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Brian Gazzard
Caroline Sabin

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Association (BHIVA) with the British Association for
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ABSTRACTS

Oral Abstracts

O001 | Sustained 97% HIV testing rate in the emergency department: the new gold standard

Linda Cheyenne Vaccari, Sarah Parry, Deborah Kirkham, Steven Pike, Leslie Perry, Andrew Widdowson, Sarah Horne and Ian Cormack

Croydon University Hospital, London, UK

Background: UK 2020 HIV guidelines recommend opt-out HIV testing in Emergency Departments (ED) in areas of high prevalence (>2/1000). Our area has a very high HIV prevalence (>5/1000) with a 46% late diagnosis rate. We implemented opt-out testing in our ED in May 2020, sustaining testing rates of 97%.

Method: All patients aged ≥ 16 undergoing venesection in ED have an HIV test automatically added. A separate blood sample is tested using Roche 4th generation HIV 1/2 antigen-antibody combination test. Posters and leaflets are prominently displayed in ED, signposting how to opt-out. IT blocks duplicate testing and those opted-out for 6 months. The HIV team receives automated daily reports of non-negative results. Patients not engaged in care are contacted. Those with new reactive tests are invited to attend for sexual health screening including point of care test; if positive, patients are counselled pending confirmatory results and linked to HIV care that day.

Results: 24,621/25,336 (97%) eligible patients were tested. These data exclude 21 days when reagent shortages halted testing. 244 patients had non-negative results. 161 were already engaged in care. 14 had defaulted care; nine have now re-engaged. 15 patients were confirmed new HIV diagnoses; 13 are now engaged in care and receiving antiretrovirals, two have declined care. 8/14 (57%) new patients and 5/9 (56%) defaulters had a CD4 count <200. 9/13 (69%) new patients had missed diagnostic opportunities. 42/244 (17%) patients with reactive tests were verified as false positives. 12 patients are awaiting repeat testing. Seven regular partners of newly diagnosed patients were verified HIV negative and managed with post- or pre-exposure prophylaxis, condoms and/or treatment as prevention. In the same period, ED diagnosed 15 patients compared to 12 non-ED (eight sexual health, one antenatal, two haematology, one medical). Our tested ED HIV prevalence is 7.72/1000 compared to a local recorded prevalence of 5.84/1000 ($p < 0.0002$).

Conclusion: Collaborative working between ED, pathology, IT and HIV can sustain 97% testing rates using opt-out testing. The prevalence of HIV in ED attendees is statistically significantly higher than the local prevalence underlining the importance of ED HIV testing. Wider benefits include earlier diagnosis, reduced hospitalisation and transmission.

O002 | Safety and immunogenicity of V114, a 15-valent pneumococcal conjugate vaccine (PCV), in adults infected with human immunodeficiency virus (HIV): a phase 3 trial

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Background: HIV infection increases the risk of pneumococcal disease (PD). Vaccination has been recommended for prevention of PD in HIV-infected individuals. V114 is an investigational 15-valent PCV and contains all serotypes in PCV13, plus serotypes 22F and 33F. This phase 3 trial evaluated the immunogenicity and safety of V114 or PCV13 followed 8 weeks later by PPV23 in HIV-infected adults.

Method: Eligible HIV-infected adults aged ≥ 18 years, pneumococcal vaccine naïve and receiving antiretroviral therapy were randomized 1:1 to receive either V114 or PCV13 followed by PPV23 8 weeks later. Randomization was stratified by CD4+ cell count. Serotype-specific opsonophagocytic activity (OPA) and immunoglobulin G (IgG) antibodies were measured immediately prior to V114/PCV13 and 30 days after each vaccination

Results: 302 participants were randomized to receive V114 ($n = 152$) or PCV13 ($n = 150$). Of the participants, 78.8% were

males; 72.2% were 18–49 years old; 98.7% had CD4+ T-cell count ≥ 200 cells/ μL ; and 51.7% had CD4+ T-cell count < 500 cells/ μL at screening in both intervention groups; 78.5% had undetectable HIV RNA. All vaccines were generally well tolerated, and safety profiles were generally comparable across vaccination groups. V114 and PCV13 induced OPA and IgG antibodies at 30 days post vaccination (Day 30) to all serotypes included in the respective vaccines. 30 days following administration of PPV23, V114 and PCV13 OPA and IgG antibody levels were generally comparable to those observed at Day 30 after V114/PCV13 administration for serotypes in the respective PCVs. Geometric mean fold rises, percentages of subjects with ≥ 4 -fold-rise from baseline, and reverse cumulative distribution curves for both OPA and IgG antibodies were consistent with an immune response that was generally comparable between V114 and PCV13 for shared serotypes

Conclusion: In pneumococcal vaccine-naïve adults infected with HIV, V114 followed 8 weeks later by PPV23, aimed at prevention of PD in HIV-infected individuals, is generally well tolerated, induces immune responses for all 15 pneumococcal serotypes as assessed by OPA geometric mean titers and IgG geometric mean concentrations at 30 days after V114 and after PPV23 administration.

O003 | Mito-Flow: a novel assay for T-cell mitochondrial dysfunction in ageing and HIV

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Background: Ageing is associated with impairments of T-cell function, including decreased CD4/CD8 ratio and immune senescence. Despite suppressive cART, HIV may compound these age-associated effects.

Furthermore, both ageing and HIV infection are associated with mitochondrial dysfunction within various tissues. However, few studies have examined the relationship between mitochondrial dysfunction and immune senescence in older PLWH. We, therefore, developed a novel multiplex flow cytometry assay ('Mito-Flow') to address this question.

Method: 30 HIV+ subjects aged 50+, were compared with 15 age-matched HIV- subjects and 15 young healthy controls (YC, mean age 23). All HIV+ subjects were virally suppressed on cART and mean CD4 count was 656 cells/ μL .

Peripheral blood mononuclear cells were isolated from whole blood and stained for T-cell markers (CD3, CD4, CD8), senescence (CD28 negativity), mitochondrial mass (TOMM20)

and mitochondrial electron transport chain (ETC) (MTCO1). Specificity was confirmed by isotype controls.

Results: Compared to both HIV- groups, and as expected, PLWH had a significantly lower CD4:CD8 ratio (mean HIV+ 1.0, HIV- 2.4, YC 2.0; $p < 0.0001$). Additionally, both groups of older individuals (HIV+ and HIV-) had a significantly higher proportion of terminally differentiated CD4⁺CD28⁻ (HIV+ 10%, HIV- 11%, YC 4%; $p 0.01$) and CD8⁺CD28⁻ (HIV+ 29%, HIV- 29%, YC 18%; $p 0.002$) T-cells.

Mitochondrial mass and ETC abundance were significantly lower in CD4 than CD8 T-cells (mean [SD] TOMM20 arbitrary units, CD4 1238 [154], CD8 1547 [203], $p < 0.0001$; MTCO1, CD4 361 [62], CD8 667 [173], $p < 0.0001$).

ETC abundance was higher in CD8 T-cells from older subjects, regardless of HIV status (mean MTCO1, HIV+ 699, HIV- 693, YC 575, $p 0.01$), but not in CD4 T-cells. No such difference was seen for mitochondrial mass.

Conclusion: Our assay allows rapid assessment of mitochondrial abundance in peripheral blood, with simultaneous T-cell phenotyping. Mitochondrial parameters differed significantly by T-cell type, demonstrating the advantage of this approach. Age-associated differences were observed in mitochondrial complex IV (MTCO1) abundance. Future work will correlate these mitochondrial parameters with physical ageing phenotypes such as frailty.

O004 | The prevalence and clustering of menopausal symptoms in women living with HIV

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Background: An increasing proportion of women living with HIV (WLWH) are now experiencing the menopause. We describe the clustering of menopausal symptoms in a large, representative sample of WLWH in England to understand the burden and inform care pathways.

Method: We included 709 women aged 45–60 from PRIME, an observational study of WLWH. The Menopause Rating Scale was used to capture the severity of each of 11 menopausal symptoms (0: None/little to 4: Very severe). Hierarchical agglomerative cluster analysis was used to describe the clustering of symptoms by menopausal status (pre-, peri- and post-).

Results: Median age was 49 years (interquartile range: 47–52). The majority were Black African (71.7%), had completed at least secondary education (89.4%), were currently employed (68.9%) and in a relationship (57.1%). Overall, 211 (29.8%), 117 (16.5%), 182 (25.7%) and 199 (28.1%) women reported no/little, mild, moderate or severe

symptoms/complaints, respectively. Joint pain (66.4%) was the most commonly reported symptom, followed by hot flushes (63.0%), exhaustion (61.6%) and sleep problems (61.4%). All symptoms were more common among peri- and post-menopausal women. Amongst pre-menopausal women, joint pain, exhaustion, anxiety, irritability, depression and sleep problems clustered together (Figure). The remaining symptoms (sexual problems, vaginal dryness, bladder problems, heart discomfort and hot flushes) formed a second cluster. Amongst peri-menopausal women, joint pain clustered more closely with bladder problems, heart discomfort and hot flushes, and there was apparent clustering between vaginal dryness and sexual problems in this group. Among post-menopausal women, the cluster of anxiety, exhaustion, irritability and depression seen in peri-menopausal women remained, with bladder problems and heart discomfort now clustering with vaginal dryness and sexual problems, and joint pain and hot flushes forming a third cluster.

Conclusion: In the first study to explore the clustering of menopausal symptoms among WLWH, we report a high proportion of menopausal symptoms. Whilst exhaustion, anxiety, depression, irritability and sleep problems remained closely related across all menopausal stages, urogenital and somatic symptom clusters become more distinct in the peri- and post-menopause. These data allow a nuanced understanding of symptoms and potential aetiologies in women aging with HIV, facilitating the most appropriate and effective support.

O005 | Long-term follow-up after a switch to bicitgravir, emtricitabine, tenofovir alafenamide (B/F/TAF) from a boosted protease inhibitor-based regimen

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Background: Bicitgravir, emtricitabine and tenofovir alafenamide is a guideline-recommended single-tablet regimen for people living with HIV-1 (PLWH). Week (W) 48 primary endpoint results of the phase 3 non-inferiority study

of switching from an atazanavir (ATV) or darunavir (DRV) protease inhibitor (PI)-based regimen established the safety and efficacy of switching to B/F/TAF. Outcomes from an open-label extension (OLE) on B/F/TAF are reported here.

Method: Virologically suppressed (HIV-1 RNA < 50 copies/mL) PLWH on boosted ATV or DRV plus either F/tenofovir disoproxil fumarate or abacavir/lamivudine for ≥6 months prior to screening were randomised 1:1 to B/F/TAF or to stay on baseline PI regimen (SBR). After the W48 primary endpoint, all participants received B/F/TAF in the OLE. All participants who received B/F/TAF initially or switched in the OLE are included in analyses. Efficacy was assessed as the proportion with HIV-1 RNA < 50 c/mL at each study visit (missing = excluded [M = E]) analysis. Safety was assessed by adverse events (AEs) and laboratory results.

Results: 577 participants were randomised (290 B/F/TAF, 287 SBR); 272 (93.8%) of participants randomised to B/F/TAF and 244 (85.0%) randomised to SBR entered the OLE and received B/F/TAF (n = 516): 17% women, 26% Black, median age 48 years (range 20–79). The median duration of B/F/TAF treatment was 101 weeks. In the OLE HIV-1 RNA < 50 c/mL was maintained in 97–100% of participants at all timepoints through 156 weeks. No participant developed resistance to B/F/TAF or discontinued due to lack of efficacy in the OLE. Study drug-related AEs occurred in 14.2% on B/F/TAF; most of which were grade 1; the most common was headache (2%). Six (1%) participants had an AE leading to premature study drug discontinuation, 4 during the OLE. Estimated GFR, lipids, and weight were relatively stable with minimal changes for most participants through 96 weeks after switching to B/F/TAF.

Conclusion: Long-term follow-up of PLWH switching to B/F/TAF from a boosted PI regimen demonstrates continued high rates of virologic suppression with no emergent resistance and was generally well tolerated through a maximum of 156 weeks.

O006 | Initiation of cabotegravir and rilpivirine long-acting (CAB+RPV LA) regimen across five European countries in CARISEL during the COVID-19 pandemic

Maggie Czarnogorski¹, Yongwei Wang¹, Ms. Susan Tomkins², Ren Yu³, Nicola Barnes⁴, Parul Patel¹, Martin Gill², Mounir Ait-Khaled⁵, Cassidy Gutner¹, Michelle Moorhouse⁶, Ronald D'Amico¹ and Matthew Bosse¹
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Background: SARS-CoV-2 (COVID-19) has disrupted healthcare service delivery globally. Cabotegravir plus

rilpivirine long-acting (CAB+RPV LA) is a new antiretroviral therapy (ART) administered intramuscularly monthly or every 2 months. COVID-19 presents potential challenges to starting patients on this novel regimen. This analysis summarizes CAB+RPV LA initiations in the CARISEL (Cabotegravir And Rilpivirine Implementation Study in European Locations) study, with 2 months' dosing commencing in last quarter 2020.

Method: CARISEL was started on 24Sept 2020. Enrollment data through 8 Jan 2021 used ad hoc data extraction to summarize CAB+RPV LA initiations and COVID-19-related disruptions. Target patient enrollment: 450 (average: 25 [13–44] per clinic across 18 clinics over 12 weeks. Anticipated enrollment completion: 9 Feb 2021.

Table. Participants Screened and Enrolled in CARISEL by country (8Jan 2021)

	Overall	Belgium	France	Germany	Netherlands	Spain	Missing
Screened	452	77	193	38	42	94	8
Enrolled	285 (63.1%)	38 (49.4%)	152 (78.8%)	24 (63.2%)	33 (78.6%)	38 (40.4%)	0

Results: As of 8Jan, 452 participants were screened: 33 (2 from COVID-19) were screen failures (SFs), 134 continue in screening, and 285 (63.1%; 1 rescreened) enrolled. Enrolled participants: 73.0% male, 26.3% female (self-reported), 75.4% white (median age: 46 years). Table lists country-level breakdown of screened/enrolled to date. At data extraction (8Jan), 90.2% (257/285) had initiated CAB+RPV oral lead-in (OLI); of those, 57.6% (148/257) progressed to LA dosing, while 42.4% (109/257) are in OLI phase and anticipated to commence LA at end of phase. Of enrolled participants to date, 1 was diagnosed with COVID-19 (France) and 1 had a limited physical exam because of site restrictions (Belgium). Offsite injection visits are allowable with medical monitor approval; none requested to date.

Conclusion: In CARISEL, participants were able to start the CAB+RPV LA regimen during the COVID-19 pandemic across 5 European countries. Despite COVID-19-related challenges, many have started CAB+RPV OLI and over half have initiated LA injections to date, with few documented COVID-related disruptions, demonstrating that CAB+RPV LA can be successfully initiated during the pandemic. Enrollment and initiation of CAB+RPV LA is ongoing, on target, and anticipated to continue through first quarter 2021.

O007 | HIV and COVID-19 inpatient outcomes in England during the early pandemic: a matched retrospective multicentre analysis (RECEDE C-19 study)

Ming Lee^{1,2}, Colette Smith³, Sarah Fidler², Lynsey Goodwin⁴, Lisa Hamzah⁵, Sarah Lawrence⁴, Rebecca Marchant⁵, Adrian Palfreeman⁶, Manish Pareek⁶, Kyle Ring⁷, Luke Snell⁸, John Thornhill⁹, Marie Williamson⁹ and Achyuta Nori¹

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Background: Clinical outcomes for people living with HIV (PLWH) hospitalized with COVID-19 infections have shown mixed outcomes. We conducted a multicentre, UK retrospective matched cohorts' analysis.

