AAVBC
AMERICAN ACADEMY OF VALUE BASED CARE

HIV/AIDS Medication Treatment Quick Reference Guide

2026

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LANDSCAPE OF HIV/AIDS MEDICATIONS IN VBC

Antiretroviral therapy (**ART**) is a lifelong, oral (and increasingly injectable) medication regimen used to treat HIV infection.[1,2] Its primary and most well-established benefit is **achieving and maintaining sustained virologic suppression**, defined as a plasma **HIV RNA** (viral load) **below 200 copies/mL**, which improves overall health and effectively eliminates sexual transmission of HIV.[1,3] Virologic suppression with ART is associated with **dramatically reduced rates of AIDS-defining events**, a narrowing of the life expectancy gap to within 5 years of the general population for those who achieve CD4 counts above 500 cells/μL, and **significant reductions in non-AIDS complications** including cardiovascular disease, non-AIDS malignancies, renal disease, and neurocognitive decline.[1,2,4] In the landmark **START trial**, the highest absolute risk reduction of serious AIDS and non-AIDS events with immediate ART was observed in participants aged 50 years and older.[5]

HIV infection remains a significant public health challenge in the United States, with an estimated **1.2 million adults** currently living with HIV.[6] Approximately **30,000–35,000** new infections occur annually, with **persistent racial and ethnic disparities**—Black/African American and Hispanic/Latino populations are disproportionately affected.[7] Critically for primary care providers, the demographics of the **HIV-positive population are shifting**: in 2022, **38%** of people with HIV were **aged 55 years or older**, and **13.2%** were **aged 65 or older**, proportions that are expected to increase steadily.[8] Older adults accounted for **1 in 6** new HIV diagnoses in 2022, and **more than half** of older adults newly diagnosed with HIV present at a **late stage of disease** (CD4 count <350 cells/μL)—a lost opportunity for **early treatment** and **prevention of transmission**.[9,10]

HIV-associated morbidity in older adults is substantial. People with HIV have a **1.5- to 2-fold** increased risk of **atherosclerotic cardiovascular disease** (**ASCVD**), with incident ASCVD occurring approximately a decade earlier than in the general population.[8] **Heart disease** and **cancer** are the leading causes of death in older people with HIV.[8] **Additional comorbidities**—including chronic kidney disease, osteoporosis, diabetes, neurocognitive impairment, depression, and frailty—occur at **higher rates** and **earlier ages** compared to age-matched HIV-negative individuals.[11,12] A simulation study projects that by 2030, **45%** of people with HIV on ART will be living with **two or more** physical comorbidities and **64%** with **at least one** mental health comorbidity.[13] The economic burden is correspondingly high: the estimated average discounted lifetime HIV-related medical cost per person is approximately **$420,000**, with ART medications comprising roughly **74%** of total costs.[14,15] Annual wholesale acquisition costs (WAC) for first-line ART regimens recommended for most people with HIV range from approximately **$23,000 to $39,000**, having nearly **doubled over the preceding decade**; even with newer generic options, all guideline-recommended initial regimens **exceed $36,000 per year** at list price. Medicare spending on people with HIV was estimated at **$11 billion** in fiscal year 2019, approximately half on Part D prescription drugs. **Antiretrovirals are one of six protected drug classes under Medicare Part D**, requiring plans to provide access to all or substantially all FDA-approved antiretrovirals. Beginning in 2025, the Inflation Reduction Act established a **$2,000 annual out-of-pocket spending cap** for Part D, and several antiretroviral drugs are potentially subject to **Medicare price negotiation** beginning in 2028.

AAVBC PERSPECTIVE

***AAVBC Tip**: High-value HIV care in older adults begins with **timely diagnosis** and **rapid ART initiation**. **The USPSTF** recommends HIV screening for all individuals aged 15–65 years and older adults at increased risk (**A** recommendation).[16] However, **other US guidelines are more inclusive**: the **CDC** recommends routine opt-out screening **through age 64**,[10] the **DHHS/OARAC** guidelines emphasize routine screening of **asymptomatic older adults** given*

*their high rates of late presentation, and the joint **AAHIVM/AGS/ACRIA** guidelines recommend routine opt-out screening **regardless of age**, supported by cost-effectiveness analyses showing screening is justified at undiagnosed **HIV prevalence ≥0.1%**.*[1,8] ***Despite these recommendations**, screening remains markedly underutilized in older adults — only **one-fourth** of US adults over 50 without obvious risk factors are tested.*[17]

***Rapid ART initiation** (**within 7 days**, including **same-day start** when feasible) improves linkage to care, viral suppression, and long-term outcomes.*[2,8] ***Preferred initial regimens for most older adults include** bictegravir/tenofovir alafenamide/emtricitabine (**BIC/TAF/FTC**) or dolutegravir plus tenofovir alafenamide/emtricitabine (**DTG plus TXF/XTC**), achieving **virologic suppression rates >90%** with low pill burden and minimal adverse effects.*[2,8] *Early ART is particularly important in older adults because **immune recovery is attenuated** and the risk of **serious non-AIDS events** is higher.*[2,8] *High-value care also includes **simplifying ART regimens** to minimize polypharmacy, routinely assessing drug–drug interactions, **proactively managing ASCVD risk** and other age-related comorbidities, and leveraging Medicare Part D and financial assistance programs to **improve affordability** and support sustained virologic suppression while **reducing preventable complications and long-term costs**.*[8,18]

↔ MAKING CONNECTIONS

For additional context on **HIV/AIDS**, please consult the **AAVBC HIV/AIDS QRG**

Prevalence and Clinical Context - ART in Older Adults with HIV

CLINICAL SCENARIO	CLINICAL SIGNIFICANCE IN OLDER ADULTS[7,8,19,20]	KEY PCP CONSIDERATIONS*[8,19]
Treatment-naive, no major comorbidities	**38%** of US people with HIV are ≥55 yrs; **>50%** of older adults **diagnosed late** (CD4 <350); screening remains low	**BIC/TAF/FTC** or **DTG/3TC**; Rapid ART start (≤7 days) → suppression **>95%** regardless of age
Elevated ASCVD risk	**~2x ASCVD risk**; onset ~1 decade earlier; heart disease is **leading cause of death**; standard risk calculators **underestimate**	**Statin for ages 40–75** with **≥5% 10-yr ASCVD risk** (**REPRIEVE**: 35% MACE reduction); pitavastatin/ rosuvastatin preferred; **avoid** lovastatin/simvastatin with boosted PIs
CKD (eGFR <60 or declining)	CKD accelerated by HIV + ART; TDF causes **proximal tubulopathy**	**Avoid TDF** → use TAF-based or DTG/ 3TC; **TAF/FTC** if **CrCl >30**; INSTIs raise creatinine **without true GFR change**

CLINICAL SCENARIO	CLINICAL SIGNIFICANCE IN OLDER ADULTS[7,8,19,20]	KEY PCP CONSIDERATIONS*[8,19]
Osteoporosis/ fracture risk	**1.5x** fragility fracture risk; **4x** hip fracture risk; TDF and boosted PIs **worsen BMD loss**	Switch TDF/PIs → **TAF** or **INSTIs**; **DEXA** for men ≥50 and postmenopausal women
Polypharmacy/DDIs	**Polypharmacy occurs earlier** in people with HIV; increases falls, frailty, hospitalizations	**DDI check mandatory** (hiv-druginteractions.org); **INSTIs**: fewest DDIs. DTG ↑ metformin ~70%; **boosted PIs**: major CYP3A4 interactions; regular deprescribing review
Virologically suppressed, seeking simplification	Reducing pill burden **improves adherence** and **QoL** in multimorbid older adults	DTG/3TC (oral, 2-drug) or LA CAB/RPV (IM q1–2 mo); **CAB/RPV**: **97%** suppression in adults ≥60 yrs; requires **no prior failure/ resistance**
Neurocognitive impairment/ depression	Cognitive decline faster; depression 3x more prevalent → both reduce adherence	**Screen routinely**; manage comorbidities aggressively (ART intensification does not help); **avoid EFV**; refer for progressive impairment
Older age/frailty	**Age is not a contraindication**; frailty occurs earlier, ↑ CVD, falls, mortality	ART for all (**AI**); prefer single-tablet, low-DDI regimens; simplify when possible; **integrated geriatric-HIV care** models recommended

ABBREVIATIONS: PCP = primary care provider; HIV = human immunodeficiency virus; CD4 = cluster of differentiation 4; BIC = bictegravir; TAF = tenofovir alafenamide; FTC = emtricitabine; DTG = dolutegravir; 3TC = lamivudine; ART = antiretroviral therapy; ASCVD = atherosclerotic cardiovascular disease; MACE = major adverse cardiovascular events; PI = protease inhibitor; CKD = chronic kidney disease; eGFR = estimated glomerular filtration rate; TDF = tenofovir disoproxil fumarate; INSTI = integrase strand transfer inhibitor; CrCl = creatinine clearance; GFR = glomerular filtration rate; BMD = bone mineral density; DEXA = dual-energy x-ray absorptiometry; DDI = drug-drug interaction; QoL = quality of life; LA = long-acting; CAB = cabotegravir; RPV = rilpivirine; IM = intramuscular; EFV = efavirenz; CVD = cardiovascular disease; FDA = US Food and Drug Administration
***Consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions**

Cost Estimate Snapshot - HIV ART Regimens

REGIMEN	ESTIMATED COST[8,21,22]	FREQUENCY*	WHAT IT REPRESENTS*[2,8,19,21,23]
BIC/TAF/FTC (Biktarvy) — brand	**~$42,000–$46,000**	1 tab daily	**Brand WAC**; **preferred initial STR**; high resistance barrier; TAF-based, minimal DDIs; **no generic available**

