HIV/Sexual Health Clinical Education Session

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HIV Medicine

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HIV in practice: current approaches and challenges in the diagnosis, treatment and management of HIV infection in Australia. Smith DE et al Aug 2018 supplement

- Survey n=56 (26 s100 GPs, 24 SHPs, 6 hospital based) end 2017

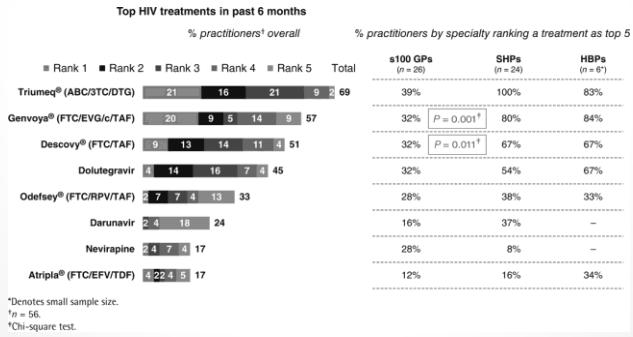

Table 5 Most commonly prescribed HIV treatments for patients newly diagnosed with HIV infection

HIV treatment	% practitioners prescribing			
	Total practitioners (*n* = 56)	s100 GPs (*n* = 26)	SHPs (*n* = 24)	HBPs (*n* = 6a)
Genvoya® (FTC/EVG/c/TAF)	27	23	21	67
Triumeq® (ABC/3TC/DTG)	27	–	63	–
Zidovudine (ZDV)	11	23	–	–
Atripla® (FTC/EFV/TDF)	7	12	–	17

a Small sample size.

s100 GP, 'HIV section 100' (HIV therapy-prescribing) general practitioner; SHP, sexual health physician; HBP, hospital-based physician; FTC, emtricitabine; EVG, elvitegravir; c, cobicistat; TAF, tenofovir alafenamide; ABC, abacavir; 3TC, lamivudine; DTG, dolutegravir; EFV, efavirenz; TDF, tenofovir disoproxil fumarate.

PBS expenditure data 2016-17
Triumeq 17% of total in this category
Truvada 11%
Genvoya 2.5%

Gilead supported publication of the supplement

Chemsex and new HIV diagnosis in gay, bisexual and other men who have sex with men attending sexual health clinics. Pakianathan M et al Aug 2018

- Retrospective case control study, pre PREP
- N= 1708
  - 27% recreational drug use
  - 18% IDU
  - 16.5% chemsex participation
- HIV+ men 2.5 x more likely to participate in chemsex than HIV-

Table 1 HIV, acute hepatitis C and new sexually transmitted infection (STI) diagnoses by chemsex participation

STI	No chemsex [% (*n*)]	Chemsex [% (*n*)]	Unadjusted odds ratio (95% CI)	Adjusted odds ratio (95% CI)a	*P*-value
HIV diagnosisb	1.8 (21/1202)	8.6 (16/187)	5.26 (2.69–10.28)	5.06 (2.56–10.02)	< 0.001
Acute bacterial STIc	24.0 (347/1448)	57.0 (163/286)	4.20 (3.23–5.47)	3.94 (3.01–5.17)	< 0.001
Rectal STI	10.4 (150/1448)	36.4 (104/286)	4.94 (3.68–6.64)	4.45 (3.27–6.06)	< 0.001
Hepatitis C	0.2 (3/1448)	2.8 (8/286)	13.86 (3.65–52.57)	9.16 (2.31–36.27)	0.002
Any STI	39.9 (577/1448)	70.3 (201/286)	3.57 (2.71–4.70)	3.51 (2.65–4.65)	< 0.001

Estimates for the unadjusted and adjusted models are from a logistic regression of the STI diagnosis variable against chemsex participation.