Method: Index cases were HIV+ COVID-19 PCR+ patients hospitalized between 01/02/2020–31/05/2020. HIV-negative patients were matched to PLWH up to a 3:1 ratio across 6 sites in England, by hospital site, test date +/- 7 days, age +/- 5 years, gender, index of multiple deprivation decile (IMDD) +/- 1. The primary outcome was patients achieving ≥ 2 -point improvement on a 7-point ordinal scale or discharge from hospital by day 28, whichever was earlier. Follow up was right-censored at day 28 for patients still in hospital or died. Cox-proportional hazards regression was performed stratified by matching clusters using multiple imputation for missing data. The model adjusted for ethnicity, clinical frailty score (CFS), body mass index, baseline hypoxia, duration of symptoms, hypertension, diabetes, malignancy cardiac, lung and renal disease.

Results: 68 PLWH and 181 HIV-negative patients were included. HIV-status was not associated (aHR 0.70; 0.43, 1.17; $P = 0.18$) with time to achieving 2-point improvement or discharge compared to HIV-negative patients after adjustment in the multivariable model (Table 1), despite the unadjusted HR of PLWH reaching the primary outcome being 0.57 (95% CI 0.39, 0.85; $p = 0.005$). Differences in outcomes remained associated with increased baseline CFS (aHR = 0.79; 95% CI 0.65, 0.95; $p = 0.011$) and having active malignancy (aHR = 0.37; 95% CI 0.17, 0.82; $p = 0.014$). Proportion of deaths (19.1% vs 19.3%, $p = 0.266$) and patients requiring ventilation (23.5% vs 17.1%, $p = 0.25$) were similar between PLWH and HIV-negative patients.

Table 1. Analysis of time to 2-point improvement or discharge (primary outcome) by HIV-status

		Univariable			Multivariable		
		HR	95% CI	p-value	HR	95% CI	p-value
Primary outcome analysis – Factors associated with time to clinical improvement or discharge							
HIV status	Positive	0.57	0.39, 0.85	0.005	0.70	0.43, 1.17	0.18
Ethnicity	BAME	0.59	0.39, 0.89	0.012	0.86	0.52, 1.42	0.55
Clinical frailty score	Per 1 higher	0.74	0.63, 0.86	<0.0001	0.79	0.65, 0.95	0.011
Body Mass Index (kg/m ²)	<25	0.49	0.26, 0.96	0.12	0.46	0.21, 0.99	0.047
	25-30	1.00			1.00		
	30-35	0.96	0.49, 1.90		0.99	0.47, 2.11	0.98
	35+	0.65	0.32, 1.32		0.65	0.29, 1.48	0.30
Hypoxic at admission	Yes	0.80	0.54, 1.18	0.27	0.67	0.41, 1.09	0.10
Days with symptoms at admission	Per 1 day longer	1.02	0.98, 1.06	0.28	1.00	0.95, 1.04	0.94
Hypertension	Yes	0.70	0.46, 1.06	0.094	0.88	0.52, 1.47	0.63
Chronic cardiac disease	Yes	0.49	0.24, 0.99	0.048	0.77	0.34, 1.74	0.53
Chronic lung disease	Yes	0.76	0.38, 1.55	0.45	1.08	0.48, 2.41	0.85
Asthma	Yes	1.37	0.75, 2.50	0.31			
Neurological	Yes	1.17	0.62, 2.21	0.62			
Active malignancy	Yes	0.38	0.19, 0.77	0.007	0.37	0.17, 0.82	0.014
Diabetes	Yes	0.79	0.50, 1.22	0.29	0.73	0.43, 1.25	0.26
Rheumatological disease	Yes	1.57	0.74, 3.33	0.24			
Chronic renal disease	Yes	0.51	0.29, 0.90	0.019	0.79	0.40, 1.58	0.51

HR=hazard ratio; CI=confidence interval; BAME=Black, Asian and Minority Ethnicities. Results from Cox proportional hazards model stratified by matching clusters, with missing data accounted for using multiple imputation with chained equations (20 simulated datasets combined using Rubin's rules). Clinical centre, date of admission, gender, age and IMD decile were not included as co-variables as these were matching variables.

Table: Results from multivariable logistic regression models of factors associated with severity of presentation

	Odds ratio (95% CI)	p-value
Female (vs. male)	0.30 (0.17, 0.54)	0.0001
Age /10 year increment	1.52 (1.22, 1.88)	0.0002
Ethnicity	White	1
	Black African	4.37 (2.45, 7.80)
	Other/unknown	3.83 (1.97, 7.43)
Body mass index (BMI, kg/m ²)	<20	1.38 (0.39, 4.87)
	20-29.9	1
	30-39.9	2.10 (1.23, 3.59)
	≥40	4.58 (1.75, 12.00)
	Not known	2.06 (1.02, 4.18)
Last CD4 count /50 cells/mm ³ increment	0.95 (0.91, 0.99)	0.01
AIDS status	No AIDS/unknown	1
	Current AIDS	2.94 (1.27, 6.79)
	Past AIDS only	1.28 (0.76, 2.16)
Comorbidity score /1 increment	1.25 (1.12, 1.39)	0.0001

Sensitivity analyses adjusting for age and excluding missing data, remained consistent with main findings.

PLWH were frailer (median CFS 3 vs 2, p = 0.0069), and had non-significantly higher proportion of malignancies (14.7% vs 9.9%, p = 0.29). Number of non-HIV co-morbidities (2 vs 2, p = 0.16) and median BMI (27.7 vs 29.4, p = 0.19) were similar. Median CD4 count in PLWH was 352 cells/µL (IQR 235, 619), 63/68 (92.3%) were taking antiretroviral therapy.

Conclusion: Differences in clinical outcomes of COVID-19 hospitalisations in PLWH may be due to other important factors including increased frailty and malignancies, which are more prevalent in PLWH, rather than HIV-status alone.

O008 | Coronavirus (COVID)-19 in people with HIV in the UK: Initial findings from the BHIVA COVID-19 Registry

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Background: Information on COVID-19 among people with HIV in the UK is limited. We report findings from the first 965 people with COVID-19 reported to the BHIVA COVID-19 Registry.

Method: UK HIV clinical services submitted anonymised information, using the BHIVA Audit Submission system, on people attending their service with a positive SARS-CoV-2

test and/or suggestive COVID-19 symptoms. Information was collected on demographics, HIV/clinical parameters, symptoms and outcomes. Logistic regression identified factors associated with severe presentation (requirement for oxygen/invasive ventilation) and poor outcome (death or continued hospitalisation/symptoms after 3 months).

Results: Of the 965 people affected (median (interquartile range, IQR) age: 49 (41–56); 321 (33.3%) female; 496 (51.4%) white, 339 (35.1%) Black African), 324 (33.6%) reported an occupational risk for infection, mainly health/care work. Most (68.4%) had long-standing (>10 years) HIV infection and 95.8% were on antiretroviral therapy (ART). Median (IQR) nadir/current CD4 counts were 260 (131–408) and 620 (459–811) cells/mm³, respectively; 47 (4.9%) had a current AIDS infection and 203 (21.0%) ≥1 uncontrolled/active comorbidity.

COVID-19 symptoms were reported in 761 (78.9%; fever 49.3%, cough 53.3%, shortness-of-breath 33.7%, anosmia 24.8%). Of cases reported, 204 (21.1%) were admitted to hospital, 70 (7.3%) to intensive care, and 145 (15.0%) required oxygen/invasive ventilation. In multivariable analyses (Table 1), male gender, a lower current CD4 count, older age, higher BMI, a current AIDS diagnosis and a higher co-morbidity score were associated with severe presentation.

Of 702 participants with follow-up >3 months, 112 (16.0%) had a poor outcome (51 deceased, 62 in hospital/ongoing issues). Whilst older age (adjusted odds ratio /10 years: 1.22 [95% confidence interval 0.99–1.51]), suboptimal ART (2.16 [1.17–3.99]), a lower CD4 count (0.96/50 cells/mm³ higher [0.92–1.00]) and a greater co-morbidity score (1.29 [1.17–1.43]) were associated with poor outcome, all associations were substantially attenuated after adjustment for presentation severity (13.70 [5.12–18.71]).

Conclusion: Whilst our findings may over-represent those with symptomatic or more severe presentation, and cannot address all confounders, several demographic/clinical factors are associated with worse severity and poorer outcomes of COVID-19, emphasising the need for clinical vigilance particularly in those with low CD4 counts and/or suboptimal ART.

O009 | COVID-19 mortality among people with HIV compared to the general population during the first wave of the epidemic in England

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Background: Studies have identified HIV as a risk factor for severe coronavirus disease (COVID-19). To better inform shielding advice and vaccination priorities, we describe COVID-19 deaths among people with HIV in England in the first wave of the epidemic and compared mortality rates to those in the general population.

Method: Comprehensive national surveillance data on adults (aged ≥ 15 years) with diagnosed HIV and resident in England were linked to the national COVID-19 mortality surveillance system (02/03/2020–16/06/2020); HIV clinicians verified linked cases and completed a form on the circumstances of death. Gender and age-standardised mortality rates are compared to the general population. The clinical profile of people with HIV who died with COVID-19 is also described.

Results: From 02/03–16/06, 99 people with HIV died with/of COVID-19 (overall mortality rate: 107/100,000) compared to 49,582 people in the general population (109/100,000). Among those aged 15–59, however, COVID-19 mortality was five times higher among people with HIV compared to the general population (58.3 vs. 10.2/100,000, respectively), whereas among those aged ≥ 60 years the rate was 1.2 times higher (434 vs. 355/100,000, respectively) suggesting strong confounding with age. Higher COVID-19 mortality rates in people with HIV were observed among ethnic minority groups (black: 188 vs. 122 /100,000; Asian: 131 vs. 77.0 /100,000). Most people with HIV who died of/with COVID-19 had suppressed HIV viral loads (91%) and had at least one documented co-morbidity associated with poor COVID-19 outcomes (87%).

Conclusion: The overall mortality rate due to COVID-19 among people with HIV was 0.1% in the first wave of the English epidemic and is higher than in the general population after controlling for age. Our findings indicate disparities in COVID-19 mortality when comparing people with HIV to the general population, particularly among younger adults and those of black or Asian ethnic minority. Most people with HIV who died with COVID-19 had co-morbidities. Uptake of COVID-19 vaccination in people with HIV of all ages should be strongly encouraged. There are a number of limitations to these analyses including the inability to adjust for several potentially confounding factors, such as socioeconomic status and infection risk.

O010 | High prevalence of HIV among people who experience homelessness in London: results of an innovative peer-centred outreach bloodborne virus testing service initiated at the start of the COVID-19 pandemic

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Background: People who experience homelessness (PWEH) are at higher risk of HIV, with global estimates of prevalence between 0.3%–21%. The Find & Treat, UCLH homeless health service, with support from Fast-Track Cities London, initiated a project providing bloodborne virus (BBV) point of care testing (POCT) and linkage to care for people accommodated in hotels, homeless hostels, and women's shelters in London. Much of the testing was undertaken by peers (people with lived experience of exclusion) with clinical support. Individuals who were diagnosed with HIV or HCV were linked in with a peer, providing support with medications and communication with clinical teams.

Method: Individuals were offered POCT for HIV, syphilis, HCV antibody & hepatitis B surface antigen. Those who were HCV Ab positive were offered POCT HCV RNA. Data were collected about demographics, housing status, and BBV risk factors.

Results: Between May and October 2020, 1209 individuals were tested for BBVs at 66 venues, 979/1209(81%) were male, 616/1209(51%) rough sleeping prior to being accommodated in the hotel. The mean length of homelessness was 2.3 years, 495/1209 (41%) becoming homeless within the last 6 months. 701/1209(52%) from black/other minority ethnic groups, 338/1209(28%) born in the UK, 544/1209(45%) reported never being tested for HIV.

35/1,108 (3, 2%) were identified as living with HIV, 6/35 (17.1%) newly diagnosed, 6/35 (17.1%) co-infected and untreated for HCV. 5/35 (14.3%) women, 10/35 (28.6%) MSM, 14/35 (40%) reported a history of injecting drug use, 7/35 (20%) born in a country of higher HIV prevalence. 26/35 (74.3%) previously diagnosed with HIV, 20/26 (77%) currently engaged with HIV treatment services, 5/20 (20%) experienced treatment interruption due to inability to access medications during the pandemic. Follow-up data show that 30/35 (85.7%) now on anti-retroviral treatment, and all 35 are engaged with the Find & Treat service and receiving peer support.

Conclusion: PWEH in London have a high prevalence of HIV infection, 3.2%, with conventional services failing to engage people in care. The HIV cascade of care for this group falls far below the UNAIDS 95:95:95. People who are vulnerable to HIV acquisition are disproportionately affected by homelessness, including ethnic minorities, MSM, and people who use drugs. These data show that factors that improve testing and follow-up engagement for PWEH include: involvement of peer support, integrated outreach services that can provide BBV testing and treatment, and engagement with PWEH at their places of accommodation.

O011 | Impact of the COVID-19 pandemic measures on HIV consultations in England

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Background: Public Health measures during the COVID-19 pandemic dramatically changed the delivery of health care. We compare consultation patterns among people accessing HIV outpatient care in the year 2019 and during COVID-19 (2020).

Method: Consultations reported to the HIV and AIDS reporting system (HARS) between January 2019 and September 2020 were assessed. Only clinics that submitted complete data for all three quarters (January- September) in both 2019 and 2020 were included (113 clinics, 69% of all HIV clinics in England). Consultations were classified according to consultation medium (face-to-face, telephone and other). People attending for care were categorised into three groups according to their clinical complexity; (1) new diagnoses (2) complex and (3) stable. Trends in these groups were then analysed.

Results: Consultations in January-September 2020 (138,321), were 9% lower than in the same period in 2019 (151,618) with the least consultations in May 2020 (9,603) compared to 18,150 in May 2019. Consultations rose between June-September 2020 with the highest seen in September 2020 (20,415).

Face-to-face consultations decreased by 31% between the two periods (from 130,275 in 2019 to 89,901 in 2020) whilst telephone consultations increased nearly eight-fold (from 3,867 to 30,088) and were highest in April 2020 (5,111). The increase in telephone consultations was most prominent among the 35-49 and 50-64 age-groups, whereby they accounted for 39% and 40% of all telephone consultations in 2020 respectively. Between the two periods, when analysing by clinical complexity, consultations among patients newly diagnosed decreased by 18% (from 16,817 to 13,791), stable decreased by 11% (from 110,844 to 98,135) and complex increased by 10% (from 23,957 to 26,395) with the highest number of consultations among complex patients seen in September 2020 (3,656). London had the biggest drop in consultations in May 2020 and recovered to have the highest increase between June-September 2020 (46% from 5,844 to 10,832).

Conclusion: Services have adapted delivery of care as a result of COVID-19 leading to fewer overall consultations, proportionately fewer face-to-face consultations and more telephone/non face-to-face consultations in 2020 compared to 2019. Further analyses would need to be carried out on potential inequalities, impact on services and patient satisfaction.

O012 | Planning post-pandemic HIV services – the patients' perspective

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Background: COVID-19 has impacted HIV services globally, with increased use of telemedicine. Is this sustainable, or even preferred? We sought opinions from people living with HIV (PLWH) from a large metropolitan service.

Method: At our two HIV outpatient sites, since March 2020 routine appointments have been by telephone with face-to-face (FTF) appointments for urgent & complex care only. 5051 PLWH (4,452 in Central London; 599 outside London) received SMS invitations to an online survey (with a week 4 reminder if necessary). We collected demographics and asked 30 quantitative and qualitative questions on service experience during the pandemic, and future models. The survey was open for 8 weeks (August-October 2020). Quantitative outcomes were analysed.