REGIMEN	ESTIMATED COST[8,21,22]	FREQUENCY*	WHAT IT REPRESENTS*[2,8,19,21,23]
DTG/3TC (Dovato) — brand	**~$26,000–$34,000**	1 tab daily	**Brand WAC**; **lowest-cost branded first-line STR**; 2-drug regimen; requires baseline genotype; no HBV coinfection; **no generic available**
DTG + TAF/FTC — brand (multi-tablet)	**~$36,000–$52,000**	2 tabs daily	**Brand WAC**; recommended initial; TAF preferred over TDF in older adults; wide range reflects brand component pricing; **no generic** DTG or TAF/FTC available
DOR/TDF/3TC (Delstrigo) — brand	**~$29,000–$32,000**	1 tab daily	Brand WAC; alternative NNRTI-based STR; **lower cost**; TDF: caution in renal/bone risk; **no generic available**
LA CAB/RPV (Cabenuva) — brand	**Drug WAC comparable to oral STRs (~$40,000–$48,000); add admin/visit costs**	IM q1–2 mo	**Brand WAC** (drug only); switch option if suppressed, no prior failure; **total cost higher due to clinic administration**, scheduling, buy-and-bill; **no generic available**
DTG/ABC/3TC (Triumeq) — brand	**~$40,000–$43,000**	1 tab daily	**Brand WAC**; no longer preferred initial; **requires HLA-B*5701 negative**; ABC: potential CVD risk signal; **no generic available**
RPV/TAF/FTC (Odefsey) — brand	**~$36,000–$39,000**	1 tab daily	**Brand WAC**; alternative STR; only if **VL ≤100K** and **CD4 >200**; take with food; avoid PPIs; **no generic available**
DRV/c/TAF/FTC (Symtuza) — brand	**~$37,000–$54,000**	1 tab daily	**Brand WAC**; boosted PI STR; significant CYP3A4 DDIs; recommended if **prior CAB PrEP exposure**; range reflects STR vs separate branded components
TDF/FTC (Truvada backbone) — generic	**~$4,000–$8,000**	1 tab daily	**Generic WAC**; **substantially below brand** (~$20,000+); multiple manufacturers; TDF less preferred in older adults (renal/bone)
3TC (lamivudine) — generic	**~$1,500–$4,000**	1 tab daily	**Generic WAC**; lowest-cost NRTI component; used in DTG/3TC multi-tablet or as backbone

REGIMEN	ESTIMATED COST[8,21,22]	FREQUENCY*	WHAT IT REPRESENTS*[2,8,19,21,23]
DTG + generic TDF/FTC or 3TC — brand + generic	**~$18,000–$30,000**	2 tabs daily	**Brand DTG + generic backbone**; lower-cost alternative to branded STRs; generic backbone reduces total cost substantially vs all-brand multi-tablet

ABBREVIATIONS: BIC = bictegravir; TAF = tenofovir alafenamide; FTC = emtricitabine; WAC = wholesale acquisition cost; STR = single-tablet regimen; DDI = drug-drug interaction; DTG = dolutegravir; 3TC = lamivudine; HBV = hepatitis B virus; TDF = tenofovir disoproxil fumarate; DOR = doravirine; NNRTI = non-nucleoside reverse transcriptase inhibitor; LA = long-acting; CAB = cabotegravir; RPV = rilpivirine; IM = intramuscular; ABC = abacavir; HLA = human leukocyte antigen; CVD = cardiovascular disease; VL = viral load; CD4 = cluster of differentiation 4; PPI = proton pump inhibitor; DRV = darunavir; c = cobicistat; PI = protease inhibitor; CYP3A4 = cytochrome P450 3A4; PrEP = pre-exposure prophylaxis; NRTI = nucleoside reverse transcriptase inhibitor
***Consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions**

Direct Savings and Value Impact Matrix

VALUE LEVER	CLINICAL STRATEGY[8,19]	FINANCIAL MECHANISM AND IMPACT[7,8,24,25]
Single-Tablet Regimens (STRs)	**Optimize long-term viral suppression** and **patient adherence** by reducing daily pill burden to a single tablet	**High upfront drug acquisition costs** are directly offset by a **reduction in downstream** inpatient and emergency room utilization
Multi-Tablet Regimens (MTRs)	Utilize therapeutic substitution to **safely transition virally stable patients** from expensive single-pills to optimized generic multi-pill combinations	Delivers immediate **40%** to **60%** drug acquisition savings per patient by leveraging lower-cost multi-source generic components
Long-Acting Injectables	Deploy **targeted non-adherence mitigation** for high-risk patient cohorts, replacing daily oral adherence requirements with **bi-monthly** or **monthly** provider-administered **injections**	Offsets premium drug acquisition and clinical administration costs by **preventing catastrophic treatment failures** and expensive drug-resistant mutations
PrEP and PEP Regimens	Implement aggressive, **preventive community outreach** and rapid post-exposure clinical protocols to block viral transmission in high-risk populations	Drives long-term **downstream cost avoidance**, as preventing a **single lifetime HIV infection saves over $500,000** in lifetime direct healthcare expenditures

ABBREVIATIONS: STR = single-tablet regimen; MTR = multi-tablet regimen; PrEP = pre-exposure prophylaxis; PEP = post-exposure prophylaxis; HIV = human immunodeficiency virus

INDICATIONS AND CONTRAINDICATIONS

Indications

This Reference Guide applies primarily to **older adults** (≥50 years, with emphasis on those >65) with HIV infection receiving lifelong ART for one of the following primary clinical scenarios:

A. Treatment-Naive, No Major Comorbidities

The most common initial treatment scenario. Adults ≥55 years represent **38%** of all people with HIV in the US; **~half** of older adults are **diagnosed late** (CD4 <350/μL).[10,26] **PCPs can initiate ART without specialist referral** using guideline-recommended InSTI-based regimens.[8] If **viral suppression is not achieved** on an InSTI-based regimen, or when **significant comorbidity**, **drug interactions**, or **clinical complexity** are present, refer to an **infectious disease specialist**.[8]

Recommended first-line regimens (InSTI-based):

- **Bictegravir/TAF/emtricitabine** (Biktarvy): 1 tablet once daily (**AI**)
- **Dolutegravir + TAF/emtricitabine** (or TDF/FTC or TDF/3TC): DTG 50 mg + 1 NRTI tablet daily (AI)
- **Dolutegravir/lamivudine** (Dovato): 1 tablet once daily — only if HIV RNA <500,000, genotype available, no HBV coinfection, no 3TC resistance (AI)

All achieve virologic suppression >95% regardless of age.[2,8] Rapid ART initiation (≤7 days, including same-day) recommended to improve linkage and outcomes (**AII-AIII recommendations**).[8,19,20]

Pre-treatment workup: HIV RNA, CD4 count, CBC, CMP (including eGFR), fasting lipids/glucose, RT-protease genotype, hepatitis A/B/C serologies, STI screening, latent TB testing, DDI review.[8,20] **HLA-B*5701** only if abacavir is considered. InSTI genotype **only if prior CAB-LA PrEP exposure**.[2,8]

B. Elevated ASCVD Risk

People with HIV have **~2x ASCVD risk**; onset ~1 decade earlier.[8] Heart disease is a leading cause of death in older people with HIV. Standard risk calculators **underestimate risk**.[8,27]

Recommended approach:

- At least moderate-intensity statin for ages 40–75 with ≥5% 10-year ASCVD risk (**AI**).[8] **REPRIEVE trial**: pitavastatin 4 mg daily reduced MACE by 35%[28]
- **Pitavastatin or rosuvastatin is preferred**. Avoid lovastatin/simvastatin with boosted PIs (contraindicated CYP3A4 interaction)[20]
- **Avoid abacavir** in patients at high CVD risk if alternatives available (**AII**)[8]
- Select ART with favorable metabolic profile (InSTI-based preferred over boosted PIs)

C. Chronic Kidney Disease (eGFR <60 or Declining)

CKD prevalence and progression are accelerated in people with HIV. TDF is associated with **proximal tubulopathy** and **nephrotoxicity**, especially with boosted PIs.[8,18,29]

Recommended approach:

- **Avoid TDF**. Use TAF-based regimens (BIC/TAF/FTC) **if CrCl >30 mL/min**, or DTG/3TC[18]
- If CrCl **<50 mL/min**, most fixed-dose combinations are **contraindicated**; individual **NRTI dose adjustment** required (especially 3TC, FTC)
- INSTIs (BIC, DTG) **inhibit tubular creatinine secretion** → ~10% decrease in eGFR (increase in creatinine) **without change in true GFR**[18]
- **In ESKD/dialysis**: DTG/3TC provides robust viral suppression; full-dose 3TC (300 mg) appears well tolerated across eGFR spectrum (off-label recommendation);[30] Dovato FDA label **does not** recommend use at CrCl **<50 mL/min**
- Monitor eGFR, urinalysis, and proteinuria at ART initiation, **at regimen changes**, and **every 6 months**[29]

D. Osteoporosis/High Fracture Risk

People with HIV have **1.5x fragility fracture risk** and **4x hip fracture risk**.[31] TDF and boosted PIs are associated with **greater BMD loss**.[8,20]

Recommended approach:

- Switch from TDF or boosted PIs → **TAF-based** or **InSTI-based regimens** in those at high fracture risk[32]
- **DEXA screening** recommended for men ≥50 years and postmenopausal women[8,20]
- Consider **NRTI-sparing regimens** (LA CAB/RPV) or TAF-based regimens as alternatives[8,19]
- ABC does not affect BMD but carries **potential CVD risk** → balance benefits[8]

E. Virologically Suppressed, Seeking Simplification

Reducing pill burden and DDIs **improves adherence** and **quality of life** in older adults with multimorbidity.

Switch options (all require virologic suppression, no prior treatment failure, no resistance to components):

- **DTG/3TC** (Dovato): Oral 2-drug STR. No HBV coinfection. **Lowest-cost recommended option**[8,19]
- **LA cabotegravir/rilpivirine** (Cabenuva): IM injections **monthly** or **q2 months**. **Requires no prior failure**, no resistance to CAB or RPV, no active HBV (must continue HBV treatment separately if coinfected).[8,19] **~1–2%** risk of treatment failure with emergent 2-class resistance even with adherence[19]
- **DTG/RPV** (Juluca): Oral 2-drug STR for virologically suppressed adults

Contraindications to LA CAB/RPV: prior hypersensitivity to CAB or RPV; coadministration with carbamazepine, oxcarbazepine, phenobarbital, phenytoin, rifamycins, systemic dexamethasone (>single dose), or St. John's wort.[19]

F. Virologic Failure/Drug Resistance

Management is complex and **typically requires specialist consultation**.

