

# Real-World Biktarvy Use and Weight Change: A Single Center Retrospective Cohort Analysis

Kok Hoe Chan<sup>1</sup>, MD, Monica Mutyala<sup>1</sup>, MD, Andrew Kossack<sup>2</sup>, MS4, Selina Bowler<sup>3</sup>, MS4, Jihad Slim<sup>1</sup>, MD

<sup>1</sup>St. Michael's Medical Center, Newark, NJ, USA; <sup>2</sup>St. George's University, Grenada, WI; <sup>3</sup>University of New England, Portland, ME



St. Michael's Medical Center

## Introduction

- ❖ Second generation integrase inhibitors (INI) and Tenofovir Alafenamide (TAF) have been linked to increased weight gain.
- ❖ Herein, we are interested in reviewing this relationship with Biktarvy use.

## Methodology

### Study Design

- ❖ Retrospective Cohort Study on all person living with HIV (PLWH) at our outpatient clinic who received a prescription for Biktarvy
- ❖ Study period: February 2018 to October 2020

### Inclusion Criteria

- ❖ PLWH on Biktarvy therapy for at least 6 months
- ❖ Maintained low Viral load (< 200) indicating medication compliance

### Exclusion Criteria

- ❖ Absence of above

### Analysis

- ❖ Study population was stratified into 2 groups: those that gained ≥10% weight, and <10% weight from their baseline weights since the initiation of therapy.
- ❖ Demographic, clinical and laboratory data were reviewed and retrieved.
- ❖ Chi-square ( $\chi^2$ ) test was used to identify the associations between categorical variables.
- ❖ GraphPad Prism statistical software was used for all data analysis.