Results: 1109 respondents started the survey, and 795 (15.7% of invitees) completed all questions so were included for analysis. 82.7% of respondents were male, 73.5% White-British or White-Other, 71.1% men who have sex with men (MSM), and 92.4% aged 35-74 years.

552/795 (69.4%) had experienced a telephone consultation since March 2020. For 427/552 (77.4%) it was their first virtual consult and 374/427 (87.6%) were happy to repeat this. 637/795 (80.1%) indicated a hybrid model of care with annual/biennial FTF and 6-monthly virtual appointments was acceptable.

700/795 (88.1%) were willing to complete pre-appointment questionnaires via email (53%), phone app (49.5%) or patient portal (47.4%).

Patients value clinician continuity for both virtual (continuity essential 35.9%; preferred 51.6%) and FTF (39.8% & 51.4%) consults. 774/795 (97.3%) patients had mobile phone access for confidential calls, of whom 773/795 (99.9%) had a smartphone, and 742/795 (95.8%) had enough credit to call the clinic. 673/795 (84.6%) reported English as their first language. 122/795 (15.3%) PLWH routinely spent >GBP £10 travelling to appointments.

Conclusion: This survey of 795 PLWH is the first to explore patient opinions in high-resource settings on pandemic-era HIV care. Respondents broadly matched our cohort although black people and women were underrepresented and rates of smartphone ownership were higher than the national average. Most preferred continuity of care with named clinicians. Telemedicine offers acceptable HIV service delivery across patient groups as a hybrid model with the option of FTF, and with a named clinician.

Further survey methods to contact those who did not respond to text invitation, and qualitative analysis will help inform future models of care.

O013 | The HIV pre-exposure prophylaxis (PrEP) Impact trial: baseline demographics, coverage and first regimen choice

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Background: The PrEP Impact trial is a non-interventional, non-randomised trial providing a pragmatic health technology assessment of PrEP uptake in sexual health clinics (SHC) across England.

We describe trial participant demographics and, for MSM, uptake and PrEP regimen chosen at enrolment.

Table 1 Demographics and PrEP uptake and coverage in HIV negative MSM attendees through September 2019

	All SHC attendees n (%)	Eligible n (%)	Enrolled n (%)	% Uptake	% Coverage
	165,157 (100)	31,139 (100)	15,432 (100)		
Age Group					
16–24	35171 (21.3)	5451 (17.5)	2036 (13.2)	37.4	5.8
25–29	34496 (20.9)	6553 (21.0)	3237 (21.0)	49.4	9.4
30–34	28038 (17.0)	5704 (18.3)	3031 (19.6)	53.1	10.8
35–39	20374 (12.3)	4379 (14.1)	2350 (15.2)	53.7	11.5
40+	47046 (28.5)	9049 (29.1)	4778 (31.0)	52.8	10.2
Ethnic Group					
White	123567 (74.8)	23856 (76.6)	11758 (76.2)	49.3	9.5
Black African or Black Caribbean	5333 (3.3)	988 (3.2)	480 (3.1)	48.6	9.0
Asian/Asian British	8358 (5.1)	1661 (5.3)	775 (5.0)	46.7	9.3
Other (including unknown/missing)	27899 (16.9)	4634 (14.9)	2419 (15.8)	52.2	8.7
Born in the UK and ethnicity					
Born UK, White	88158 (53.4)	16757 (53.8)	8141 (52.8)	48.6	9.2
Born UK, BAME	10848 (6.6)	2202 (7.1)	1052 (6.8)	47.8	9.7
Born abroad, White	28061 (17.0)	6299 (20.2)	3292 (21.3)	52.3	11.7
Born abroad, BAME	13929 (8.4)	2802 (9.0)	1349 (8.7)	48.1	9.7
Unknown	24161 (14.6)	3079 (9.9)	1598 (10.4)	51.9	6.6

Method: Participants were recruited between 13th October 2017 and 12th July 2020. Trial eligibility was in line with UK national PrEP guidelines. Trial data, collected via electronic case report forms and national surveillance data, were linked using date of birth and basic demographic data, most recently with data submitted through September 2019.

Results: A total of 24,255 individuals were recruited to July 2020, of whom 23,217(95.7%) were MSM and 1038 (4.3%) from other groups. Median age was 33 years (range 16–86); cis-heterosexual men (cHM) were older, median 39y and transmen younger, median 28y. The majority were of white ethnicity across all groups (range 50.5% for cHM – 76.2% for MSM).

Daily regimen was initially chosen by 85% MSM (11185/13150).

Conclusion: We found high need for PrEP amongst MSM attending SHC; coverage in other groups remains low. For MSM there was equitable representation across ethnicity and country of birth and under-representation of those under 25.

O014 | How to improve PrEP adherence and retention in care: insights and recommendations from the first 2 years in Scotland

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Background: Large-scale implementation of oral HIV Pre-Exposure Prophylaxis (PrEP) is key to elimination of HIV transmission. However, PrEP services and models of care are under-researched. We aimed to develop evidence-based, theoretically informed recommendations for optimal PrEP provision by undertaking a mixed-methods, retrospective evaluation of the first two years of the Scottish PrEP programme, in which PrEP is delivered through sexual health clinics. Drawing on the PrEP care cascade, we investigated: awareness and access/uptake and initiation/adherence and retention in care. Here we address adherence and retention in care.

Method: We conducted semi-structured telephone interviews and focus groups (09/2018–07/2019) with geographically

and demographically diverse patients seeking/using/declining or stopping PrEP (n = 39), sexual healthcare professionals (SHCP) (n = 54), community-based organisations (CBO) service users (n = 9) and staff (n = 15) across Scotland. Thematic analysis identifying barriers and facilitators to PrEP adherence and retention in care was complemented by analyses using conceptual frameworks from implementation science (Behaviour Change Wheel, APEASE criteria, Socio-Economic Model) to systematically generate recommendations to enhance this aspect of the PrEP care cascade.

Results: Barriers and facilitators were diverse and multi-layered, e.g. Policy: limited flexibility in settings, timings, and nature of PrEP reviews; Organisational: appointment scheduling, reminder, and/or follow-up processes; Community: enduring PrEP-related stigma and emerging stigmas around not using PrEP; Interpersonal: complexity of non-daily dosing and tendency for users to stop PrEP without discussing decisions with SHCP; Individual: managing side-effects. We generated wide-ranging but specific recommendations for key stakeholders. Examples include: making PrEP reviews available in various settings; providing individualised PrEP care that meets diverse needs; using clinic systems to actively remind and recall users for PrEP reviews; using professional judgement to explore partner influences on decisions to stop PrEP; supporting PrEP conversations; clear guidance on non-daily dosing; emphasising benefits of PrEP reviews and encouraging/commitment to good PrEP citizenship; adequate discussions on possible side-effects and planning activities (e.g. care plans, coping planning).

Conclusion: PrEP adherence and retention in care can be problematic for many individuals. Our novel and detailed findings indicate that collaborative efforts across public health, clinical, and community practice are required to address these difficulties at various levels and improve patient care.

O015 | HIV pre-exposure prophylaxis and black people in England: addressing health information inequities through a national campaign

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Background: In 2019, 1 in 7 of all new HIV diagnoses was among Black African heterosexual people (BA). However, <5% of the 26,000 individuals on the Pre-exposure Prophylaxis (PrEP) IMPACT trial from 2018–2020 were BA. Research shows BA knowledge of PrEP is extremely low, particularly compared to other affected groups like gay and bisexual men (GBM).

HIV Prevention England sought to raise awareness amongst BA of what PrEP is, who it is for and how it can be accessed through a national campaign 'Prep Protects' (October–November 2020).

Method

PrEP Information resources were created for the campaign:

- Brief animation
- Radio advert
- Information page on www.startswithme.org.uk
- 'PrEP tool' for users to self-assess if they may benefit from PrEP. Questions asked: condom-use frequency; sexual activity type; partner's HIV status; and whether the partner is from a higher-prevalence group. The responses were then used to provide custom information.

These were promoted through targeted media advertising and social media influencers.

Results

- Campaign reach: 4million+ people.
- PrEP information webpage views: 79,595.
- 67,800 link clicks on digital ads.
- Despite high engagement, few BA commented directly on posts. Majority private-messaged to learn more, including effectiveness, side-effects etc.
- A number commented to "correct" the campaign. They believed that the campaign meant to promote post-exposure prophylaxis (PEP) and there was a messaging error.
- Some displayed a negative attitude towards PrEP, associating it with promiscuous behaviour or sex work.

Tool use

1,254 people completed the tool: 71% men, 28% women and 1% gender diverse. 245 people specified ethnicity: 68% BA, 19% white, and 13% another background.

- 100% BA did not know their partner's HIV status, compared to 58% GBM.
- 53% BA never used condoms at all, compared to only 34% GBM.
- 68% BA had a partner from a high-prevalence group, compared to 42% of other heterosexuals.
- BA women were most likely to never use a condom (60%), yet most likely to have a partner from a high-prevalence group (76%).

All BA completing the tool would benefit from PrEP.

Conclusion: The campaign was highly effective at reaching BA who may need PrEP. Results confirmed low knowledge

levels and revealed key misconceptions. A sustained national campaign is required to reach all BA who need to learn about PrEP and dispel the myths preventing them from considering it.

O016 | 'If they ask, I will tell them': attitudes towards accessing sexual healthcare among heterosexual-identifying MSM in England

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Background: STI/HIV testing is lower among heterosexual-identifying men who have sex with men (heterosexual-MSM) than bisexual or gay men. We aimed to understand attitudes towards sexual healthcare among heterosexual-MSM in England, to improve service design and uptake among this overlooked population.

Method: Semi-structured individual interviews were conducted with 15 heterosexual-MSM in England in January–March 2020. Participants ranged in age from 22–69 years. All but one reported current or previous relationships with women. Data were analysed using an inductive thematic analysis.

Results: Frequency of STI/HIV testing varied widely between participants, reflecting how some men felt they lacked sufficient or accurate information about testing guidelines and options, including the possibility of home-sampling/testing. Among men with female partners, concern for the health and wellbeing of these partners was a motivator for testing. However, privacy and discretion were important factors in the use of home-sampling/testing kits for men living with female partners or family; their ability to use these services was limited when their privacy needs were not accommodated. Their heterosexual identity meant some felt services intended for gay and bisexual men were not appropriate for them. If asked by sexual health clinicians, most heterosexual-MSM interviewed reported feeling comfortable disclosing the sex they have with men, describing the impersonal nature of consultations and perceptions of non-judgement and discretion as facilitators for disclosure. However, this comfort with disclosure did not always extend to GPs, due to fears their behaviour would be exposed to others.

Conclusion: For the heterosexual-MSM in this study, privacy and discretion were of utmost importance. These must be guaranteed by sexual healthcare services, whether in-clinic or home-sampling/testing, to appeal to MSM regardless of their personal circumstances. Trust in clinician confidentiality and non-judgement facilitate disclosure. Further work is needed to identify ways for sexual health services to appeal to, and reach, this population.

O017 | Measuring impacts of COVID-19 on sexual and reproductive health service use in Britain: findings from a large, quasi-representative survey (Natsal-COVID)

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Background: Sexual and reproductive health (SRH) services in Britain shifted rapidly in response to COVID-19 and the first national lockdown. We investigated SRH service access and unmet need in Britain in the 4-months following lockdown (23/03/2020) to inform service delivery during and after the pandemic.

Method: 6,657 participants aged 18–59 years completed a web-panel survey (29/07/2020–10/08/2020). Quota-based sampling and weighting enabled a quasi-representative population sample. We estimated the prevalence of reported SRH service access and failed access, and calculated age-adjusted odds ratios (aOR) for sexually-experienced (≥ 1 sexual partner/lifetime; $n = 3,065$) and sexually-active (≥ 1 sexual partner/past year; $n = 2,752$) participants aged 18–44 years.

Results: 20.8% (95% CI: 19.3%–22.3%) of sexually-experienced participants reported accessing ≥ 1 SRH service in the 4-months from lockdown. 9.7% (8.6%–10.8%) reported being unable to access a service they needed, though many of these participants (76.4%) also reported successful access. 14.8% (13.1%–16.6%) of sexually-experienced women reported accessing contraception services since lockdown, and this was more likely for younger women (OR, 18–24 vs. 35–44 years: 2.96 (1.95–4.49)). Among sexually-active participants, 4.8% (4.0%–5.7%) reported accessing STI-related services (STI/HIV testing and follow-up care) and this was higher in those aged 18–24 years (10.1%). Participants reporting any new condomless partner(s) since lockdown were more likely to report accessing STI-related services (aOR, men: 23.77 (11.55–48.92), women: 10.53 (3.94–28.15)) and, amongst men, to report a failed attempt (aOR 13.32 (5.39–32.93)). Among those reporting STI testing ($n = 106$), 33.4% (24.1%–44.2%) did so online, 31.5% (22.0%–42.9%) by phone, 43.9% (33.4%–55.0%) in-person, and 14.8% (8.3%–25.2%) via video consultation.

Conclusion: Our findings are consistent with SRH services in Britain adapting rapidly in response to COVID-19 and prioritising access for those in need. However, a significant proportion of participants reported difficulty accessing care, suggesting that services may need to adapt further to address and prevent a backlog of need among some high-risk groups. Remote modes of service access have been enabling, but face-to-face access remains essential for some SRH services.

O018 | Reviewing the speculum: barriers and facilitators to cervical screening in women-who-have-sex-with-women

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Background: Women-who-have-sex-with-women (WSW) are at risk of cervical cancer; studies demonstrate a higher prevalence of certain risk factors in this population. However, they are less likely than other groups to access cervical screening. WSW experience barriers specific to their sexual identity; understanding these may facilitate screening in this key population. We conducted a narrative review to map existing evidence on barriers and facilitators to cervical screening in WSW, using a model of behaviour change, and subsequently identified opportunities for interventions, guidelines, and practice development.

Method: Qualitative, quantitative, mixed-methods, and case-studies investigating cervical screening in WSW were eligible. We included English-language papers published from 01/Jan/2000 onwards, if they included specific reference to cervical screening in WSW. Barriers and facilitators to screening were mapped to the COM-B model of behaviour change and the socioecological model (SEM) of health.

Results: We identified multilevel barriers to cervical screening among WSW: 1. Patient level (lack of awareness, low risk perception, stigma, fear of invasive screening procedure, anticipated stigma when disclosing sexual orientation, and less chance of opportunistic testing through Sexually Transmitted Infection (STI) testing and family planning consultation); 2. Practitioner (lack of specific sexual health training and/or experience counselling WSW about cervical screening, shame and anxiety when discussing woman-to-woman sexual practices), and 3. System (underdeveloped and/or absent guidelines for cervical screening among WSW, heteronormative screening protocols and stigmatising stereotypes of WSW). Facilitators included 1. Patient (Recognising Human Papilloma Virus (HPV) transmission through woman-to-woman sexual practice, understanding the connection between HPV and cervical cancer); 2. Practitioner (post-graduate sexual health training, positive patient-practitioner

rapport) and 3. System (WSW-specific guidelines for sexual and reproductive health).

These factors mapped to COM-B domains, e.g., Capability (skills, knowledge, and awareness), Opportunity (stigma, opportunistic screening, cultural norms) and Motivation (risk perception, assumptions, fear and shame).

Conclusion: Barriers and facilitators to cervical screening among WSW exist across multiple levels and behavioural domains. Addressing these barriers is imperative for reducing health inequities. We recommend that screening guidelines include WSW specifically, that training is developed to address stigma and communication among practitioners, and that cervical cancer awareness campaigns develop WSW-specific resources.

O019 | Do GBMSM's preferences for in-person, telephone or digital sexual healthcare vary according to health concerns and symptoms? A cross-sectional survey

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Background: As sexual healthcare moves online, it is important to understand the needs and preferences of people in groups with a higher burden of poor sexual health, to ensure equitable services. We explored gay, bisexual and other men who have sex with men's [GBMSM] preferences for in-person, telephone and online provision of elements of sexual healthcare and whether preferences change in the presence of symptoms and/or concerns about STI risk.