Key principles:

- Perform resistance testing while on failing regimen (**AI**) or within 4 weeks of stopping (**AII**).[8] For prior LA CAB/RPV failure, test **regardless of time since last dose**[8,19]
- **New regimen after first NNRTI-based failure**: DTG + TXF/XTC (**AIa**) per IAS-USA 2024;[19] for complex multiclass resistance: ≥2 fully active agents (**BII**) per DHHS 2026[8]
- **For multiclass resistance** (uncommon): novel agents — ibalizumab, fostemsavir, lenacapavir — ideally in combination for ≥2 fully active drugs (**AIa**)[19]
- Continue TXF/XTC **even with extensive NRTI resistance** (partial activity retained) (**AIIa**)[19]

G. HBV/HIV Coinfection

Approximately **5–15%** of people with HIV in the US have **chronic HBV coinfection**.[8] HBV progression to **cirrhosis** and **hepatocellular carcinoma** is accelerated in coinfection.[8,33]

Key principles:

- **All HBV/HIV-coinfected patients** should receive ART that includes **two drugs active against HBV**: (TAF or TDF) + (3TC or FTC) as the NRTI backbone (AI)[8]
- **Do not use 3TC or FTC as the only HBV-active drug** → HBV resistance emerges rapidly (**AII**)[8,33]
- **Do not discontinue** HBV-active agents **without substitution** → risk of severe HBV reactivation hepatitis (**AII**)[8]
- When switching ART (including to LA CAB/RPV), continue HBV-active agents or start entecavir (**AII**)[8]
- DTG/3TC (Dovato) is **contraindicated in HBV coinfection** (insufficient HBV coverage)[8,19]
- **If TAF/TDF cannot be used** (CrCl <30): entecavir may be used as alternative HBV therapy (**BI**); entecavir must not be used **without fully suppressive ART** (**AII**)[8]
- Test HBsAg, anti-HBc, anti-HBs before initiating or switching ART (**AIII**)[8]

H. Special Considerations in Older Adults

CONSIDERATION	KEY POINTS*[8,12,19,20]
Age/frailty	**Age is not a contraindication to ART**; frailty occurs earlier in people with HIV; ART **recommended for all** (**AI**) → Prefer single-tablet, low-DDI regimens

CONSIDERATION	KEY POINTS*[8,12,19,20]
Polypharmacy/DDIs	Polypharmacy more frequent and occurs earlier: ↑ falls, frailty, hospitalization, mortality = **mandatory DDI check** (hiv-druginteractions.org); **INSTIs**: fewest DDIs; DTG ↑ metformin ~70%; **boosted PIs**: major CYP3A4 interactions → regular deprescribing review
Avoid in older adults	**TDF** (renal/bone toxicity); **EFV** (neuropsychiatric effects); **boosted PIs when possible** (DDIs, metabolic effects, BMD loss).
HBV screening	**Test**: HBsAg, anti-HBc, anti-HBs **before starting/switching ART**; HBV reactivation risk if HBV-active agents discontinued
Neurocognitive impairment	Screen routinely; ART intensification **does not improve cognition** → manage comorbidities aggressively; **Avoid EFV**; refer for progressive impairment
Monitoring	Standard HIV monitoring (VL, CD4) **plus heightened attention to**: renal, hepatic, CV, metabolic, and bone AEs; **DEXA** for men ≥50 and postmenopausal women; lipids, glucose, renal function q6–12 mo.

ABBREVIATIONS: ART = antiretroviral therapy; HIV = human immunodeficiency virus; DDI = drug-drug interaction; INSTI = integrase strand transfer inhibitor; DTG = dolutegravir; PI = protease inhibitor; CYP3A4 = cytochrome P450 3A4; TDF = tenofovir disoproxil fumarate; EFV = efavirenz; BMD = bone mineral density; HBV = hepatitis B virus; HBsAg = hepatitis B surface antigen; anti-HBc = hepatitis B core antibody; anti-HBs = hepatitis B surface antibody; VL = viral load; CD4 = cluster of differentiation 4; CV = cardiovascular; AE = adverse event; DEXA = dual-energy x-ray absorptiometry; FDA = US Food and Drug Administration
***Consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions**

Contraindications

The **vast majority of older adults** with HIV are eligible for lifelong antiretroviral therapy (ART), including those with advanced age, frailty, CKD, and multiple comorbidities.[8,20] Age alone is **not a contraindication to ART**, and treatment is recommended for all people with HIV regardless of CD4 count (**AI**).[8] True absolute contraindications to specific ART regimens are few and are **primarily driven by**: drug-drug interactions, organ impairment, or HBV coinfection status.[8,19] However, specific clinical scenarios require either **selection of an alternative regimen**, **pre-treatment management**, or **specialist referral**. The table below outlines the **key contraindications and precautions** organized by category, with the applicable ART regimen(s) indicated.

CATEGORY	CONTRAINDICATION/ PRECAUTION*[8,18,20]	APPLIES TO*	CLINICAL RATIONALE*[8,18,34]
Concomitant dofetilide	**Coadministration with dofetilide**	BIC/TAF/FTC (Biktarvy), DTG (Tivicay), DTG/3TC (Dovato), DTG/RPV (Juluca)	**Contraindicated**; INSTIs inhibit OCT2 → **↑ dofetilide levels** → risk of **serious/life-threatening arrhythmia** (QTc prolongation, Torsades de Pointes)

CATEGORY	CONTRAINDICATION/ PRECAUTION*[8,18,20]	APPLIES TO*	CLINICAL RATIONALE*[8,18,34]
Concomitant rifampin	**Coadministration with rifampin**	BIC/TAF/FTC (Biktarvy), LA CAB/ RPV (Cabenuva)	Contraindicated for BIC/TAF/FTC (↓ BIC levels → virologic failure); contraindicated for LA CAB/RPV (↓ CAB and RPV levels); DTG can be used with rifampin **at increased dose** (50 mg BID) in **INSTI-naive patients**
Concomitant rifamycins (all)	**Rifampin, rifabutin, rifapentine**	LA CAB/RPV (Cabenuva)	**All rifamycins contraindicated with LA CAB/RPV**; strong UGT1A1/ CYP3A4 induction → ↓ CAB and RPV levels → **virologic failure** with **emergent 2-class resistance**
Strong CYP3A4/ UGT1A1 inducers	**Carbamazepine, oxcarbazepine, phenobarbital, phenytoin, St. John's wort**	LA CAB/RPV (Cabenuva); oral RPV-containing regimens (Odefsey, Juluca, Complera)	Contraindicated; significantly ↓ CAB and/or RPV concentrations → risk of **virologic failure**; **for DTG**: dose adjustment to 50 mg BID with carbamazepine; avoid oxcarbazepine, phenytoin, phenobarbital, St. John's wort; **for BIC:** avoid these agents
Proton pump inhibitors (PPIs)	**All PPIs (omeprazole, pantoprazole, esomeprazole, etc.)**	All oral RPV-containing regimens (Odefsey, Juluca, Complera); oral RPV lead-in for Cabenuva	Contraindicated; PPIs **↑ gastric pH** → significantly **↓ oral RPV absorption** → virologic failure; **H2RAs**: administer ≥12 hr before or ≥4 hr after RPV; **does NOT apply to LA injectable RPV** (Cabenuva) once on injections; common issue in older adults on chronic PPI therapy → switch to BIC/TAF/FTC or DTG-based regimen, or **discontinue PPI**
Concomitant systemic dexamethasone (>single dose)	**Repeated/ chronic systemic dexamethasone**	LA CAB/RPV (Cabenuva); oral RPV-containing regimens	Contraindicated; CYP3A4 induction → **↓ RPV levels**; single-dose dexamethasone is permitted
Lovastatin/ simvastatin with boosted PIs or cobicistat	**Coadministration of lovastatin or simvastatin**	All boosted PI regimens (DRV/r, DRV/c, ATV/r, ATV/c); EVG/c-containing regimens	Contraindicated; potent CYP3A4 inhibition → **markedly ↑ statin levels** → rhabdomyolysis risk; use pitavastatin, pravastatin, or rosuvastatin (with dose limits); **INSTIs** (BIC, DTG) **have no statin DDIs**

CATEGORY	CONTRAINDICATION/ PRECAUTION*[8,18,20]	APPLIES TO*	CLINICAL RATIONALE*[8,18,34]
Corticosteroids with boosted PIs	**Inhaled/ intranasal fluticasone, budesonide; injected triamcinolone**	All RTV- or COBI-boosted regimens	Not recommended; CYP3A4 inhibition → **↓ corticosteroid clearance** → iatrogenic Cushing syndrome, adrenal insufficiency; use **beclomethasone as alternative** inhaled steroid if needed
Severe renal impairment	**CrCl <30 mL/ min (or ESRD not on HD)**	BIC/TAF/FTC (Biktarvy); most fixed-dose NRTI combinations	Not recommended per FDA labeling; individual **NRTI dose adjustment** required (3TC, FTC); **DTG/3TC**: not recommended if **CrCl <30**; DTG can be used without dose adjustment; consider specialist consultation
Severe hepatic impairment (Child-Pugh C)	**Decompensated cirrhosis**	BIC/TAF/FTC (Biktarvy); boosted PI regimens	Not recommended; **↑ drug exposure** with hepatic impairment; PIs and INSTIs should be used with caution in **Child-Pugh C**; tenofovir, 3TC, raltegravir, RPV do not require dose adjustment; **specialist referral recommended**
HBV coinfection	**Active HBV (HBsAg+)**	DTG/3TC (Dovato); LA CAB/RPV (Cabenuva) without HBV coverage	DTG/3TC contraindicated in HBV coinfection (insufficient HBV coverage; 3TC monotherapy → **rapid HBV resistance**); **LA CAB/RPV**: must continue or add HBV-active agents (TAF/TDF or entecavir) separately; discontinuing HBV-active agents → **risk of severe HBV reactivation hepatitis**
Polyvalent cation supplements	**Ca^{2+}, Mg^{2+}, Fe^{2+}, Al^{3+}, Zn^{2+} (antacids, supplements)**	All oral INSTIs (BIC, DTG, RAL, EVG)	Not a contraindication but requires **staggered dosing**; take INSTI ≥2 hr before or ≥6 hr after supplements on empty stomach; **can take together with food** (Ca^{2+}, Fe^{2+}); common issue in older adults on calcium/iron supplementation
Metformin	**Coadministration with DTG or BIC**	DTG-containing regimens (Dovato, Tivicay); BIC/TAF/ FTC (Biktarvy)	Not contraindicated but requires **dose adjustment**; DTG ↑ metformin levels ~70% via OCT2 inhibition; **adjust metformin dose** to achieve glycemic control; monitor closely in older adults with CKD

CATEGORY	CONTRAINDICATION/ PRECAUTION*[8,18,20]	APPLIES TO*	CLINICAL RATIONALE*[8,18,34]
Apixaban/DOACs with boosted PIs	**Coadministration of apixaban with RTV or COBI**	All RTV- or COBI-boosted regimens	Caution required; CYP3A4/P-gp inhibition → ↑ **apixaban levels** → **bleeding risk**; dose reduction may be needed; avoid with rivaroxaban; **INSTIs have no significant DOAC interactions**
Drug hypersensitivity	**Known hypersensitivity to active ingredient**	All ART regimens	Standard contraindication; **CAB/RPV**: prior hypersensitivity to either component is a contraindication; **ABC**: HLA-B*5701 positive is a contraindication (hypersensitivity reaction)
HLA-B*5701 positive	**Abacavir hypersensitivity risk**	All ABC-containing regimens (Triumeq, Epzicom)	Contraindicated; **HLA-B*5701 screening required before prescribing ABC**; positive result → **do not use ABC** (potentially fatal hypersensitivity reaction)

