, UK



10%

All type dementias in people with HIV



- **Vascular**
- **Alzheimer Disease**
- **Mixed**
- **HIV associated**
- **Others**

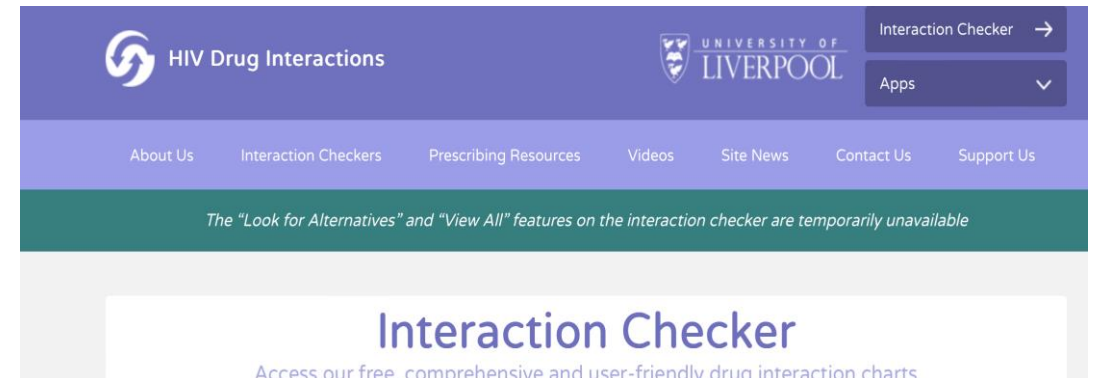


Medication errors in people with HIV

Rates of medication errors range from 25.8% to 72% of admissions for patients on ART

- **Medication related problems (MRPs) and prescribing errors with antiretroviral therapy are common:**

- drug-drug interactions (DDIs)
- Omission of ART during admission
- Duplicate therapy
- Incorrect scheduling
- Incorrect therapy



<https://www.hiv-druginteractions.org>

Prevention strategies in HIV

ART treatment as prevention (TasP)

Condoms

Voluntary circumcision of men

Pre-exposure prophylaxis (PREP)

