Conclusion. We demonstrate the use of an NLP-based pipeline to enhance IDS surveillance. Using NLP-based surveillance with other methods could facilitate case detection and outbreak control for IDS that lack microbiologic data or have novel presentations. Further work will improve the specificity of NLP-based case finding methods and apply this to other IDS.

Disclosures. **All authors:** No reported disclosures.

1766. Sustained Viral Suppression with Dolutegravir and Boosted Darunavir Dual Therapy Among Highly Treatment-Experienced Individuals

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Background. The use of antiretroviral (ARV) dual therapy for treatment of HIV is increasing; raltegravir with boosted darunavir (bDRV) is recommended in certain clinical situations in DHHS guidelines. Dolutegravir (DTG) with bDRV has not been widely studied. We sought to determine the effectiveness of DTG/bDRV in treatment experienced patients.

Methods. This retrospective cohort study evaluated viral suppression in patients prescribed DTG/bDRV dual therapy within a large urban health system. Data collected included demographics, cumulative ARV exposure, reasons for use, regimen start/stop dates, and viral suppression (HIV-RNA ≤200). Follow-up was defined as the number of days from start of regimen until last HIV-RNA determination on the study regimen.

Results. From January 1, 2013 to December 31, 2017, 60 patients received DTG/bDRV dual therapy: 15% were female, median age was 56, 83% were ≥3 class ARV-experienced, and median time since starting ARVs was 20 years. Median follow-up on DTG/bDRV was 444 days (IQR 273–808). Viral suppression was achieved by 59 of 60 (98%) patients at some point on DTG/bDRV. When stratified by baseline viral suppression, 46 of 46 (100%) who had baseline viral suppression maintained viral suppression in comparison to 11 of 14 (79%) without baseline viral suppression (table). The most common reasons for DTG/bDRV were simplification in setting of prior resistance (47%), toxicity reduction (39%), and virologic failure (15%). At study end, 53 of 60 (88%) were still on DTG/bDRV and the most common reason for stopping was drug interactions.

Conclusion. In a highly treatment-experienced cohort of patients, DTG/bDRV dual therapy demonstrated sustained rates of viral suppression, even in those who were failing therapy prior to initiating the regimen. Further study of this potent, simple, high-barrier dual class regimen is warranted.

Table: Virologic Outcomes

	N	Follow-up Days, Median (IQR)	HIV-RNA Ever[a] ≤200 cp/mL	Last[b] HIV-RNA ≤200 cp/mL
Overall	60	444 (273,808)	59 (98%)	57 (95%)
Baseline HIV-RNA suppressed	46	423 (268,817)	46 (100%)	46 (100%)
Baseline HIV-RNA not suppressed	14	613 (392,743)	13 (93%)	11 (79%)

IQR, interquartile range.

[a]Ever refers to achieving suppression at any point while on DTG/bDRV.

[b]Last refers to the last recorded HIV-RNA value while on DTG/bDRV.

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1767. Structured Treatment Interruptions in HIV-Infected Patients Receiving Antiretroviral Therapy—Implications for Future HIV Cure Trials: A Systematic Review and Meta-analysis

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Background. Safety and tolerability of analytical treatment interruption (TI) as part of HIV cure studies has been discussed controversially. In this systematic review and meta-analysis, we report current evidence for the occurrence of adverse effects during different types of TI.

Methods. A systematic literature search on studies reporting on TIs was conducted using a defined search term, covering the period from January 1988 to May 2017. All interventional and observational studies were reviewed, and results were extracted based on predefined criteria. We evaluated the proportion of adverse effects during TI by using a random effect meta-analysis model. A meta-regression model was calculated to explore the variation across studies and the influence of key factors.

Results. We identified 1,048 studies, of which we obtained data from 24 studies investigating TI including 7,961 individuals. Sample sizes varied from 6 to 5,472 subjects. The number of reported events during TI ranged from 0 to 241. Follow-up intervals during TI varied from 2 days up to 3 months. We compared reported adverse effects in studies with long TI (>4 weeks) by the lengths of follow-up intervals, comparing narrow (≤4 weeks) and wide (>4 weeks) follow-up during TI. The proportion of patients exhibiting adverse events during long TI was 1% (95% CI 0–4, I^2 = 24.9%) in studies with narrow and 10% (95% CI 5–117, I^2 = 95.1%) in studies with wide follow-up intervals, with an overall reported rate of 5% (95% CI: 3–15, z = 3.93, $P \leq 0.00$) (Figure 1). The number of reported deaths was relatively low, but higher in studies with wide follow-up compared with studies with narrow follow-up (Figure 2). Meta regression analysis indicated that adverse events were increasing with the length of the monitoring interval (β = 0.75, 95% CI 0.24–1.27, P = 0.007) (Figure 3).