ABBREVIATIONS: BIC = bictegravir; TAF = tenofovir alafenamide; FTC = emtricitabine; DTG = dolutegravir; 3TC = lamivudine; RPV = rilpivirine; INSTI = integrase strand transfer inhibitor; OCT2 = organic cation transporter 2; QTc = corrected QT interval; LA = long-acting; CAB = cabotegravir; BID = twice daily; UGT1A1 = uridine diphosphate glucuronosyltransferase 1A1; CYP3A4 = cytochrome P450 3A4; PPI = proton pump inhibitor; H2RA = histamine-2 receptor antagonist; PI = protease inhibitor; DRV = darunavir; r = ritonavir; c = cobicistat; ATV = atazanavir; EVG = elvitegravir; DDI = drug-drug interaction; RTV = ritonavir; COBI = cobicistat; CrCl = creatinine clearance; ESRD = end-stage renal disease; HD = hemodialysis; NRTI = nucleoside reverse transcriptase inhibitor; FDA = US Food and Drug Administration; HBV = hepatitis B virus; HBsAg = hepatitis B surface antigen; TDF = tenofovir disoproxil fumarate; RAL = raltegravir; DOAC = direct oral anticoagulant; P-gp = P-glycoprotein; CKD = chronic kidney disease; ART = antiretroviral therapy; ABC = abacavir; HLA = human leukocyte antigen

***Consult FDA labels for the most up-to-date dosage and duration information, contraindications, and drug-drug interactions**

Essential PCP Pretreatment Checks Before ART Initiation

CLINICAL PEARL: ESSENTIAL PCP PRE-TREATMENT CHECKS BEFORE INITIATING OR SWITCHING ART

Before initiating or switching ART in older adults, PCPs should complete four essential pre-treatment checks:

(**1**) **HBV serologies** (HBsAg, anti-HBc, anti-HBs) — HBV coinfection requires ART with **dual HBV-active agents** (TAF or TDF + 3TC or FTC). **DTG/3TC contraindicated** in HBV coinfection[8]

(**2**) **DDI screening at hiv-druginteractions.org**; **key contraindications**: dofetilide with INSTIs, PPIs with oral RPV, rifamycins with BIC/TAF/FTC or LA CAB/RPV, lovastatin/simvastatin with boosted PIs, fluticasone with boosted PIs[2,8]

(**3**) **Renal function** (eGFR/CrCl); BIC/TAF/FTC not recommended if CrCl <30; most NRTI FDCs require CrCl ≥50[19,35]

(**4**) **HLA-B*5701**: required only if abacavir considered; positive = **absolute contraindication**[8,20]

ART is lifelong. Regimen selection must account for all chronic co-medications **from the outset**[8,19]

Common DDI Management Before ART Initiation

DRUG CLASS	ISSUE*[1,2,19,20]	PCP STRATEGY*[1,19,20,36]
Statins (simvastatin, lovastatin)	Contraindicated with **boosted PIs** (ritonavir, cobicistat) due to CYP3A4 inhibition → ↑ statin levels → **myopathy risk**	**INSTI-based regimens**: no statin adjustment needed; if on boosted PI → **switch to pitavastatin or pravastatin**
Metformin	DTG and BIC **inhibit OCT2** → ↑ metformin levels by **69–79%**	Adjust metformin dose for glycemic control; monitor for **lactic acidosis**; extra caution in older adults with declining eGFR
Polyvalent cations (Ca, Fe, Mg, Al, Zn)	Chelation **↓ INSTI absorption** (BIC/DTG levels ↓ up to 74% with simultaneous dosing)	Give **ART ≥2 hr before** or **≥6 hr after** supplements when fasting; simultaneous dosing OK if taken with food
Anticonvulsants (carbamazepine, phenytoin, phenobarbital)	Potent CYP3A4/UGT inducers → **↓ INSTI levels**; carbamazepine ↓ DTG AUC 49%	**Carbamazepine + DTG**: increase to DTG 50 mg BID; **BIC/FTC/TAF**: avoid all potent inducers → consider switch to **levetiracetam**
Rifampin	Potent inducer → **contraindicated with BIC/FTC/TAF**; ↓ DTG AUC 54%	**BIC/FTC/TAF**: contraindicated → switch to DTG 50 mg BID; **rifabutin is alternative** (no DTG dose adjustment)

DRUG CLASS	ISSUE*[1,2,19,20]	PCP STRATEGY*[1,19,20,36]
Dofetilide	BIC/DTG inhibit OCT2/MATE1 → ↑ dofetilide levels → **QT prolongation/torsades** risk	**Contraindicated with all INSTI-based regimens**; consult cardiology for alternative antiarrhythmic
Anticoagulants (DOACs, warfarin)	No significant DDIs with **unboosted INSTIs**; boosted PIs **↑ DOAC levels** (bleeding risk)	**INSTI-based ART**: no adjustment needed; if on **boosted PI**: avoid rivaroxaban/dabigatran; verify at hiv-druginteractions.org
PPIs (omeprazole, pantoprazole)	No significant interaction with INSTIs	No dose adjustment needed. Note: avoid with atazanavir (↓ absorption)

ABBREVIATIONS: PCP = primary care provider; PI = protease inhibitor; CYP3A4 = cytochrome P450 3A4; INSTI = integrase strand transfer inhibitor; DTG = dolutegravir; BIC = bictegravir; OCT2 = organic cation transporter 2; Ca = calcium; Fe = iron; Mg = magnesium; Al = aluminum; Zn = zinc; ART = antiretroviral therapy; hr = hour(s); UGT = uridine diphosphate glucuronosyltransferase; AUC = area under the curve; FTC = emtricitabine; TAF = tenofovir alafenamide; BID = twice daily; MATE1 = multidrug and toxin extrusion protein 1; QT = QT interval; DOAC = direct oral anticoagulant; DDI = drug-drug interaction; PPI = proton pump inhibitor(s); FDA = US Food and Drug Administration
***Consult FDA labels for the most up-to-date dosage and duration information, contraindications, and drug-drug interactions**

DOSE RECOMMENDATIONS

Dose Escalation and Treatment Intensification Criteria

TRIGGER[8,18,19]	ACTION*[8,18,19]
New HIV diagnosis in older adult (≥50 y)	Initiate ART **within 7 days of diagnosis**, including **same-day start** if ready (**AIII**); **>50%** of older adults diagnosed late (CD4 <350). **Pre-ART workup**: HIV RNA, CD4, genotype resistance testing, HBV serologies, CBC, CMP (eGFR), lipid panel, HLA-B*5701 (if ABC considered), DDI review
Treatment-naive, no significant comorbidities	**BIC/TAF/FTC** (Biktarvy) 1 tab daily or **DTG/3TC** (Dovato) 1 tab daily (**both AIa**); DTG/3TC **only if**: HIV RNA <500,000, no HBV coinfection, no 3TC resistance; Confirm HIV RNA at 4–6 wk; viral suppression expected by 12–24 wk
Treatment-naive with CKD (CrCl <50)	**Avoid TDF-containing regimens**; **BIC/TAF/FTC**: not recommended if CrCl <30; **DTG/3TC**: not recommended if **CrCl <50**; if **CrCl <30**: use DTG + individually dosed NRTIs or NRTI-sparing regimen; specialist consultation recommended

TRIGGER[8,18,19]	ACTION*[8,18,19]
Treatment-naive with osteoporosis or fracture risk	**Avoid TDF and boosted PIs** (associated with greater BMD loss); prefer BIC/TAF/FTC, DTG/3TC, or DTG + TAF/FTC; HIV confers **1.5x** fragility fracture risk and **4x** hip fracture risk; **DEXA recommended** for men ≥50 y and postmenopausal women
Treatment-naive with elevated CVD risk	**Avoid ABC** (associated with increased CVD risk); prefer BIC/TAF/FTC or DTG + TAF/FTC; **note**: TAF may increase lipids vs TDF; **statin therapy recommended** per ASCVD risk assessment; avoid lovastatin/simvastatin **with boosted PIs**
Virologic blip (isolated HIV RNA detectable but <200 copies/mL)	**Do NOT change ART** (**AII**); assess adherence, DDIs (especially polyvalent cation supplements with INSTIs), and food requirements; **recheck HIV RNA in 4–8 wk**; Low-level viremia <200 is common and rarely progresses to failure on INSTI-based regimens
Confirmed virologic failure (HIV RNA ≥200 copies/mL on 2 consecutive tests)	Perform **genotype resistance testing** while on failing regimen (**AI**); most **common cause**: suboptimal adherence; if no resistance detected on INSTI-based regimen: **resume same regimen with adherence support** (**AIIa**); if resistance detected: **construct new regimen** with **≥2** fully active agents including ≥1 with **high resistance barrier** (DTG, BIC, or boosted DRV)
Multiclass drug resistance (treatment-experienced)	**Specialist referral required**; **novel agents**: lenacapavir (Sunlenca), fostemsavir (Rukobia), ibalizumab — **ideally ≥2 fully active drugs** (**AIa**); continue TXF/XTC for **partial NRTI activity even with resistance** (**AIIa**); consider clinical trial enrollment
Regimen optimization in virologically suppressed older adult	**Switch indications**: toxicity reduction (TDF → TAF for renal/bone), DDI management, pill burden reduction, or simplification; **review full ART history** + **cumulative resistance testing** before switch (**AI**); **options**: BIC/TAF/FTC, DTG/3TC, DTG/RPV (Juluca), or LA CAB/RPV (Cabenuva) q2 months (**all AI** for switch)
Polypharmacy (≥5 concurrent medications)	Medication reconciliation at **every visit**; **optimize ART** (simplify to STR if possible); "prune" **nonessential non-ART medications**; DDI screening at hiv-druginteractions.org; polypharmacy in older adults with HIV associated with ↑ falls, frailty, hospitalization, and mortality
Stable on ART >1 year, virologically suppressed	HIV RNA monitoring can **decrease to q6 months** (**AIa**); if suppressed >5 years and patient prefers: **q12 months** (**BIII**); **CD4 monitoring**: **q6 months** until consistently **>250 for ≥1 year**, then discontinue unless virologic failure; continue age-appropriate cancer screening, CVD risk assessment, bone density monitoring
HBV coinfection — regimen switch	**Must maintain HBV-active agents** (TAF or TDF + 3TC or FTC, or entecavir) in any new regimen (**AII**); discontinuation → risk of **severe HBV reactivation** hepatitis; DTG/3TC and LA CAB/RPV alone are **insufficient for HBV coverage**