Strategies to reduce infection of people that inject drugs

U = U
Undetectable
means
Untransmittable

UK cascade of HIV care

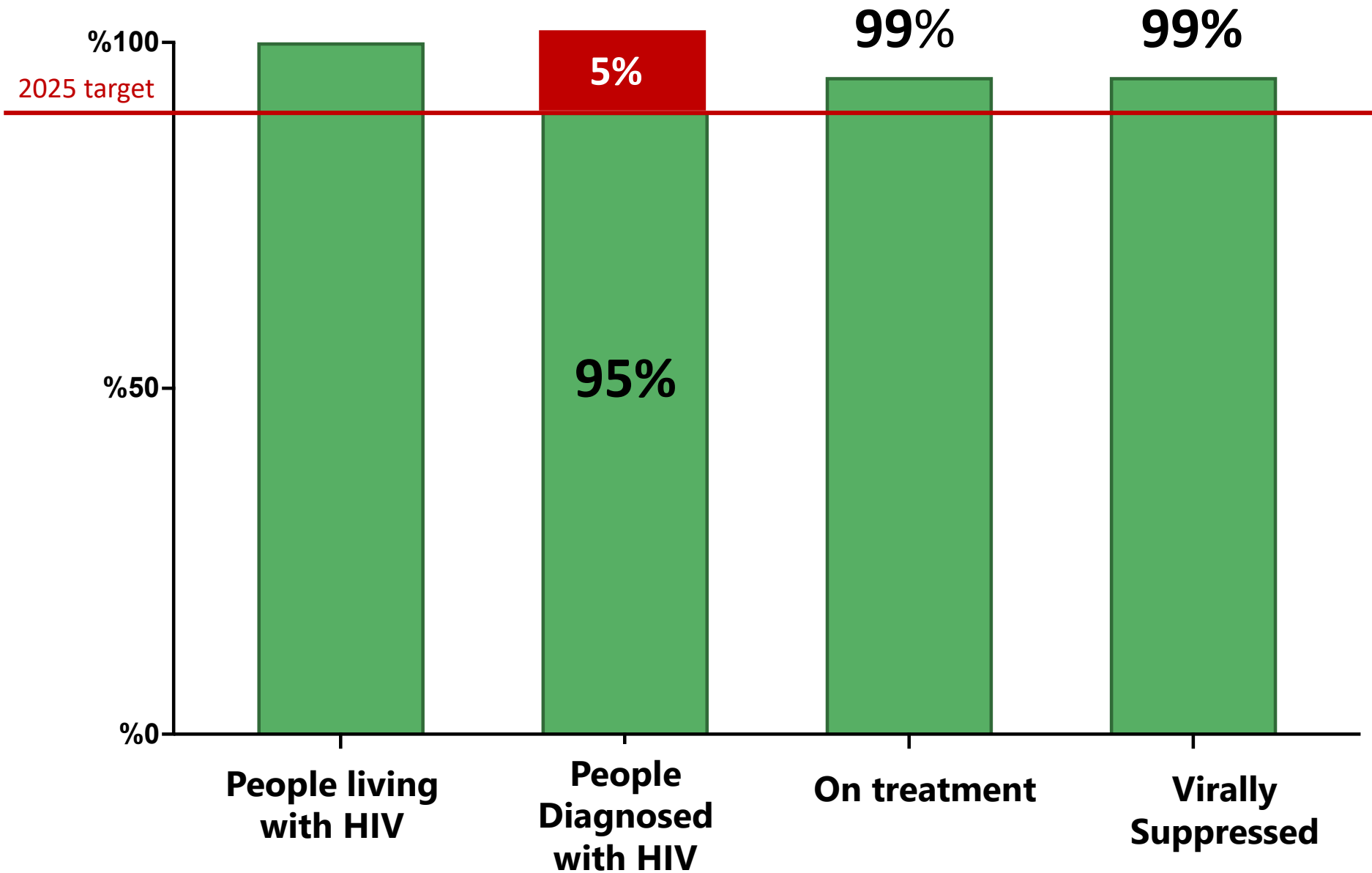
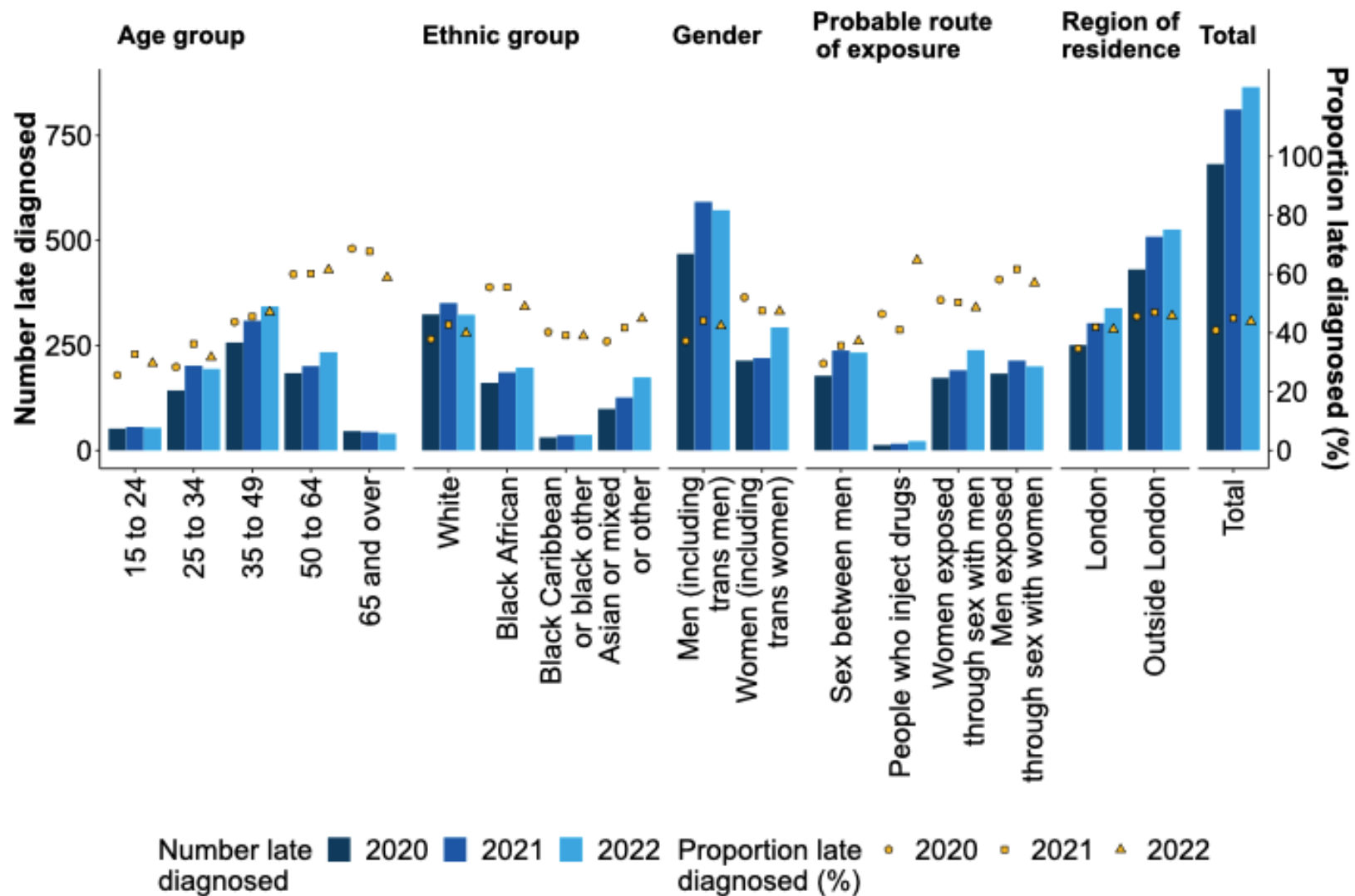