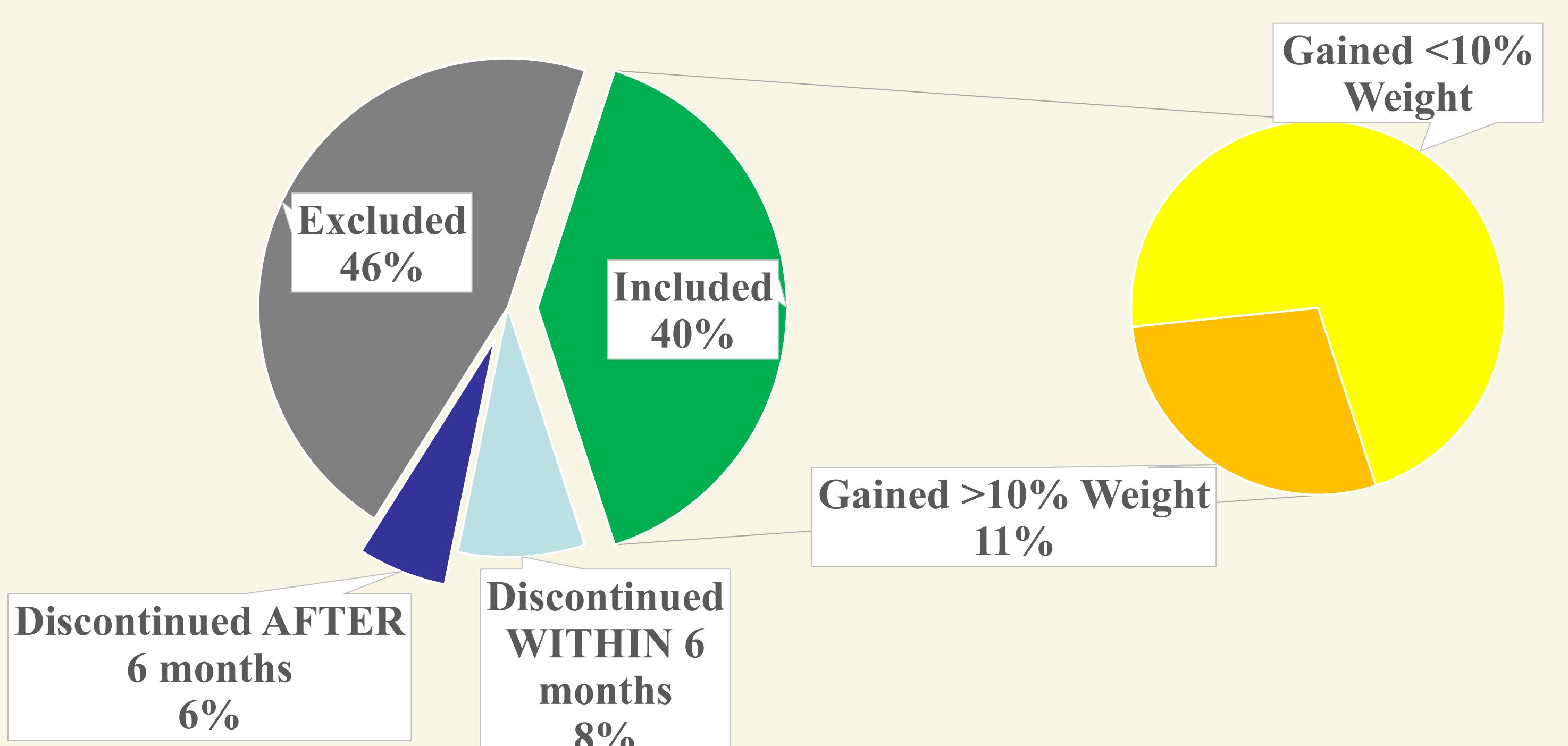
## Results

- ❖ Out of the 608 PLWH that received a prescription for Biktarvy
  - ❖ 50 discontinued therapy within the first 6 months
  - ❖ 35 PLWH discontinued therapy after 6 months for various reasons (table 1)

| Reasons                              | Number of PLWH |
|--------------------------------------|----------------|
| Poor renal function                  | 13             |
| Unknown                              | 6              |
| Viremia                              | 6              |
| Noncompliance                        | 4              |
| Weight gain                          | 3              |
| Gastrointestinal Symptoms            | 1              |
| Changed meds due to cancer treatment | 1              |
| Insurance change                     | 1              |

Table 1: Reasons and number of PLWH who discontinued therapy after 6 months

- ❖ Of the 523 PLWH with active prescriptions for Biktarvy
  - ❖ 280 PLWH were excluded from the study due to high viral loads indicating poor Biktarvy compliance, and insufficient therapy duration of less than 6 months.
  - ❖ Of the remaining 243 PLWH who met this inclusion criteria, 69 (28.4%) PLWH gained ≥10% weight, while 174 (71.6%) PLWH gained <10% weight.



## Results

- ❖ Of those 69 PLWH who gained ≥10% weight
  - ❖ Average time on therapy was 88.9 weeks
  - ❖ Average age was 51.7 years old.
  - ❖ There were 44 (64%) males and 25 (36%) females.
  - ❖ Majority are Blacks (64%), followed by Latinx (22%) and Whites (14%).
  - ❖ The switch from other HIV medications to Biktarvy and low CD4 counts (<350) were associated with risk of weight gain (p-value were 0.0123 and <0.0001 respectively)

|                 | >10% weight gain (n=69) | <10% weight gain (n=174) | p-value   |
|-----------------|-------------------------|--------------------------|-----------|
| Time on therapy | 88.9                    | 87.9                     | 0.8112    |
| Gender          | Male                    | 44 (64%)                 | 123 (71%) |
|                 | Female                  | 25 (36%)                 | 51 (29%)  |
| Ethnicities     | Black                   | 44 (64%)                 | 116 (67%) |
|                 | Latinx                  | 15 (22%)                 | 46 (26%)  |
|                 | White                   | 10 (14%)                 | 10 (7%)   |
| Transition      | Naïve                   | 3 (4%)                   | 28 (16%)  |
|                 | Switch                  | 66 (96%)                 | 144 (84%) |
| Age             | 51.7                    | 52                       | 0.8696    |
| CD4 count       | <350                    | 29 (42%)                 | 31 (18%)  |
|                 | >350                    | 40 (58%)                 | 143 (82%) |

Table 2: Demographic and clinical characteristics of PLWH who has >10% and <10% weight change since the initiation of Biktarvy

## Discussion and Conclusion

- ❖ Most common reason for discontinuation of Biktarvy therapy was poor renal function
- ❖ Low CD4 count (<350) and the switch from other HIV medications to Biktarvy predicted 10% weight gain in our retrospective cohort analysis