Method: Cross-sectional online survey of GBMSM in Scotland recruited from sexual-social media from December 2019 to March 2020 (pre-Covid-19 pandemic). Participants were asked their preferences for accessing elements of sexual healthcare (appointment booking, providing a sexual/medical history, and accessing HIV/STI results (or no preference)) in two scenarios: 1) a routine check-up (no symptoms/particular concerns); 2) when concerned about a new symptom or possible infection. Data were analysed using Pearson chi-squared, McNemar-Bowker, and post-hoc McNemar tests.

Results: 755 GBMSM participated: median age 39 years, 71.4% had completed higher education and 97.5% were of White ethnicity. When accessing a check-up, proportions preferring 1) booking an appointment in person, by telephone and online were [27/755 (3.6%), 113/755 (15.0%), 520/755 (68.9%)] respectively, 2) reporting sexual behaviour: [184/748 (24.6%), 39/748 (5.2%), 382/748 (51.1%)] respectively, 3) reporting symptoms: [254/747 (34.0%), 46/747 (6.2%), 308/747 (41.2%)] respectively, 4) reporting medication: [163/745 (21.9%), 46/745 (6.2%), 358/745 (48.1%)]

respectively, 5) receiving HIV test results: [200/699 (28.6%), 73/699 (10.4%), 304/699 (43.5%)] respectively, and 6) receiving STI test results: [143/746 (19.2%), 96/746 (12.9%), 361/746 (48.4%)] respectively. A significant proportion of participants' preferences changed across all elements of care measured, when concerned about symptoms or infection ($p < 0.005$). Post-hoc analyses suggest that these changes were mostly attributed to a shift in preference from online to in-person care in the presence of symptoms/STI risk.

Conclusion: In this online-recruited, highly educated, older sample of GBMSM, online care was highly acceptable but a significant proportion changed their preferences to in-person care in the presence of symptoms/STI risk. It is important to provide choice in sexual healthcare provision as people's preferences are not static and appear highly associated with emotional context.

O020 | Can a rapid STI sexual health service reduce gonococcal culture testing without reducing culture sensitivity? A service evaluation.

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Background: The Panther (Hologic Inc.) was introduced to our specialist sexual health service at point-of-care, which could provide a rapid gonorrhoea (GC) and chlamydia (CT) nucleic acid amplification test (NAAT) result within 4 hours. GC-culture testing was limited to those testing NAAT-positive and/or to those receiving treatment before the NAAT result. We hypothesised that this would reduce the number of cultures and cost but not reduce GC-culture sensitivity. GC isolates are required for susceptibility testing to optimise treatment and for anti-microbial resistance surveillance.

Method: We obtained data on all NAATs over 2 years and linked them to GC-culture tests taken within 2 weeks of the

NAAT. We compared 12 months before and after introduction of the rapid STI service in November 2019. Chi-square was used to compare proportions.

Results: 23,588 CT/GC NAATs were taken before and 21,588 after introduction of the new rapid STI service of which 684(2.9%) and 766(3.5%) were GC-positive respectively. GC cultures dropped from 10881 to 6022 after November 2019 with the proportion of cultures to NAATs decreasing from 0.46 to 0.28($p < 0.0001$). This proportion decreased over the next 12 months as seen at each 4-month average after Nov-2019: 0.46(3472/7531), 0.29(1999/6950); and 0.08(551/7107) ($p < 0.0001$). The proportion of NAAT (GC)-positive specimens, which were culture-positive, did not change before and after the introduction of the new service: 0.35(237/684) vs 0.35(265/766) respectively ($p = 1.0$). The proportion of culture-positive was not significantly different in each 4-month period after the intervention: 0.36(91/256); 0.38(102/267) and 0.30(72/243) ($p = 0.12$). Culture sensitivity post-intervention increased in cervical swabs from 65% (44/68) to 74% (75/102) ($p = .34$). There was a fall in male urethral culture sensitivity from 78%(32/41) in the first quarter before the intervention, to 50%(87/174)($p = 0.002$) in the following 2 quarters pre-intervention, when sampling the urethra directly had changed to sampling the urethral discharge, when present. Cervical culture sensitivity was higher than urethral post panther ($p < 0.001$).

Conclusion: Implementation of the new rapid STI service resulted in fewer GC-culture specimens being taken which reduced the cost of GC-culture but with no loss in GC-culture sensitivity overall. Sampling the urethral discharge instead of the urethral mucosa in men with urethral gonorrhoea may reduce culture sensitivity.

O021 | A new measure of sexual wellbeing for community surveys: development and validation of the Natsal-SW

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Background: Sexual wellbeing is intrinsic to public health but long-standing conflation of sexual health and sexual wellbeing has limited our ability to address everyday sexual issues. This study proposed a seven-domain model, and developed and validated a brief measure for community surveys.

Method: Domains of sexual wellbeing were determined through critical engagement with wide-ranging literature

and 40 semi-structured interviews to explore resonance with lived experiences. Measure development involved 7 cognitive interviews and two web-based surveys of general population samples ($n = 590$, $n = 814$), to assess performance of individual items, conduct exploratory and confirmatory factor analysis, and examine whether the resultant measure was associated with external variables as hypothesised. A sub-sample ($n = 113$) completed the survey again after two weeks to test re-test reliability.

Results: We proposed seven domains of sexual wellbeing: security and safety; respect; self-esteem; resilience; forgiveness of past sexual experiences; self-determination and comfort. Semi-structured interviews confirmed the relevance of these domains to lived experiences of sex and sexuality. Drawing on the semi-structured and cognitive interviews we drafted a 25-item measure to capture these domains. Based on individual item assessment and exploratory and confirmatory factor analyses, we trimmed the measure to 13-items. The confirmatory factor analysis indicated that a 'general specific model' had best fit (RMSEA: 0.064; CFI: 0.975, TLI: 0.962), and functioned equivalently across age groups, genders, sexual orientation and relationship status. The final measure was associated with external variables in the directions hypothesised (all $p < 0.001$), including sexual functioning (coefficient = 0.924), mental wellbeing (0.454), self-esteem (0.564), sexual esteem (0.563), body image (0.232), depression (-0.384), anxiety (-0.340), sexual satisfaction (0.680) and sexual distress (-0.615) and demonstrated good test-retest reliability (ICC = 0.78).

Conclusion: Our conceptual model and 13-item measure distinguishes sexual wellbeing from sexual health and enables sexual wellbeing to be quantified and understood within and across populations.

O022 | Implementation of a cost-neutral rapid STI service providing the right treatment at the right time to improve patient experience and outcomes

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Background: A pilot using point-of-care (POC) technology for men with urethritis symptoms found most patients (80%) prefer same-day results. We, therefore, designed a new pathway for managing men with urethritis. We have demonstrated previously the positive impacts of this pathway on patient and staff experience in a qualitative evaluation.

Method: Through this pathway, symptomatic men had a nucleic acid amplification test for *Chlamydia trachomatis* and *Neisseria gonorrhoea* (CT/GC NAAT) in clinic, and returned for treatment, usually the same day. Use of Panther (Hologic Inc) at POC provided rapid CT/GC NAAT results within four hours. Microscopy was limited to those testing NAAT-negative for both GC and CT. GC-culture was sent if GC NAAT-positive, when treatment was administered. If CT/GC NAAT-negative and non-gonococcal urethritis (NGU) negative the patient was reassured and given information on why they might be experiencing pain (anxiety can increase pelvic floor muscle tone resulting in referred pain and genitourinary symptoms) with guidance on how to relax the pelvic floor. They were advised to re-attend for an early morning smear if symptoms did not settle.

We used the 'Consolidated Framework for Implementation Research' to implement and evaluate this service improvement.

We compared outcomes (Chi-square) over 6 weeks post-implementation in 2020, to 12 weeks in 2014/15.

Results: Of 265 symptomatic men in the new pathway, 33/265(12.5%) had CT and 30/265 (11.3%) GC, similar to rates ($p > 0.5$) in 2014/15 with 59/431(13.7%) and 45/431(10.4%), respectively. 40/264 (15.1%) GC-culture specimens were sent, compared to 385/431 (89.3%) ($p < 0.0001$) in 2014/15. With our new pathway, 180/265(67.9%) proceeded to microscopy, with NGU diagnosed in 61 (23%) compared to 385/431(89.3%) ($p < 0.0001$) proceeding to microscopy in 2014/15, with 192/431(44.5%) ($p < 0.0001$) diagnosed with

urethritis, of whom 154 had NGU and 38 had GC. In 2020, 17/265(6.4%) were treated for confirmed *Mycoplasma genitalium*. Total reattendance within 4 weeks of initial presentation was 66/265 (24.9%) in 2020 compared to 150/431 (34.8%) ($p = 0.008$) in 2014/15.

Conclusion: The new rapid service resulted in quicker diagnosis with prompt and specific antimicrobial treatment, reducing the cost and inconvenience of unnecessary microscopy and GC-culture. Patient outcomes and management costs have improved by reducing reattendance. The new pathway facilitates prompt partner notification, minimising onward STI transmission.

O023 | Complex contraception provision during the COVID-19 pandemic: how did sexual health services fare?

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Background: Timely access to effective contraceptive services, in particular long-acting reversible contraception (LARCs) is an important factor in reducing rates of unintended pregnancies. In recent years, organisational changes in sexual health services (SHS) and with the recent impact of the COVID-19 pandemic reducing services, have led to concern that access to LARCs is compromised.

Aims: To evaluate whether SHS across the UK are able to offer an appointment for a LARC fitting within two weeks of initial contact, a Faculty of Sexual and Reproductive Health (FSRH) standard for access. Although there is no national standard, many commissioners demand a target of 80% of patients being offered an appointment within 2/52 of contact.

Method: The BASHH clinic database was used to identify SHS offering LARCs. All clinics open for more than one day a week were contacted by telephone during October 2020. The researcher posed as a 20-year-old woman who was using condoms and requesting a contraceptive implant. Data collected included the time to wait to appointment and whether clinics offered bridging methods of contraception during any delay in appointment. It was also noted whether a local COVID-19 restriction was in place at the time of the call. The information collected was coded, and data were analysed using chi-square tests in SPSSv27.

Results: Of the 218 contactable clinics, 51.4% ($n = 112$) of clinics offered the patient an appointment within 2/52, and 66.1% ($n = 144$) of clinics could offer appointments within 4/52. 7.3% ($n = 16$) of clinics offered the patient adjunct bridging oral contraception until the time of appointment. Comparing the devolved nations, 11/17 (64.7%) clinics in

Scotland, 8/13 (61.5%) clinics in Wales, 0/4 (0%) clinics in Northern Ireland and 93/182 (51.1%) clinics in England offered an appointment within 2/52 with significant regional variation across England ($p = 0.005$). No statistically significant difference was demonstrated in access between clinics with or without high-level COVID-19 restrictions ($p = 0.056$).

Conclusion: The two-week standard was met in just over half of the occasions, with significant variation across regions. The development of a national standard for access by FSRH may improve access to LARCs.

O024 | Response in service delivery to COVID-19: the UK management of asymptomatic contacts of infection

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Background: BASHH and NICE both recommend that 98% of patients contacting a SHS service with concern they have an STI should be offered an appointment within 2 working days. The COVID-19 pandemic, however, led to significant changes to SHS clinics due to social distancing requirements and staff shortages through redeployment or illness.

This study primarily aimed to assess access to SHS for an asymptomatic patient during the COVID-19 pandemic, and also recorded how the clinics managed the patient either by a telephone consultation, a face-to-face appointment, or a referral to online services.

Method: 217 SHS clinics were identified as open from the BASHH database of clinics. During October and November 2020 calls were made to all clinics during known opening times by the researcher, posing as a patient requesting an appointment. The 'patient' presented as a 20-year-old female, asymptomatic recent contact of chlamydia infection. The results generated were analysed using SPSS v 26.

Results: Overall, 78% of clinics offered the 'patient' a telephone consultation, 8% a face-to-face appointment, and in 13% of telephone calls the 'patient' was referred directly to postal testing kits by reception staff. Where appointments were offered ($n = 169$), 25% provided care completely remotely from consultation to testing and treatment. 90% of telephone appointments and 63% of face-to-face appointments were within 2 working days. Following a telephone consultation, 28% of clinics offered to post medication to patients and 72% offered pickup from the clinic or a pharmacy, varying from contact-free collection to a second appointment, face-to-face.

Conclusion: With reduced access to face-to-face services, clinics quickly responded to the service demand by the introduction of remote services, including online testing for asymptomatic patients. Comparing these results to a similar study undertaken in 2019 where no 'patients' were offered remote assessment or treatment, and most 'patients' were advised to attend a walk-in service for their care rather than being given a fixed appointment, this study demonstrates a significant change in service delivery. However, asymptomatic patients who have been in recent contact of an STI should have provision made for either retesting after the incubation period has passed or epidemiological treatment.

ABSTRACTS

Themed Posters

P025 | Going backwards on the treatment cascade? Identifying and re-engaging people living with HIV (PLWH) who are lost to follow up (LTFU)

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Background: Despite achieving UN AIDS 90/90/90 targets, a proportion of UK PLWH become LTFU from HIV care with poor outcomes. We aimed to identify patients LTFU from our centre since 2012. Our project is funded by a social impact bond (SIB) sponsored by the Elton John AIDS Foundation (EJAF) to provide targeted support to reengage LTFU patients.

Method: We sent a list of all patients seen at our centre between 2012 and 2017 (but not since) to Public Health England (PHE) for cross-matching using pseudonymised patient identifiers, to verify that they were not in care at another UK HIV clinic (the LTFU cohort). Chronologically, other patients were added to this cohort if they went longer than twelve months without attending clinic. We formed a dedicated LTFU team to systematically contact patients and support them back into care.

Continuous variables are expressed as median (IQR).

Results: 395 patients were sent to PHE; 255 (65%) had not attended another UK HIV clinic. 181 more patients were added to the cohort as not been seen for over twelve months. 215 (49%) of the cohort had an undetectable (<40 cp/ml) viral load prior to disengagement.

19 patients have attended as a result of the project so far: Six were found to have either attended or maintained virological suppression, therefore thirteen were judged as reengagement outcomes. Of these, nine were women, median time since last HIV appointment was seventy-one months (58, 99) and median CD4 was 279 cells/ μ l (94, 574). All patients are now back on ART.

Characteristics	n (%)
	Total n = 436
Median Age (Years)	46 (38, 54)
Male/ Female	
Male	259 (59%)
Female	177 (41%)
Ethnicity/HIV risk factor	
Black African	177 (41%)
White	128 (29%)
Other	53 (12%)
Black Caribbean	35 (8%)
Not stated	43 (10%)
Sex between men and women	168 (39%)
Underdetermined/Unknown	157 (36%)
Sex between men	99 (23%)
Intravenous drug use	6 (1%)
Vertical transmission	5 (1%)
Health care exposure	1 (0%)
Median duration of LTFU (Months)	36 (32, 78)

Conclusion: Cross-referencing with PHE was a useful method and demonstrated that the majority of patients who had not attended our centre had disengaged completely from HIV care. These PLWH are hard to reach, requiring enhanced recall, but can still reengage and restart ART.

P026 | Deferral of routine HIV viral load monitoring during the COVID-19 pandemic

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Background: BHIVA guidance recommends 6-monthly viral load (VL) monitoring for most people living with HIV (PLWH). Between March and September 2020, our service

suspended all routine face-to-face outpatient HIV activity due to the COVID-19 pandemic. Service continuity was maintained by clinical nurse specialists (CNS) performing telephone reviews and arranging supplies of medication. Face-to-face reviews, including blood monitoring, were triggered by CNS concern or patient request.