Figure 13. Number and proportion of people diagnosed late by age, ethnicity, gender, probable route of exposure and region, England, 2020 to 2022

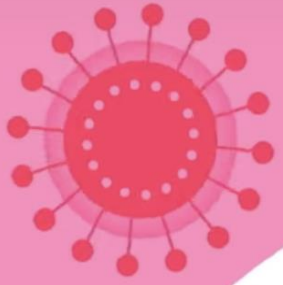


44% people diagnosed late

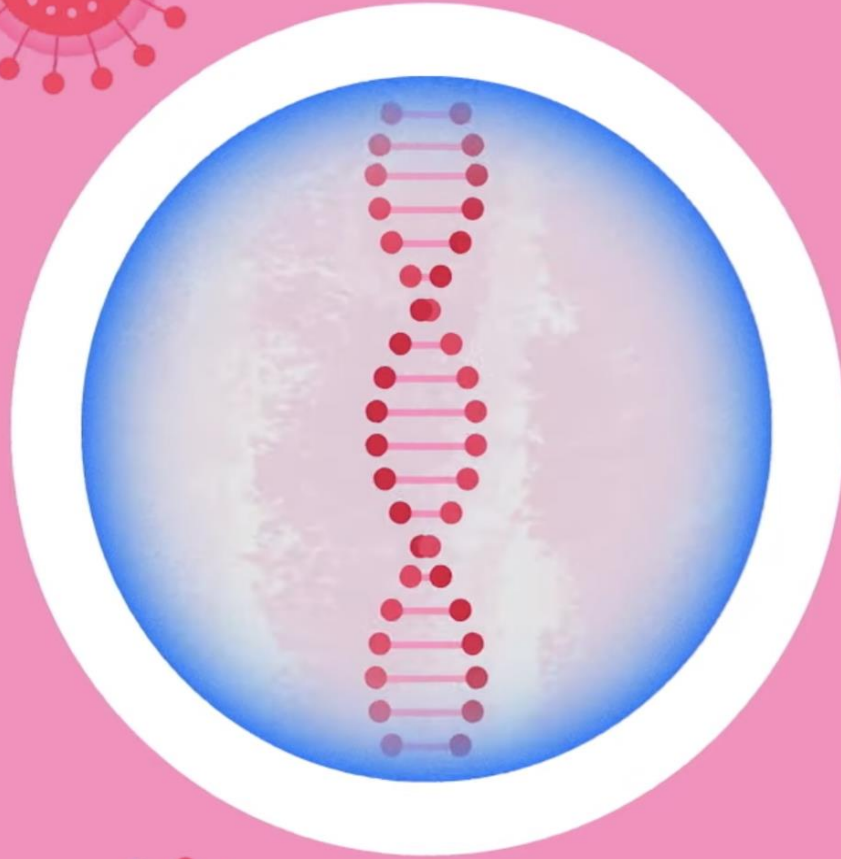


HIV positive

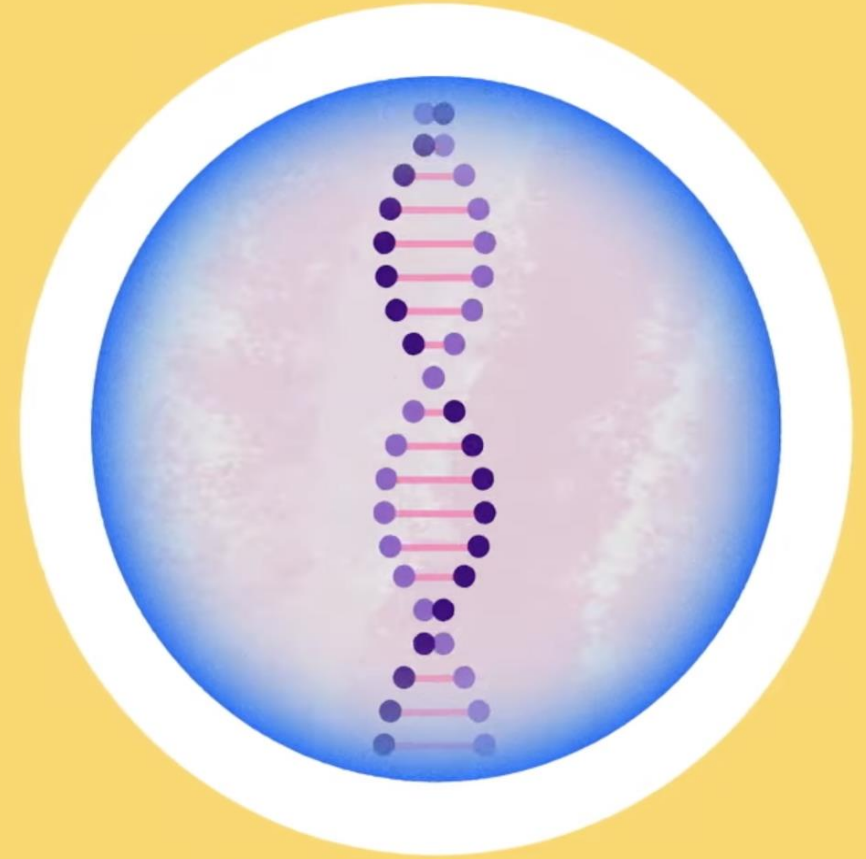
HIV negative



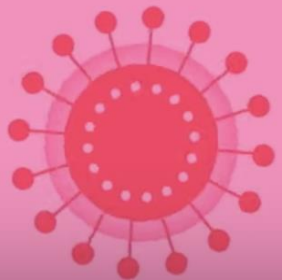
TREATMENT

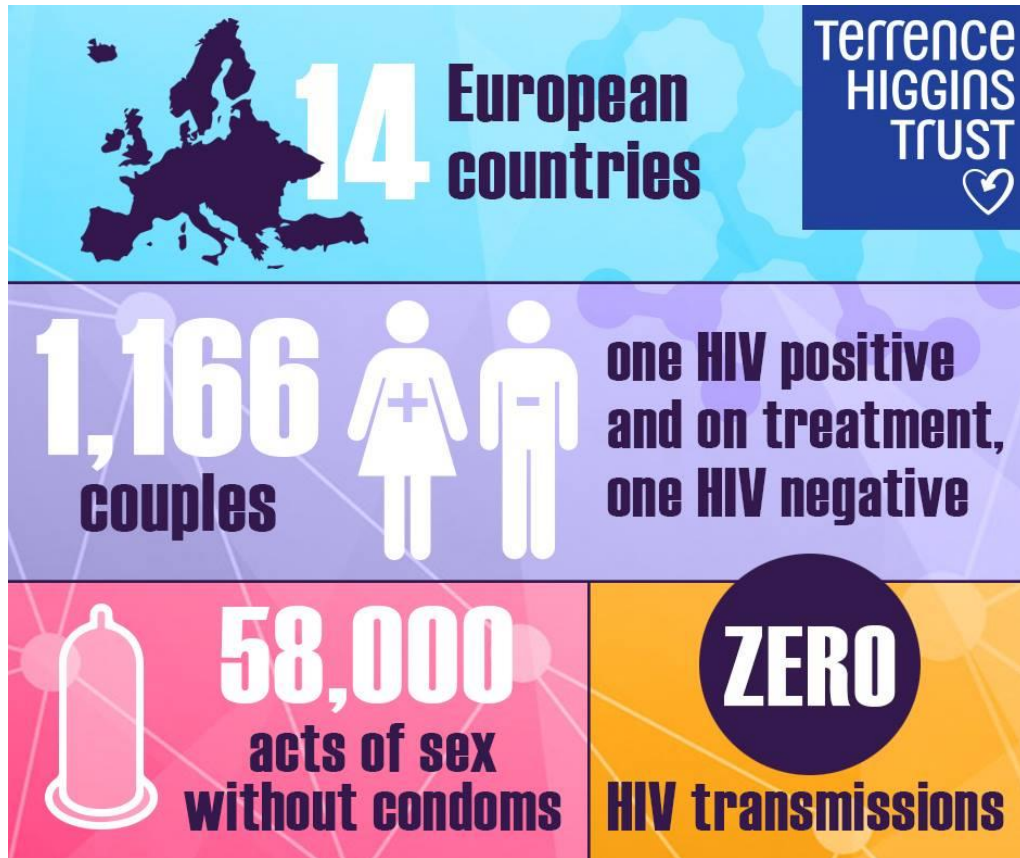


AS



PREVENTION