CI, confidence interval.

a Adjusted models include age dummies [< 30, 30–49 and ≥ 50 years (base)], ethnicity dummies [Asian, black, other white, other/not stated, and white British (base)], HIV status, and UK birth.

b Model excludes patients with a pre-existing HIV-positive diagnosis and hence the HIV-positive dummy.

c Newchlamydia (including Lymphogranuloma venereum (LGV)), gonorrhoea and all nonlatent early syphilis diagnoses.

Table 2 Behavioural differences by chemsex participation

Risk behaviour	Chemsex [% (*n*)]	No chemsex [% (*n*)]	Unadjusted odds ratio (95% CI)	Adjusted odds ratioa (95% CI)	*P*-value
≥ 5 sexual partners in past 3 months	47.9 (137/268)	14.9 (215/1448)	5.27 (4.01–6.93)	5.52 (4.14–7.35)	< 0.001
PEP useb	26.6 (46/173)	9.8 (88/899)	3.34 (2.23–4.99)	3.44 (2.28–5.18)	< 0.001
Group sex	61.4 (129/210)	8.5 (80/940)	17.12 (11.94–24.54)	16.59 (11.43–24.08)	< 0.001
> 21 units of alcohol per weekc	20.9 (49/235)	8.6 (115/1334)	2.79 (1.93–4.04)	2.74 (1.87–4.02)	< 0.001
Sharing sex toys	17.0 (30/177)	1.7 (15/866)	11.58 (6.08–22.05)	12.98 (6.60–25.50)	< 0.001
Fisting	22.0 (41/186)	1.9 (17/877)	14.30 (7.91–25.86)	13.16 (7.05–24.59)	< 0.001
Transactional sex	9.6 (21/218)	2.8 (31/1117)	3.73 (2.10–6.63)	4.07 (2.23–7.46)	0.001
HIV-positive partnerb	38.2 (65/170)	8.3 (80/966)	6.86 (4.67–10.07)	6.83 (4.59–10.15)	< 0.001
HCV/HBV-positive partner	12.9 (23/178)	1.3 (11/873)	11.63 (5.56–23.34)	10.77 (4.86–23.86)	< 0.001
"Bareback" app	22.0 (33/150)	2.5 (19/769)	11.13 (6.13–20.23)	9.06 (4.84–16.96)	< 0.001
Injecting drugs	27.9 (70/251)	0.3 (4/1411)	136.04 (49.08–377.03)	131.79 (46.56–373.02)	< 0.001

Estimates for the unadjusted and adjusted models are from a logistic regression of the behaviour variable against chemsex participation.

CI, confidence interval; HBV, hepatitis B virus; HCV, hepatitis C virus; PEP, post-exposure prophylaxis.

a Adjusted models include age dummies [< 30, 30–49 and ≥ 50 years (base)], ethnicity dummies [Asian, black, other white, other/not stated, and white British (base)], HIV status, > 21 units of alcohol per week, and UK birth.

b Model excludes patients with a pre-existing HIV-positive diagnosis and hence the HIV-positive dummy.

c Model does not include > 21 units of alcohol per week adjustment.

Neglect of attention to reproductive health in women with HIV infection: contraceptive use and unintended pregnancies in the Swiss HIV Cohort Study. Aebi – Popp K et al May 2018

- Swiss HIV cohort study: cross sectional survey 2013-4
- N=462 (83% of eligible) aged 18-46
- 94% on ART, 65% boosted PI, 44% African origin, 88% UDVL

