# Therapeutic tendering and its impact on antiretroviral prescribing in an inner-city HIV treatment centre

Dickinson DR[1], Ogden DA[2] , Pakianathan MR[2]

St George's University of London

St George's Healthcare NHS Trust

SWAGNET NHS

[1]St. George's University of London.

[2]St. George's Healthcare NHS Trust, London, UK.

## Background

Following a local therapeutic tendering process a new guideline was issued in April 2011. It supported increased use of Kivexa®, efavirenz and atazanavir ; guideline antiretrovirals (ARVs) to achieve volume thresholds that deliver discounts and therefore savings, whilst protecting clinical quality of care. This would be achieved by:

1. Kivexa® included in first line for all patients starting treatment unless contraindicated.
2. Efavirenz included in first line for all patients starting treatment unless contraindicated.
3. a) Atazanavir as first protease inhibitor (PI) unless contraindicated
   b) Consider existing PI patients to switch to atazanavir (ATV/r) unless contraindicated.
4. Establish an audit process to monitor implementation of guidelines.

## Aims

1. To evaluate compliance with guidelines.
2. To determine why non-guideline ARVs are chosen.
3. To ensure equity of provision across patient groups.

## Method

A prospective questionnaire was completed for all patients starting and switching ARVs. Data from April 2011 to December 2011 was collated and analysed. Data captured included ethno-demographics, ARV regimen, reason for switching and contraindications to guideline prescribing options. Accepted contraindications were specific to the ARV, for example contraindications for Kivexa® included presence of the HLA B5701 allele, baseline viral load >5.0 log, 10 year cardiovascular risk >10% and patient choice. Data were uploaded to Microsoft Excel™. Statistical analysis was performed using Chi Squared and Fisher's Exact tests.

## Results

The final sample included 149 patients that underwent 170 episodes of starting or switching treatment. Regimens that included a non PI switch were excluded. A total of 159 regimens were analysed.
Patient sample demographics: Sex: 60% male and 40% female. Ethnicity: 40% white, 55% black and 5% other. Sexual orientation: 64% heterosexual, 34% homosexual and 2% not stated.

### Equity of provision:

There were no statistically significant differences (p>0.05) in prescribing of guideline ARVs versus non-guideline ARVs when comparing patient groups according to sexual orientation, ethnicity or gender.

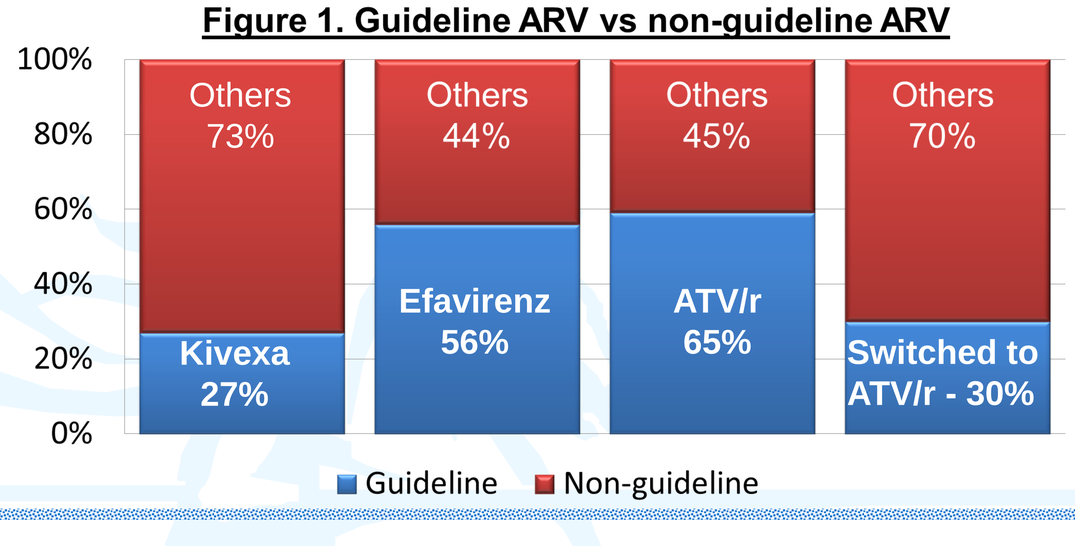
### Compliance with guideline:

**Of all regimens included 95% were compliant with guidelines.**
5% of cases did not state a clinical contraindication for use of non-guideline ARVs and were deemed non-compliant.

