

# Performance of dolutegravir based two drug regimens (DTG-2DR) in a large real-world cohort of people with HIV

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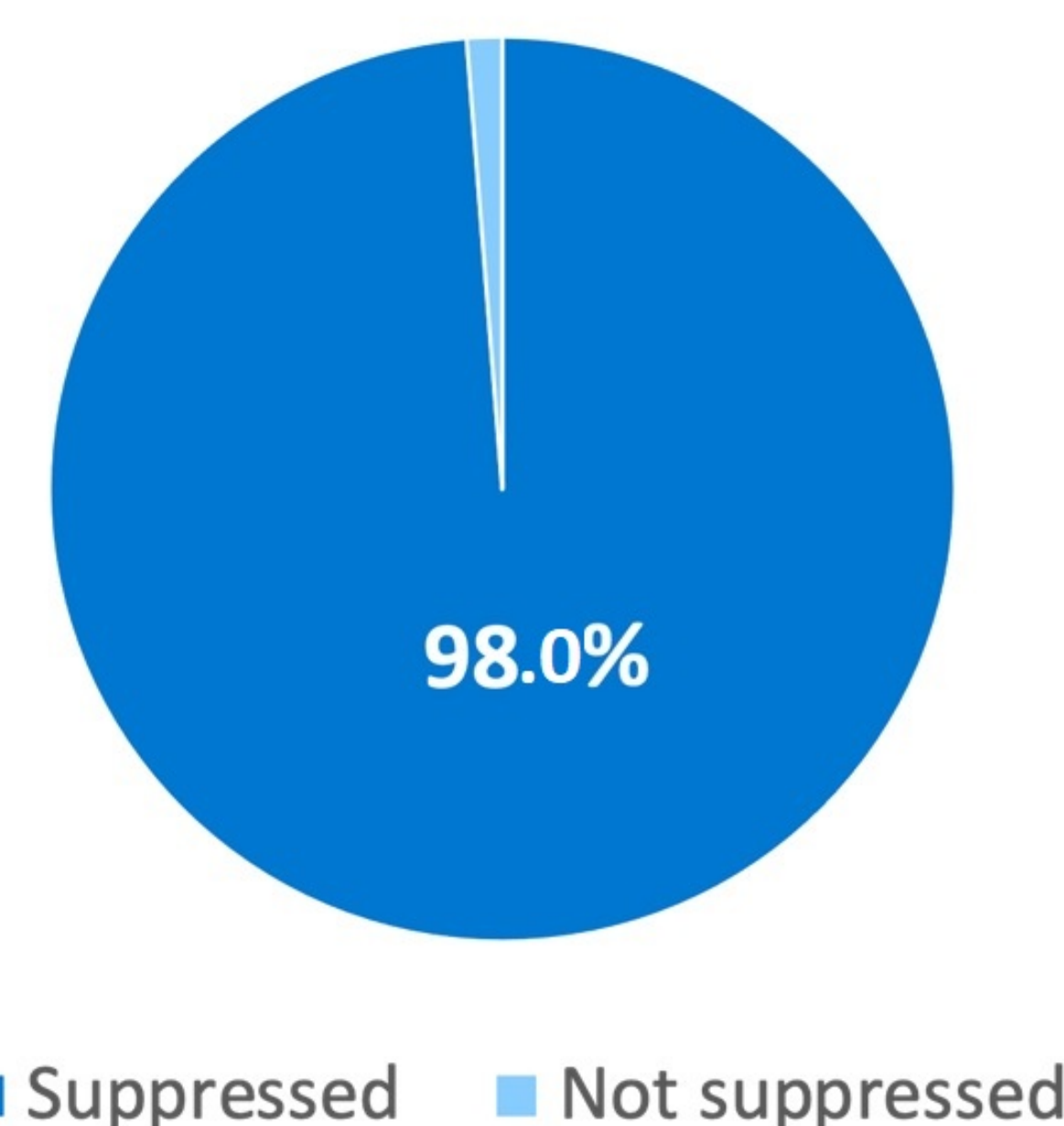
## Introduction

Use of DTG-2DR has been shown to maintain virological suppression in HIV affected people. [1-3] In our centre, regimens include DTG/3TC, DTG/RPV, DTG/FTC. Multiple tablet regimens (MTR) were issued until single tablet regimens (STR) were available. Since 2015 we prescribed DTG-2DR for 620 people out of a total cohort of 3133 (19.8%).