Conclusion. Current evidence indicates that studies with narrow follow-up intervals did not show a substantial increase of adverse effects other than viral rebound during TI. Analytical treatment interruption may be a safe strategy as part of HIV cure trials if patients undergo intense follow-up routines.

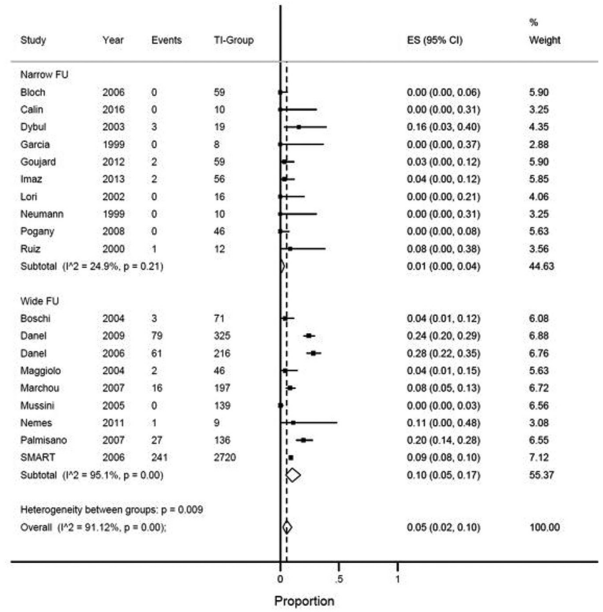

Figure 1: Meta-analysis of the reported proportion of adverse effects in studies with long TI (>4 weeks), stratified by follow-up regime (narrow and wide follow-up intervals during TI). Weights are from random-effect analysis. Diamonds report the pooled estimate of reported adverse effects. Studies are identified by the name of the first author and year of publication. Events= reported adverse effects, TI Group= Number of individuals in treatment interruption group, ES= effect estimates. CI= Confidence interval.

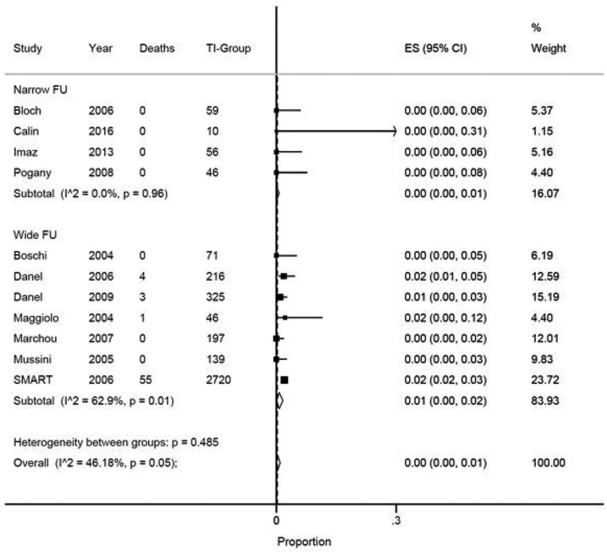

Figure 2: Meta-analysis of the reported deaths in studies with long TI (>4 weeks), stratified by follow-up regime (narrow and wide follow-up intervals during TI). Weights are from random-effect analysis. Diamonds report the pooled estimate of reported adverse effects. Studies are identified by the name of the first author and year of publication. Events= reported adverse effects, TI Group= Number of individuals in treatment interruption group, ES= effect estimates. CI= Confidence interval.

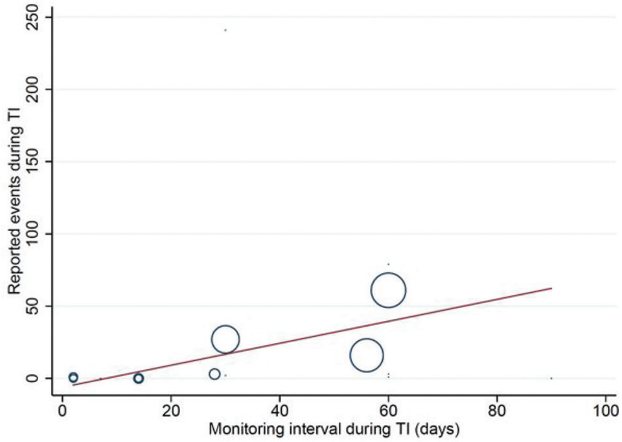

Figure 3: Effect of the monitoring interval during TI (days) on the reported adverse events. The area of circles is proportional to the sample size.