TRIGGER[8,18,19]	ACTION*[8,18,19]

ABBREVIATIONS: HIV = human immunodeficiency virus; y = year(s); ART = antiretroviral therapy; CD4 = cluster of differentiation 4; RNA = ribonucleic acid; HBV = hepatitis B virus; CBC = complete blood count; CMP = comprehensive metabolic panel; eGFR = estimated glomerular filtration rate; HLA = human leukocyte antigen; ABC = abacavir; DDI = drug-drug interaction; BIC = bictegravir; TAF = tenofovir alafenamide; FTC = emtricitabine; DTG = dolutegravir; 3TC = lamivudine; wk = week(s); CKD = chronic kidney disease; CrCl = creatinine clearance; TDF = tenofovir disoproxil fumarate; NRTI = nucleoside reverse transcriptase inhibitor; PI = protease inhibitor; BMD = bone mineral density; DEXA = dual-energy x-ray absorptiometry; CVD = cardiovascular disease; ASCVD = atherosclerotic cardiovascular disease; INSTI = integrase strand transfer inhibitor; DRV = darunavir; TXF = tenofovir (TDF or TAF); XTC = lamivudine or emtricitabine; RPV = rilpivirine; LA = long-acting; CAB = cabotegravir; STR = single-tablet regimen; FDA = US Food and Drug Administration

***Consult FDA labels for the most up-to-date dosage and duration information, contraindications, and drug-drug interactions**

CLINICAL PEARL: AGING SILENTLY RESHAPES HIV DISEASE IN OLDER ADULTS

Older adults with HIV achieve virologic suppression rates comparable to younger patients, but **three consequences of aging warrant PCP attention**:

- **Immune recovery is blunted**. **CD4 recovery** after ART initiation is **slower** and **smaller in magnitude**, and excess mortality versus people without HIV widens with age.[8] **START** showed the largest absolute risk reduction from immediate ART in participants aged ≥50 — making **early diagnosis critical**[37]
- **Non-AIDS comorbidities dominate**. Chronic inflammation and immunosenescence **accelerate biological aging**, driving **earlier ASCVD**, CKD, osteoporosis, neurocognitive decline, and non-AIDS malignancies — now a growing share of deaths in people with HIV[8]
- **Polypharmacy compounds risk**. Multimorbidity drives polypharmacy, increasing falls, frailty, hospitalization, and DDIs.[8,19] Because ART is lifelong, DDI management and **simplification to single-tablet regimens** must be built into regimen selection **from the outset**, with regular deprescribing review[8,19]

Bottom line: Older adults with HIV are diagnosed later, recover immunity more slowly, accumulate non-AIDS comorbidities faster, and face greater polypharmacy risk — making **early diagnosis**, **comorbidity-informed ART selection**, and ongoing **medication optimization** high-value PCP interventions.[8,19]

Duration of ART

ART for HIV is lifelong.[2,8] There is no defined treatment endpoint or "cure" — ART must be continued indefinitely to **maintain viral suppression**, **preserve immune function**, and **prevent HIV transmission**.[8,19] Treatment duration is therefore not determined by regimen or disease stage, but rather by the **ongoing need for viral suppression** throughout the patient's lifetime.[8,19]

The goal of ART is durable viral suppression, defined as **HIV RNA <50 copies/mL** (undetectable).[8,20] Virologic failure is defined as **HIV RNA ≥200 copies/mL** on two consecutive measurements.[8,19]

Recommended Initial ART Regimens for Treatment-Naive Older Adults

CLINICAL SCENARIO	REGIMEN*[8,19,35]	KEY NOTES*[8,18,19]
Standard (no significant comorbidities)	BIC/TAF/FTC (Biktarvy) 1 tab daily	Preferred 3-drug STR (**AIa**); no food requirement
Standard (alternative)	DTG/3TC (Dovato) 1 tab daily	2-drug STR (**AIa**); only if **HIV RNA <500K**, no HBV, no 3TC resistance
CKD (CrCl <50)	Avoid most FDCs; individually dose NRTIs	BIC/TAF/FTC not recommended if **CrCl <30**; DTG/3TC not recommended if **CrCl <50**; specialist input advised
Elevated CVD risk	BIC/TAF/FTC or DTG + TAF/FTC	**Avoid ABC** (CVD association); note: TAF may ↑ lipids vs TDF
Osteoporosis/fracture risk	BIC/TAF/FTC, DTG/3TC, or DTG + TAF/FTC	Avoid TDF (↓ BMD) and boosted PIs
Suspected INSTI resistance (prior CAB-LA PrEP)	Boosted DRV + TXF/XTC	**AIIb**; pending INSTI genotype results

ABBREVIATIONS: BIC = bictegravir; TAF = tenofovir alafenamide; FTC = emtricitabine; STR = single-tablet regimen; DTG = dolutegravir; 3TC = lamivudine; HIV = human immunodeficiency virus; RNA = ribonucleic acid; HBV = hepatitis B virus; CKD = chronic kidney disease; CrCl = creatinine clearance; FDC = fixed-dose combination; NRTI = nucleoside reverse transcriptase inhibitor; CVD = cardiovascular disease; ABC = abacavir; TDF = tenofovir disoproxil fumarate; BMD = bone mineral density; PI = protease inhibitor; INSTI = integrase strand transfer inhibitor; CAB-LA = long-acting cabotegravir; PrEP = pre-exposure prophylaxis; DRV = darunavir; TXF = tenofovir (TDF or TAF); XTC = lamivudine or emtricitabine; FDA = US Food and Drug Administration
***Consult FDA labels for the most up-to-date dosage and duration information, contraindications, and drug-drug interactions**

Key principles for PCPs:

- **No dose titration required** — ART is prescribed at **fixed doses from day one**. There is no "starting dose" or gradual uptitration[2]
- **Rapid initiation** (within 7 days, including same-day) is **recommended** (**AIII**). Pre-ART labs (HIV RNA, CD4, genotype, HBV serologies) should be obtained **but need not delay ART start**[8,19]
- Early ART is especially important in older adults: the **START trial** showed the highest absolute risk reduction of serious AIDS and non-AIDS events in participants **aged ≥50 years**[8,37]
- ART-associated CD4 recovery is **slower** and **lower in magnitude** in older adults, reinforcing the importance of early diagnosis and treatment[8,38]

Regimen Optimization in Virologically Suppressed Patients

Regimen switches in suppressed patients are **common and appropriate** for toxicity reduction, DDI management, pill burden simplification, or cost.[8,19] A detailed review of **ART history** and **cumulative resistance testing** is required before any switch (**AI**).[8]

SWITCH SCENARIO	OPTIONS*[2,8,19,23]	KEY CAVEATS*[8,19,23]
Simplification to 2-drug oral regimen	DTG/3TC (Dovato) or DTG/RPV (Juluca)	**No HBV coinfection**; no prior treatment failure or resistance to components; **AIa**
Switch from TDF for renal/bone protection	BIC/TAF/FTC (Biktarvy)	TAF has **less renal/bone toxicity** but may ↑ lipids and weight
Switch from boosted PI	DTG + TXF/XTC or BIC/TAF/FTC	Safe **even with likely prior NRTI resistance** (M184V, K65R) if no INSTI resistance; **AIa**
Switch to long-acting injectable	LA CAB/RPV (Cabenuva) q1–2 months	Requires sustained **suppression ≥3 months**, no prior failure, no CAB/RPV resistance (**AI**); not for HBV coinfection
Multiclass resistance	Specialist referral	Lenacapavir, fostemsavir, ibalizumab; **≥2 fully active drugs**

ABBREVIATIONS: DTG = dolutegravir; 3TC = lamivudine; RPV = rilpivirine; HBV = hepatitis B virus; TDF = tenofovir disoproxil fumarate; BIC = bictegravir; TAF = tenofovir alafenamide; FTC = emtricitabine; PI = protease inhibitor; TXF = tenofovir (TDF or TAF); XTC = lamivudine or emtricitabine; NRTI = nucleoside reverse transcriptase inhibitor; INSTI = integrase strand transfer inhibitor; LA = long-acting; CAB = cabotegravir; FDA = US Food and Drug Administration
***Consult FDA labels for the most up-to-date dosage and duration information, contraindications, and drug-drug interactions**

Managing Virologic Failure

SCENARIO	ACTION*[8,19,20]
Virologic blip (HIV RNA detectable but <200)	**Do NOT change ART**; **assess**: adherence, DDIs, food requirements; recheck HIV RNA in **4–8 wk**
Confirmed failure (HIV RNA ≥200 on 2 tests)	Genotype resistance testing while on failing regimen (**AI**); most common cause: **suboptimal adherence**
Failure on NNRTI + 2 NRTIs	DTG + 2 NRTIs (**≥1 fully active**; **AIa**)
Failure on INSTI-based regimen, no resistance	Resume same regimen with **adherence support** (**AIIa**)
Failure with INSTI resistance	**Specialist referral**; boosted DRV + DTG ± NRTIs, or novel agents (lenacapavir, fostemsavir)

SCENARIO	ACTION*[8,19,20]

ABBREVIATIONS: HIV = human immunodeficiency virus; RNA = ribonucleic acid; ART = antiretroviral therapy; DDI = drug-drug interaction; wk = week(s); NNRTI = non-nucleoside reverse transcriptase inhibitor; NRTI = nucleoside reverse transcriptase inhibitor; DTG = dolutegravir; INSTI = integrase strand transfer inhibitor; DRV = darunavir; FDA = US Food and Drug Administration
***Consult FDA labels for the most up-to-date dosage and duration information, contraindications, and drug-drug interactions**

On-Treatment Monitoring Schedule

TEST[8,19,20,34]	TIMING[8,19,20,34]
HIV RNA	At ART start (**AI**); 4–8 wk after initiation (**AIII**); q4–8 wk until undetectable (**BIII**); q3–4 mo once suppressed (**AIII**); may extend to q6 mo if adherent and suppressed >1 yr (**AIII**); repeat 4–8 wk after any regimen change
CD4 count	**At ART start** (**AI**); **if <300**: q3–4 mo for first 1–2 yr (**BII**); if **≥300 with suppression**: q6 mo (**BIII**); optional after 1–2 yr if ≥300 (**BIII**); q3–6 mo if suppression not maintained or new immunosuppression (**AIII**)
Genotype resistance	**At diagnosis** → RT/protease (**AII**); add integrase if **transmitted INSTI resistance suspected** or HIV **acquired on CAB-LA PrEP**; repeat at failure, on the failing regimen; yield highest at HIV RNA >1,000 copies/mL (**BII**)
Safety labs	**Baseline**: CBC, chemistry with eGFR, LFTs, urinalysis, lipids (**AIII**); chemistry 1–2 mo after start/change, then q6 mo; CBC annually; urinalysis before and during TDF or TAF; lipids at 3–6 mo, then annually if age ≥40 y or on a statin
HBV serologies	**Baseline**: HBsAg, anti-HBs, anti-HBc; vaccinate if non-immune (**AIII**); confirm status **before any switch** off tenofovir or to NRTI-sparing therapy; if coinfected, retain an **HBV-active agent** (TAF, TDF, entecavir) (**AII**) as discontinuation risks severe reactivation hepatitis; monitor ALT after switch
Age-appropriate screening	**DXA baseline** in men >50 y and postmenopausal women; frailty annually >50 y; STIs at entry then ≥annually if high risk; cancer screening per USPSTF/ACS plus cervical/anal; BP, weight, ASCVD risk at routine visits; neurocognitive testing when indicated