Consequently, many patients missed a planned viral load check within this window. We therefore examined the consequences of this deviation from standard-of-care monitoring practice.

Method: We defined a baseline cohort of all HIV-1 positive patients attending our service for outpatient care in the 12 months to 31/1/2020. Deferred monitoring was defined as no VL obtained during the 6-month period from 20/3/2020. We compared virological control prior to deferral with that after partial resumption of consultant-led face-to-face clinics. We present an interim analysis of those PLWH who had attended for VL monitoring (Roche Cobas) after a deferral period, with available data censored at 1/12/2020. Data were obtained from electronic laboratory and clinical records.

Results: 1110 patients attended during the baseline period, of whom 815 (73%) had subsequent deferral of monitoring. 368 of these had a VL result available from after the deferral period, at a mean of 12 months (range, 8–20 months) since their previous VL.

Proportion of PLWH with suppressed VL was very similar before and after deferral (<200 copies/ml, before deferral 352 [96%], after deferral 347 [94%]; <50 c/ml, 300 [82%], 308 [84%]). Of those PLWH who had suppressed VL (<200 c/ml) prior to deferral, 13 (4%) had incomplete viral suppression (VL \geq 200) after deferral. 7 of these had documented previous episodes of incomplete suppression, prior to the study baseline period.

Conclusion: Deferral of face-to-face review and of VL monitoring was feasible, although resulted in high workload for CNS staff. Loss of viral suppression was rare, and in many but not all cases, predictable from prior monitoring results. Further follow-up is required to assess the long-term consequences of reduced VL monitoring.

P027 | Vertical transmissions in the UK: insights and remaining challenges

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Background: Vertical HIV transmission has become a rare event among diagnosed women living with HIV (WLWH)

in the UK, with a transmission rate below 0.3% since 2012. Despite very high uptake of antenatal screening, a small number of vertical transmissions (VTs) occur among undiagnosed women. VTs are monitored by the Integrated Screening Outcomes Surveillance Service (ISOSS), part of PHE's Infectious Diseases in Pregnancy Screening programme. We describe the latest picture on VTs reported in 2014–2019.

Method: ISOSS conducts active surveillance of all pregnancies to WLWH, their infants and any children diagnosed with HIV (<16 years). ISOSS conducts enhanced data collection of VTs occurring in children born since 2006. Supplementary maternal and infant information is collected through interviews with paediatric, maternity and HIV clinicians involved in each case. A Clinical Expert Review Panel (CERP) establishes circumstances surrounding transmissions and any contributing factors; cases reported 01/14 to 12/19 were reviewed.

Results: There were 35 VTs in infants born to 33 mothers (1 set siblings, 1 twin pair). Years of birth ranged from 2006–2019 and infant age at diagnosis from birth–11 years. Cases occurred in London (15), Midlands (7), North (6), South (3) and Wales/Scotland (4). Twenty-five (71%) infants were born to mothers undiagnosed by delivery and 11 to diagnosed women (7 pre-pregnancy, 4 antenatal). Median maternal age at delivery was 33 years (IQR: 28, 36); 74% of mothers were born in Africa, 9% in Eastern Europe and 17% in the UK. In 17 cases, mothers screened negative in pregnancy; in five cases, mothers declined antenatal HIV screening (all pre-2010). Five VTs to diagnosed women were postnatal transmissions (undisclosed breastfeeding). Other cases mainly involved late antenatal booking and/or engagement issues. Over half of mothers (54%) had adverse social circumstances reported at the time of pregnancy including safeguarding, housing problem and intimate partner violence.

Conclusion: Two-thirds of recent VTs in the UK involved undiagnosed women. Issues identified here support findings from previous reviews; seroconversion was a common factor, highlighting the importance of sexual health in pregnancy. Ongoing enhanced data collection and ISOSS-CERPs provide valuable insights into the circumstances of the few transmissions still occurring in the UK.

P028 | The impact of the COVID pandemic on mental health in people living with HIV: a UK HIV clinic cohort study

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Background: Covid has affected the mental health of the population and more in certain vulnerable groups. We looked

at the impact of covid in people living with HIV (PLWH) on their mental health and HIV treatment outcomes.

Method: A prospective screening for anxiety and depression using the PHQ-9 and GAD-7 was carried out for PLWH attending the HIV outpatient appointment either virtual or face to face from March – Nov 2020 and compared to their previous mental health status. Moderately severe and severe categories in PHQ-9 were considered as severe. The data was analysed to assess any changes in their anxiety and depression status and HIV outcomes.

Results: One hundred and sixty PLWH are seen during the period. 119(74%) males, 40(25%) females and one transperson. One hundred and thirty eight (86%) are white and 18(11%) black African. Age group ranged from 18 to 88 with the majority in 46–55(33%) years of age. All are on antiretrovirals and 156 (97%) had an undetectable viral load (<40 copies/ml) and a median CD4 of 569 cells/ml³. Twenty-five(17%) had a CD4 <350 cells/ml³, 55(34%) are current smokers and 125 (78%) consumed alcohol. Forty (25%) individuals had pre-existing mental health illness and were on an antidepressant/anxiety. Twenty three (14%) patients were seen twice during this period.

Based on the PHQ-9 and GAD-7 scores, 112 (70%) had none, 30(19%) mild, 15(9%) moderate, 3(2%) severe depression and 125(78%) had none, 19(12%) mild, 8(5%) moderate and 7(4%) severe anxiety, respectively. Among the 120 (84 males, 35 females) PLWH with no previous mental health illness, 19 (15%) developed mild, 3 moderate, 6 (5%) severe depression and 9(8%) mild, 5(4%) moderate and 5(4%) severe anxiety, respectively. No significant differences were noticed in their ARV adherence, virologic and immunological markers.

Conclusion: Overall forty-seven (29%) PLWH developed a new mental health illness during the study period. In total, 33 (21%) PLWH had a moderate to severe depression or anxiety either continuing or requiring an intervention. The study shows a higher proportion of anxiety/depression seen in PLWH during the covid pandemic in 2020. This has not impacted on their HIV treatment outcomes during the study period.

P029 | Mortality among people with HIV in the UK in 2019: findings from the first year of the PHE/BHIVA National HIV Mortality Review

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Background: In early 2020, Public Health England (PHE) and the British HIV Association launched the national HIV mortality review (NHMR) to better understand preventable mortality.

Method: Clinical HIV services were invited to report information on deaths among their HIV inpatients and outpatients. Data were submitted to PHE using a secure online form and linked to the national HIV surveillance system. Cause of death was categorised by an epidemiologist and two clinicians. We present data from the first year of the NHMR, describing deaths among people with HIV in the UK in 2019.

Results: Overall, 72 services reported 402 deaths among people with HIV through the NHMR, representing 65% of deaths in this population reported through national surveillance. Median age of death was 54 years [IQR: 46–62]; 80% of those who died were men, 34% were of black/minority ethnicity, 48% had acquired HIV through sex between men, 39% through heterosexual contact and 11% through injecting drug use. Cause of death was ascertained for 87% of people, with the most common cause being non-AIDS cancers (34%) followed by AIDS (18%), cardiovascular disease (CVD) (12%), non-AIDS infections (9%), substance misuse (8%) and accident/suicide (5%); 15% died of other causes. One in ten people died within a year of their HIV diagnosis (at diagnosis: CD4 < 350 cells/mm³: 85%; AIDS: 88%). Common risk factors in the year prior to death included tobacco smoking (40%), excessive alcohol consumption (22%) and illicit-drug use (17%). Several co-morbidities were reported, including cancer (48%), mental illness (37%) and CVD (36%). Treatment coverage (96%) and viral suppression (<200 copies/ml) (83%) among people who died were high.

Conclusion: Participation in the NHMR was high, despite competing priorities in 2020. These data show that despite free care and treatment in the UK, one in five people with HIV continue to die from AIDS, largely due to late diagnosis. HIV testing must increase to reduce these preventable deaths. The

high levels of mental health conditions and deaths due to accident/suicide and overdose are also of concern. These data highlight the importance of risk reduction, particularly addressing psychological needs and substance misuse, among people with HIV.

P030 | The impact of first UK-wide lockdown (March–June 2020) on sexual behaviours in men and gender diverse people who have sex with men during the COVID-19 pandemic: a cross-sectional survey

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Background: The global COVID-19 pandemic in 2020 resulted in strict social distancing measures restricting close physical contact. Sexual and gender minorities are at higher risk of sexually transmitted infections (STIs) and may have experienced changes in sexual behaviour during the lockdown. We aimed to examine the impact of the first UK-wide lockdown on sexual behaviours to identify the characteristics of the most susceptible individuals.

Method: In April–May 2020, we conducted an online 40-item survey, which was promoted on social media and Grindr. We performed regression analyses to identify correlates of casual sex and changes in sexual behaviour during the lockdown.

Results: 1429 respondents (mean age = 36, 84% White) completed the survey. During the lockdown, 76% reported refraining from any sexual activity and 23% reported that their sexual activity either stayed the same or increased. Reporting casual sex during lockdown was associated with: identifying as a member of an ethnic minority OR = 2.11^[95% CI: 1.42–3.13], living alone OR = 1.42^[1.05–1.93], exchanging sex for money OR = 13.9^[4.45–44.0], daily usage of sexual networking apps OR = 1.80^[1.29–2.55], an increase in sexual activity OR = 1.71^[1.25–2.35], being less anxious about contracting SARS-CoV-2 through sex OR = 1.59^[1.14–2.23], using PrEP before lockdown OR = 2.10^[1.55–2.84], continuing to use PrEP OR = 1.83^[1.13–2.99] and testing for STIs during lockdown OR = 2.10^[1.23–3.58].

Conclusion: A quarter of respondents remained sexually active, indicating a need to provide STI screening services and health promotion that minimise STI/HIV acquisition and transmission as well as the spread of SARS-CoV-2. Future research is needed to better understand how to support MSM and gender minorities to manage sexual risk in the context of pandemic public health initiatives.

P031 | A study of MSM sexual behaviours in London during COVID-19 restrictions

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Background: Between August and October 2020, the national COVID-19 control measures were relaxed slightly. Compensational behaviours such as social gatherings were reported frequently. This study examined sexual behaviours of MSM in London during this time and how these behaviours were adapted to the pandemic.

Method: An anonymous online survey was conducted mid-November to early December 2020, asking respondents about their sexual activities three months prior to the survey. It targeted all MSM living in London aged 16 and over. Participants were recruited through Scruff, agency mailing lists and snowballing.

Results: 918 valid responses were collected and analysed. 93.6% were cis men and 5.4% were trans and non-binary identified, 19.6% were HIV positive. 82% respondents were white, 3.9% Asian, 3.7% Black, 4.8% mixed and 5.5% other/unknown.

Physical sex with partners: 626 (68.2%) respondents had physical sexual contact with other people, of which 70.8% had sex with casual partners from different households. Those aged under 40 were significantly more likely to have sex with casual sex partners that they don't live with than those aged 40 and above ($p < 0.01$). People living with HIV were more likely to have sex with casual partners ($p < 0.01$). The venues where sex activities most frequently took place were at where either partner(s) lived (both >70%) and outdoors (29.8%).

COVID-19 prevention measures for casual dating: 58.6% of those who reported having casual sex reported taking extra measures for COVID prevention. 51.5% used hygiene techniques such as handwashing or showering before and/or after sex. Other measures included reduced mouth-to-mouth contact; increased use of condom for penetrative sex; wearing a face covering during sex; and changing type of sex to include physical distancing. 36.2% reported not taking any additional precautions.

Conclusion: During the period of loosened national COVID-19 control measures, a considerable number of London MSM remained sexually active and engaged in physical sex with casual partners from other households. This was higher in MSM under 40 years. Some took extra precautions

to prevent COVID-19 transmission. Recommendations include increased education regarding safer sex and COVID-19 risk among key groups of MSM.

P032 | PrEPped for COVID? Exploring the association between HIV pre-exposure prophylaxis use and COVID-19 experience among MSM

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Background: Pre-exposure prophylaxis (PrEP) is highly effective at reducing HIV acquisition. Studies are underway to investigate the effectiveness of HIV antiretrovirals, including Tenofovir-based PrEP, for treating and preventing COVID-19. We investigated the association between HIV-PrEP use and COVID-19 among men who have sex with men in the UK.

Method: Participants completed an online survey (23/06/20–14/07/20), including men (cis/transgender), transwomen or gender-diverse people reporting sex with another man (cis/transgender) or non-binary person assigned male at birth. The outcome was COVID-19 experience, defined as reporting a positive test (antigen/antibody) or symptoms of a new continuous cough, high temperature or anosmia following the implementation of UK-wide restrictions ('lockdown' 23/03/20). All participants reporting taking HIV-PrEP since the beginning of the COVID-19 pandemic (12/19) were compared with those who did not. Analysis was performed using logistic regression, adjusting for sociodemographics (age, ethnicity, education, country) and subsequently for behavioural factors during lockdown (relationship status, chem-sex and number of new partners).

Results: Altogether, 1,814 (89.9%) participants reported that they were living without HIV, of whom 253 (14.0%) reported experiencing COVID-19 (positive test or symptoms). Since December 2019, 410 (22.6%) participants reported taking HIV-PrEP, with daily use being lower during lockdown (6.2%) compared with the three months pre-lockdown (14.3%). HIV-PrEP use was positively associated with COVID-19 (crude-OR = 1.51, 95%CI = 1.13-2.04, $p = 0.006$), including after adjusting for sociodemographics (OR = 1.57, 95%CI:1.16–2.11, $p = 0.005$), and after further adjustment for behavioural factors (OR = 1.51, 95%CI:1.11–2.06, $p < 0.01$).

Conclusion: There is a positive association between HIV-PrEP use and COVID-19, independent of number of new partners. The findings may reflect behaviours that increase COVID-19 exposure among HIV-PrEP users that are not captured in our analysis. People may also perceive that HIV-PrEP offers them protection against COVID-19. However, until robust evidence is available, people taking HIV-PrEP should adhere to COVID-19 prevention advice.

P033 | Investigating intimate physical contact between partners from different households during the COVID-19 pandemic: findings from a large, quasi-representative survey (Natsal-COVID).

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Background: Physical distancing as a non-pharmaceutical intervention (NPI) to prevent SARS-CoV-2 transmission aims to reduce interactions between people, including between different households. We explored whether sexual intimacy needs impacted on compliance with physical distancing at a population level in Britain following the initial national lockdown on 23 March 2020.

Method: We undertook the Natsal-COVID web-panel survey between 29 July and 10 August 2020. Quota-based sampling and weighting were used to obtain a quasi-representative sample of the British population. We estimated reporting of physical contact outside of the household (PCOH) with a romantic/sexual partner in the four weeks prior to interview, described the type of contact, identified demographic and behavioural factors associated with PCOH and present age-adjusted odds ratios (aORs).

Results: Of the 6,654 participants aged 18–59 years, 9.9% (95%CI:9.9-10.6%) reported PCOH. Of these, 86.1% reported oral/anal/vaginal sex or genital contact, while the remaining reported kissing (10.4%) or only holding hands/hugging/cuddling (3.4%). PCOH varied by age and gender and was highest in those aged 18-24 (20.6% of women and 15.6% of men). PCOH was more likely in participants identifying as gay/lesbian (aOR 2.5; 1.82-3.45) or bisexual (aOR 1.52; 1.12-2.05) and those reporting >1 partner (aOR 1.71; 3.77-5.88) or condomless sex with a new partner (OR 5.03; 1.07-6.21) in the past year. PCOH was less likely in those reporting a steady or cohabiting relationship (aOR 0.66; 0.55-0.79 and aOR 0.11; 0.08-0.14, respectively), and in those reporting bad/very bad health (aOR 0.54; 0.32-0.93).

