



POPPY

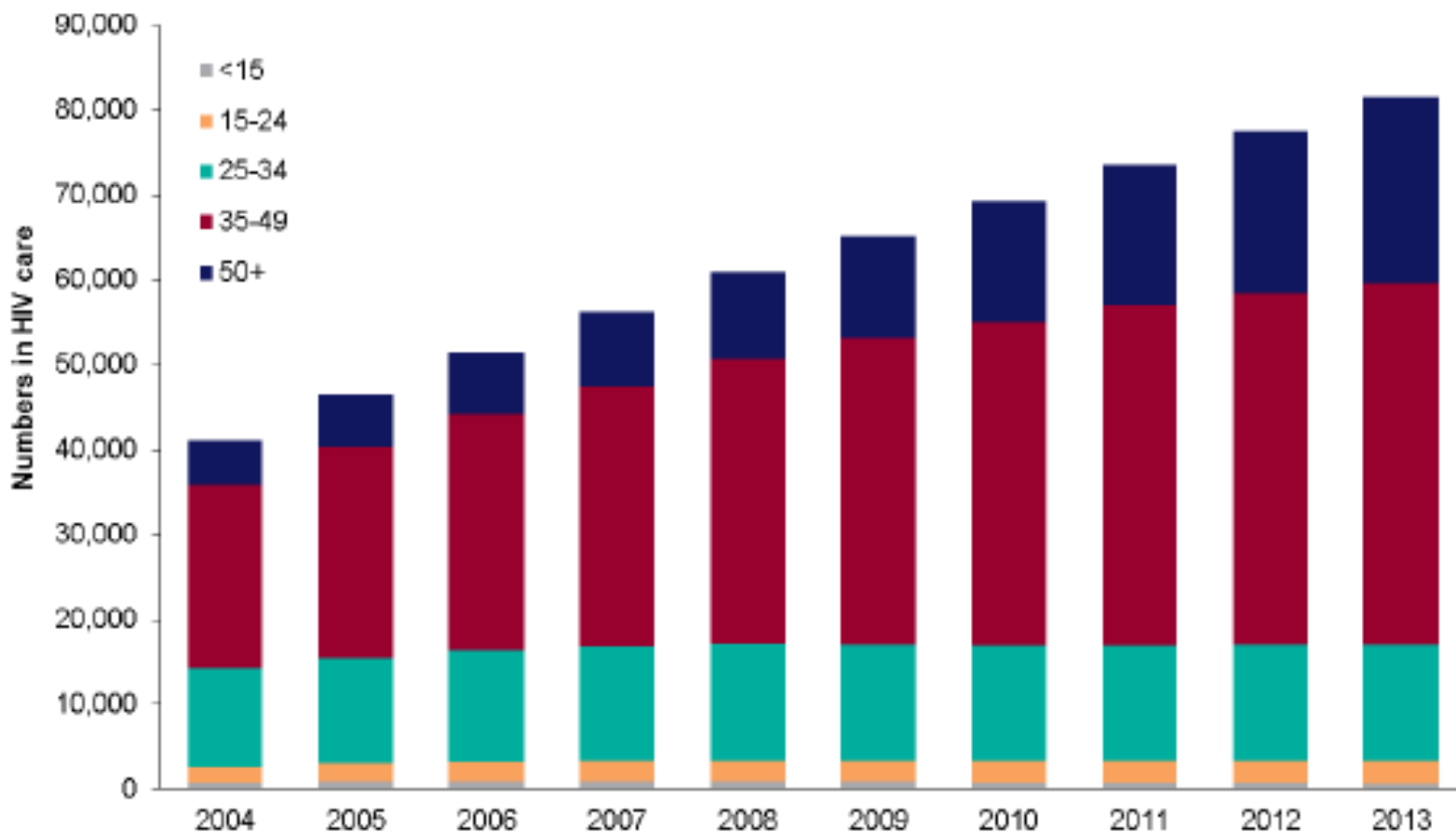
Pharmacokinetic and clinical
observations in people over 50

Healthcare utilisation and non-antiretroviral medication use in people living with HIV over and under 50 years of age compared to matched controls.

The POPPY Study Group

Introduction

What we know about ageing and HIV:



Introduction

What we hear about ageing and HIV:

Non infectious comorbidities are more prevalent and occur at younger ages in HIV-infected cohorts

The presence of non infectious comorbidities is due to 'inflammageing'

Antiretroviral toxicities differ in older PLWH versus younger subjects

HIV causes premature ageing

Ageing changes the spectrum of HIV disease

HIV causes accelerated ageing

The POPPY Study

Aims and objectives:

Programme aim:

- To examine the effects of ageing on the clinical outcomes of people living with HIV (PLWH) in UK and Ireland.

