

# Has the omission of routine blood monitoring of stable patients living with HIV (PLWH) during COVID adversely affected their health?

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## Background

British HIV Association (BHIVA) monitoring guidelines were amended during the coronavirus (COVID-19) pandemic to advise routine blood monitoring could be omitted for up to 12 months.

## Aims

- Analyse the impact of omitting routine face to face appointments on blood monitoring outcomes and HIV suppression of stable PLWH at the Lawson Unit, Brighton.
- Evaluate changes in antiretroviral treatment (ART) that occurred in the same group during the period of omitted appointments.

## Methods

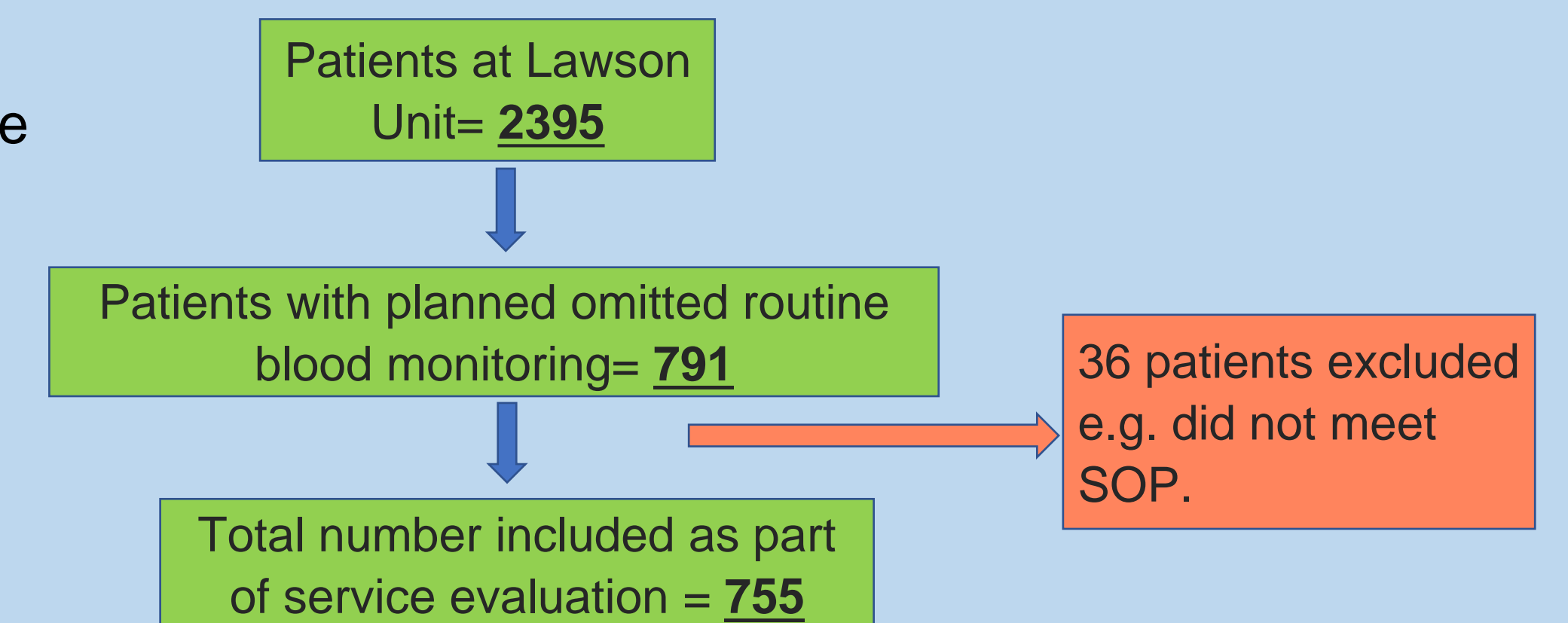
From April 2020 to March 2021, 'stable' patients (defined by a standard operating procedure, SOP) had an omitted routine blood appointment. 'Stable' patients included in this analysis had undetectable viral load (VL<50copies/mL), CD4>200 cells/mm<sup>3</sup>, on antiretroviral treatment (ART), and no additional health concerns.

Demographic and HIV data was collated using Electronic Patient Records (EPRs).

Analysis for routine bloods included comparing pre and post omitted appointment means, and using the paired T-Test.