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1768. Efficacy and Safety of Switching From Boosted-Protease Inhibitors (bPI) Plus Emtricitabine/Tenofovir Disoproxil Fumarate (F/TDF) Regimens to the Once Daily (QD), Single-Tablet Regimen (STR) of Darunavir/Cobicistat/Emtricitabine/Tenofovir Alafenamide (D/C/F/TAF) in Virologically Suppressed, HIV-1-Infected Adults: Week 96 Results of the Phase 3, Randomized, Non-Inferiority EMERALD Trial

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Background. The QD STR D/C/F/TAF 800/150/200/10 mg was noninferior to bPI + F/TDF at 48 weeks in EMERALD. Efficacy and safety of D/C/F/TAF through week 96 are presented.

Methods. EMERALD (NCT02269917) is a randomized, active-controlled, open-label, international, multicenter noninferiority trial. Virologically suppressed (VL<50 c/mL for ≥2 months) ART experienced (previous non-DRV VF allowed) HIV-1-infected adults were randomized (2:1) to switch to D/C/F/TAF or continue bPI + F/TDF over 48 weeks. Patients could then continue on D/C/F/TAF or switch from bPI + F/TDF to D/C/F/TAF at week 52 (Late switch, 44 weeks D/C/F/TAF exposure) in a single-arm extension phase until week 96. The percentage of patients with virologic rebound (confirmed VL ≥50 c/mL) cumulative through week 48 and week 96 were primary and secondary endpoints, respectively.

Results. Of 1141 randomized and treated patients (58% had received ≥5 previous ARVs including screening ARVs; 15% had previous non-DRV VF), 1,080 continued in the extension phase ($N = 728$ D/C/F/TAF; $N = 352$ late switch). Few patients had virologic rebound cumulative through week 96 in the D/C/F/TAF arm (3.1%, 24/763). Virologic rebound occurred in 2.3% (8/352) in the late switch arm over 44 weeks D/C/F/TAF treatment. Many rebounders (14/24 and 2/8) resuppressed by week 96. At week 96 a high percentage of patients in the D/C/F/TAF arm (90.7%, 692/763) were suppressed (VL<50 c/mL). In the late switch arm, 93.8% (330/352) maintained virologic suppression after 44 weeks of treatment. No DRV, primary PI, TFV, or FTC RAMs were seen post baseline. Few serious AEs and AE related discontinuations occurred in either arm (Table 1). Improvements in renal and bone parameters were maintained in the D/C/F/TAF arm and seen in the late switch arm (week 52–96), with a small change in TC/HDL-C ratio (Table 1).

Conclusion. Switching to D/C/F/TAF maintained high virologic suppression rates (>90%) at week 96 with no resistance development, and was well tolerated over 96 weeks with bone, renal, and lipid safety consistent with known TAF and cobicistat profiles. Efficacy and safety results in the late switch arm were consistent with week 48 results in the D/C/F/TAF arm. D/C/F/TAF combines the efficacy and high genetic barrier to resistance of DRV with the safety benefits of TAF, even in patients with a history of non-DRV VF.

Table 1: Treatment-emergent AEs and changes in renal, lipid and bone parameters at Week 96

	D/C/F/TAF arm			Late switch arm		
Treatment-emergent AEs, n (%)	D/C/F/TAF (baseline – week 48) N=763	D/C/F/TAF (baseline – week 96) N=763	P-value†,‡	bPI+F/TDF (baseline – week 52) N=378	D/C/F/TAF* (week 52 –week 96) N=352	P-value†,‡
AEs, any grade	630 (82.6)	690 (90.4)	ND	316 (83.6)	258 (73.3)	ND
Grade 3–4 AEs	54 (7.1)	98 (12.8)	ND	31 (8.2)	26 (7.4)	ND
Serious AEs	35 (4.6)	66 (8.7)	ND	18 (4.8)	21 (6.0)	ND
AE-related discontinuations	12 (1.6)	17 (2.2)	ND	5 (1.3)	7 (2.0)	ND
Deaths	0	3§ (0.4)	ND	0	0	ND
Median change in eGFR						
$eGFR_{cyst}$, mL/min/1.73m²	0.0	-0.9	0.018	-1.9	1.0	0.051
$eGFR_{cr}$, mL/min/1.73m²	-0.7	-1.3	<0.001	-0.6	-0.7	0.007
Median changes in renal biomarkers						
UPCR (mg/g)	-22.18	-22.23	<0.001	-7.37	-12.81	<0.001
UACR (mg/g)	-0.78	-0.63	<0.001	0.40	-0.93	<0.001
RBP:Cr (µg/g)	-27.33	-25.08	<0.001	+19.66	-39.07	<0.001
B2M:Cr (µg/g)	-66.63	-68.22	<0.001	+20.24	-110.31	<0.001
Median change in fasting lipids						
TC (mg/dL)	+19.7	+22.0	<0.001	+1.3	+22.0	<0.001
HDL-C (mg/dL)	+2.7	+3.0	<0.001	0.0	+3.3	<0.001
LDL-C (mg/dL)	+15.7	+17.0	<0.001	+1.9	+15.0	<0.001
Triglycerides (mg/dL)	+5.3	+7.0	<0.001	+4.9	+8.0	0.004
TC/HDL-C ratio	+0.20	+0.20	<0.001	+0.10	+0.20	<0.001
Changes in BMD	**N=209**	**N=209**		**N=108**	**N=105**	
Lumbar spine						
Mean % change	+1.45	+1.99	<0.001	-0.63	+2.91	<0.001
Increase by ≥3%	31.2%	36.6%	ND	9.1%	43.4%	ND
Decrease by ≥3%	7.9%	9.3%	ND	20.2%	2.0%	ND
Total hip						
Mean % change	+1.49	+1.86	<0.001	-0.27	+1.22	<0.001
Increase by ≥3%	21.0%	28.8%	ND	4.2%	24.0%	ND
Decrease by ≥3%	2.2%	3.1%	ND	8.4%	5.2%	ND
Femoral neck						
Mean % change	+0.74	+1.40	<0.001	-0.51	+0.98	0.019
Increase by ≥3%	24.2%	28.8%	ND	11.6%	29.2%	ND
Decrease by ≥3%	10.2%	8.6%	ND	17.9%	9.4%	ND