Specific objectives:

- To describe the incidence and outcomes of co-morbidities in older PLWH and their relationship with demographic/clinical factors.
- To develop evidence-based recommendations for the clinical monitoring of older PLWH, and implement these guidelines into clinical practice.
- To evaluate associations between antiretroviral (ARV) drug concentrations and age, and to assess the potential impact of age on drug efficacy, drug-drug interactions and co-morbidities.

POPPY Cohort



PLWH >50 years	PLWH <50 years	HIV-ve >50 years
<ul style="list-style-type: none">• N=1000• Aged ≥ 50 years• White/black African ethnicity• Acquired HIV via sexual routes	<ul style="list-style-type: none">• N=500• Aged <50 years• 150 aged 20-29, 30-39, 40-49 years• Frequency matched on gender, ethnicity, sexual orientation and clinic	<ul style="list-style-type: none">• N=500• Aged ≥ 50 years• Frequency matched on age, gender, ethnicity, sexual orientation and geographical location (in/out London)

Study parameters (1)



Parameter	Details
Baseline demographics	age; gender; ethnic group; sexual orientation; country of birth; marital status; education.
Full medical history	cardiovascular events; neurological diseases; depression; renal failure; liver disease; diabetes; malignancies; falls; fractures, joint disease.
Current and recent ARV use*	type of ARV; start/stop dates; dose; frequency of dosing; side effects; reasons for prior changes.
Use of any other medications	full history (including over-the-counter drugs): type of drug; start/stop dates; dose; frequency of dosing; side effects.
Family medical history	including cardiovascular disease; type 2 diabetes; cancer history.
Socio-economic status	immigration status; employment; household dependents; household income; housing.
Lifestyle factors	current/past cigarette smoking; alcohol use; recreational drug use; sexual (risk) behavior; exercise; risk factors for vitamin D deficiency.

* Linked UK CHIC

Study parameters (2)



Parameter	Details
Anthropometrics	height; weight; body mass index; waist and hip circumference.
Questionnaires	QOL; depression scales; sexual function.
Reproductive history	including menopausal status.
Neurocognitive function	specific memory and cognitive testing assessing cortical and sub-cortical function (as well as cognitive questionnaires).
DXA scan for bone mineral density	
Falls risk, Fracture risk: FRAX, frailty assessment	
Blood and urine stored	

Results: patient characteristics

Recruitment	Number
At time of this analysis	540
April 2015	940
Target end 2015	2000

Variable	N (%)	PLWH>50	PLWH<50	HIV-ve >50
Number		306	136	98
Gender	Male	267 (87.3)	99 (72.8)	65 (66.3)
HIV acquisition	Heterosexual	65 (21.2)	45 (33.1)	
	MSM	241 (78.8)	91 (66.9)	
Race	Black African	41 (13.4)	32 (23.5)	9 (9.2)
	White	265 (86.6)	104 (76.5)	89 (90.8)
Age (years)	Median (range)	57 (50, 82)	43 (20, 49)	58 (50, 83)

Anthropometrics

Variable		PLWH>50	PLWH<50	HIV-ve >50
N		302	136	98
Weight (kg)	Median (range)	76.6 (45, 129)	77.7 (50, 112)	77.3 (54.4, 149.7)
BMI (kg/m²)	Median (range)	25.6 (15.9, 42.2)	25.4 (16.7, 42.9)	26.9 (17.7, 48.3)
SBP (mmHg) – average of three	Median (range)	130 (75, 182)	125 (91, 158)	130 (90, 193)
Grip strength (kg)	Median (range)	31 (1, 82.5)	33 (3, 88.0)	31 (9, 77.5)
Timed walk (seconds)	Median (range)	3.8 (1.8, 23.0)	3.4 (1.8, 11.9)	3.5 (1.8, 15.7)