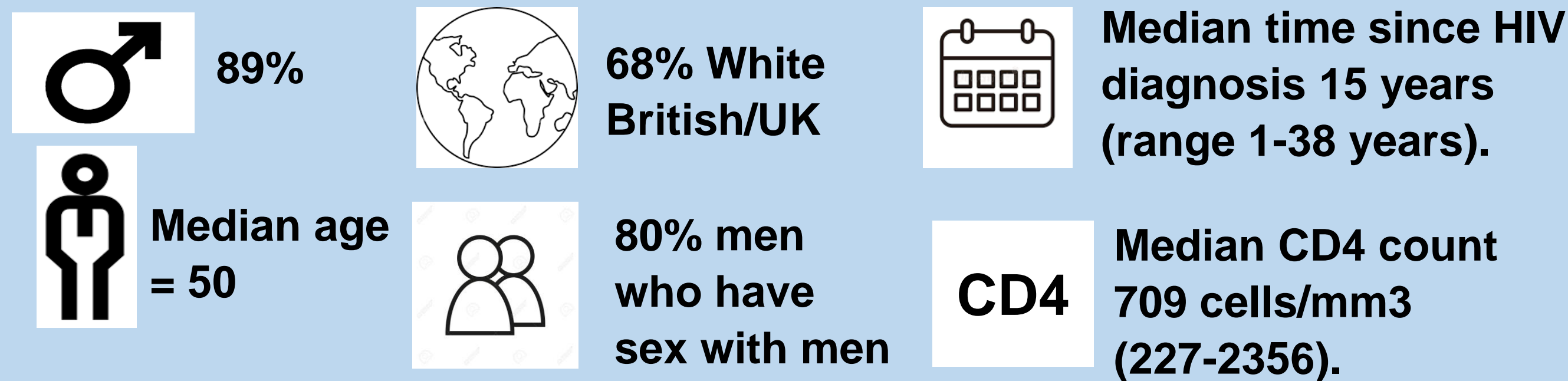
Data was dichotomised into 2 groups for each blood parameter:

- Group 1: patients who went ~12 months without the blood parameter being measured
- Group 2: patients who presented early i.e. had blood results for the parameter in question within ± 5 months either side of omitted appointment.



## Results

### Demographics:



### 1. Routine Blood Parameters:

#### Group 1:

All pre and post omitted appointment means within normal reference range. Yellow boxes highlight statistically significant parameters; most were not clinically significant → triglycerides was the only statistically significant parameter with a confidence interval (red box) outside reference range (upper was 2.05mmol/L, normal <2mmol/L).

	n=	Pre-Omitted Appointment Mean (3 sig. fig.)	Post-Omitted Appointment Mean (3 sig. fig.)	Difference in mean (post compared to pre) (3 sig. fig.)	95% Confidence Intervals (3 sig. fig.)	p-Value (* = significant)
ALP (40-129 U/mL)	527	78.9	83.0	4.14	2.90 to 5.38	<0.001*
ALT Male ( up to 41U/L)	469	26.7	29.1	2.45	0.200 to 4.70	0.033*
ALT Female (up to 33U/L)	56	19.1	19.4	0.321	-1.78 to 2.42	0.760
Creatinine (62-106 μmol/L)	529	88.1	87.7	-0.427	-1.32 to 0.470	0.350
HbA1c (20-41 mmol/mol)	494	36.4	37.1	0.660	0.233 to 1.09	0.003*
Hb Male (135-180g/L)	466	152	151	-0.558	-1.30 to 0.189	0.143
Hb Female (115-165g/L)	56	133	132	-0.679	-2.68 to 1.32	0.500
WBC (4-10 x10 <sup>9</sup> /L)	522	6.44	6.47	0.0331	-0.110 to 0.176	0.649
Platelets (150-410 x10 <sup>9</sup> /L)	522	243	244	0.546	-2.30 to 3.39	0.706
Chol:HDL Ratio (<4)	560	3.78	3.90	0.115	0.0378 to 0.192	0.004*
Triglyceride (0-2mmol/L)	562	1.84	1.96	0.118	0.0232 to 0.213	0.015*
Urea (2.8-8.1mmol/L)	548	5.28	5.37	0.0903	-0.0305 to 0.211	0.142

#### Group 2:

Identical blood parameters analysed as in group 1. Table not presented here. All pre and post omitted appointment means within normal reference range (except post Chol:HDL - marginally high at 4.02). No statistically significant parameters.

### 2. Viral Load:

Group 1: 10/524 (1.9%) developed VL>50 (range 51-5229 copies/mL), and 8/10 (80%) subsequently resuppressed within median 30 days (14-100 days). Reasons for detectability included running out of ART, adherence issues and COVID infection/vaccine related or blips.