U = U

Undetectable means Untransmittable

Expansion of HIV testing



Routine Settings

- GUM/HIV
- Antenatal
- Blood Transfusion

Non-routine Settings

- Primary Care
- Community venues
- Secondary care outpatients
- Secondary care inpatients



HIV Opt-Out Testing



Expanded to more
areas in England!



Since launching in April 2022 in 33 hospitals in the highest prevalence areas (five cases per 1000 people aged 15 to 59) the programme has identified almost 4000 people with a bloodborne virus.

What is PrEP?

PrEP (pre-exposure prophylaxis) is a once-a-day pill taken to prevent HIV



The benefits of PrEP

When taken consistently, PrEP can reduce the risk of contracting HIV by 99%



PrEP is most effective when combined with condoms and other prevention tools

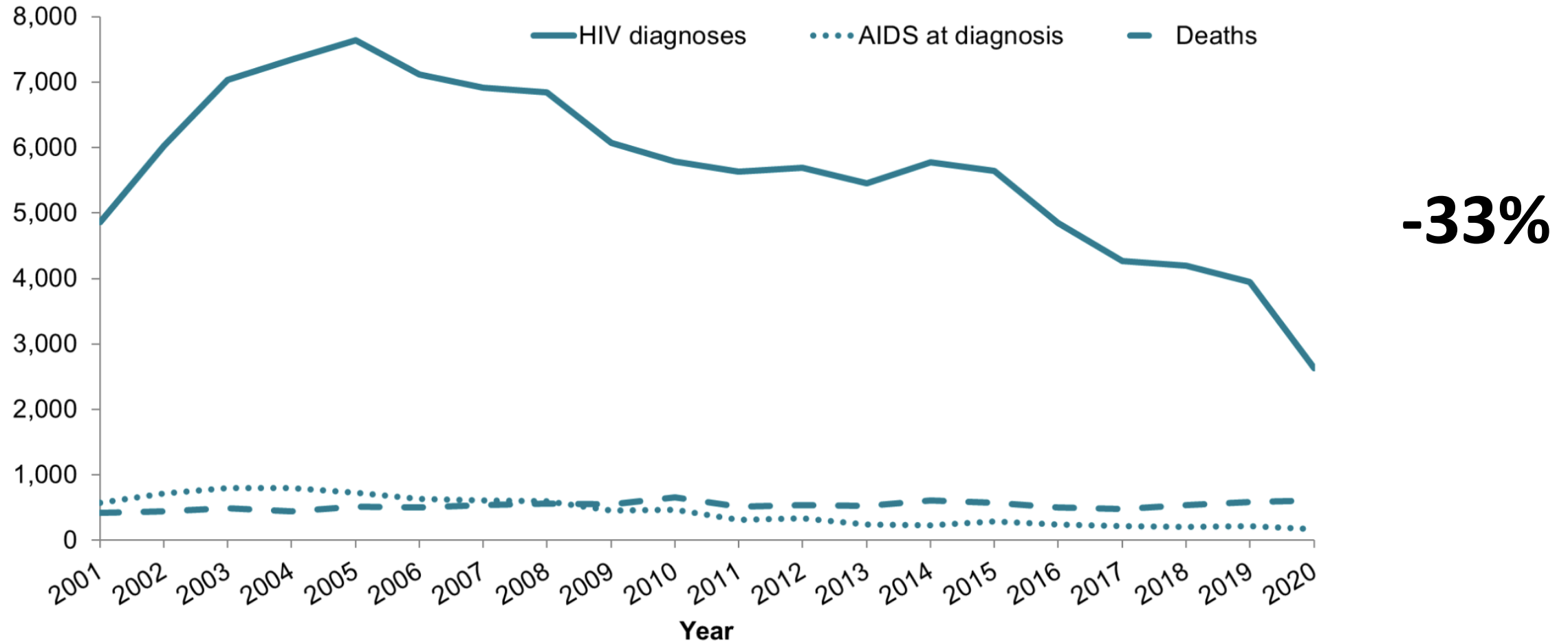
PrEP is recommended for anyone wanting to prevent HIV and is for those who are:

