

# Real World Experience Using Tenofovir Alafenamide Fumarate (TAF) in Glasgow, UK



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## Background

Tenofovir alafenamide fumarate (TAF) and tenofovir disoproxil fumarate (TDF) are pro-drugs of tenofovir, and used in the treatment of HIV infection. In clinical trials TAF demonstrated improvement in laboratory markers of renal and bone safety compared to TDF.

Since 2015, European Marketing authorisation has been granted for five TAF containing products for HIV: Genvoya, Descovy, Odefsey, Symtuza and Biktarvy

Generic versions of Tenofovir are available in the UK, alone and in combination with other antiretrovirals (ARVs). These are cheaper than TAF containing products.

In 2017 the Scottish HIV Clinical leads published cost-sensitive prescribing recommendations for first-line ARVs taking account the costs of medication at that time [1]. These guidelines recommended a TAF containing ARV regimen for treatment naive patients who were unsuitable for Abacavir AND had established or significant risk factors for bone or renal disease. In addition, if a single tablet regimen (STR) was thought necessary, a TAF containing regimen was allowed if a cost saving was realised compared to a TDF containing STR.

## Study Aim

The aims of this study were to investigate the extent of TAF usage in the Glasgow HIV cohort, and establish the main reasons cited for its use.

In addition, in those patients switched onto TAF, we investigated whether TAF was associated in reductions in urine protein loss compared to their previous regimen.

## Materials and methods

We identified all patients who had started a TAF containing regimen from 2015 to May 2018 from our clinic database.

Clinical records were used to determine the reason for the choice of treatment, whether this was a first treatment or a switch.

Clinical parameters including co-morbidities and laboratory parameters were compared before and after switch.

## References

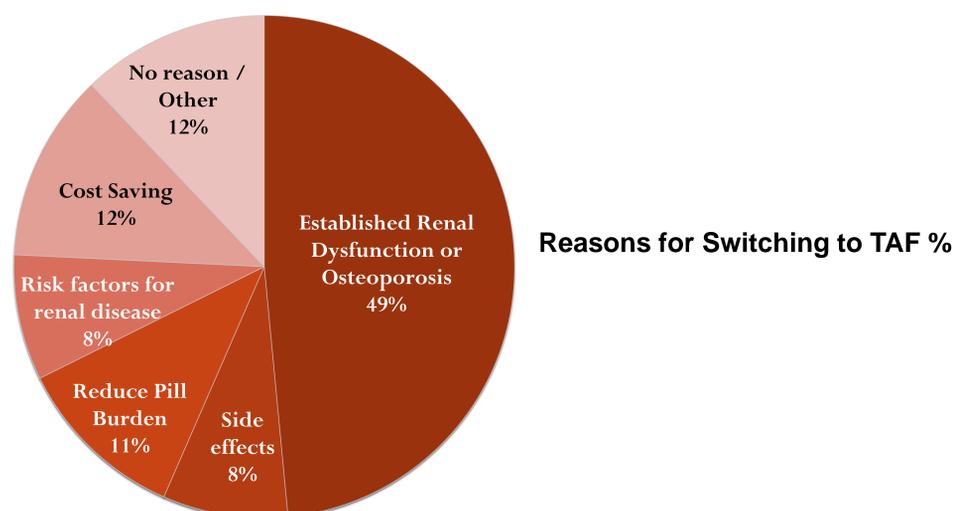
1. Guidance for cost-sensitive HIV therapy prescribing in NHS Scotland 2017. Scottish Health Protection Network HIV Clinical Leads.  
<http://www.hivscotland.com/downloads/1495095774-Scotland%20HIV%20cost-sensitive%20prescribing%20FINAL.pdf>

## Results

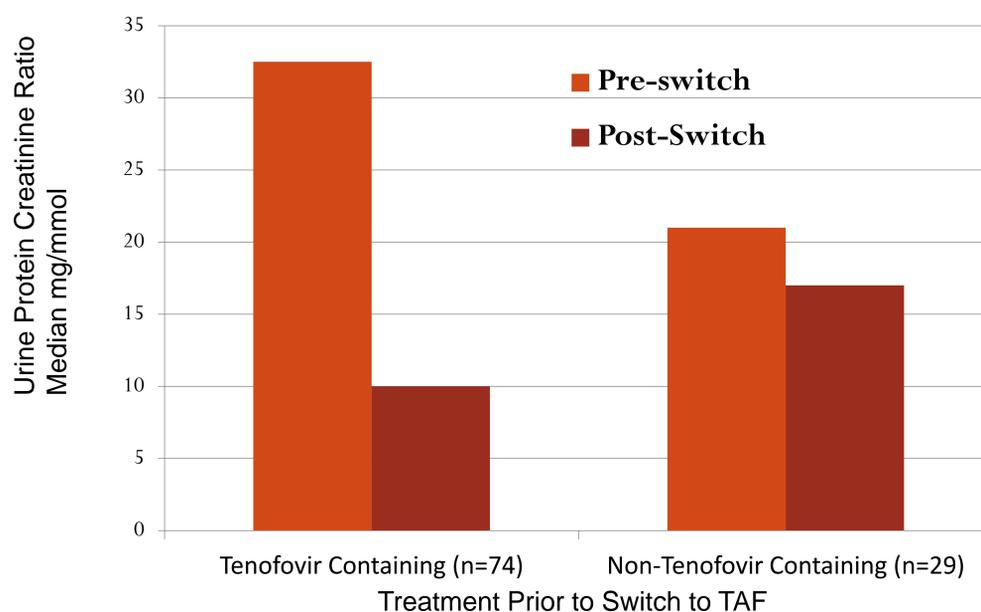
There were 1721 patients on ARVs in May 2018 in the Glasgow HIV cohort. Of these 272 (16%) were on a TAF containing regimen (56% Genvoya, 30% Descovy, 13% Odefsey and 1% Symtuza).

18 (7%) patients were on their first ARV treatment regimen, and 254 (93%) were treatment switches

The reasons for these switches to a TAF containing regimen were:



76% switched from Tenofovir (TDF or generic) and 24% from non-Tenofovir containing regimens, mostly from Abacavir. 103 patients switched to TAF because of established Renal dysfunction, usually a raised urinary protein creatinine ratio (uPCR)



There was a fall in the median uPCR after switching to a TAF containing regimen. This fall was greater when the previous regimen had contained Tenofovir (TDF or generic), 22 vs. 4 mg/mmol, ( $p < 0.05$ )

## Conclusions

By May 2018, 16% of patients in the Glasgow HIV cohort were prescribed a TAF containing regimen. 93% of these patients had switched onto TAF from an alternative treatment, mostly from TDF, and 7% were treatment naive. Scottish cost-sensitive prescribing guidelines recommend TAF in patients with current renal or bone disease, or clear risk factors for these. These guidelines are for treatment naïve patients, but the criteria would be applicable to switch also. In our cohort, 57% of patients fitted these criteria, and another 12% were switched to TAF as a cost saving (compared to a TDF containing STR).

For 31% (84) of the patients on TAF, there was no clear indication for prescribing TAF. Given the wide availability of generic alternatives, cost-savings could be made in this group after clinical review and patient discussion.

Switching to TAF from Tenofovir (TDF or generic) in this real world group of patients resulted in a significant fall in uPCR, in keeping with results from the registration studies with TAF

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