Table 2 Use of contraceptives by antiretroviral therapy (ART) group

Variable	All (*n* = 462)	No current ART/ naive (*n* = 29)	Boosted PI regimen (*n* = 212)	Regimen containing EFV (*n* = 86)	Regimen containing NVP (*n* = 46)	Other combinations (*n* = 89)
	n (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)
Using any contraception	298 (64.5)	23 (79.3)	143 (67.5)	47 (54.6)	28 (60.9)	57 (64.0)
Number of contraceptives used (*n* = 298)						
One method	266 (89.3)	18 (76.3)	129 (90.2)	41 (87.2)	25 (89.3)	53 (92.9)
Two or three methods	32 (10.7)	5 (21.7)	14 (9.8)	6 (12.8)	3 (10.7)	4 (7.0)
Method of contraception (*n* = 298)						
Hormonal contraception	46 (15.4)	6 (26.1)	18 (12.6)	8 (17.0)	4 (14.2)	10 (17.5)
Mechanical contraception	223 (74.8)	15 (65.2)	112 (78.3)	34 (72.7)	21 (75.0)	41 (72.0)
Other methods	29 (9.8)	2 (8.7)	13 (9.1)	5 (10.6)	3 (10.7)	6 (10.5)
Type of hormonal contraception						
Combined oral pill	32 (10.7)	4 (17.4)	13 (9.1)	6 (12.8)	1 (3.6)	8 (14.0)
Pill with high-dose oestrogen (≥ 30 mg)	13 (40.6)	1 (33.3)	2 (33.3)	3 (75.0)	0 (0)	7 (100.0)
Injectables	5 (1.7)	0 (0)	1 (0.7)	2 (4.3)	1 (3.6)	1 (1.8)
Implant	6 (2.0)	2 (8.7)	3 (2.1)	0 (0)	1 (3.6)	0 (0)
Hormonal patch	1 (0.3)	0 (0)	0 (0)	0 (0)	1 (1.8)	0 (0)
Vaginal ring	2 (0.7)	0 (0)	1 (0.7)	0 (0)	1 (3.6)	0 (0)
Type of intrauterine device	28 (9.4)	1 (4.4)	11 (7.7)	6 (12.8)	4 (14.3)	6 (10.5)
Hormonal	17 (73.9)	1 (100.0)	6 (66.7)	3 (75.0)	4 (100.0)	3 (60.0)
Condom use	219 (73.5)	18 (78.3)	111 (77.6)	33 (70.2)	19 (67.9)	38 (66.7)
Reason for using condom (*n* = 219)						
Contraceptive effect	19 (8.8)	3 (17.7)	8 (7.4)	2 (6.1)	2 (10.5)	4 (10.5)
Sexually transmitted infection prevention	48 (22.3)	5 (29.4)	23 (21.3)	6 (18.2)	5 (26.3)	9 (23.7)
Both	148 (68.8)	9 (52.9)	77 (71.3)	25 (75.8)	12 (63.2)	25 (65.8)

PI, protease inhibitor; EFV, efavirenz; NVP, nevirapine.

- Women not using contraception n= 164
- Of these 65 were sexually active and 29 did not want to get pregnant

Table 3 Method of contraception and type of antiretroviral therapy (ART) in women with an unintended pregnancy

Variable	*n* (%)
Unintended pregnancy (*n* = 440)	48 (10.9)
Type of contraceptive method when unintended pregnancy occurred (*n* = 39)	
Condom	18 (47.3)
Oral contraception	16 (42.1)
Intrauterine device	1 (2.6)
Implant	1 (2.6)
Ring	1 (2.6)
Other methods	2 (5.2)
Voluntary interruption of pregnancy (*n* = 47)	32 (68.1)
Change of contraception method after voluntary interruption of pregnancy (*n* = 47)	27 (56.3)
On ART when unintended pregnancy occurred (*n* = 45)	23 (51.1)
ART group (*n* = 23)	
Boosted PI-based regimen	9 (40.9)
EFV-based regimen	3 (13.6)
NVP-based regimen	4 (18.2)
Other combinations of ART	6 (27.3)

PI, protease inhibitor; EFV, efavirenz; NVP, nevirapine.