- Sexually active with a HIV+ partner
- Sexually active with men who have sex with men, more than one partner, or your partner has more than one partner
- Having anal or vaginal sex and not consistently using condoms
- An intravenous drug user who shares needles, syringes, or other equipment to inject drugs



HIV diagnosis by exposure group : 2001 to 2020

Figure 6. New HIV diagnoses, AIDS at diagnosis, and all-cause deaths in people with HIV: England, 2001 to 2020



A wide, two-lane asphalt road stretches into the distance under a dramatic, cloudy sky. The sun is low on the horizon, creating a bright glow and lens flare. The road is marked with white lines. In the foreground, the year '2023' is written in large, white, textured characters. Further down the road, the years '2024', '2025', '2026', and '2027' are written in smaller, similar characters, receding towards the horizon. The overall mood is one of hope and forward-looking optimism.

2023
2024
2025
2026
2027

Long acting ART



Injectable ART and antibody treatment



ART Implants



Intra vaginal ring with ART




Long-Term Control of HIV by CCR5 Delta32/Delta32 Stem-Cell Transplantation

Gero Hütter, M.D., Daniel Nowak, M.D., Maximilian Mossner, B.S., Susanne Ganepola, M.D., Arne Müßig, M.D., Kristina Allers, Ph.D., Thomas Schneider, M.D., Ph.D., Jörg Hofmann, Ph.D., Claudia Kücherer, M.D., Olga Blau, M.D., Igor W. Blau, M.D., Wolf K. Hofmann, M.D., [et al.](#)



Letter | [Published: 05 March 2019](#)

HIV-1 remission following CCR5 Δ 32/ Δ 32 haematopoietic stem-cell transplantation

[Ravindra K. Gupta](#) , [Sultan Abdul-Jawad](#), [Laura E. McCoy](#), [Hoi Ping Mok](#), [Dimitra Peppas](#), [Maria Salgado](#), [Javier Martinez-Picado](#), [Monique Nijhuis](#), [Annemarie M. J. Wensing](#), [Helen Lee](#), [Paul Grant](#), [Eleni Nastouli](#), [Jonathan Lambert](#), [Matthew Pace](#), [Fanny Salasc](#), [Christopher Monit](#), [Andrew J. Innes](#), [Luke Muir](#), [Laura Waters](#), [John Frater](#), [Andrew M. L. Lever](#), [Simon G. Edwards](#), [Ian H. Gabriel](#) & [Eduardo Olavarria](#)

Nature **568**, 244–248(2019) | [Cite this article](#)

nature

HIV CURE DAY 2021

PATHWAYS TO A CURE

There are several strategies that scientists are using to achieve a cure for HIV that is safe and replicable in humans. While there is promising research being carried out in many areas, a viable cure is yet to be found. However, these are the four main approaches being pursued by scientists.



**Activate
& Eradicate**



**Gene
Editing**

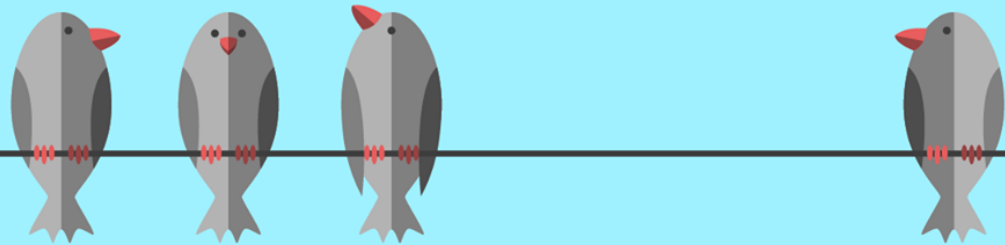


**'Immune
Modulation'**



**Stem Cell
Transplants**

WHAT DOES HIV STIGMA LOOK LIKE?



