

Oral presentation

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## O112 Trends in transmitted HIV drug resistance among non-B subtypes in the UK

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### Background

Europe is seeing more non-B subtype HIV, reflecting patterns of migration. In France in 2003, 19% of new infections were non-B subtype [1] and UK data showed a rise in infection acquired heterosexually in Africa: 19% in 1992, to 33% in 2006 [2]. With the roll-out of antiretrovirals (ART) in the developing world and use of single dose nevirapine for prevention of mother-to-child transmission, reports of emerging transmitted drug resistance (TDR) among non-B subtypes have followed.

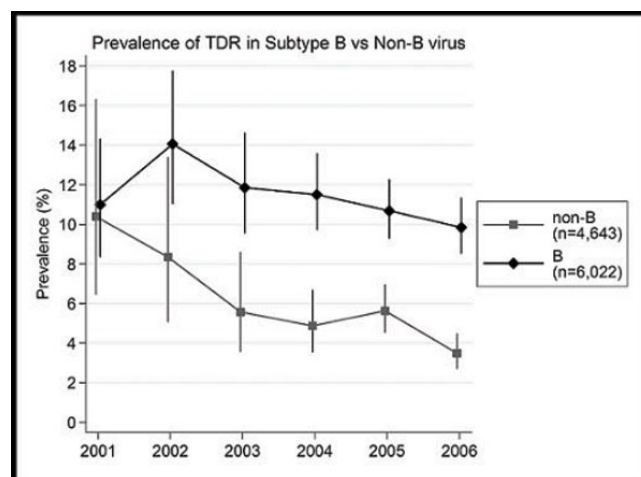
### Methods

We describe trends in resistance testing and TDR in the UK with a focus on non-B subtypes, using resistance tests reported to the UK HIV drug resistance database up to end-2006. First tests from ART-naïve individuals were included. Tests performed pre-2001 were excluded to minimise testing selection bias. TDR was defined as the presence of  $\geq 1$  mutation on Shafer's list 2007. Demographic data were acquired from UK CHIC. Logistic regression was used to examine associations between subtype, demographics and prevalence of TDR.

### Summary of results

The number of tests done on non-B subtypes has increased: from 25% in 2001, to 50% in 2006; 10,687 resistance tests were included in our analysis, 4,643 were from individuals infected with non-B subtypes. Overall, 230/4,643 (5%) samples with non-B subtypes showed TDR compared to 660/6,022 (11%) with subtype B ( $p < 0.001$ ), with TDR decreasing over time in both groups

(Figure 1). Multivariate analysis revealed a more rapid decrease for non-B subtype (OR = 0.62 per year, 95% CI 0.46–0.84,  $p = 0.002$ ) than subtype B (OR 0.95 per year, 95% CI 0.90–1.00,  $p = 0.04$ ); this interaction is highly significant ( $p = 0.009$ ). Overall, 82% of individuals with TDR had resistance to one drug class only, 13% and 5% to two and three classes, respectively. This pattern was similar in B and non-B subtypes. Within each drug class, TDR was significantly less likely among non-B subtypes, although the difference was smaller in the NNRTI class ( $p = 0.03$ ).



**Figure 1**  
Prevalence of TDR in subtype B vs non-B virus.

## Conclusion

These data suggest that TDR is significantly lower amongst non-B subtypes, with the presence of TDR decreasing more rapidly over calendar year in this group. However, we cannot exclude testing bias, especially in earlier years. Reassuringly, TDR is mainly confined to one drug class. Despite the widespread use of NNRTI in the developing world, NNRTI resistance remains significantly lower in non-B subtypes. There is a proportional increase in the resistance tests done in naïve individuals with non-B subtypes, reflecting guidelines.

## References

1. *Bulletin Epidemiologique Hebdomadaire* 2004, **24–25**:102-110.
2. HPA: **HIV new diagnoses quarterly surveillance**. 2007.

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