Conclusions

- 1 in 6 women using contraception unintended pregnancy
- Few using LARCs (have to see gynae)
- Condoms most common method – implications of U=U
- ? Role of drug-drug interactions in unintended pregnancy

Patient perspectives on de-simplifying their single-tablet co-formulated antiretroviral therapy for societal cost savings. Krentz HB et al April 2018

- Survey of patients and providers Alberta, Canada
- 13 physicians – all felt comfortable discussing option with patients
- Convenience sample of those on Triumeq (36% of those attending service on this STF) n=221
- Participating patients were asked the following questions.
  - 1. Do you think the clinic should routinely ask patients if they are willing to switch ARV regimens in order to reduce costs to the public purse (i.e. Alberta taxpayers)? Yes/No/Maybe
  - 2. Would you switch from a 1 pill a day to a 2 pill a day regimen containing the same ARV for the reason provided? Yes/No/Maybe
  - 3. Why or why not? (Open-ended question)

- 85% agreed simplification should be offered
- 48% would switch, 27% maybe
- Switching would save up to $4 million (18% of drug budget)
- ? Desimplify option for stable patients when generics available

Table 2 Sample of responses by patients to the survey

Those responding 'yes':
"I am in favour of reducing the cost and 2 pills or 1 pill makes little difference to me."
"To save money on our system I would be willing to switch if no new rules applied to my schedule."
"If the same level of treatment can be obtained at a lower cost, then it is logical to offer the generic."
"Cost of medication is a concern more than pill volume. Any efforts to reduce drug cost to the taxpayer are smart and the saved money could be put to other uses in HIV care. I am grateful every time I look at my prescription costs that I live in a place where the cost is not passed on to me as I know there are many people without access to treatment in the world."

Those responding 'no':
"I am comfortable with my current routine."
"One pill is easier to remember for me. I always have a busy morning. I'm sorry this won't work for me."
"The one pill a day is amazing."
"Going backwards is not worth the 4 million. 4 million in a 64 billion provincial budget is nothing. I pay close to $150 000/year in taxes and expect the best."

Those responding 'maybe':
"I will switch after 2 years once everything is in control.'
"As long as there are not adverse reactions to the new pills."
"It's a little more inconvenient because I have issues with swallowing pills and hurts stomach."
"Could you guarantee that there wouldn't be any adverse results from switching to the generic formulations?"
"Can you glue the two pills together? 1 pill a day is a badge of honour but I can sacrifice my badge ø "

Using behavioural insights to increase HIV self-sampling kit returns: a randomized controlled text message trial to improve England's HIV self-sampling service. Brown LJ et al Oct 2018

- 'A 2012 systematic review on the scope and effectiveness of mobile phone messaging for HIV care identified a robust study which concluded that SMS reminders were effective in increasing the rate of re-testing' [6]
  - 6. Bourne C, Knight V, Guy R, Wand H, Lu H, McNulty A. Short message service reminder intervention doubles sexually transmitted infection/HIV re-testing rates among men who have sex with men. Sex Transm Infect 2011; 87: 229–231.
- HIV home based self sampling service has return rate of 50%
- RCT of behavioural informed messages to attempt to increase return rates
-
-

Method

- Most people complete test on day receive kit
- 4 arms
  - Standard (SMS 3 and 7 days after kit dispatch) reworded
  - Primer (SMS prior to kit dispatch) and standard reminder
  - BI (behavioural insights) reminders, no primer
  - Primer and BI reminders
- Message development informed by feedback on website, survey sent to those who had ordered > 3 weeks earlier but not returned kit. n=478 responses

- COM-B ('capability', 'opportunity', 'motivation' and 'behaviour') model to examine barriers
  - Difficulty taking sample -C
  - Hard to understand instructions- C
  - Didn't get around to it – M
- Primer prompt – reminder to set aside time
- BI reminders – postage has already been paid
  - 2nd prompt – expiry and deadline

Results

- Sample size estimate 16,000 requests
- At data analysis stage realised 6008 had not been randomised
- N= 8999 for analysis
- 72 % aged 16-34, 2/3 MSM, 76% white
- Kit return by intervention – table 2 and 3
- Kit return by sociodemographic characteristics table 4

