Table I. Recommended and Alternative Antiretroviral Regimens (DHHS Guidelines, April 14, 2015)

Recommended Regimens			
Nucleoside Analog Reverse Transcriptase Inhibitor (NRTI) Component	**Third Agent**	**Advantages**	**Disadvantages**
TDF/FTC (*Truvada*) 300/200 mg 1 tab once daily	**Protease inhibitor (PI):** Darunavir (DRV, *Prezista*) 800 mg 1 tab once daily with food + ritonavir (RTV, *Norvir*) 100 mg 1 tab once daily (DRV/r)	**DRV/r** superior to atazanavir (ATV) + RTV (ATV/r) due to better tolerability can be taken with PPIs (vs. ATV) resistance unlikely with virologic failure **TDF/FTC** more clinical data than abacavir/lamivudine (ABC/3TC) in combination with DRV/r more effective in patients with VL >100,000 than ABC/3TC when combined with ATV/r or efavirenz (EFV) TDF has lipid lowering properties	**DRV** inferior to raltegravir (RAL)- and dolutegravir (DTG)-based therapy due to tolerability potential for allergic rash, sometimes requiring discontinuation **RTV** inhibition of tubular creatinine excretion causes increase in creatinine and decrease in eGFR, but not true GFR increase in tenofovir levels may increase risk of nephrotoxicity **TDF** potential for nephrotoxicity (decreased GFR, proximal tubular dysfunction)

			greater short-term loss of bone density than with other agents
TDF/FTC (*Truvada*) 300/200 mg 1 tab once daily *or*	**Integrase strand transfer inhibitor (INSTI):** dolutegravir (DTG, *Tivicay*) 50 mg once daily *or*	**DTG** superior to EFV- and DRV/r-based therapy due to tolerability higher barrier to resistance than RAL and elvitegravir (EVG); no resistance observed yet in initial therapy studies few drug interactions **TDF/FTC** as above	**DTG** inhibition of tubular creatinine excretion causes increase in creatinine and decrease in eGFR, but not true GFR **TDF** as above
Abacavir/lamivudine (ABC/3TC) 600/300 mg coformulated with DTG 50 mg as *Triumeq* 1 tab once daily	**INSTI:**: DTG 50 mg coformulated with ABC/3TC as *Triumeq* 1 tab once daily	The only non-TDF- or TAF-containing single-tablet regimen **DTG** As above **ABC/3TC** no kidney or bone toxicity as effective as TDF/FTC when combined with DTG	**DTG** inhibition of tubular creatinine excretion causes increase in creatinine and decrease in eGFR, but not true GFR **ABC** *may* increase risk of myocardial infarction (conflicting data); avoid in patients with high cardiac risk pre-screening with HLA B*5701 required to avoid hypersensitivity

			reaction more non-specific adverse events than TDF/FTC
TDF/FTC 300/200 mg (coformulated in single-tablet regimen with EVG/COBI as *Stribild*) 1 tab once daily *or* Tenofovir alafenamide (TAF)/FTC 10/200 mg (coformulated with EVG/COBI as *Genvoya*) 1 tab once daily [not listed in guidelines as of 11/15/2015, but has safety advantages over *Stribild*]	**INSTI:** Elvitegravir (EVG) with pharmacoenhancer cobicistat (COBI) 150/150 mg (coformulated with TDF/FTC as *Stribild*) *or* Coformulated with TAF/FTC as *Genvoya*) 1 tab once daily	single-tablet regimen available non-inferior to EFV- and ATV/r-based regimens with tolerability advantages **TDF/FTC** as above **TAF** less bone and kidney toxicity than TDF EVG/COBI/FTC/TAF approved for patients with CrCl $\geq$ 30 mL/min	**EVG/COBI** multiple COBI drug interactions (similar to RTV) inhibition of tubular creatinine excretion causes increase in creatinine and decrease in eGFR, but not true GFR (greater effect than DTG or RTV) **TDF** as above EVG/COBI/FTC/ TDF not recommended for patients with CrCl < 70 mL/min
TDF/FTC (*Truvada*) 300/200 mg 1 tab once daily	**INSTI:** raltegravir (RAL, *Isentress*) 400 mg 1 tab twice daily	superior to DRV/r and ATV/r due to better tolerability well tolerated, no lipid effects rapid virologic suppression (clinical significance unclear) least drug interactions among INSTIs **TDF/FTC** as above	**RAL** twice-daily dosing integrase inhibitor resistance can occur with virologic failure **TDF** as above