ABBREVIATIONS: HIV = human immunodeficiency virus; RNA = ribonucleic acid; ART = antiretroviral therapy; wk = week(s); mo = month(s); yr = year(s); RT = reverse transcriptase; INSTI = integrase strand transfer inhibitor; CAB-LA = long-acting cabotegravir; PrEP = pre-exposure prophylaxis; CBC = complete blood count; eGFR = estimated glomerular filtration rate; LFT = liver function test; TDF = tenofovir disoproxil fumarate; TAF = tenofovir alafenamide; HBV = hepatitis B virus; HBsAg = hepatitis B surface antigen; anti-HBs = hepatitis B surface antibody; anti-HBc = hepatitis B core antibody; NRTI = nucleoside reverse transcriptase inhibitor; ALT = alanine aminotransferase; DXA = dual-energy x-ray absorptiometry; STI = sexually transmitted infection; USPSTF = US Preventive Services Task Force; ACS = American Cancer Society; BP = blood pressure; ASCVD = atherosclerotic cardiovascular disease; FDA = US Food and Drug Administration
***Consult FDA labels for the most up-to-date dosage and duration information, contraindications, and drug-drug interactions**

The IAS-USA 2024 panel recommends that for adherent patients **suppressed >1 year** with **stable clinical/immunologic status**, HIV RNA monitoring can be extended to **every 6 months** (**AIa**).[19] For those suppressed >5 years, the NIH OARAC guidelines note that **q12-month monitoring may be considered** (**BIII**).[8]

CLINICAL PEARL: WHY ART IS LIFELONG — AND WHY THAT MATTERS MORE IN OLDER ADULTS

ART suppresses HIV replication but **does not eradicate the virus**. A latent HIV reservoir persists in long-lived CD4+ T cells and other cellular compartments, making lifelong treatment necessary.[39,40] **Three implications** are especially relevant **for older adults**:

Adherence determines outcomes over decades, not weeks. Unlike a short curative course, ART adherence **must be sustained for life**. Polypharmacy (**≥5 medications** in older adults with HIV), cognitive decline, and pill fatigue all threaten long-term adherence.[8]

Regimen simplification, including single-tablet regimens and long-acting injectables (LA CAB/RPV q2 months), can improve adherence in this population.[8]

Regimen switches are expected over a lifetime. As comorbidities accumulate, ART **may need to be optimized for** renal protection (TDF → TAF), bone health, CVD risk, or DDI management.[8,19] Every switch requires review of full ART history and cumulative resistance testing (**AI**).[8,19]

Monitoring de-escalates with stability. Patients suppressed >1 year can **transition from quarterly to semiannual** HIV RNA monitoring, and CD4 monitoring can be discontinued once **consistently >250 for ≥1 year** = reducing visit burden for stable older adults.[8,19]

Bottom line: ART is lifelong, but the **intensity** of monitoring and the specific regimen **should evolve** with the patient — simplifying treatment, reducing visit burden, and proactively managing comorbidities as the patient ages.

HIV ART UTILIZATION FRAMEWORK IN VALUE-BASED CARE

A Closed Loop DAA VBC Pathway for PCPs

Step 1: Automated Identification

- **Trigger**: EHR notification alerts care teams for **all adults aged 15–65** (and older adults at increased risk) who **lack a documented HIV screening result**, per **USPSTF Grade A** recommendation[16]

Step 2: Single-Visit Confirmation

- **Protocol**: Order a **fourth-generation HIV antigen/antibody test**; if reactive, confirm with **HIV-1/HIV-2 differentiation assay** and obtain quantitative HIV RNA (viral load) to bypass secondary testing barriers and expedite linkage to care[8,20]

Step 3: Baseline Staging and Comorbidity Assessment

- **Evaluation**: Obtain CD4 count, HIV RNA viral load, genotypic resistance testing (RT/PR; add integrase if prior cabotegravir PrEP exposure), HLA-B*5701, CBC, CMP (renal/hepatic function), fasting lipids, fasting glucose, HBV/HCV/HAV serologies, STI screening, latent TB

testing, and pregnancy test if applicable; **if CD4 <100 cells/µL** → add **serum cryptococcal antigen**[8,19,20]

- **Triage Rule**: **CD4 <200** cells/µL → initiate opportunistic infection prophylaxis and prioritize rapid ART; **CD4 ≥200** → proceed with rapid ART initiation.[8,19,20] Older adults (≥50 y) **warrant additional attention to** renal function, bone density risk, cardiovascular risk, and polypharmacy before regimen selection[8,20]

Step 4: Evidence-Based Treatment Selection

- **Formulary**: Initiate an **INSTI-based single-tablet regimen**, bictegravir/emtricitabine/TAF (Biktarvy) or dolutegravir plus TAF/FTC (or TDF/FTC), as first-line per DHHS and IAS-USA guidelines;[2,8,20] dolutegravir/lamivudine (Dovato) is an option if HIV RNA <500,000 copies/mL, HBV-negative, and genotype confirms no lamivudine resistance.[8,19] In older adults, **prefer TAF over TDF** to reduce renal and bone toxicity risk; perform mandatory DDI check given high polypharmacy burden[2,8,19]

Step 5: Adherence and Value Realization

- **Monitoring**: Assess adherence at every visit using **nonjudgmental structured self-report**; obtain **HIV RNA at 2–4 weeks post-initiation** to confirm early virologic response, then at **4–8 weeks**, then **every 3–6 months** until sustained suppression;[19,20] once virologically suppressed ≥1 year with stable CD4, extend monitoring to **every 6 months**. Deploy text-based or telehealth check-ins to support adherence, particularly for older adults with mobility limitations or polypharmacy-related confusion[20]
- **Closure**: Sustained viral suppression (**HIV RNA copies below detection limit**) confirms treatment success; document in value-based registry. **Continue lifelong ART** with ongoing monitoring for comorbidities (cardiovascular disease, metabolic syndrome, bone health, renal function, neurocognitive decline) per HIVMA/IDSA primary care guidance[20]

PCP vs Specialist Responsibilities

Primary Care Providers (PCPs)[8,20,35,41]

- **PrEP and PEP Initiation**: Serving as the primary access point for pre-exposure and post-exposure prophylaxis medications
- **Maintenance and Refills**: Continuing stable, single-tablet antiretroviral therapy (ART) regimens for virally suppressed patients
- **Comorbidity Screening**: Managing age-related chronic conditions like cardiovascular risks, diabetes, and routine vaccinations
- **Adherence Support**: Monitoring patient pill-taking habits and addressing mild, non-complex adverse effects

Specialists (Infectious Disease)[8,20,35,41]

- **Complex ART Design**: Constructing initial or salvage regimens for patients with multi-drug resistance or treatment failure

- **Advanced Monitoring**: Interpreting complex genotypic resistance assays and managing profound immune suppression (low CD4 counts)
- **Transition to Long-Acting Agents**: Overseeing the clinical integration of complex or injectable antiretroviral therapy
- **Specialist Consultation**: Acting as an ongoing consultant for PCPs when drug-drug interactions or severe comorbidities complicate the care plan

Shared Monitoring and Stewardship Roles

CARE FUNCTION	PRIMARY CARE PROVIDER (PCP)[8,20,35,41]	ID SPECIALIST/PHARMACIST[8,20,35,41]
Routine Labs	Orders and reviews **routine Q6M viral loads** and metabolic panels	Steps in if labs show an **upward viral trajectory** or **sudden renal decline**
Comorbidity Rx	**Prescribes and adjusts medications for**: hypertension, diabetes, and dyslipidemia	Reviews new PCP prescriptions to **prevent critical DDIs** with the ART regimen
Formulary Alignment	Monitors basic adherence and **flags financial or pharmacy barriers**	Optimizes the regimen against the payer formulary to **minimize out-of-pocket costs**

Actionable Cost Optimization Strategy

ART for HIV is a **lifelong medication commitment**, making cost optimization a sustained priority rather than a one-time decision.[8] Estimated average lifetime HIV-related medical costs are approximately **$420,000 per person** (discounted), with ART medications comprising **~74%** of total costs.[14] Annual ART spending in the United States reached **$22.5 billion** in 2018, and first-line regimens recommended for most people with HIV are priced above **$36,000/year** at AWP — costs that have increased **34%** since 2012, outpacing inflation by **3.5x**.[22]

Delaying ART initiation increases both clinical and economic costs. **Rapid ART start** (within 7days) is associated with a **20%** reduction in mortality and consistently lower per-patient-per-month medical costs across 36 months compared with delayed initiation ($2,058 vs $2,310 PPPM).[42] **For older adults**, early treatment is especially critical given blunted CD4 recovery and higher risk of serious non-AIDS events with delayed initiation.[8,19]

Several cost levers are available to PCPs managing older Medicare beneficiaries with HIV:

- Inflation Reduction Act **$2,000 annual OOP cap** limits Medicare Part D beneficiary exposure (effective 2025+); a Medicare Prescription Payment Plan allows monthly installments for high-cost drugs
- **Antiretrovirals are a protected drug class under Part D** — plans must cover all or substantially all FDA-approved ARVs, though utilization management (prior authorization, step therapy, cost-sharing tiers) is permitted

- **Generic ARV components** (TDF, 3TC, DTG individually) can reduce costs substantially. A modeling study estimated that if 50% of newly diagnosed patients initiated **branded DTG + generic 3TC** instead of a branded STR, savings would reach **$550–$800 million** over 5 years; switching **25%** of suppressed patients could save **>$3 billion** in 5 years
- **Ryan White/ADAP** provides cost-sharing support for uninsured/underinsured patients; ADAPs receive voluntary discounts often **exceeding 50%** off list prices through the 340B Drug Pricing Program
- **340B-eligible sites** (RWHAP clinics, community health centers) can acquire ARVs at **~20–50% below list price** and reinvest savings into wraparound services
- VA/federal acquisition pricing is **40–50%** below list prices for dual-eligible Medicare/VA patients
- Manufacturer copay assistance programs are available for commercially insured patients but **cannot be applied to Medicare Part D cost-sharing**; ADAP and independent foundations (e.g., Patient Access Network Foundation) can provide Part D cost-sharing support