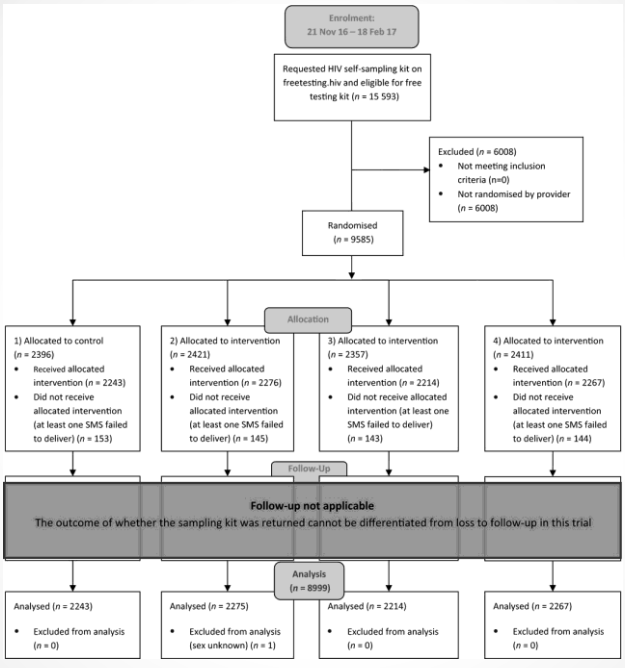

Table 2 Kit return rate by intervention combination

	Percentage of kits returned (95% CI) [*n*]		
	No primer	Primer	Marginal total
Standard reminders	**(1)** 52.39 (50.31–54.45) [2243]	**(2)** 52.92 (50.87–54.97) [2275]	52.66 (51.20–54.11) [4518]
BI reminders	**(3)** 55.19 (53.11–57.26) [2214]	**(4)** 56.29 (54.23–58.32) [2267]	55.75 (54.29–57.20) [4481]
Marginal total	53.78 (52.31–55.24) [4457]	54.60 (53.15–56.05) [4542]	54.19 (53.16–55.22) [8999]

The numbers in bold correspond to trial arms. χ^2 for difference between trial arms $P = 0.025$.

BI, behavioural insights; CI, confidence interval.

Table 3 Comparison of kit return between trial arms and interventions

(a) Trial arms	(1) No primer + standard reminders		(2) Primer + standard reminders		(3) No primer + BI reminders		(4) Primer + BI reminders
(1) No primer + standard reminders	–		–		–		–
(2) Primer + standard reminders	1.02 (0.91–1.15)	0.717	–		–		–
(3) No primer + BI reminders	1.12 (1.00–1.32)	0.060	1.10 (0.97–1.23)	0.127	–		–
(4) Primer + BI reminders	1.17 (1.04–1.32)	**0.009**	1.15 (1.02–1.29)	**0.023**	1.05 (0.93–1.18)	0.462	–
(b) Interventions*							
Primer (2 + 4) vs. no primer (1 + 3)	1.03 (0.95–1.12)	0.438	–		–		–
BI reminders (3 + 4) vs. standard reminders (1 + 2)	1.13 (1.04–1.23)	**0.003**	–		–		–

Values are unadjusted results from logistic regressions. $n = 8999$. Numbers represent unadjusted odds ratios (95% confidence intervals) and *P*-values. Odds ratios > 1 represent a favourable outcome for the relevant trial arm (a: vertical compared to horizontal) or intervention (b). Significant values are shown in bold.

BI, behavioural insights.

*Adjusted for factorial design: comparisons are for the intervention compared with its respective control. The results did not differ when the model was adjusted for other participant characteristics (see Tables S2 and S3 for adjusted results). The interaction between the interventions was insignificant (interaction coefficient = 1.02; 95% CI 0.87 to 1.21; $P = 0.789$).