*Comprising 44 weeks of D/C/F/TAF exposure (i.e., from the switch to D/C/F/TAF at Week 52)
†Within treatment arm comparisons for change at week 96 from reference assessed by: Wilcoxon signed-rank test (eGFR, renal biomarkers and fasting lipids) and paired t-test (BMD)
‡Reference for the D/C/F/TAF arm is study baseline and for the late switchers is the last value before the switch

§Three deaths were due to metastatic pancreatic carcinoma and two cases of myocardial infarction, one of which was considered related to D/C/F/TAF in a patient who was a smoker, with a history of hypertension, coronary artery disease and obesity.

$eGFR_{cyst}$ = eGFR based on serum cystatin C (CKD-EPI formula); $eGFR_{cr}$ = eGFR based on serum creatinine (CKD-EPI formula); UPCR = urine protein: creatinine ratio; UACR = urine albumin: creatinine ratio; RBP:Cr = urine Retinol Binding Protein: creatinine ratio; B2M:Cr = urine Beta-2-Microglobulin: creatinine ratio; TC = total cholesterol; HDL-C = high-density lipoprotein-cholesterol; LDL-C = low-density lipoprotein-cholesterol; BMD = bone mineral density; ND = not determined.

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1769. Viral Suppression Among Participants of the Patient-Centered HIV Care Model Project—A Collaboration Between Community-Based Pharmacists and HIV Clinical Providers

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Background. The patient-centered HIV care model was developed to integrate community pharmacists with HIV clinical providers to deliver patient-centered HIV care. The project required 10 clinics to share, with their partnered community-based pharmacists, patients' medical histories, laboratory results, and medications. Pharmacists reviewed the clinic data and worked directly with participants and/or their partnered clinics to make recommendations and discuss potential intervention strategies for identified therapy-related problems.

Methods. We calculated the proportion of persons virally suppressed (<200 copies/mL at the last test in each of two 12-month measurement periods), pre- and post-model implementation. Included in the analysis were persons with ≥1 HIV viral load in each measurement period. McNemar's test was used to compare the proportion virally suppressed, pre- and postimplementation. Multivariable logistic regression was used to determine factors associated with viral suppression, postimplementation. Participant demographics and the proportion of days covered (PDC; a measure used to calculate adherence to medication therapy) were used as explanatory variables in the model. The PDC was modified to account for the time to the last viral load in the measurement period, and was stratified into 4 categories: ≥90%, <90–80%, <80–50%, and <50%.

Results. With 765 persons enrolled, the plurality of those included in the analysis ($n = 648$) were non-Hispanic black ($n = 286$), male ($n = 470$), and had a median age of 49 years (IQR=38–56). Viral suppression improved 16.3% from 73.9% to 85.9%, pre- to postimplementation ($P < 0.001$). Persons who had higher modified PDC (OR 1.9 per category level; 95% CI 1.4–2.6), were currently employed (OR 4.1; 1.6–12.8), or age >50 years (OR 4.7; 2.1–11.8), had greater odds of being suppressed. Non-Hispanic black persons were less likely to be suppressed (OR 0.2; 0.1–0.6); however, viral suppression among this group improved from 62.5% to 77.6%, pre- to postimplementation ($P < 0.001$).

Conclusion. Collaborations between community pharmacists and HIV clinic providers that seek to identify and address HIV therapy-related problems can lead to improved viral suppression among persons living with HIV.

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1770. The Association of Unmet Needs With Subsequent Retention in Care and HIV Suppression Among Hospitalized Patients With HIV Who Are Out of Care

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