



# High rates of central nervous system adverse events among patients on Dolutegravir-based regimens in Uganda

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## Background

- Dolutegravir (DTG) was approved as a preferred drug for first and second-line ART regimens in 2018 by WHO<sup>1</sup>
- Observational cohorts report adverse events (AE) not detected in clinical trials such as weight gain, insomnia and higher rates of drug discontinuations<sup>2,3,4</sup>
- Few observational studies from African countries
- We described & analyzed for factors associated with developing an AE on DTG

## Methods

### Study population and setting

- Infectious Diseases Institute (IDI), a large urban HIV Clinic in Kampala
- Retrospective study of patients initiated on, or transitioned to, a DTG-based regimen between May 2017- June 2020

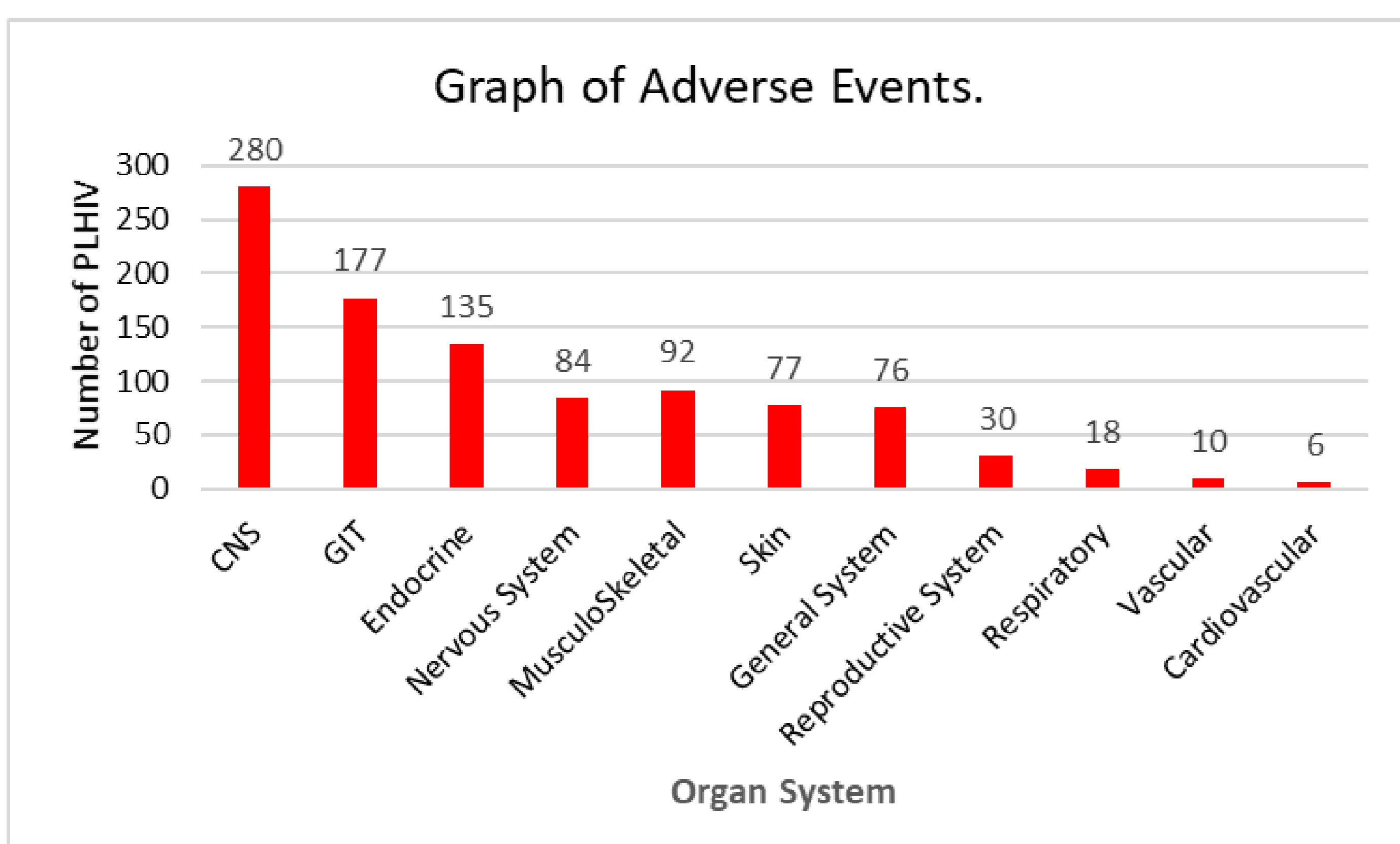
## Results.