Table 4 Percentage of kits returned and odds of kit return by key sociodemographics

	Kits returned		Unadjusted univariate analysis		Adjusted multivariable analysis*	
	n (%)	*P*-value	OR (95% CI)	*P*-value	AOR (95% CI)	*P*-value
Age group						
16–24 years	1680 (51.74)	<0.001	1.00 (ref.)	<0.001		<0.001
25–34 years	1710 (52.97)		1.05 (0.95–1.16)	0.320	1.01 (0.91–1.11)	0.922
35–49 years	1046 (56.42)		1.21 (1.08–1.35)	**0.001**	1.16 (1.04–1.31)	**0.011**
50–64 years	385 (64.60)		1.70 (1.42–2.04)	**<0.001**	1.54 (1.23–1.85)	**<0.001**
≥ 65 years	56 (75.68)		2.90 (1.70–4.96)	**<0.001**	2.41 (1.41–4.12)	**0.001**
Sexual behaviour and gender identity						
MSM	3450 (58.48)	**<0.001**	1.00 (ref.)	**<0.001**	1.00 (ref.)	**<0.001**
Heterosexuals	1279 (46.54)		0.62 (0.56–0.68)	**<0.001**	–	–
Heterosexual women	776 (46.16)		0.61 (0.55–0.68)	**<0.001**	0.65 (0.57–0.73)	**<0.001**
Heterosexual men	503 (47.14)		0.63 (0.56–0.72)	**<0.001**	0.65 (0.56–0.74)	**<0.001**
WSW	133 (45.08)		0.58 (0.46–0.74)	**<0.001**	0.63 (0.50–0.80)	**<0.001**
Trans	15 (26.32)		0.25 (0.14–0.46)	**<0.001**	–	–
Trans-female	8 (29.63)		0.30 (0.13–0.68)	**0.004**	0.32 (0.14–0.73)	**0.007**
Trans-male	7 (23.33)		0.22 (0.09–0.50)	**<0.001**	0.22 (0.09–0.52)	**<0.001**
Ethnic group						
White	3831 (55.71)	**<0.001**	1.00 (ref.)	**<0.001**	1.00 (ref.)	**0.006**
Black African	443 (49.00)		0.76 (0.67–0.88)	**<0.001**	1.06 (0.90–1.24)	0.493
Black other	219 (42.12)		0.58 (0.48–0.69)	**<0.001**	0.75 (0.62–0.90)	**0.002**
Asian	245 (53.49)		0.92 (0.76–1.11)	0.356	1.02 (0.84–1.24)	0.837
Other	99 (53.8)		0.93 (0.69–1.24)	0.608	1.00 (0.75–1.35)	0.983
Unknown	40 (71.43)		1.99 (1.11–3.56)	**0.021**	2.00 (1.11–3.58)	**0.020**
IMD quintile						
1 (most deprived)	1338 (51.78)	**0.006**	1.00 (ref.)	**0.006**	1.00 (ref.)	0.242
2	1297 (53.84)		1.09 (0.97–1.21)	0.145	1.06 (0.95–1.19)	0.325
3	955 (54.38)		1.11 (0.98–1.25)	0.092	1.07 (0.95–1.21)	0.289
4	739 (57.55)		1.26 (1.10–1.45)	**0.001**	1.16 (1.01–1.33)	**0.035**
5 (least deprived)	548 (56.73)		1.22 (1.05–1.42)	**0.009**	1.13 (0.97–1.32)	0.108

N= 8999. Significant values are shown in bold.

AOR, adjusted odds ratio; CI, confidence interval; MSM, men who have sex with men; OR, odds ratio; ref., reference; WSW, women who have sex with women.

*Adjusted for interventions (intervention coefficients not shown as presented in Table 3 and Table S2), and other sociodemographic characteristics: age, sexual behaviour and gender identity, ethnicity and Index of Multiple Deprivation (IMD).

Discussion

- Improved kit return rate with BI message
- Small effect (OR1.17) c/w other SMS interventions maybe due to comparator arms vs none
- Reattendance SMS no effect – London SHC
- More personalised message did
- This study used names
- ? Underpowered to show primer/BI effect
- ?Could adapt message for recipients characteristics

- Limitations – those who did not receive all messages were different
- Those who declined to take part in future research not randomised – were different
- 3.9% more kits returned = 1500 more/yr
- Provider implemented primer/BI messaging → ongoing monitoring