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Business, Consumer Services and Housing Agency
Department of Consumer Affairs
Gavin Newsom, Governor

To: Board Members

Subject: Agenda Item V. Discussion and Consideration for Board Approval of HIV Preexposure (PrEP) and Postexposure (PEP) Prophylaxis Medication Meeting Same Clinical Eligibility Recommendations Provided in CDC Guidelines Pursuant to Business and Processions Code sections 4052.02(b), 4052.03(b)(3)

Relevant Law

BPC section 4052.02(b) defines "preexposure prophylaxis" as a fixed-dose combination of tenofovir disoproxil fumarate (TDF) (300 mg) with emtricitabine (FTC) (200 mg), or **another drug or drug combination determined by the board** to meet the same clinical eligibility recommendations provided in CDC Guidelines.

BPC section 4052.01(b)(3) includes as part of its definition for "postexposure prophylaxis" **another drug or drug combination determined by the board** to meet the same clinical eligibility recommendations provided in CDC Guidelines.

For Board Discussion and Consideration

During the meeting members will have the opportunity to consider if two drug therapies:

- **tenofovir alafenamide (TAF) (25 mg) with emtricitabine (FTC) (200 mg); and**
- **bictegravir 50mg/emtricitabine 200mg/tenofovir alafenamide 25mg**

are appropriate for inclusion under the authority for pharmacists to provide PrEP and PEP consistent with the authorities stemming from SB 159. These therapies were recommended by experts in the field and evaluated by the Dr. Philip Peters, Office of AIDS.

Following this memo is a written analysis of the two drug therapies prepared by Dr. Peters. As indicated in the memo, Dr. Peters has concluded the following:

1. That the fixed-dose combination of **tenofovir alafenamide (TAF) (25 mg) with emtricitabine (FTC) (200 mg)** should be allowed as a drug combination that can be dispensed for pre-exposure prophylaxis (PrEP) by a pharmacist as authorized under Bus. & Prof. Code section 4052.02(b) (Senate Bill No. 159).
2. That the fixed-dose combination of **bictegravir 50mg/emtricitabine 200mg/tenofovir alafenamide 25mg** should be allowed as a drug combination that can be dispensed for post-exposure prophylaxis (PEP) by a pharmacist as authorized under Bus. & Prof. Code section 4052.03(b)(3) (Senate Bill No. 159).

Recommendation

Board staff recommend approval of two drug therapies, consistent with the analysis and recommendations offered by the Office of AIDS. Should members agree with the staff's recommendation, the following motions could be used.

SUGGESTED MOTION: Approve tenofovir alafenamide (TAF) (25 mg) with emtricitabine (FTC) (200 mg) as a drug combination that can be initiated and furnished for pre-exposure prophylaxis (PrEP) by a pharmacist pursuant to the provisions of BPC 4052.02.

SUGGESTED MOTION: Approve bictegravir 50mg/emtricitabine 200mg/tenofovir alafenamide 25mg as a drug combination that can be initiated and furnished for post-exposure prophylaxis (PEP) by a pharmacist pursuant to the provisions of BPC 4052.03.

State of California—Health and Human Services Agency
California Department of Public Health

SANDRA SHEWRY, MPH, MSW
Acting Director

GAVIN NEWSOM
Governor

September 10, 2020

RE: Two SB159 analyses of pre- and post-exposure drug combinations

Dear Colleagues,

This first analysis for the California pharmacy board concludes that the fixed-dose combination of **tenofovir alafenamide (TAF) (25 mg) with emtricitabine (FTC) (200 mg)** should be allowed as a drug combination that can be dispensed for pre-exposure prophylaxis (PrEP) by a pharmacist as authorized under Senate Bill No. 159.

Business and Professions Code Section 4052.02 (b) reads:
(b) "*For purposes of this section, "pre-exposure prophylaxis" means a fixed-dose combination of tenofovir disoproxil fumarate (TDF) (300 mg) with emtricitabine (FTC) (200 mg), or another drug or drug combination determined by the board to meet the same clinical eligibility recommendations provided in CDC guidelines*."

Tenofovir, a nucleotide reverse transcriptase inhibitor of HIV, inhibits viral replication in cells. Although tenofovir alafenamide (TAF) and tenofovir disoproxil fumarate (TDF) are both prodrugs of tenofovir, TAF transports the active metabolite more rapidly into peripheral blood mononuclear cells (PBMCs) than TDF, with at least four times higher concentrations, resulting in increased antiviral activity[i] and lower plasma tenofovir exposures than TDF[ii]. At 1–2 hours after a single dose of TAF, the median tenofovir concentrations exceed the 90% effective concentration (EC90) associated with HIV prevention efficacy in PBMCs, whereas TDF does not surpass this threshold until after 3 days of daily dosing[iii].

