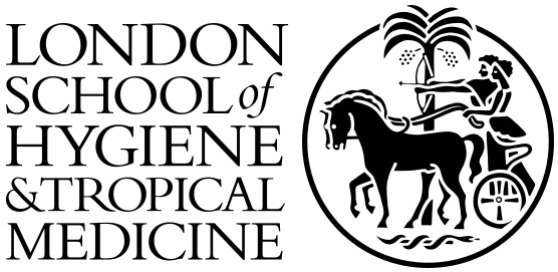

Appendix C: Engagement in care flowchart clinical factors and the source of information/reference

Table s1: Engagement in care flowchart clinical factors and the source of information/reference

Variable name	Category	Source of information/reference
CDC C events		
CDC C event in last 3 months	Yes/ No	Discussion with clinicians
ART-related		
On ART	Yes/ No	
First ART	Yes/ No	Treated the same as participants who have restarted ART but will be differentiated at a later date. Clinic visit in 1 month to confirm VL is decreasing and for toxicity monitoring.(173)
Restarted ART	Yes/ No	Clinic visit in 1 month to confirm VL decreasing and for toxicity monitoring.(173)
ART switch	Yes/ No	On continuous therapy but a component changed (definition of switch is shown on p xx). Clinic visit in 1 month to check VL and toxicity monitoring.(173)
On mono or dual ART regimen	Yes/ No	Recommendation is for effective three drug regiments. Therefore, clinicians treated participants on mono/dual regimens more conservatively in the first year due to the reduced potency of the regimen. This variable was used in combination with time on ART regimen to determine follow-up period. Discussion with clinicians and guidelines.(173)
Time on ART regimen (not on ART overall)	0: Off ART 1: ≤1 month 2: >1 months ≤6 months 3: >6 months ≤12 months 4: >12 months	This is to differentiate between more conservative management for participants who have started on ART more recently (≤1 month, >1 months ≤6 months), and those who are ART for longer (>6 months).(173)
On a protease inhibitor (PI) or not (on an NNRTI or IGI regimen[1])	Yes/ No	Prevalence or NNRTI resistance is significantly higher in participants on NNRTI and IGI when compared to participants on PIs. Guidelines recommend switching participants on NNRTIs and IGIs if a repeat VL is ≥50c /mL but a watch and wait policy is acceptable for participants with participants with a detectable VL on a PI.(173)
All ART are adult doses	Yes/ No	This is to differentiate participants whose doses need changing based on weight and who therefore need more frequent follow-up (overrides weight <40kg if on all adult doses). Discussion with clinicians and guidelines.(173,285)
CD4-related		

Variable name	Category	Source of information/reference
CD4 category	1: ≤200 2: 201-350 3: 351-499 4: ≥500	Standard categorisation (173,286)
CD4 cell count≤200 cells/μL for more than a year	Yes/ No	If CD4 cell count ≤200 cells/μL on ART close monitoring is recommended.(103) If over a year, clinicians reported they were confident participant was stable and unlikely to reconstitute so would next visit in 3 months. Discussion with clinicians and research (detailed above).
CD4 cell count 350-499 cells/μL for more than a year	Yes/ No	If CD4 cell count 350-499 cells/μL on ART for over a year, clinicians reported they were confident participant was stable and unlikely to reconstitute so would next visit in 3 months. Discussion with clinicians.
CD4 cell count compared to the previous CD4 cell count	1: Higher (≥50) 2: Same (+/-49) 3: Lower (≤50)	CD4 cell count is highly predictive of disease progression.(287) Data shows adults with lower CD4 cell counts have significantly worse outcomes when on ART than off ART.(288) Therefore, any drop in CD4 cell count needs close monitoring and monitoring will ned to increase as CD4 cell count drops. Discussion with clinicians and research (detailed above).
Second consecutive drop in CD4 cell count ≥50 cells/μL	Yes / No	As for CD4 cell count compared to the previous CD4 cell count above except a second drop would be of even more concern. Discussion with clinicians.
VL related		
VL category	1: ≤50 2: >50	Low-level viremia would not be treated differently. Discussion with clinicians.
On mono or dual with a VL ≤50c/mL for over a year	Yes / No	Clinicians use this to determine follow-up of YP with a VL ≤50c/mL on mono/dual therapy. YP are initially monitored more frequently due to reduce potency of mono/dual therapy. Once stable (≤50 for >1 year) follow-up determine by other factors. Discussion with clinicians and guidelines.(173)
First VL >50c/mL	Yes / No	If first viral load rebound next visit within 1 month if first VL >50c/mL, if not first VL>50c/mL and on a PI, follow-up is determine by other factors. As per clinician and guidelines.(173)
Increase/decrease viral load (VL) 0.5 log	Yes / No	Increase in viral load is important to monitor because high viral loads (>100,000 c/mL increase the *risk* of disease progression, (173,286), there is some evidence that treatment with a relatively low viral load(<10-20,00 c/mL) is still clinically beneficial.(286) Likewise VL is monitored after initiation of new ART (first ART or restart) to ensure VL is decreasing.(173) The minimal change in viral

Variable name	Category	Source of information/reference
		load consider to be statistically significant is a 3 fold change (equivalent to a 0.5 log change).(284)
Other		
Weight less than 40kg	Yes / No	This is to differentiate participants whose doses need changing based on weight and who therefore need more frequent follow-up. Based on discussion with clinicians and guidelines.(173)
In paediatric care	Yes / No	Participants in paediatrics are treated more conservatively than those in adult care. Discussion with clinicians and guidelines.(173)

[1] At the time of writing this evidence is mounting that Dolutegravir differs significantly to other the integrase inhibitors and therefore can be treated similarly to a PI in the existence of a detectable VL. However, this evidence was not available at the time period of analysis for these participants so Dolutegravir along with the other IGI drugs are treated as NNRTIs in the presence of a detectable viral load.