Trends in HIV Drug Resistance in patients failing Reverse Transcriptase inhibitors

Immaculate Nankya MD, PhD
Centre for AIDS Research
Joint Clinical Research Centre
Virologic monitoring as a measure of response to therapy
Drug Resistance testing over time

Nankya/Kyeyune et al, 2015
NRTI Mutations over time

Fractions of samples with NRTI-resistant codon

- subtype A (n = 345)
- subtype D (n = 335)
NNRTI Mutations over time

Fraction of samples with NNRTI-resistant codon

- Subtype D ($n = 335$)
- Subtype A ($n = 345$)

Codon number range: 100 to 240
Multi-drug resistance: The 69 ins complex and TAMS
Multi-drug resistance: The Q151 complex
Multi-drug resistance by NGS: The 69 ins complex and TAMS
Multi-drug resistance by NGS: The Q151 complex

Q151 COMPLEX IN PATIENTS FAILING AN NRTI BASED REGIMEN

Q151 IN PATIENTS FAILING ON AN NRTI WITH NO MUTATIONS
Multidrug Resistance: TAMs among by subtype
Multidrug Resistance: The Q151 complex by subtype

![Graph showing percentage harboring mutation by subtype A, B, C, D, and Q151.](image-url)
Resistance to NNTRIs by subtype

Percentage harboring mutation

SUBTYPE A

SUBTYPE D

SUBTYPE C
Conclusion

• The low frequency polymorphisms ultimately build up to become the majority in the population.

• Therefore, with the limited treatment options, it is important that close monitoring of patients is done to prevent the development of multi-drug resistance
Acknowledgements