TAF/FTC was U.S. Food and Drug Administration (FDA)-approved for HIV PrEP on Oct 3, 2019 for use in men and transgender women who have sex with men[iv]. It is not approved to prevent HIV infection from receptive vaginal intercourse and a clinical trial is ongoing to evaluate its effectiveness in that population. In

addition, five fixed-dose combination tablets that contain TAF/FTC (and other medications) are FDA-approved for HIV treatment.

In a large randomized, double-blind, multicenter, active-controlled, phase 3, non-inferiority clinical trial of 5,857 men and transgender women, TAF/FTC was non-inferior efficacy to TDF/FTC. TAF/FTC had more favorable effects on bone mineral density and biomarkers of renal safety than TDF/FTC[v]. Minor increases in weight and blood lipid concentrations were more common in the TAF/FTC group than in the TDF/FTC group.

Centers for Disease Control and Prevention (CDC) recommends either TDF/FTC or TAF/FTC for PrEP on their clinical website[vi]. The CDC 2017 PrEP guidelines were written before TAF/FTC was FDA-approved and are expected to be updated in 2021 to include TAF/FTC. The Pacific AIDS Education Training Center (PAETC) and the CDPH Office of AIDS both recommend TAF/FTC as an option for PrEP[vii].

In conclusion, this analysis supports including TAF/FTC as an option for pharmacists to dispense for PrEP as authorized under Senate Bill No. 159. This fixed dose medication has a similar pharmacology, efficacy, and safety profile as the currently approved PrEP (TDF/FTC). It is also FDA-approved for use as PrEP and recommended by CDC and other organizations.

This second analysis for the California pharmacy board concludes that the fixed-dose combination of **bictegravir 50mg/emtricitabine 200mg/tenofovir alafenamide 25mg** should be allowed as a drug combination that can be dispensed for post-exposure prophylaxis (PEP) by a pharmacist as authorized under Senate Bill No. 159.

Business and Professions Code Section 4052.03 (b)(3) reads:
(b) "*For purposes of this section, "post-exposure prophylaxis" means any of the following*:"
(3) "*Another drug or drug combination determined by the board to meet the same clinical eligibility recommendations provided in CDC guidelines*."

The bictegravir component of the fixed-dose combination of bictegravir /emtricitabine /tenofovir alafenamide differentiates this PEP option from other medications that are currently authorized under Senate Bill No. 159 and is the focus of this analysis.

Bictegravir, an HIV-1 integrase strand transfer inhibitor, inhibits strand transfer of viral DNA into the host genome and thereby prevents HIV-1 replication. Unlike with pre-exposure prophylaxis, no HIV medications have been U.S. Food and Drug Administration (FDA)-approved for an HIV PEP indication. For this reason, the Centers for Disease Control and Prevention (CDC) guidelines recommend using the safest and most effective HIV treatment regimen for 28 days as PEP. Bictegravir was FDA-approved for HIV treatment in February 2018 based on four phase 3 clinical trials demonstrating its efficacy[viii]. Bictegravir /emtricitabine /tenofovir alafenamide is now one of four recommended first-line HIV treatment regimens[ix] and has become the most commonly used HIV treatment regimen in the United States because of its efficacy, convenience (one small tablet per day), safety, and tolerability.

Bictegravir is similar to dolutegravir which is a component of most currently authorized PEP regimens under Senate Bill No. 159. In a randomized, controlled HIV treatment trial, bictegravir had a similar efficacy and safety profile as dolutegravir[x].

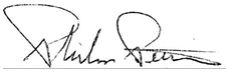
Bictegravir /emtricitabine /tenofovir alafenamide is a convenient option for PEP as it is a single tablet taken once a day. It has also been demonstrated to be a safe and tolerable regimen for PEP[xi].

The Pacific AIDS Education Training Center (PAETC) and the California Department of Public Health's (CDPH) Office of AIDS both recommend bictegravir /emtricitabine /tenofovir alafenamide as an option for postexposure

prophylaxis[xii]. The CDC 2016 PEP guidelines were written before bictegravir /emtricitabine /tenofovir alafenamide was FDA-approved.

In conclusion, this analysis supports including bictegravir /emtricitabine /tenofovir alafenamide as an option for pharmacists to dispense for PEP as authorized under Senate Bill No. 159. This fixed dose medication is FDA-approved for HIV treatment and has a similar pharmacology, efficacy, and safety profile as the currently approved PEP regimens.

Sincerely,



Philip Peters, MD
Office of AIDS Medical Officer
California Department of Public Health

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