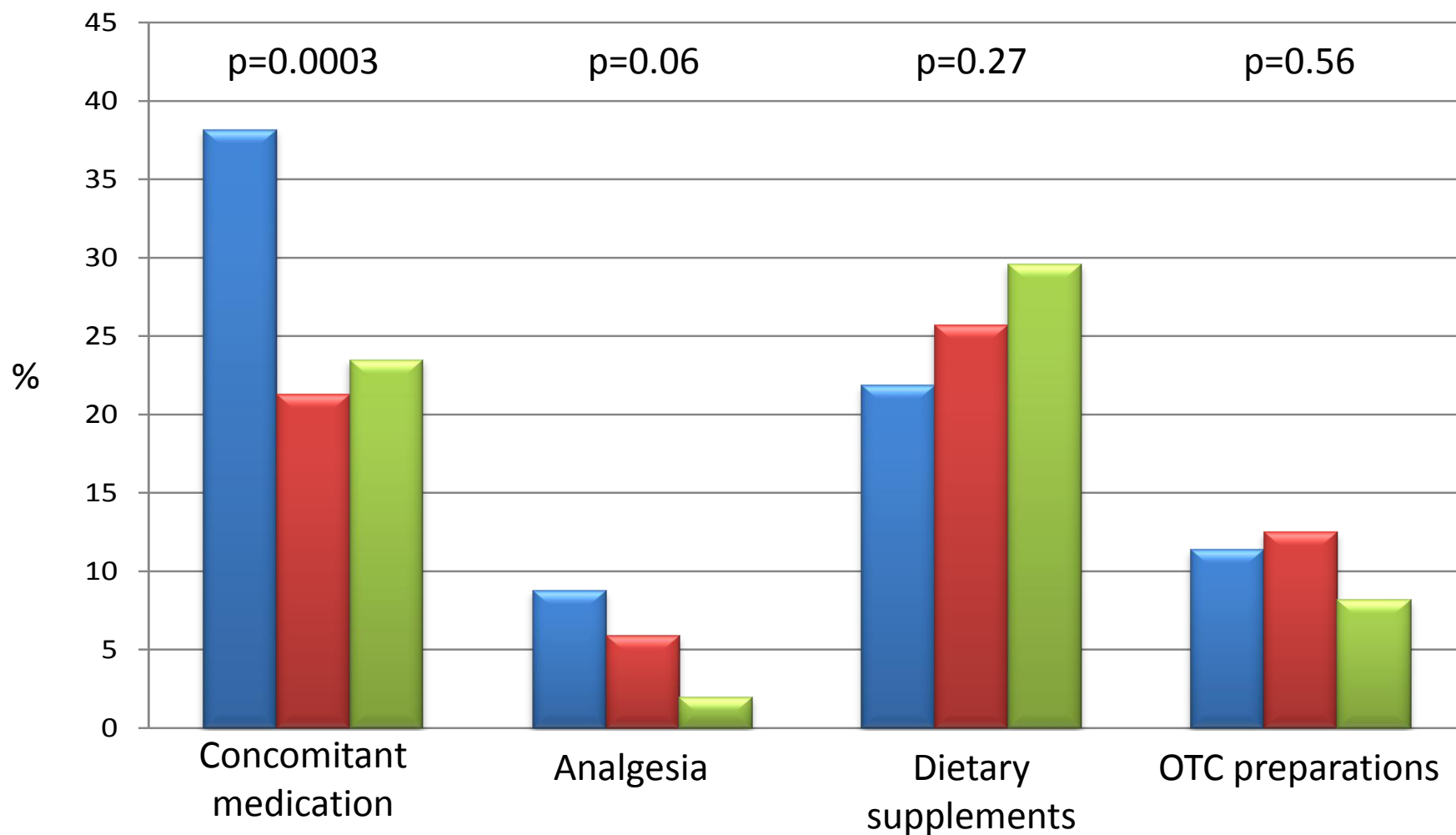
Lifestyle factors

		PLWH>50	PLWH<50	HIV-ve >50
Smoking status	Current (%)	23.9	26.5	21.4
	Ex-smoker (%)	36.9	27.2	37.8
	Never (%)	38.6	42.7	39.8
Alcohol	Current consumption (%)	77.8	73.5	84.7
	Previous consumption only (%)	13.1	11.0	7.1
	Units per week (if current or previous; median (range))	7 (0, 75)	3 (0, 45)	10 (0, 63)
Recreational drugs in past 6 months	Any (%)	27.5	26.5	13.3
	Marijuana (%) *	14.7	12.5	1.0
	Methadone (%) *	2.6	10.3	1.0
	Mephedrone (%) *	9.2	13.2	5.1
	Amphetamine (%) *	5.2	7.4	0
	Crystal Meth (%) *	3.3	8.1	5.1