Conclusion: The intimate nature of sexual contact is high-risk for SARS-CoV-2 transmission and PCOH may expand transmission networks by connecting households. Mathematical models of NPIs might consider age- and gender-specific PCOH in the context of other mixing patterns. Public health messaging needs to recognise the importance of sexual and romantic contact in people's decision-making and adherence to control measures.

P034 | A mixed-method investigation into challenges in accessing sexual and reproductive health (SRH) services in Britain during the COVID-19 pandemic (Natsal-COVID)

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Background: COVID-19 restrictions led to widespread disruption of SRH services in Britain following the first national lockdown (23/3/2020). One-in-ten people who tried to access SRH services during reported being unable to do so (Natsal-COVID). We used mixed-methods research to quantify unmet need and explore its context and impact.

Method: 6,657 participants aged 18–59 years completed a web-panel survey (29/07–10/08/20). Quota-based sampling

and weighting enabled a quasi-representative population sample to be achieved. Quantitative analysis focused on participants' challenges accessing contraception and STI-related services since lockdown. We conducted 23 in-depth interviews with participants, 15 who reported not receiving an SRH service and eight who discussed this in a different topic interview. We estimated the prevalence of reasons for not receiving STI-related and contraception services amongst participants aged 18–59. Thematic analysis of interview transcripts identified themes salient to experiences of seeking SRH services.

Results: Reasons for not receiving STI-related (n = 103) or contraception services (n = 144) despite need included that appointments were unavailable (STI-related services: 28.6% (95%CI:19.5–39.8)/ Contraception services 36.3% (28.1%–45.4%)), were cancelled (22.8% (14.9%–33.3%)/23.9% (16.8%–32.8%) or services were closed (21.2% (13.7%–31.4%)/26.1% (19.1%–34.5%). Discomfort with using online/telephone services was more common amongst those not receiving STI-related services 26.0% (17.4%–36.9%) than for contraception services 6.7% (3.4%–12.8%).

Interviewees described how some services were unavailable, while others were disrupted. Many were offered and received alternatives to in-person service (e.g. telephone/online) and some had to use different contraceptive methods. Most understood attempts to limit SARS-CoV-2 transmission and found alternatives convenient, though others saw them as inferior due to interaction limitations. Tenacity was required to access some services. Several participants described how they had avoided or deprioritised their own needs. Fears of contracting COVID-19 and of judgement for having sex against restrictions deterred help-seeking.

Conclusion: While some people were unable to access an anticipated service, many were offered alternatives with varied consequences. Services may need to adapt further to improve access by offering efficient face-to-face and remote provision while emphasising lack of judgement and validating help seeking.

ABSTRACTS

Poster Abstracts

P035 | Starting or switching to bictegravir/emtricitabine/tenofovir alafenamide (B/F/TAF) in clinical practice: pooled 12-month (12M) results from the global BICSTaR study

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Background: The ongoing observational BICSTaR study aims to demonstrate effectiveness, safety and tolerability of B/F/TAF in routine clinical practice in at least 1400 antiretroviral treatment (ART)-naïve (TN) and ART-experienced (TE) people living with HIV (PLHIV).

Method: This 12M analysis of PLHIV receiving B/F/TAF in Europe and Canada assessed HIV-1 RNA (missing data = excluded analysis), drug-related (DR) adverse events (AEs), persistence and weight/body-mass index (BMI) change.

Results: At the time of data cut-off (Mar 2020), 513 participants (n = 84 TN/n = 429 TE) completed a 12M visit. Most were male (91%); and white (89%); the median age was 38 (TN) and 49 (TE) years. Prevalence of comorbidities at baseline was 76%; the most common were neuropsychiatric (28%), hyperlipidemia (18%) and hypertension (18%). 71%/18%/13% of TE participants switched from INSTI/NNRTI/PI-based regimens, respectively (26% TDF); 8% had a history of prior virologic failure. Baseline primary resistance prevalence by historical genotype was 9% (n = 43/513; 5% had resistance mutations associated with NNRTIs, 3%

PIs, 3% NRTIs [n = 8 M184V/I, n = 1 K65R] and 0.2% with INSTIs [n = 1 G140S]).

At M12, 100% of TN (n = 74/74) and 96% (n = 357/373) TE participants had viral load <50 copies/ml. Comparable and high effectiveness was observed in both male and female participants, including older individuals. No major resistance substitutions to the components of B/F/TAF emerged.

DRAEs occurred in 14% (n = 12/84) of TN and 15% (n = 64/429) of TE participants, with the most common being gastrointestinal (5%) and neuropsychiatric (4%); discontinuations due to DRAE were low (TN 3.6% and 7.2% TE) and 90% of study participants remained on B/F/TAF (n = 462/513). Serious DRAEs were rare (0.6%; all in TE participants [n = 2 depression, n = 1 nausea]).

At 12M, median (Q1, Q3) weight change was +2.5kg (0.5, 6.3) for TN (n = 48) and +0.9kg (-1.0, 3.0) for TE (n = 269), with small changes in BMI of +0.8kg/m² (0.1, 1.9) for TN and +0.3kg/m² (-0.3, 1.0) for TE. Weight increase >10% was observed in 19% (n = 9/48) and 5% (n = 15/269) of TN and TE participants, respectively.

Conclusion: The use of B/F/TAF in this real-world clinical cohort was associated with a high level of effectiveness and was generally well tolerated through 12M.

P036 | A daily single-tablet regimen (STR) of bictegravir/emtricitabine/tenofovir alafenamide (B/F/TAF) in virologically suppressed adults living with HIV and end-stage renal disease on chronic haemodialysis

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Background: Treatment for people living with HIV (PLWH) and end stage renal disease (ESRD) on haemodialysis (HD)

has required complex dose-adjusted regimens. We evaluated a daily regimen of elvitegravir/cobicistat/emtricitabine/tenofovir alafenamide (E/C/F/TAF) and established this treatment as effective and well-tolerated. Daily TAF resulted in lower plasma tenofovir exposure than a historical comparison of once weekly tenofovir disoproxil fumarate in patients with ESRD on HD. After week (W) 96, participants transitioned to daily B/F/TAF to assess whether efficacy and safety would be maintained on this STR that is guidelines-recommended for PLWH with eGFR >30 mL/min.

Method: Virologically suppressed adult PLWH with ESRD on chronic HD who completed W96 on E/C/F/TAF enrolled in the B/F/TAF extension for 48 weeks. Efficacy was assessed as the proportion of participants with virologic suppression (HIV RNA < 50 copies/mL). Safety was assessed throughout the study, PK was assessed using sparse sampling at W4, 24 and 48.

Results: 55 enrolled, 36 completed E/C/F/TAF, 10 entered the B/F/TAF extension. Median age was 55 years (range 34–63); median time on HD was 4 years (range 2–16). All ten participants on B/F/TAF had HIV-1 RNA < 50 c/mL (95% CI 69–100%) at W48. All participants had at least 1 adverse event (AE); most were grade 1–2 in severity. One participant had a grade 3 AE and 3 had serious AEs; none were considered related to study drug by the investigator. One participant had AEs attributed to study drug (malaise grade 1 and nausea grade 2), which resolved and did not lead to discontinuation of study drug. In participants with evaluable data (n = 2–5 per timepoint), mean bicittegravir trough concentrations were lower compared to PLWH not on HD but remained 4- to 7-fold higher than the established protein-adjusted 95% effective concentration (paEC₉₅) of 162 ng/mL against wild-type virus.

Conclusion: A once daily regimen of B/F/TAF maintained virologic suppression in PLWH on chronic HD. B/F/TAF was well-tolerated with no discontinuations. B/F/TAF may be an effective and convenient once daily STR and ameliorate the need for dose adjustment in appropriate PLWH who require chronic HD.

P037 | Forgiveness of bicittegravir/emtricitabine/tenofovir alafenamide (BIC/FTC/TAF): *in vitro* simulations of intermittent poor adherence find limited HIV-1 breakthrough and high barrier to resistance

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Background: Short lapses in adherence to ARVs can lead to virologic failure and emergence of resistance. Previous *in vitro* studies of regimen “forgiveness” simulated drug exposures of perfect adherence or short-term suboptimal adherence with bicittegravir+emtricitabine+tenofovir alafenamide

(BIC+FTC+TAF) and with dolutegravir and lamivudine (DTG+3TC). Here, viral breakthrough (VB) and resistance development were evaluated under alternating high and low drug exposures simulating variable adherence levels

Method: Wild-type HIV-1 (IIIb)-infected MT-2 cells were exposed to drug combinations and monitored for VB. Experiments alternated between high and low drug concentrations of either BIC+FTC+TAF or DTG+3TC. Drug concentrations for each regimen were determined using human plasma-free adjusted clinical trough concentrations (C_{min}), at simulated C_{min} after missing 2 or 4 consecutive doses (C_{min}-2 and C_{min}-4) based on drug half-lives. Emergent HIV-1 were genotyped by deep sequencing and a 2% threshold.

Results: In these experiments, constant drug concentrations corresponding to full adherence (C_{min}) did not lead to VB. Using C_{min} concentrations for one week followed by constant C_{min}-2 exposures for 4 weeks, DTG+3TC had VB and emergence of M184V/I in reverse transcriptase (RT) but there was no VB for BIC+FTC+TAF. Using alternating drug exposures of C_{min} (weeks 1 and 3) and C_{min}-2 or C_{min}-4 (weeks 2, 4, and 5), VB was not observed with BIC+FTC+TAF, and VB was decreased or delayed with DTG+3TC compared to DTG+3TC held at C_{min}-2 or C_{min}-4. Resistance development was observed in some cultures with VB: 1 culture with BIC+FTC+TAF had G163R in integrase and 19 cultures with DTG+3TC had INSTI and RT resistance including 10 with M184V/I.

Conclusion: BIC+FTC+TAF has high *in vitro* forgiveness and consistent protection against emergence of drug resistance during simulations of short lapses in adherence. Higher DTG+3TC exposure, whether constant or intermittent, was better at preventing or delaying VB than lower DTG+3TC exposures, but DTG+3TC was less forgiving than BIC+FTC+TAF. Prevention of viral replication and resistance development is necessary to maintain lifelong viral suppression, particularly in the real world where drug adherence is often imperfect.

P038 | Clinical evaluation of drug interactions with oral lenacapavir and probe drugs

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Background: Lenacapavir (LEN; GS-6207) is a potent, selective, first-in-class, long-acting, multi-stage HIV-1 capsid inhibitor in clinical development for treatment and prevention of HIV-1 infection. *In vitro* data suggest LEN is a P-gp, CYP3A, and UGT1A1 substrate, may inhibit P-gp, BCRP, OATP, and CYP3A, and may induce CYP3A. LEN exhibits pH-dependent solubility, increasing at pH ≥6. This Phase 1 study evaluated LEN drug interactions using cobicistat (COBI) +/- darunavir

(DRV) as CYP3A/P-gp inhibitors, voriconazole (VORI) as a CYP3A inhibitor, rifampin (RIF) as a CYP/P-gp/UGT inducer, and famotidine (FAM) as a gastric acid-reducing agent. The perpetrator interaction potential was evaluated using pitavastatin (PIT; OATP substrate), rosuvastatin (ROS; BCRP/OATP substrate), tenofovir alafenamide (TAF; P-gp substrate), and midazolam (MDZ; CYP3A substrate).

Method: In separate cohorts of healthy participants (parallel study design), single oral doses of LEN (300mg) were given with and without COBI (150mg OD, Days 1–35), DRV/COBI (800mg/150mg OD, Days 1–35), VORI (400mg BID x1 day, then 200mg BID Days 2–25), RIF (600mg OD, Days 1–25), and FAM (40 mg single dose 2 hours prior to LEN). In another cohort, single doses of PIT, ROS, TAF, and MDZ were given respectively prior to and simultaneously with LEN 600mg BID x2 days, then Q3 days to rapidly achieve clinically relevant LEN exposure.

Results: Geometric-least squares means ratio and 90% confidence intervals for AUC and C_{max} for combination vs substrate alone were estimated by linear mixed effect modelling. Of 223 total participants, adverse events (AEs) were mostly mild, with no serious or Grade 4 AEs. One Grade 3 AE of elevated transaminase while receiving LEN + ROS led to study drug discontinuation.

Conclusion: Results consistent with in vitro data confirm LEN is a substrate of CYP3A and P-gp. The magnitude of inhibition via COBI, DRV/COBI, and VORI is not considered to be clinically relevant, supporting coadministration of LEN with potent CYP3A and P-gp inhibitors without dose modification. However, potent CYP/P-gp/UGT inducers should be avoided. LEN is unaffected by gastric acid reducers. LEN would be considered a moderate CYP3A inhibitor, and a weak inhibitor of P-gp, BCRP, with no effect on OATP. Overall, LEN has limited drug interaction potential.

P039 | Switching strategies for menopausal women living with HIV

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Background: The 2017 BHIVA/BASHH/FSRH Guidelines for sexual and reproductive health recommend all women living with HIV (WLWH) between the ages 45–56 undergo a proactive assessment of menopausal symptoms and receive information on the menopause and Hormone Replacement Therapy (HRT). To facilitate this- a question on menopause symptoms was added to our annual review proforma. Symptomatic patients were subsequently referred to our newly established in-house menopausal clinic for further management. Patients wanting HRT with Anti-retroviral (ARV) drug-drug interactions (DDIs) were switched guided by our regional HIV treatment prescribing

algorithm. Further menopause management including HRT prescribing was undertaken in primary care as per NICE guidance.

Method: Case-notes of all 33 WLWH attending the menopausal clinic over an 11 month period were analysed. Full treatment histories were obtained using summary care records and hospital records.

Results: This cohort comprised 29 Black African, 2 White British and 1 mixed race patient.

Following initial consultation 4 (12%) women declined HRT with HR contra-indicated in a further 4 (12%) – due to breast-cancer (2) and medical co-morbidities (2). The remaining 25 women (76%) wanted to start HRT. Of these 19/25 (76%) required an ARV switch. 6/25 (24%) had a baseline ARV regime which included efavirenz or nevirapine and were simply switched in-class to rilpivirine or doravirine and 13/25 (52%) required Virology MDT discussion due to factors such as treatment history, adherence, co-infections, co-morbidities, FRAX and cardiovascular scores, resistance profile, DDIs. 10/13 (77%) of these women successfully switched to a new regime but a switch was not possible for 3. In total 16/19 (84%) women requiring an ARV regimen change to accommodate HRT were successfully switched.

Conclusion: Switching ARV is a feasible option to minimise DDIs and facilitate HRT. Utilising our clinic annual review proforma to prompt menopause symptom review identified women who would benefit from and were keen to start HRT. A high proportion of these (76%) required a HIV treatment switch to facilitate HRT. Consideration of women's reproductive and post reproductive states should aid decision making when determining initial ARV regimes to reduce the number of medication switches required.

P040 | A combination of viral and participant factors influence virological outcome to long-acting cabotegravir and rilpivirine: multivariable and baseline factor analyses across ATLAS, FLAIR, and ATLAS-2M Phase 3 studies

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Background: Phase 3 studies demonstrated the efficacy and safety of long-acting (LA) cabotegravir (CAB) and rilpivirine

(RPV) dosed every 4 weeks (Q4W) in Antiretroviral Therapy as Long-Acting Suppression (ATLAS) and First Long-Acting Injectable Regimen (FLAIR), and every 8 weeks (Q8W) in ATLAS-2M, with a confirmed virologic failure (CVF) rate of ~1%. Post-hoc analyses explored potential factors associated with virologic outcome at Week 48.