STIGMA:

Socially isolating a member of a community because they are HIV positive.

LET'S STOP HIV
TOGETHER

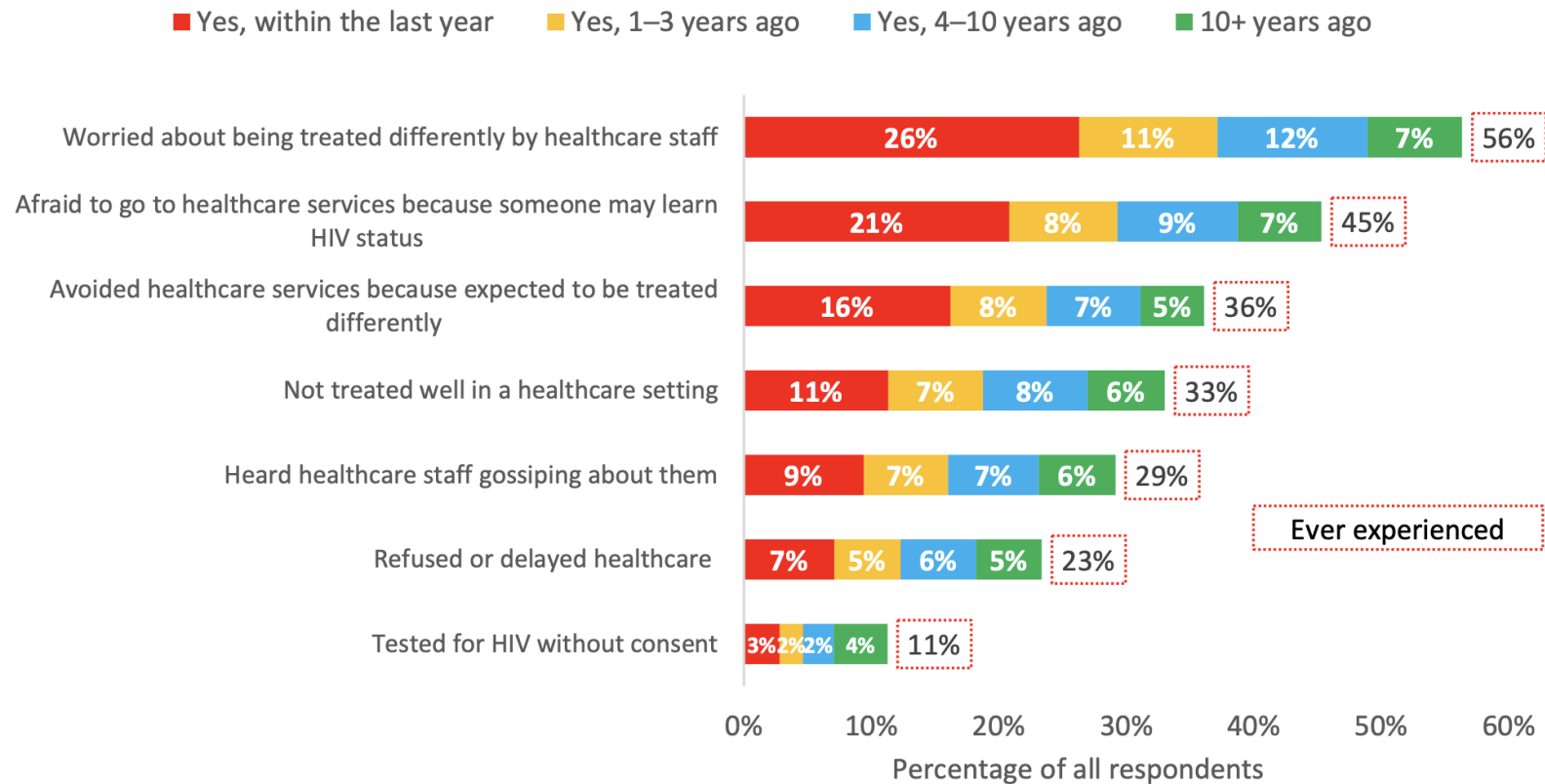
#StopHIVTogether

HIV is a Virus.