### Use of guideline ARVs:

***A guideline ARV was prescribed in 44% (n=103) of regimens.***
Figure 1 shows percentages of guideline vs 'other' ARVs.

**Figure 1. Guideline ARV vs non-guideline ARV**




### Why are non-guideline ARVs are used?

***A non-guideline ARV was prescribed in 56% (n=131) of regimens.***
The top three clinical contraindications stated for each ARV are displayed in Table 1 with Kivexa® further illustrated in Figure 2.

**Figure 2: Kivexa® contraindications**

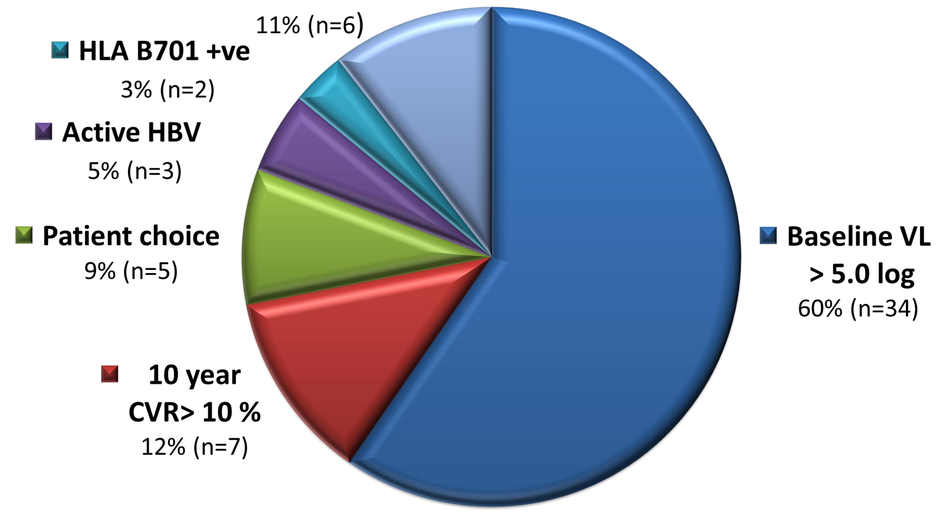



**Table 1: Top 3 contraindications**

| | Kivexa® | Efavirenz | Atazanavir |
|---|---|---|---|
| 1 | Baseline VL >5.0log 60% (n=34) | Resistance (suspected/confirmed) 36% (n=12) | Patient choice 41% (n=17) |
| 2 | 10 year CVR > 10% 12% (n=7) | Mental health 24% (n=8) | PPI treatment 12% (n=5) |
| 3 | Patient choice 9% (n=5) | Lifestyle/ occupation 12%(n=4) | PI resistance 10% (n=4) |

## Limitations

•The guideline aims to increase use of drugs included in the therapeutic tender. The main limitation of this study is that it is not possible to state if this has occurred as data prior to the tender process was unavailable
•The audit forms recorded only one reason for choosing a non-guideline ARV, whereas in clinical practice multiple reasons may have existed

## Conclusions

•The centre is implementing the therapeutic tender guidelines with success and have implemented an effective audit process.

•Non guideline ARVs are chosen for a variety of medical and patient factors

•Due to either medical reasons or patient choice guideline ARVs were not prescribed in majority of cases

•Analysis of why guideline ARVs are not chosen demonstrated that for Kivexa® and efavirenz the most common contraindications are medical whilst for atazanavir patient choice was the major factor.

•Future analysis of the clinical outcomes for guideline ARVs vs non-guideline ARVs and determination of overall cost-effectiveness of the guideline approach will be undertaken after appropriate length of follow-up.

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