* Recreational drugs with >5% use in a study group

Non ARV medication use

■ PLWH>50 ■ PLWH<50 ■ HIV-ve >50



Healthcare utilisation

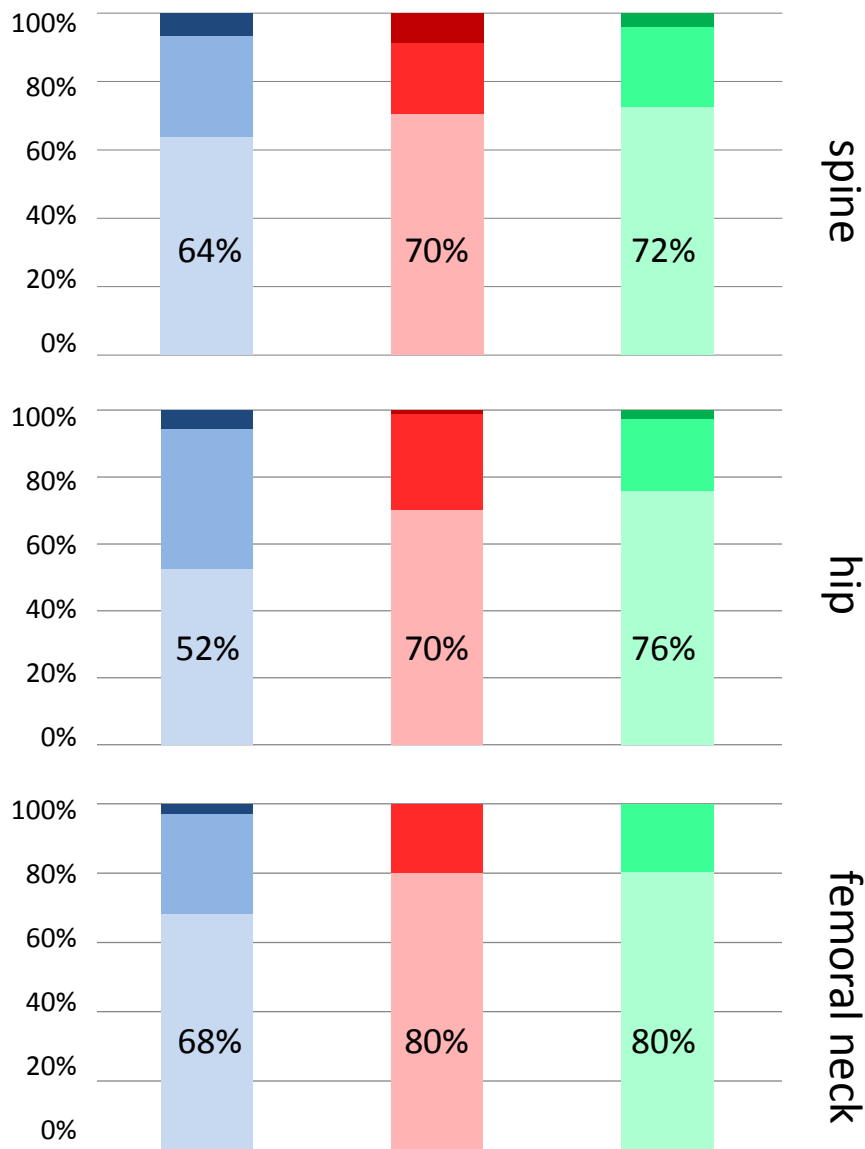
Over the past 12 months:

	PLWH>50	PLWH<50	HIV-ve >50	P-value
Attended GP	74% (227)	70% (94)	78% (78)	0.32
Attended A&E	18% (56)	19% (26)	14% (14)	0.59
Hospital specialist	44% (135)	36% (49)	33% (32)	0.07
Psychiatrist	28% (85)	13% (18)	12% (12)	0.03
Undergone a hospital procedure	28% (85)	13% (18)	12% (12)	0.0001

Non-AIDS medical events

		PLWH>50	PLWH<50	HIV-ve >50
Cardiovascular events	MI, angina, narrowed blood vessels, TIA, CABG. <i>P=0.002</i>	25% (76)	10% (14)	18% (18)
Nervous system diseases	Parkinson's, vertigo, loss of consciousness, epilepsy, encephalitis. <i>P=0.14</i>	11% (35)	8% (11)	5% (5)
Respiratory diseases	Asthma, bronchitis, emphysema or COPD. <i>P=0.004</i>	42% (127)	26% (35)	29% (29)

DXA results



	PLWH >50	PLWH <50	HIV-ve >50
T-score < -2.5	Dark Blue	Dark Red	Dark Green
T-score < -1 to -2.5	Light Blue	Light Red	Light Green
Normal range	%	%	%

Conclusions

In this analysis of the first 540 subjects entered into the POPPY study:

- Co-morbidities differ in younger and older PLWH compared to an uninfected matched control population
- Healthcare utilisation and concomitant medication use differ in PLWH compared to an uninfected matched control population
- Lifestyle factors also differ between the groups we have recruited

Limitations of this analysis include the small number of subjects within study sub-groups.

Thank you



Funders:

The POPPY study is funded from investigator initiated grants from BMS, Gilead Sciences, Janssen, Merck and ViiV Healthcare.

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