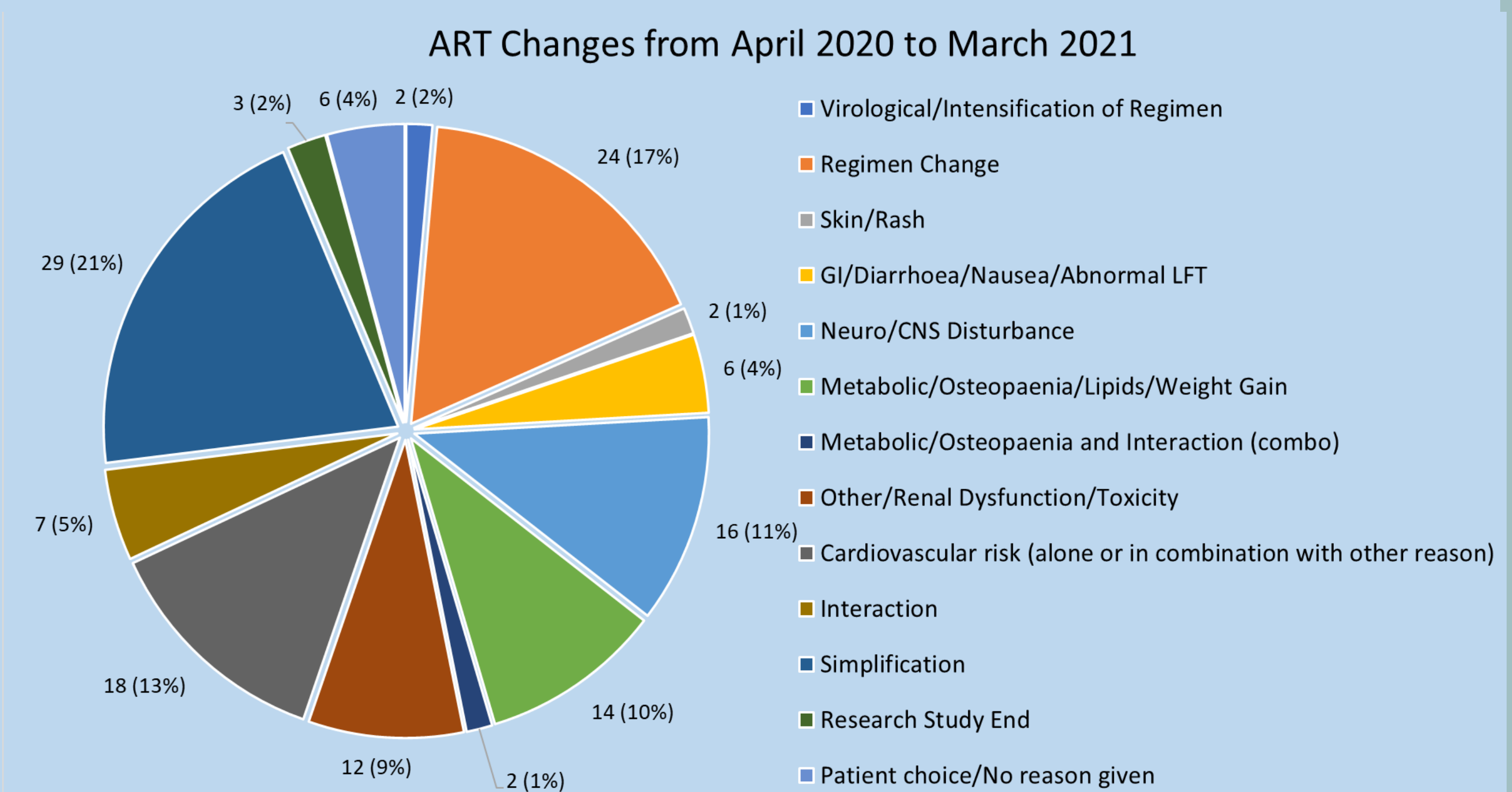
2 (0.3% of whole patient group) patients did not resuppress (1 stopped treatment, 1 defaulted further bloods but remained on ART, VL 67 copies/ml). Both remain in care.

Group 2: 1 had a blip of VL 62 copies/ml post ART switch and resuppressed.

### 3. ART Changes

127/755 (16.8%) patients changed ART between April 2020 and March 2021 (period of omitted appointments). The total number of ART changes was 141 (due to a minority of patients changing more than once).

The 2 largest categories were non-toxicity related (simplification and regimen change).



## Conclusions

The presented evidence provides the first supporting indication for the continuation of annual routine blood monitoring post-pandemic at the Lawson Unit, for stable patients for most of the analysed parameters.

- The majority of patients initially identified as stable, and hence who had an omitted face-to-face appointment, did not present early.
- Omission of routine monitoring did not, on the whole, have a negative impact on the HIV suppression and most blood monitoring outcomes, in both those who presented early and those who did not.
- Further analysis of lipid parameter outcomes could be helpful (eg Qrisk3, whether fasted or not) but results (triglycerides and cholesterol marginally higher than normal) may solely reflect a short term lifestyle change due to the pandemic.
- Most remained on current ART. Non-toxicity related reasons were most common for ART switch (simplification or regimen change).