### Baseline Characteristics of Patients on Dolutegravir

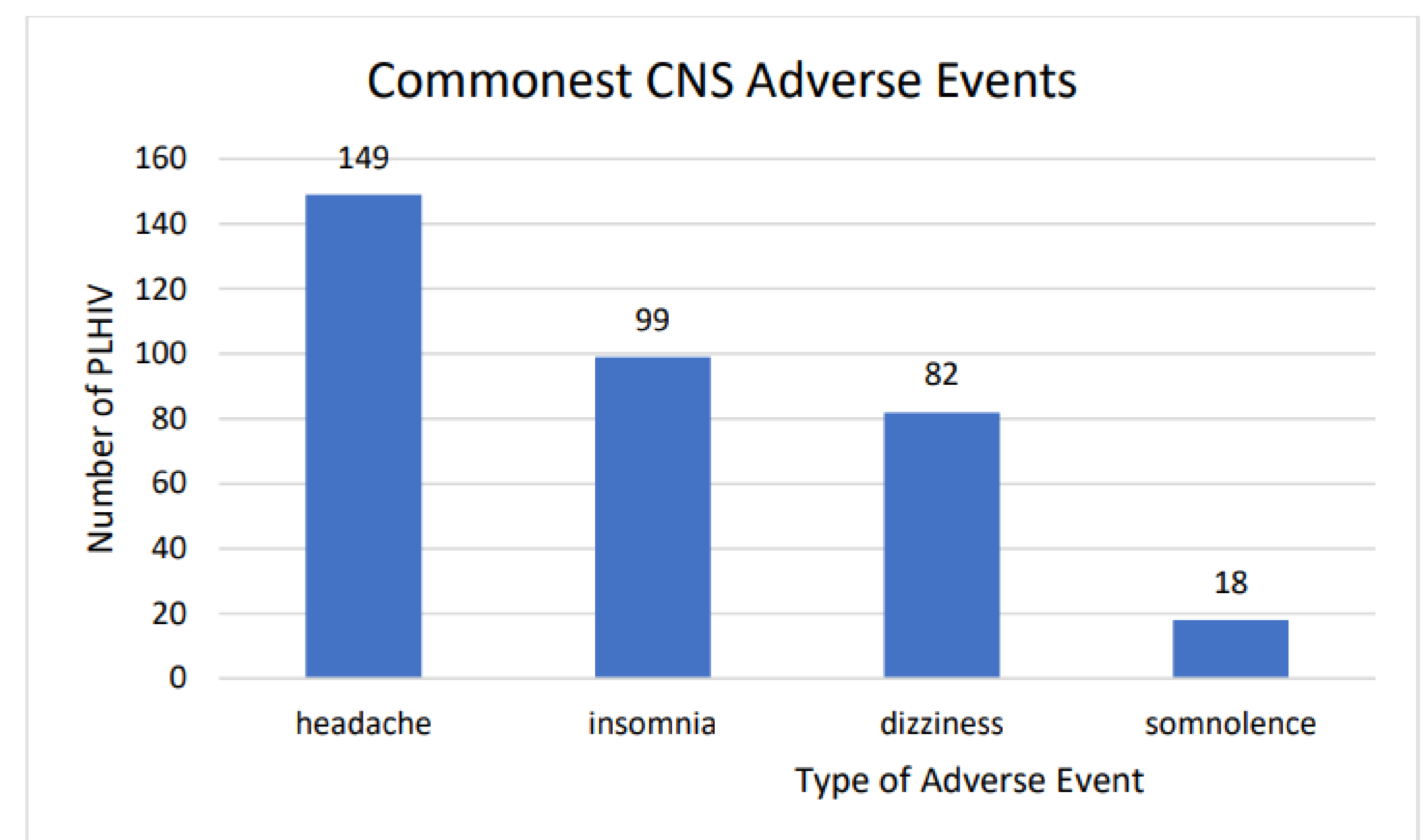
Characteristic (N=4560)	Median (IQR)/ Mean (SD) /Freq (%)
Sex, female	2,094 (45.9)
Age at DTG, years	[Median (range)] 45.0 (15 – 81)
*BMI at DTG initiation (n=4,285)	[Mean (SD)] 23.2 (5.3)
Diabetes Mellitus	125 (2.7)
Hypertension	768 (16.8)
ART status, ART naïve	97 (2.1)

- Majority of participants were male and were treatment-experienced.