## Methods

Clinic database search 01/01/15-31/10/21 conducted for all people receiving DTG-2DR. Microsoft excel™ spreadsheet used to compile data. Demographic, tolerability and HIV related data were analysed.

Chart 1: Percentage suppressed on DTG-2DR



## Results

### Demographics

620 people were prescribed DTG-2DR. Of these, 561 had complete data for analysis. Majority of the patients were male (n=446, 79.5%, female n = 115, 20.5%). The median age was 54 (IQR 46-59). The most common risk factors for HIV infection were MSM sex (n=343, 61.1%), heterosexual sex (n=177 31.5%) and injecting drug use (n= 10, 1.2%). Median time to DTG-2DR prescription from diagnosis was 16 years. Median time on treatment was 11 and 28 months for DTG-XTC and DTG-RPV respectively.

### Efficacy

4 people (0.7%) initiated DTG-3TC naively, and all 4 suppressed after initiation (1 STR, 3 MTR, with 2 of these later switching to STR).

The remaining 557 people switched to DTG-2DR when already virally suppressed. The great majority of these people remained suppressed at data censor (n= 546, 98.0%, see chart 1). The most common regimen used was DTG/3TC as a STR (n=402, 72.2%, see table below).

Regimen	Number of Patients	Percentage of Patients
(Total patients = 557)		
<b>DTG/RPV</b>	<b>74</b>	<b>13.3%</b>
MTR	26	4.7%
STR	48	8.6%
<b>DTG/3TC</b>	<b>465</b>	<b>83.5%</b>
MTR	63	11.3%
STR	402	72.2%
<b>DTG/FTC</b>	<b>18</b>	<b>3.2%</b>

### Tolerability and Mortality

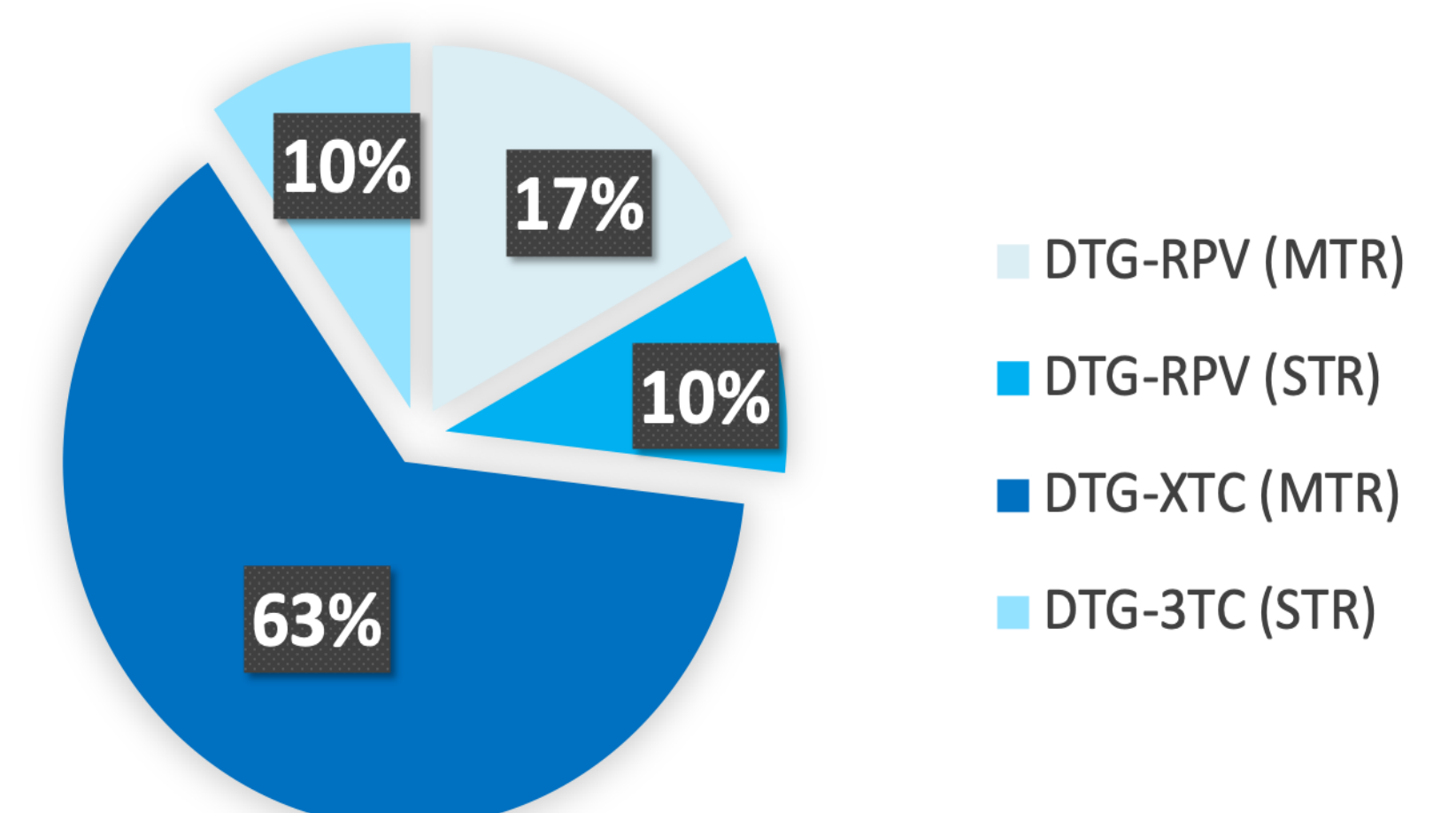
4 patients died (0.1%) but cause of death was not related to HIV. Majority of people tolerated DTG-2DR with no issue. 70 people (12.7%) switched off DTG-2DR (57 DTG/XTC 13 DTG/RPV), with the most common side-effects being neurological (n= 13, 18.6%), psychiatric (n =12 (17.1%), or weight gain (n=10, 14.3%). 59 switched for tolerability (10.7%) and 11 (2%) for blipping or failure.