Regimen De-Escalation and Optimization

Long-term reassessment requires validating that the patient is on the **least toxic**, **most convenient**, and most **cost-effective medication** possible.[8]

- **Two-Drug Maintenance Regimens (2DR)**: Assess if the patient can switch from a traditional three-drug regimen to an **optimized two-drug regimen** (such as Dolutegravir/Lamivudine) → maintains strict virologic control while **eliminating long-term cumulative drug exposure**
- **Long-Acting Injectable Transitions**: For patients struggling with long-term pill fatigue but possessing a flawless history of viral suppression, evaluate candidates for **long-acting injectable therapies** administered **every two months**
- **Archive Resistance Review**: **Before** any regimen modification or simplification, the clinical team must **review the historic baseline genotype** to ensure no hidden mutations will compromise the new, streamlined regimen

Cost-Smart ART Prescribing Strategies

BRAND (EST. COST)[1,18,21,22]	ALTERNATIVE (EST. COST)[1,8,19,21,43]	EST. SAVINGS + COST-SMART TIP*[1,19,21,44,45]
Biktarvy (BIC/TAF/FTC) ~$3,500/mo WAC; no generic available[6]	Dovato (DTG/3TC) **~$2,700/mo** WAC (two-drug STR; brand only)[6,43]	**~$800/mo** **Both brand-only**; Ryan White/ADAP, manufacturer copay assistance, and Medicare LIS **cover most PWH**; Medicare Part D OOP **capped at $2,000/yr** (2025+)[44,45]

BRAND (EST. COST)[1,18,21,22]	ALTERNATIVE (EST. COST)[1,8,19,21,43]	EST. SAVINGS + COST-SMART TIP*[1,19,21,44,45]
Dovato (DTG/3TC) ~$2,700/mo WAC[6]	**Generic** DTG 50 mg (**~$50–$100/mo**) + **generic** 3TC 300 mg (**~$40–$415/mo** WAC) prescribed separately[6]	**~$2,200– $2,600/mo** Two-pill equivalent of Dovato is available as separate generics (**off label**); requires **confirmed HBV-negative** status and genotype
Descovy (TAF/FTC) ~$2,200/mo WAC (NRTI backbone)[6]	**Generic** TDF/FTC **~$25–$420/mo** WAC (**FUL ~$15/mo**)[6,46]	**~$1,800– $2,175/mo** Generic TDF/FTC is **pennies/day** at **FUL pricing**;[46] switch to TAF only for CrCl <60, osteoporosis, or advanced age; TDF acceptable backbone in **younger PWH** without renal/bone risk
Cabenuva (LA CAB/RPV) ~$5,400–$7,200/mo equivalent WAC (provider-administered, Part B)[6]	Oral BIC/TAF/FTC **~$3,500/mo** WAC[6]	**~$1,900– $3,700/mo** Cabenuva justified for adherence-challenged patients where **oral ART has failed** to maintain suppression; Part B billing (20% coinsurance) vs Part D; QMB program may cover coinsurance for low-income Medicare beneficiaries[45]
Pitavastatin brand (Livalo) ~$300/mo	**Generic** pitavastatin (Zypitamag) **~$30–$50/mo**	**~$250– $270/mo** Generic pitavastatin available → **prescribe generic specifically**
TMP-SMX DS (PCP prophylaxis) generic ~$5–$15/mo[5]	Dapsone **~$20–$50/mo**; atovaquone **~$800–$1,500/mo** (brand)[5]	**TMP-SMX is lowest cost** TMP-SMX DS daily is **first-line and cheapest** OI prophylaxis; reserve atovaquone only for sulfa allergy + G6PD deficiency (dapsone contraindicated); generic dapsone is **second-line**
PrEP: Descovy (TAF/FTC) ~$2,200/mo WAC[6]	**Generic** TDF/FTC **~$25/mo** (FUL); injectable CAB (Apretude) ~$3,700/dose q2mo[47]	**~$2,175/mo** (**generic** TDF/FTC) USPSTF Grade A → **zero cost-sharing under ACA**; G0011/G0012/G0013 Medicare codes; **generic TDF/FTC** is most cost-effective oral PrEP;[46,47] CAB-LA for patients unable to adhere to daily oral
Sertraline or escitalopram (depression) generic ~$5–$15/mo	CBT-I + melatonin OTC for insomnia (**~$5–$10/mo**)	**Already inexpensive generic**; bundle behavioral health under integrated care; Medicare Part B covers **behavioral therapy**
RZV (Shingrix) ~$190–$230/dose × 2 doses[48]	**No alternative** = only available zoster vaccine in US	**Medicare Part D covers with $0 OOP post-IRA**;[49] recommended for all PWH ≥18 regardless of CD4

BRAND (EST. COST)[1,18,21,22]	ALTERNATIVE (EST. COST)[1,8,19,21,43]	EST. SAVINGS + COST-SMART TIP*[1,19,21,44,45]

ABBREVIATIONS: est. = estimated; BIC = bictegravir; TAF = tenofovir alafenamide; FTC = emtricitabine; mo = month(s); WAC = wholesale acquisition cost; DTG = dolutegravir; 3TC = lamivudine; STR = single-tablet regimen; ADAP = AIDS Drug Assistance Program; PWH = people with HIV; HIV = human immunodeficiency virus; LIS = Low-Income Subsidy; OOP = out-of-pocket; yr = year(s); HBV = hepatitis B virus; NRTI = nucleoside reverse transcriptase inhibitor; TDF = tenofovir disoproxil fumarate; FUL = Federal Upper Limit; CrCl = creatinine clearance; LA = long-acting; CAB = cabotegravir; RPV = rilpivirine; ART = antiretroviral therapy; QMB = Qualified Medicare Beneficiary; TMP-SMX DS = trimethoprim-sulfamethoxazole double strength; PCP = Pneumocystis jirovecii pneumonia; OI = opportunistic infection; G6PD = glucose-6-phosphate dehydrogenase; PrEP = pre-exposure prophylaxis; CAB-LA = long-acting cabotegravir; USPSTF = US Preventive Services Task Force; ACA = Affordable Care Act; CBT-I = cognitive behavioral therapy for insomnia; OTC = over-the-counter; RZV = recombinant zoster vaccine; US = United States; IRA = Inflation Reduction Act; CD4 = CD4+ T-lymphocyte count

***Consult FDA labels for the most up-to-date dosage and duration information, contraindications, and drug-drug interactions**

Non-Pharmacological Intervention Strategies

DOMAIN	INTERVENTION	VBC RATIONALE
Falls prevention	Annual fall risk screen; **PT referral**; vitamin D; home safety	**22.7%** pre-frail/frail in PWH ≥60; falls drive fractures, hospitalization, and functional decline → PT and deprescribing sedatives (OR 1.9 for falls) are **highest-yield** preventive interventions[9]
Sexual health and U=U	Universal **sex-positive history conversation**; PrEP for HIV-negative partner; STI screen annually[16]	**Normalizes care**; reduces transmission; addresses underrecognized older-adult sexual health[18]
Nutrition and weight	Annual **MNA**; **high-protein diet** (≥1.0–1.2 g/kg/day, increasing to 1.2–1.5 g/kg/day if frail or acutely ill); Mediterranean diet; address **INSTI-related weight gain**; structured exercise referral	PWH develop sarcopenia and frailty **earlier** than age-matched peers (~11% frail, ~47% pre-frail in PWH >50); nutritional optimization, **particularly adequate protein**, increases efficacy of exercise interventions for **frailty reversal**; Mediterranean diet associated with lower incident frailty and sarcopenia; **ASCVD risk reduction**; supports REPRIEVE benefit[20]
Smoking cessation	Behavioral counseling + pharmacotherapy	Higher smoking prevalence in PWH → COPD, lung cancer, ASCVD **risk reduction**[10]
Social and mental support	Screen for isolation, stigma, food insecurity; refer **Ryan White** case management	Late presenters and older PWH carry **stigma burden**; isolation predicts non-adherence

DOMAIN	INTERVENTION	VBC RATIONALE
Advance care planning	Document goals of care; healthcare proxy; advance directives	Aligns care with patient values; reduces surrogate distress; satisfies **HEDIS COA** and **MIPS** Quality **#47**; supports **5Ms 'Matters Most'**

ABBREVIATIONS: VBC = value-based care; PT = physical therapy; PWH = people with HIV; HIV = human immunodeficiency virus; OR = odds ratio; U=U = Undetectable equals Untransmittable; PrEP = pre-exposure prophylaxis; STI = sexually transmitted infection; MNA = Mini Nutritional Assessment; INSTI = integrase strand transfer inhibitor; ASCVD = atherosclerotic cardiovascular disease; COPD = chronic obstructive pulmonary disease; HEDIS = Healthcare Effectiveness Data and Information Set; COA = Care for Older Adults (HEDIS measure); MIPS = Merit-based Incentive Payment System; 5Ms = Mind, Mobility, Medications, Multicomplexity, Matters Most

Patient-Centered Conversation Framework

Document the following education topics, the patient and caregiver(s) present, materials provided, and patient understanding (**teach-back method**):

- **Diagnosis in plain language**: HIV weakens the immune system if untreated but is manageable with daily medication; found through a blood test, not symptoms; over half of older adults are diagnosed late; with treatment, the virus becomes undetectable and life expectancy is near-normal
- **Warning symptoms → ED**: New confusion, seizures, or severe headache; high fever with cough/dyspnea; sudden vision changes; new purple/dark skin lesions; severe diarrhea with dehydration
- **Why testing matters**: CDC recommends all adults be screened at least once; older adults are often missed; early treatment prevents immune damage, reduces heart/kidney/cancer complications, and eliminates transmission risk
- **Treatment expectations**: Usually one pill, once daily, for life — no cure, but treatment makes the virus undetectable; most tolerate it well; long-acting injectables (q1–2 months) available; undetectable = untransmittable (U=U)
- **Medication adherence**: Missed doses risk drug resistance, limiting future options; use daily reminders/pillbox; never stop without discussing with care team; bring all medications and supplements to visits for interaction checks
- **Ongoing monitoring**: Viral load and CD4 checked regularly (q3–6 months, then q6–12 months once stable); kidney function, lipids, and glucose also monitored; age-appropriate cancer, bone density, and CVD screening included
- **Geriatric considerations**: Age does not prevent treatment; kidney, bone, CVD risk, and co-medications guide pill selection; immune recovery is slower in older adults — early treatment is critical
- **Transmission prevention and sexual health**: U=U — undetectable viral load means no sexual transmission; condoms still recommended for other STIs; HIV-negative partners may benefit from PrEP (daily pill or bimonthly injection)
- **Advance care planning**: Document healthcare proxy and care goals early — only ~30% of older adults with HIV have a proxy; revisit at major health changes; address social isolation, which is common and affects care decisions
- **Caregiver assessment**: Screen for caregiver burden each visit; many older adults with HIV have smaller support networks; refer to social work or Ryan White–funded services early

HCC and Quality Alignment

Accurate ICD-10 coding for HIV encounters is essential for appropriate risk adjustment, care coordination, and continuity across the HIV care cascade — from diagnosis through ART initiation, viral suppression, and long-term comorbidity management. **PCPs should document**: the confirmed HIV diagnosis (**B20**), current ART and viral suppression status, and the presence or absence of HIV-associated complications at each encounter, as this directly impacts hierarchical condition category (HCC) mapping and downstream care planning.[46,47] HIV coding requires **B20** as the principal diagnosis **at every encounter once HIV disease is confirmed**, with additional codes to document opportunistic infections, HIV-associated malignancies, and accelerated comorbidities (cardiovascular disease, CKD, metabolic syndrome) that drive healthcare utilization in older adults.[48] The following table outlines the relevant ICD-10 codes for HIV/AIDS encounters.