Method: A multivariable analysis of pooled data from 1039 HIV-infected adults naive to CAB+RPV examined the influence of baseline viral/participant factors, dosing regimen, and post-baseline plasma drug concentrations on CVF using regression modeling with a variable selection procedure. The contribution of retained baseline factors, present alone or in combination, to CVF were evaluated.

Results: 94.3% (980/1039; 95% confidence interval [CI], 92.7–95.7) of participants on Q4W and Q8W dosing maintained virologic suppression through Week 48; only 1.3% (13/1039; 95% CI, 0.7–2.1) had CVF. Four covariates were significantly associated ($P < 0.05$) with increased CVF risk: baseline RPV resistance mutations, A6/A1 HIV-1 subtype, body mass index (BMI) ≥ 30 kg/m² (associated with CAB pharmacokinetics), and Week 8 RPV concentration. A6/A1 and L74I were highly correlated, but only 1/57 (1.8%; 95% CI, 0.0–9.4) participants with L74I alone had CVF, consistent with the overall population rate. Other variables (eg, Q4W or Q8W dosing, female at birth, other viral subtypes) had no significant association. Participants with 0 or 1 significant baseline factor had high virologic success rates (94.8% [694/732] and 96.0% [261/272], respectively) and low CVF rates (<1% [3/732] and <1% [1/272]). The combination of ≥ 2 factors was uncommon (3.4%; 35/1039); 71.4% (25/35) maintained HIV-1 suppression <50 c/mL (FDA Snapshot algorithm) and 25.7% (9/35) had CVF.

Conclusion: CAB+RPV LA demonstrated high efficacy in Phase 3 studies and non-inferiority to oral antiretroviral therapy for maintaining virologic suppression. No baseline factor alone predicted CVF (positive predictive value [PPV], <1%; negative predictive value [NPV], 98.0%). In the small number of participants with a combination of RPV resistance mutations, A6/A1 subtype, or higher BMI, CVF risk modestly increased (PPV, 26%; NPV, 99.6%). These findings should be contextualized with the high overall success rate of both Q4W and Q8W regimens.

P041 | Week 96 efficacy and safety of cabotegravir + rilpivirine every 2 months in ATLAS-2M Phase IIIb study

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Background: Cabotegravir (CAB) and rilpivirine (RPV) long-acting (LA) administered every 1 or 2 months may address challenges associated with daily oral antiretroviral therapy. The Antiretroviral Therapy as Long-Acting Suppression Every 2 Months (ATLAS-2M) (NCT03299049) study demonstrated noninferiority of CAB+RPV LA administered every 8 weeks (Q8W) vs every 4 weeks (Q4W) at Week 48.

Method: ATLAS-2M is an ongoing, randomized (1:1), multicenter, phase IIIb study of CAB+RPV LA administered Q8W vs Q4W to virologically suppressed individuals previously receiving CAB+RPV LA Q4W (ATLAS [NCT02951052] study rollover) or oral standard-of-care. Primary endpoint: proportion with plasma HIV-1 RNA ≥ 50 c/mL at Week 48 (US Food and Drug Administration Snapshot, intention-to-treat–exposed; 4% noninferiority margin). Week 96 endpoints: proportions with plasma HIV-1 RNA ≥ 50 and <50 c/mL, incidence of confirmed virologic failure (CVF; 2 consecutive measurements ≥ 200 c/mL), safety, and tolerability.

Results: 1045 participants received CAB+RPV LA (Q8W, n = 522; Q4W, n = 523); 27% were female; 73% were white. At Week 96, 2.1% (n = 11; Q8W) and 1.1% (n = 6; Q4W) of participants had HIV-1 RNA ≥ 50 c/mL (adjusted difference, 1.0; 95% CI, –0.6 to 2.5), consistent with Week 48 results (1.7% vs 1.0%; adjusted difference, 0.8; 95% CI, –0.6 to 2.2). At Week 96, $\geq 90\%$ of participants maintained HIV-1 RNA <50 c/mL in both groups. There were 9 (1.7%) CVFs in the Q8W group and 2 (0.4%) in the Q4W group through Week 96; 1 occurred after Week 48 in a Q8W participant with baseline RPV resistance-associated mutation

Y181C. Safety profiles were comparable between groups; no new safety signals were identified after Week 48. Injection site reactions (ISRs) were the most common adverse event and led to 1 withdrawal after Week 48 (Q8W group). Most ISRs were mild or moderate (98.6%); median duration was 3 days. ISR frequency decreased over time (Week 48: Q8W, n = 115/493 [23%]; Q4W, n = 100/488 [20%]; Week 96: Q8W, n = 74/473 [16%]; Q4W, n = 54/468 [12%]).

Conclusion: Efficacy of CAB+RPV LA Q8W continued to be noninferior to Q4W at Week 96, with both regimens maintaining high levels of virologic suppression. These longer-term efficacy, safety, and tolerability data further support the therapeutic potential of CAB+RPV LA.

P042 | Switching to dolutegravir/lamivudine (DTG/3TC) fixed-dose combination (FDC) is non-inferior to continuing a tenofovir alafenamide (TAF)-based regimen (TBR) in maintaining virological suppression through 96 weeks (TANGO study)

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Background: Dolutegravir/Lamivudine (DTG/3TC) 2-drug regimen (2DR) was non-inferior to a tenofovir alafenamide (TAF)-based 3-/4-drug regimen (3/4DR) (TBR) through the Week 48 primary endpoint in TANGO. Here we present pre-specified Week 96 secondary analyses from TANGO.

Method: TANGO, a randomized, open-label, non-inferiority phase III study, evaluates efficacy and safety of switching to once-daily DTG/3TC in HIV-1-infected, virologically suppressed adults vs remaining on a TBR over 148 weeks. Week 96 analysis assessed non-inferiority with a 4% non-inferiority margin for Snapshot virologic failure (VF) and 8% for virologic success (VS; US Food and Drug Administration Snapshot algorithm, intention-to-treat-exposed [ITT-E] population).

Results: 741 participants were randomized/exposed (DTG/3TC: 369; TBR: 372). For Snapshot VF, switching

to DTG/3TC was non-inferior to continuing TBR at Week 96 in the ITT-E analysis: 0.3% vs 1.1%; adjusted difference: -0.8% (95% CI: -2.0, 0.4) and superior to TBR in the per-protocol analysis: 0% vs 1.1%; adjusted difference: -1.1% (95% CI: -2.3, -0.0); $P = 0.044$ (2-sided). Snapshot VS was high in both arms (DTG/3TC: 85.9%; TBR: 79.0%; adjusted difference: 6.8% [95% CI: 1.4-12.3]). Forty-four participants (5.9%) had missing data in the Week 96 window due to COVID-19. No participants on DTG/3TC and 3 (<1%) on TBR met confirmed virologic withdrawal (CVW) criteria, with no resistance observed at failure. Overall adverse event (AE) rates were similar between arms, with more drug-related AEs in the DTG/3TC arm. Total cholesterol (TC), low-density lipoprotein cholesterol, and triglycerides improved significantly with DTG/3TC, whereas high-density lipoprotein (HDL) cholesterol changes significantly favored TBR, with no difference in TC/HDL-cholesterol ratio between arms. Decreases in glomerular filtration rate by cystatin C were observed with significantly lower decreases in the DTG/3TC arm; proximal tubular function marker changes were small and similar across arms.

Conclusion: At Week 96, switching to DTG/3TC FDC was non-inferior to continuing a TAF-based 3/4DR in maintaining virologic suppression in HIV-1-infected antiretroviral therapy-experienced adults. The safety profile of DTG/3TC FDC was consistent with the DTG and 3TC respective labels. DTG/3TC 2DR offers a robust switch option with durable efficacy, good safety and tolerability, and a high barrier to resistance with zero CVWs through 96 weeks.

P043 | Comparison of 144-week efficacy, safety and tolerability of dolutegravir+lamivudine to second generation INSTI-based three-drug STRs in therapy-naïve people living with HIV

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Background: The 2-drug regimen, DTG+3TC has been shown to offer non-inferior efficacy, a high barrier to resistance and a comparable safety profile though with a lower risk of drug-related adverse events (AEs) versus the 3-drug regimen DTG+TDF/FTC, in treatment-naïve people living with HIV (PLHIV) at 144 weeks (WK144) in GEMINI trials. To further assess the durability of DTG+3TC versus 2nd generation, INSTI-based, 3-drug single tablet regimens (STRs), this indirect treatment comparison compares DTG+3TC with BIC/TAF/FTC and DTG/ABC/3TC at WK144 after treatment initiation.

Method: Using data from 4 studies enrolling therapy-naïve PLHIV (GEMINI 1&2, GS-US-380-1489 and GS-US-380-1490) identified through a systematic literature review, DTG+3TC, BIC/TAF/FTC and DTG/ABC/3TC were indirectly compared using well-established indirect treatment comparison methods (Bucher's methodology) to calculate relative outcomes.

Results: Efficacy, safety and tolerability outcomes for DTG+3TC were generally consistent with BIC/TAF/FTC and DTG/ABC/3TC. We observed statistically significant lower occurrence of serious AEs with DTG+3TC compared with both BIC/TAF/FTC and DTG/ABC/3TC (Table 1).

Table 1 Indirect comparison results: DTG+3TC compared with BIC/TAF/FTC and DTG/ABC/3TC at WK144 (bolded values indicate statistically significant difference)

Comparison	DTG+3TC vs. BIC/TAF/FTC		DTG+3TC vs. DTG/ABC/3TC	
	Comparative effect measure (95% CI)	Odds Ratio	Risk difference, %	Risk difference, %
Virological suppression – FDA snapshot (HIV RNA <50 copies/mL)			0.1% (-6.9%, 7.2%)	-2.5% (-11.6%, 6.7%)
Virological failure (HIV RNA ≥50 copies/mL)			-1.3% (-4.8%, 2.1%)	-3.5% (-7.6%, 0.5%)
CD4+ cell change from baseline, per mL ^a	16.0 (-38, 70)			-4.0 (-81, 73)
Discontinuation	0.856 (0.57, 1.30)			0.966 (0.56, 1.67)
Discontinuation due to AEs	0.947 (0.27, 3.30)			Calculation not possible
AEs	0.997 (0.94, 1.06)			0.987 (0.92, 1.06)
Grade 3/4 AEs	0.704 (0.41, 1.21)			0.707 (0.36, 1.41)
SAEs	0.560 (0.35, 0.89)			0.434 (0.24, 0.79)
DRAEs	1.003 (0.72, 1.39)			0.717 (0.49, 1.06)

^aMean difference; AE, adverse event; CI, confidence interval; SAE, serious AE; DRAE, drug-related AE.

Conclusion: DTG+3TC offers comparable and durable efficacy with significantly fewer serious AEs versus DTG/ABC/3TC and BIC/TAF/FTC at WK144 in therapy-naïve PLHIV. These long-term comparative data support the therapeutic value of DTG+3TC for PLHIV.

P044 | Durable efficacy of dolutegravir (DTG) plus lamivudine (3TC) in antiretroviral treatment-naive adults with HIV-1 infection: 3-year results from the GEMINI studies

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Background: In GEMINI-1&2, efficacy of the 2-drug regimen dolutegravir + lamivudine (DTG+3TC) was non-inferior to DTG+ tenofovir/emtricitabine (TDF/FTC) at Weeks 48 and 96 in treatment-naive adults.

Method: GEMINI-1&2 are identical, double-blind, multi-centre, phase III studies. Participants with screening HIV-1 RNA $\leq 500,000$ c/mL were randomised 1:1 (stratified by plasma HIV-1 RNA and CD4+ cell count) to once-daily DTG+3TC or DTG+TDF/FTC. Primary endpoint was proportion of participants with HIV-1 RNA < 50 c/mL at Week 48 (Snapshot algorithm). We present efficacy and safety data from prespecified 144-week secondary analyses.

Results: 714 and 719 adults were randomised and treated in GEMINI-1&2, respectively. At Week 144, DTG+3TC was non-inferior to DTG+TDF/FTC in both GEMINI-1&2 and the pooled analysis (10% non-inferiority margin; Table). Responses in participants with baseline HIV-1 RNA $> 100,000$ c/mL were high and similar between arms. Consistent with Week 48 and 96 outcomes, response remained lower in DTG+3TC participants with CD4+ < 200 cells/mm³. Across both studies, 12 participants on DTG+3TC (1 since Week 96) and 9 on DTG+TDF/FTC (2 since Week 96) met protocol-defined confirmed virologic withdrawal (CVW) criteria through Week 144; none had treatment-emergent integrase strand transfer inhibitor or nucleoside reverse transcriptase inhibitor resistance mutations. One non-CVW DTG+3TC participant with reported non-adherence developed M184V (Week 132; HIV-1 RNA 61,927c/mL) and R263R/K at Week 144 (135c/mL),

conferring a 1.8-fold change in DTG susceptibility. Overall rates of adverse events (AEs) were similar, with low rates of withdrawals due to AEs in both arms. DTG+3TC had a significantly lower rate of drug-related AEs than DTG+TDF/FTC (20% vs 27%; relative risk ratio, 0.76; 95% CI: 0.63–0.92). Post-baseline changes in bone and renal function markers favoured DTG+3TC through Week 144.

		GEMINI-1	GEMINI-2	Pooled
Snapshot responders	DTG+3TC	281/356 (79%)	303/360 (84%)	584/716 (82%)
	DTG+TDF/FTC	296/358 (83%)	303/359 (84%)	599/717 (84%)
Adjusted difference (95% CI)		-3.6 (-9.4, 2.1)	0.0 (-5.3, 5.3)	-1.8 (-5.8, 2.1)

[Proportion of participants with HIV-1 RNA < 50 c/mL at Week 144: Snapshot analysis, intention-to-treat-exposed population]

Conclusion: DTG+3TC remains non-inferior to DTG+TDF/FTC in treatment-naive adults at Week 144. Both regimens were well tolerated. Results demonstrate durable efficacy and potency of DTG+3TC, further supporting it as a first-line option for HIV treatment.

P045 | Is current renal monitoring adequate to identify renal decline in patients receiving PrEP?

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Background: Following completion of the IMPACT trial, pre-exposure prophylaxis (PrEP) is now available via the NHS across the UK. UK guidelines recommend annual renal screening for patients without additional risks. The aim of this retrospective service evaluation was to review whether renal monitoring was adequate to identify deterioration in estimated glomerular filtrate rate (eGFR) over time.

Method: A search of electronic patient records at a UK sexual health clinic was conducted for patients with a GUMCAD code: O41, O42, O51, O52 or O53 indicating PrEP use (daily or event-based) or prescription of PrEP. Data were collected on demographics, co-morbidities, co-medications, and laboratory reported renal investigations (specific eGFR values reported up to 90 ml/min/1.73 m²). An eGFR was calculated by the research team using the CKD-EPI formula, with changes mapped over time.

Results: From 420 patients prescribed PrEP, 287 had a baseline and follow-up renal screen. Mean age was 34 years, and mean duration of PrEP use 16 months. Baseline eGFR was ≥ 90 ml/min/1.73m² in 150/287 (52%) patients, 61–80 ml/min/1.73m² in 133 (46%), and < 60 ml/min/1.73m² in 4 (1%). 70 (24%) patients had additional risks (aged > 40 years, nephrotoxic drugs, hypertension or diabetes), with only 36/70 (51%) having 6-monthly eGFR as per national guidelines.

Of patients receiving PrEP for a minimum of 12 months with a baseline eGFR ≥ 90 ml/min/1.73m², 16/81 (20%) patients had a decline in both lab eGFR and calculated CKD-EPI eGFR and 41 (51%) had a decline in CKD-EPI only (overall decline: -1.3 for lab eGFR and -4.5 ml/min/1.73m² for CKD-EPI eGFR). Of those who had a baseline eGFR 61–80 ml/min/1.73m², 39/81 (48%) patients had a decline in both lab eGFR and calculated CKD-EPI eGFR, and 3 (4%) had a decline in CKD-EPI only.