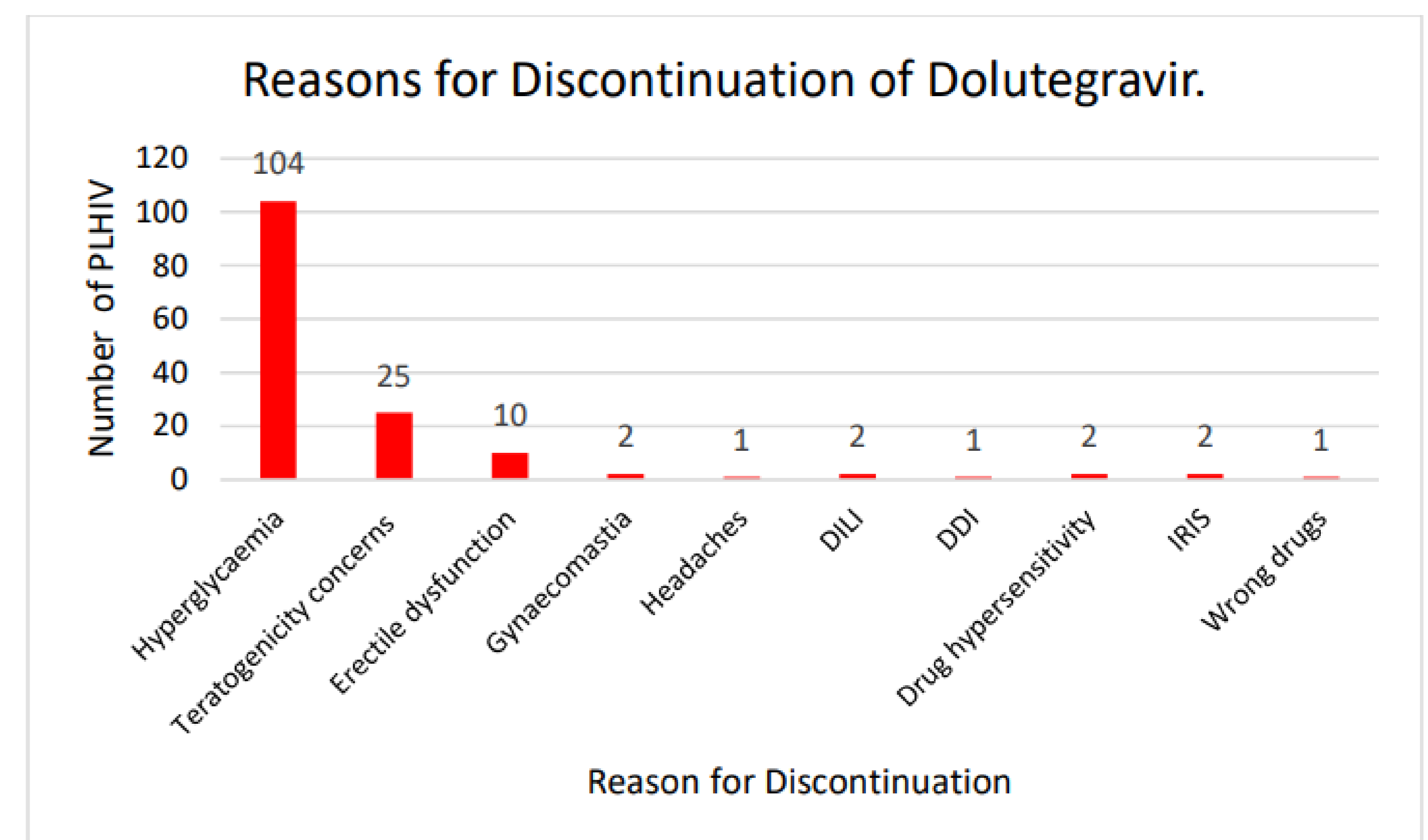
### Adverse Events by Organ System



### Four Commonest Occurring CNS Adverse Events



### Reasons for Dolutegravir Discontinuation



- 946 (20.7%) experienced at least one AE
- Most common reason for DTG discontinuation was hyperglycemia
- Prevalence odds ratio (POR) for experiencing an AE was higher for those aged  $\geq 60$  yrs (adj. POR = 2.23), 40-59 yrs (adj. POR = 1.88), and 30-39 yrs (adj. POR 1.58) compared to 15-29 yrs
- Diabetes Mellitus was associated with higher POR of experiencing an AE (adj. POR = 1.65 CI: 1.04 – 2.60)
- Males were less likely to experience an AE (adj. POR = 0.73 CI: 0.64 – 0.82).

## Conclusion

Many PLHIV initiating or switching to DTG experienced central nervous system AEs. Older age, being diabetic and being female were associated with higher risk of AEs. Hyperglycaemia was the commonest reason for discontinuation of therapy

## References

1. WHO. Update on antiretroviral regimens for treating and preventing HIV infection and update on early infant diagnosis of HIV: interim guidance. Geneva: World Health Organization; 2018.
2. De Boer, M.G., et al., Intolerance of dolutegravir-containing combination antiretroviral therapy regimens in real-life clinical practice. *Aids*, 2016. **30**(18): p. 2831-2834.
3. Hoffmann, C., et al., Higher rates of neuropsychiatric adverse events leading to dolutegravir discontinuation in women and older patients. *HIV Med*, 2017. **18**(1): p. 56-63.
4. de Boer, M.G., et al., Intolerance of dolutegravir-containing combination antiretroviral therapy regimens in real-life clinical practice. *Aids*, 2016. **30**(18): p. 2831-2834.