DISCRIMINATION

Can KILL people

Experiences of stigma in healthcare settings



3 272 people living with HIV from 54 of the 55 countries in Europe including UK



AIDS and HIV are not the same

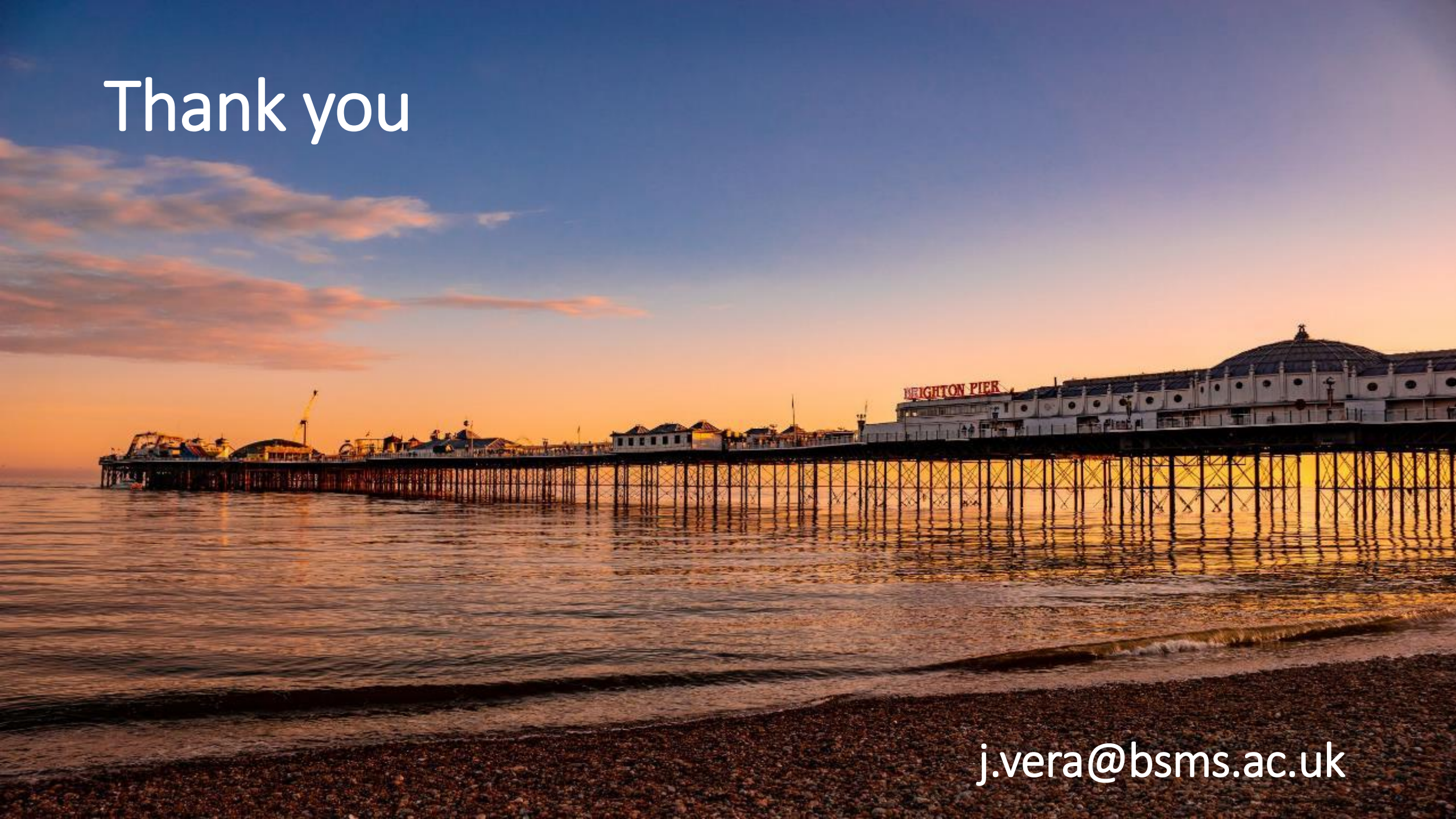
AIDS is the clinical syndrome associated with HIV, **use advance HIV disease instead of AIDS**

Person living with HIV is the preferred term, avoid HIV positive, HIV infected

Take home messages

- **Most people with HIV in the UK are effectively treated for HIV**
- People with HIV are ageing and **comorbidities and geriatric syndromes are prevalent, presenting earlier than the general population**
- Medication errors in people with HIV are common and can be prevented
- Eliminating HIV transmission is possible, **testing** and treating + improving access to PREP is crucial
- Healthcare associated HIV stigma remains a significant problem, **be part of the solution**

Thank you



j.vera@bsms.ac.uk