Alternative Regimens: Regimens that are effective and tolerable, but that have potential disadvantages when compared with the recommended regimens listed above or have less data from randomized clinical trials. An alternative regimen may be the preferred regimen for some patients			
TDF/FTC 300/200 mg (coformulated with RPV as *Complera*) 1 tab once daily	**Non-nucleoside reverse transcriptase inhibitor (NNRTI):** Rilpivirine (RPV) 25 mg (coformulated with TDF/FTC as *Complera*) 1 tab once daily	better tolerated than EFV-based therapy; superior to EFV at VL <100,000 copies/mL due to tolerability active against virus with K103N mutation **TDF/FTC** as above	**RPV** must be taken with meal decreased absorption with proton pump inhibitors, H2 blockers virologic failure with resistance can result in etravirine cross-resistance (138K mutation) not recommended for patients with pre-treatment VL >100,000 copies/mL or CD4 counts < 200 cells/mm^3 **TDF** as above
TDF/FTC 300/200 mg (coformulated with EFV as *Atripla*) 1 tab once daily	**NNRTI:** efavirenz (EFV) 600mg (coformulated with TDF/FTC as *Atripla*) 1 tab once daily	single-tablet regimen available well studied, with excellent efficacy and durability long half-lives; forgiving of missed/delayed doses **TDF/FTC** As above	**EFV** early central nervous system (CNS) side effects (i.e., dizziness, vivid dreams, insomnia, concentration difficulties, mood changes); generally resolve over days/weeks; increased risk of suicidality in meta-analysis of clinical trials

			teratogenicity suspected on the basis of animal studies (avoid during first trimester of pregnancy) early rash (self-limited, rarely requires discontinuation) modest lipid elevation long half-life; risk of NNRTI resistance if treatment interrupted **TDF** as above
TDF/FTC (*Truvada*) 300/200 mg 1 tab once daily	**PI:** atazanavir (ATV, *Reyataz*) 300 mg 1 cap once daily with food + RTV (*Norvir*) 100 mg 1 tab once daily *or* ATV/COBI (*Evotaz*) 300/150 mg 1 tab once daily	as effective as EFV with less lipid effects resistance unlikely with virologic failure unlike darunavir, has activity without boosting ATV/COBI coformulation reduces pill burden and prevents patient from taking PI without booster **TDF/FTC** as above	**ATV** inferior to DRV/r- and RAL- based therapy due to tolerability differences (jaundice, GI side effects) elevated total (indirect) bilirubin harmless, but sometimes results in jaundice or scleral icterus nephrolithiasis, nephrotoxicity, cholelithiasis more bone loss than with other regimens when combined with

			TDF/FTC must be dosed with food for absorption decreased absorption with PPIs, H2 blockers, antacids recommended only for patients with CrCl $\geq$ 70 mL/min **RTV, COBI** as above **TDF** as above
TDF/FTC (*Truvada*) 300/200 mg 1 tab once daily	PI: DRV/COBI (*Prezcobix*) 800/150 mg 1 tab once daily	Coformulation reduces pill burden and prevents patient from taking PI without booster **DRV** as above **TDF/FTC** as above	Recommended only for patients with CrCl $\geq$70 mL/min **DRV** as above **COBI** as above **TDF** as above
ABC/3TC (*Epzicom, Kivexa*) 600/300 mg 1 tab once daily	DRV (*Prezista*) 800 mg + RTV (*Norvir*) 100 mg once daily *or* DRV/COBI (*Prezcobix*) 800/150 mg 1 tab once daily	**DRV/r and DRV/COBI** see above **ABC/3TC** see above	Less clinical data than with TDF/FTC **DRV/r and DRV/COBI** see above **ABC/3TC** see above