Reason For Switch off DTG-2DR	Number of Patients	Percentage of Patients
Total patients = 70 (13 DTG/RPV, 57 DTG/XTC)		
Neurologic (Insomnia 8, Headache 3, Paraesthesia 1, Other 1)	13	18.6%
Psychiatric (Mood disturbance 11, Other 1)	12	17.1%
Weight Gain	10	14.3%
Failure	6	8.6%
Gastrointestinal	6	8.6%
Other reason (not documented)	5	7.1%
Blip	5	7.1%
Intolerance (type not documented)	4	5.7%
Rationalisation	2	2.9%
Rash	2	2.9%
Itch	2	2.9%
Patient Preference	2	2.9%
DDI	1	1.4%

### Blips

41 episodes of blip (1 off>50 copies/ml) occurred in 30 people (5.3%). The majority of these blips occurred on DTG-XTC MTR (n=26, 63%, see chart 2). These prompted switch to alternate regimens in 5 people (DTG/RPV x1 STR, X1 MTR and DTG/3TC MTR x3); and the remainder resuppressed on continuation of the same regimen.

Chart 2: Blips per regimen



### Failure

6 people (1.1%) encountered failure defined as VL >200 copies/ml or persistent LLV. Per regimen, 4 people failed on DTG-3TC STR, 1 on DTG-3TC MTR and 1 on DTG-RPV MTR. Four failures were at LLV only and rapidly resuppressed on regimen switch. One developed a high viral load (DTG-3TC MTR). One failure was due to non-adherence and the person switched to triple therapy.

### Resistance

5 failures were investigated with resistance tests, mutations were identified in one person. He received TDF/3TC/DTG, alongside multiple cardiovascular medicines, and switched to DTG/3TC MTR due to TDF related side-effects. He suppressed initially but months later his VL was detected at >4000 copies/ml. Genotyping revealed reverse transcriptase (M184V, K103N) and integrase (T66A, G118R, E138K) mutations. He switched to TAF/FTC/DRV/c STR and resuppressed.

## Discussion

TANGO, SALSA and SWORD studies have shown non-inferiority of DTG-2DR to standard triple regimens in maintaining virological suppression. [1-3] Our data, a large cohort of 561 mostly MSM, supports these findings with 98.0% suppressed at data censor.

Side-effects noted were similar to those encountered in the literature. It is interesting to note that the majority of viral blips occurred on MTR regimens.

There were a low number of failures, and proportionally these were more likely to occur on MTR. One episode of resistance occurred in a person receiving DTG-3TC MTR, a finding similar to GEMINI study, where failure with resistance only occurred on MTR. [4]

## Conclusion

Majority of DTG/3TC use is in stable switch. A minority of patients switch due to tolerability. Low number of virologic failures noted, though one developed INI resistance; VF associated with MTR and it is imperative switch to STR occurs when available, commensurate with trial data showing no failure with resistance if DTG/3TC STR used. Overall DTG-2DR demonstrates high efficacy in a real-world setting.

## References

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