↔ MAKING CONNECTIONS

For additional context on **HIV/AIDS coding**, please consult the **AAVBC HIV/AIDS QRG**

Key HEDIS/MIPs/PQA Measures

No HIV-specific HEDIS measures exist in MY2026. However, **several HIV-specific MIPS measures** and the **PQA Antiretroviral Medications Adherence Measure are directly reportable by PCPs**:

- **MIPS #205**: Sexually Transmitted Infection (STI) Testing for People with HIV
- **MIPS #338**: HIV Viral Suppression
- **MIPS #340**: HIV Annual Retention in Care
- **MIPS #475**: HIV Screening
- **PQA PDC-ARV**: Antiretroviral Medications: Proportion of Days Covered

MEASURE	STANDARD	HIV/AIDS APPLICABILITY*[1,16,20,49]
MIPS #205: Sexually Transmitted Infection (STI) Testing for People with HIV	**Denominator**: patients ≥13 with HIV (B20/Z21) with ≥2 visits during measurement year **Numerator**: screened for syphilis, gonorrhea, and chlamydia ≥1×/year **Exclusions**: none	**Annual minimum**; every **3–6 months** if high-risk; NAAT at all exposure sites preferred
MIPS #338: HIV Viral Suppression	**Denominator**: patients ≥13 with HIV (B20/Z21) with ≥1 visit during measurement year; **Numerator**: most recent HIV RNA <200 copies/mL **Exclusions**: none	Provider-level measure paralleling HEDIS HVL (**NQF #0407**); **virologic failure** = inability to achieve or maintain VL 200

MEASURE	STANDARD	HIV/AIDS APPLICABILITY*[1,16,20,49]
MIPS #340: HIV Annual Retention in Care	**Denominator**: patients ≥13 with HIV (B20/Z21); **Numerator**: ≥2 visits at least 90 days apart during measurement year **Exclusions**: none	**NQF #0403**; only 54% of PWH retained nationally; EHR alert for patients not seen in ≥9 months supports recovery
MIPS #475: HIV Screening	**Denominator**: patients 15–65 (or outside range if high-risk) with no prior HIV diagnosis; **Numerator**: screened ≥1× using 4th-gen Ag/Ab; **Exclusions**: prior HIV diagnosis	**USPSTF Grade A**; >75% of high-risk persons seen by PCP were **not offered testing**; up to 38% of new infections transmitted by undiagnosed persons
PQA HCV: Treatment of Chronic Hepatitis C: Completion of Therapy	**Proportion of days covered by ART prescription** claims during measurement year; **PDC threshold ≥90%** for antiretrovirals (vs. 80% standard for other chronic medications)	**90%** PDC threshold reflects evidence that **near-perfect ART adherence required** for durable viral suppression; **pharmacy-level measure** used in Part D star ratings

ABBREVIATIONS: HIV = human immunodeficiency virus; AIDS = acquired immunodeficiency syndrome; MIPS = Merit-based Incentive Payment System; STI = sexually transmitted infection; NAAT = nucleic acid amplification test; RNA = ribonucleic acid; HEDIS = Healthcare Effectiveness Data and Information Set; HVL = HIV Viral Load Suppression (HEDIS measure); NQF = National Quality Forum; VL = viral load; PWH = people with HIV; EHR = electronic health record; Ag/Ab = antigen/antibody; USPSTF = United States Preventive Services Task Force; PCP = primary care provider; PQA = Pharmacy Quality Alliance; HCV = hepatitis C virus; PDC = proportion of days covered; ART = antiretroviral therapy; FDA = US Food and Drug Administration
***Consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions**

TEN KEY TAKEAWAYS FOR HIV DAA THERAPIES

1 ART is for every patient — age is never a contraindication

Treatment is recommended **regardless of CD4 count** (**AI**), and maintaining undetectable HIV RNA levels improves health and prevents sexual transmission.[8] **Early treatment matters most** in older adults, who have blunted immune recovery and **higher serious non-AIDS event risk**.[19]

2 Screen and diagnose earlier — older adults present late

In 2022, **38%** of people with HIV were **≥55 years** and **13.2%** were **≥65**, yet **more than half** of older adults are diagnosed at CD4 <350/µL because they are perceived as low risk.[8] **START** showed the largest absolute risk reduction with **immediate ART** in participants aged ≥50.[5,19]

3 PCPs can initiate ART without specialist referral

BIC/TAF/FTC, DTG plus TXF/XTC, or DTG/3TC are recommended initial regimens (**AI**), with high efficacy, a high resistance barrier, and few interactions.[2,8] **BIC-** and **DTG-based three-drug regimens** suit rapid or same-day start; **DTG/3TC does not**, **requiring**: HBV serology, HIV RNA <500,000 copies/mL, and 3TC susceptibility.[2,8]

4 Four pre-treatment checks are the highest-yield PCP interventions

HBV serologies (HBsAg, anti-HBc, anti-HBs) determine whether dual HBV-active NRTIs are mandatory; **renal function** governs fixed-dose combination eligibility; **HLA-B5701** is needed only if abacavir is considered; and a **full interaction review** must precede any regimen. **None should delay ART start** except where DTG/3TC is planned.[2,8]

5 Comorbidity, not virology, drives regimen selection

Selection follows review of comorbidities, co-medications, and cumulative genotypes: **TDF warrants caution for kidney and bone toxicity**, and **abacavir's CVD signal** must be weighed against its bone-sparing profile.[8,19] No age-based ART dose adjustment is warranted (**AIII**).[19]

6 Statin therapy is now standard primary prevention

ASCVD risk is roughly **twofold** with onset about a decade earlier, and standard calculators underestimate it.[8] At least moderate-intensity statin is recommended for ages 40–75 with 10-year risk 5% to <20% (**AI**), per **REPRIEVE**'s **35% MACE reduction** with pitavastatin 4 mg daily.[8,19,28] The IDSA/HIVMA 2024 recommends statin use in **all people with HIV aged ≥40** regardless of CVD risk or lipid levels.[19] Lovastatin and simvastatin are **contraindicated** with boosted PIs or cobicistat.[20]

7 Polypharmacy is a treatable driver of falls, frailty, and mortality

Comorbidity and polypharmacy **appear earlier** in people with HIV and predict falls, frailty, hospitalization, mortality, and interactions.[19] **Management is twofold**: simplify ART, and regularly review and prune nonessential drugs, supplements, and herbals (**BIII**).[19]

8 Simplification is a guideline-endorsed value lever

Switching suppressed patients to reduce toxicity, interactions, or pill burden is **appropriate** — including TDF or boosted PIs **to TAF or INSTIs** in those at high fracture risk, with **DEXA monitoring** in men ≥50 and postmenopausal women.[8] LA CAB/RPV is an option in older adults with the same considerations as for all people with HIV.[8]

9 Monitor the aging organ systems, not just the viral load

Beyond standard efficacy and safety labs, **older adults need** heightened renal, hepatic, cardiovascular, CNS, metabolic, and bone monitoring, as biological aging is accelerated and **organ dysfunction is more prevalent and progresses faster**.[8] **Cognitive decline** is faster and reduces adherence; screen for depression and refer progressive impairment to a **neurologist** or **neuropsychologist** (**BIII**).[8]

10 Cost is a clinical variable, and the Medicare landscape is shifting

Antiretrovirals are one of six protected Part D classes.[21]Medicare spending on beneficiaries ≥65 with HIV is projected to rise from **$10.9 billion** (2026) to **$27.3 billion** (2035) — **$187.2 billion cumulatively**, 63% from ART — with a **60% ART price reduction saving $70.3 billion**.[44] The **IRA's $2,000 Part D out-of-pocket cap** began in 2025, and several antiretrovirals **may be negotiated in 2028**; however, plans raised 2025 deductibles and brand coinsurance, so patients not reaching the cap may pay more. **Site of care matters**: **Part B–covered injectables** (LA CAB/RPV, ibalizumab, SQ lenacapavir) carry up to **20% coinsurance with no cap**, plus visit, administration, prior-authorization, and buy-and-bill costs absent with oral ART.

AAVBC SUMMARY AND CONCLUSION

HIV in older adults is now a **chronic multimorbidity problem** managed largely in **primary care**: virologic suppression is achievable in **more than 90%** of patients with a single daily tablet, **but late diagnosis**, **blunted immune recovery**, accelerated **non-AIDS comorbidity**, and **polypharmacy** determine outcomes.[50] **The AAVBC recommends** that PCPs screen older adults **without an age cap**, initiate **INSTI-based ART** within 7 days of diagnosis (**same day initiation when possible**), complete the **four essential pre-treatment checks**, and select regimens

informed by kidney, bone, and cardiovascular comorbidity **rather than virology alone**. Sustained value comes from **what follows initiation**: **statin therapy** for ASCVD prevention, structured interaction screening and deprescribing, simplification to single-tablet or two-drug regimens, and **proactive use of Part D protections** and **assistance programs** to preserve adherence.[2,8,19] **Each patient maintained in durable suppression represents** transmissions prevented, comorbidity deferred, and avoidable hospitalization and downstream cost removed from the system.

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