Conclusion: This study suggests that a laboratory reported eGFR when specific values are only reported up to 90 ml/min/1.73 m² may not be adequate to identify renal decline in patients with a baseline eGFR >90 ml/min/1.73 m², although mean change in eGFR was small. Routinely calculating an eGFR in such patients would allow early identification of deterioration in renal function, facilitating risk reduction discussions.

P046 | Sustained viral suppression after switch to bicitgravir/emtricitabine/tenofovir alafenamide among clinical trial participants with pre-existing M184V/I

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Background: Pre-existing resistance can affect antiretroviral therapy efficacy in people living with HIV (PLWH). One of the most common treatment-emergent resistance substitutions is M184V or, to a lesser extent, M184I. This substitution can be transmitted, archived in the viral reservoir, and reactivated, even after reversion to wild-type virus in plasma. Studies 1844, 1878, 4030, 4580, 4449, and 1474 demonstrated the safety and efficacy of switching stably suppressed PLWH to bicitgravir/emtricitabine/tenofovir alafenamide (B/F/TAF). In this pooled analysis, we investigated the prevalence of pre-existing M184V/I and impact on virologic outcomes.

Method: Participants enrolled were aged ≥ 18 years (studies 1844, 1878, 4030, and 4580), ≥ 65 years (study 4449), or 6 to <18 years (study 1474). Pre-existing drug resistance was assessed by historical genotypes (obtained from ~50%) and/or retrospective proviral DNA genotyping (obtained from $>90\%$; GenoSure Archive® assay, Monogram Biosciences). Virologic outcomes were based on last available on-treatment HIV-1 RNA, where early discontinuation with HIV-1 RNA <50 copies/mL was considered suppressed.

Results: Altogether, 2034 participants switched to B/F/TAF, and cumulative baseline genotypic data were available for 90% (1824/2034). Pre-existing M184V/I was detected in 10% (182/1824): by proviral genotyping only (79% [144/182]), historical genotype only (10% [18/182]), or both (11% [20/182]).

Of those with M184V/I, 89% (162/182) had the V substitution only, 6% (11/182) had the I substitution only, and 5% (9/182) had both V and I. In 20% (37/182), M184V/I was the only resistance substitution detected, while in 80% (145/182), other primary resistance substitutions were detected in addition to M184V/I. At last study visit (24–156 weeks after B/F/TAF switch), 98% (179/182) of participants with pre-existing M184V/I had HIV-1 RNA <50 copies/mL compared to 99% (1623/1642) of those with wild-type M184 and 99% (2012/2034) of the overall B/F/TAF study population. No B/F/TAF-treated participant developed new drug resistance.

Conclusion: Pre-existing M184V/I was detected in 10% of suppressed participants' baseline genotypes, the majority of which was previously undocumented. High rates of virologic suppression in participants who switched to B/F/TAF, and the absence of treatment-emergent resistance, indicate B/F/TAF may be an effective and durable treatment for virologically suppressed PLWH with documented M184V/I.

P047 | Patient-reported outcomes (PROs) after 1 year of routine clinical practice with bicitgravir/emtricitabine/tenofovir alafenamide (B/F/TAF) in people living with HIV (PLWH): the BICSTaR cohort

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Background: Patient-reported outcome (PRO) measures are directly completed by the patient to capture aspects of patient's health, such as mental health status, health related quality of life (HRQoL) and treatment satisfaction. The observational BICSTaR study prospectively collected PROs in PLWH initiating or switching to B/F/TAF.

Method: PRO analysis from the BICSTaR study in antiretroviral-treatment naïve (TN) and treatment-experienced (TE) participants from Germany, Canada, France and the Netherlands who completed PRO questionnaires at both baseline (BL) and month 12 (M12). PRO measurements included HRQoL (SF-36: Physical Component

Score [PCS] and Mental Component Score [MCS]), health status (HIV-Symptom Index [HIV-SI]), and patient satisfaction (HIVTSQs and HIVTSQc in TE only).

Results: Availability of PRO data at BL and M12 follow-up visits varied by instrument and treatment group. Participants were mainly male, and TN were younger than TE participants, median age 36 (Q1, Q3: 29, 44) vs 49 (40, 55) years old, respectively. At baseline, mean summary scores in TN were PCS: 53.7 (standard deviation [SD]: 6.3) and MCS: 54.1 (7.4); PCS remained stable and MCS increased by a mean of 0.2 (10) by M12. In TN participants the most frequently reported bothersome symptoms at BL were fatigue (69%), feeling sad/down/depressed (49%), nervous or anxious (38%), and having skin problems (47%). The frequency of these symptoms decreased after M12 on B/F/TAF.

In TE patients, mean summary scores at baseline were PCS: 54.1 (7.4) and MCS: 46.8 (12.5); these remained stable at M12. The most frequently reported bothersome symptoms at BL were fatigue (48%), feeling sad/down/depressed (31.4%) and feeling anxious/nervous (25%). The frequency of symptoms changed slightly at M12: fatigue increased by 2.6% while the remainder decreased by 4.3% and 2.7%, respectively.

Baseline HIVTSQs total score was high in TE, median 56 (50, 60), with further improvements following switch to B/F/TAF at M12, with an HIVTSQc median total score change of 20.

Conclusion: Analysis of PROs from BICSTaR showed that the greatest improvements from baseline after 12 months of B/F/TAF treatment were seen in the HRQoL MCS and in the most commonly reported symptoms among the TN population and in treatment satisfaction among TE.

P048 | Potent antiviral activity of lenacapavir in Phase 2/3 in heavily ART-experienced people with HIV

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Background: Lenacapavir (LEN, GS-6207), the long-acting first-in-class HIV capsid inhibitor, is in clinical development for treatment and prevention of HIV-1 infection. With its novel mechanism of action, LEN is fully active in vitro against HIV-1 strains resistant to the major antiretroviral (ARV) classes.

Method: We conducted a Phase 2/3, randomised, double-blind, placebo (PBO)-controlled study in heavily treatment-experienced (HTE) people with HIV (PWH) failing their current regimen with HIV-1 RNA (VL) ≥ 400 c/mL and documented resistance to ≥ 2 agents from ≥ 3 of the 4 major ARV classes. Participants were randomised (2:1) to add LEN or PBO to their failing regimen for 2 weeks. During this functional monotherapy period, LEN or PBO was given orally (600 mg on Day [D] 1 and 2 and 300 mg on D8). The primary efficacy endpoint was the proportion of participants with at least 0.5 log₁₀ c/mL decline in VL by D15. At D15, those on oral LEN received subcutaneous (SC) LEN 927 mg (q6month), while those on PBO started the LEN 2-week oral lead-in, followed by q6month SC. All participants initiated an investigator-selected, optimised background regimen (OBR) at D15.

Results: 36 participants were randomised. D15, 88% of participants on LEN (21/24) had at least 0.5 log₁₀ c/mL decline compared to 17% on PBO (2/12) (difference: 71%, 95% CI 35 to 90%, $P < 0.0001$). During the LEN + OBR period, 4 weeks after SC dosing, 58% (21/36) had VL < 50 c/mL. One participant with no fully active agent in OBR had emergent resistance to LEN but re-suppressed while on LEN after adding TAF. Median (range) duration of follow up on LEN was 26 (7–46) weeks. There were no serious adverse events (AEs) related to study drug, discontinuations due to AEs, or deaths. The most frequent AEs (any grade) were injection site swelling (28%) and nodule (25%). Injection site reactions related to LEN (50%) were all mild or moderate.

Conclusion: LEN led to rapid and clinically relevant declines in VL when added to failing regimens in HTE PWH. LEN was generally well-tolerated, and results support the ongoing evaluation of LEN in HIV-1 treatment and prevention.

P049 | Four year outcomes of bictegravir/emtricitabine/tenofovir alafenamide (B/F/TAF) in treatment-naïve adults

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Background: Bictegravir/emtricitabine/tenofovir alafenamide (B/F/TAF) is a guidelines-recommended single-tablet regimen for people with HIV-1 (PWH). We present

cumulative outcomes from open-label extension (OLE) that followed 144 Weeks (W) of blinded treatment in phase 3 studies in treatment-naïve PWH.

Method: We conducted 2 randomised, double-blind, phase 3 studies of B/F/TAF in treatment-naïve adults – Study 1489: B/F/TAF vs dolutegravir/abacavir/lamivudine (DTG/ABC/3TC) and Study 1490: B/F/TAF vs DTG+F/TAF. After completing 144W of blinded treatment, participants were offered to continue on B/F/TAF for 96W in the OLE. Efficacy was assessed as the proportion with HIV-1 RNA <50 copies/mL at each visit after starting B/F/TAF using missing = excluded (M = E) analysis; safety by adverse events (AEs) and laboratory results. Bone mineral density (BMD) in OLE was measured in those randomised to B/F/TAF in Study 1489. We present cumulative results for all participants treated with B/F/TAF in the randomised or OLE phases through a maximum of 192 weeks of follow up (i.e. OLE W48).

Results: In Study 1489, 314 participants were randomised to B/F/TAF and 315 to DTG/ABC/3TC; 252 and 254 entered the OLE. In Study 1490, 320 were randomised to B/F/TAF and 325 to DTG+F/TAF; 254 and 265 entered the OLE. Efficacy was >98% after W48 at each study visit through W192 in both studies. Across both studies, only one participant experienced an AE that led to drug discontinuation during the OLE analysis window. Grade 3 or 4 drug-related AEs were rare. In participants initially randomised to B/F/TAF, the median change in weight from baseline to W192 was 4.6kg in Study 1490 and 5.0kg in Study 1489. 13% of participants with baseline osteopaenia in hip and 3% with osteopaenia of the spine improved to normal at W192, 4% with normal baseline hip and 6% with normal baseline spine BMD progressed to osteopenia and none developed osteoporosis.

Conclusion: Over 4 years of follow-up in treatment-naïve participants, B/F/TAF was generally well-tolerated and highly efficacious. Similar outcomes were demonstrated in participants who switched from DTG-containing regimens to B/F/TAF.

P050 | Week 48 outcomes from the BRAAVE 2020 study: a randomised switch to bicitgravir/emtricitabine/tenofovir alafenamide (B/F/TAF) in African American adults with HIV

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Background: Black Americans are disproportionately impacted by HIV. The BRAAVE 2020 study, evaluated the safety and efficacy of switching to the guidelines-recommended single-tablet regimen bicitgravir, emtricitabine, tenofovir alafenamide (B/F/TAF) in Black adults through week (W) 48.

Method: Adults with HIV self-identifying as Black or African American and virologically suppressed on 2 NRTIs plus a 3rd agent were randomised (2:1) to switch to open-label B/F/TAF once daily or stay on their baseline regimen (SBR). Prior virologic failure was allowed except failure on an INSTI. Prior resistance to NNRTIs, PIs and/or NRTIs was permitted except K65R/E/N, ≥3 thymidine analog mutations or T69-insertions. Primary INSTI-resistance was excluded. SBR participants switched to B/F/TAF at W24. Efficacy was assessed at W24 (Primary endpoint, noninferiority margin 6%) and at W48 as the proportion with HIV-1 RNA ≥50 c/mL by FDA Snapshot and by changes in CD4 count. Safety was assessed by adverse events (AE) and lab results.

Results: 495 were randomised and treated (B/F/TAF n = 330, SBR n = 165): 32% cis women, 2% transgender women, median age 49 years (range 18–79) and 10% had pre-existing M184V/I mutation. At W24, 1% (2/328) on B/F/TAF vs 2% (3/165) on SBR had HIV-1 RNA ≥50 c/mL (difference -1.2%; 95% CI -4.8% to 0.9%) demonstrating non-inferiority of B/F/TAF; 2 with pre-existing primary INSTI resistance were excluded from analysis. 163 assigned to SBR completed W24 and switched to B/F/TAF (SBR to B/F/TAF). At W48 1% (3/328) originally randomised to B/F/TAF and 0 SBR to B/F/TAF had HIV-1 RNA ≥50 c/mL. Baseline NRTI resistance did not affect the efficacy of B/F/TAF. No treatment emergent resistance was detected. Median (IQR)

weight increased 0.9 kg (-1.5, 4.1) and 0.6 kg (-1.0, 3.1) for B/F/TAF and SBR to B/F/TAF groups, respectively. Study drug-related AEs occurred in 10% of participants while on B/F/TAF; most were grade 1.

Conclusion: Switching to B/F/TAF was highly effective for Black adults regardless of baseline regimen or pre-existing NRTI resistance and was associated with few treatment related AEs or discontinuations.

P051 | The sensitivity and clinical features of pharyngeal gonorrhoea cultures in men who have sex with men

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Background: *Gonorrhoea* remains a global health threat, due to increasing infection rates and antimicrobial resistance (AMR). Pharyngeal *gonorrhoea* in MSM drives ongoing transmission and AMR: taking pharyngeal *gonorrhoea* culture samples before antibiotic treatment is essential for monitoring AMR and is recommended by international guidelines. We aimed to review how frequently pharyngeal culture samples (modified Thayer Martin©) are taken in MSM with a positive *gonorrhoea* NAAT (BD Probetec©), the sensitivity of *gonorrhoea* culture compared to NAAT and any associated demographic and clinical features associated with positive *gonorrhoea* cultures.

Method: We reviewed the electronic case notes of MSM presenting between January-December 2019 with a positive pharyngeal *gonorrhoea* NAAT. We collected data on demographics, *gonorrhoea* culture sampling and positivity, the presence of throat symptoms and simultaneous pharyngeal chlamydia and urethral and rectal *gonorrhoea*. We excluded repeat testers within 3 months of treatment including test of cure samples from the analysis.

Results: A total of 6613 MSM attended for pharyngeal testing and 383/6613 (5.8%) had a confirmed positive pharyngeal *gonorrhoea* NAAT. Pharyngeal *gonorrhoea* culture samples were taken in 270/383 (70%) and 73/270 (27%) were culture positive with available antimicrobial sensitivities. Only 7/73 (10%) had a fully sensitive organism. 28 (7%, 95% CI = 5.11–10.36) reported throat symptoms at presentation. Overall, the presence of pharyngeal symptoms was not associated with positive *gonorrhoea* cultures (OR = 1.9, CI = 0.78–4.62, $P = 0.2$), pharyngeal *chlamydia* (OR = 1.6, CI

= 0.19–13.32, $P = 0.7$), HIV status (OR = 1.1, CI = 0.47–2.57, $P = 0.8$), or age [$P = 0.3$].

Conclusion: Pharyngeal *gonorrhoea* is usually asymptomatic and culture sensitivity is poor. Increasing effort is required to increase pharyngeal *gonorrhoea* culture testing and sensitivity, including ensuring clinical staff are using optimal sampling techniques and reliable transport of *gonorrhoea* culture samples to testing laboratories to maintain *gonorrhoea* AMR surveillance.

P052 | Primary syphilis presentation characteristics and serological response: is there still more to learn?

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Background: Rates of infectious syphilis has significantly increased in men who have sex with men (MSM). Recent data has shown that primary syphilis does not always present with painless genital lesions. Our aim was to describe the clinical characteristics, serological response and management of primary syphilis in HIV-positive and negative MSM. **Method:** We reviewed the microbiological and demographic data of MSM presenting with primary syphilis between January 2016 – March 2020 in our clinic-based population in Brighton, UK.

Results: There were 111 cases of primary syphilis in MSM, the median age was 46 years (IQR = 37–53 years) and 40 (36%) were living with HIV. 56/111 (50%) of MSM presented with painful lesions and 14% with extra-genital lesions. Extra-genital lesions were significantly more likely to be painful than genital lesions (OR 4.72; 95%, CI 1.25–17.83, $P = 0.02$). Overall, serology had a sensitivity of 80% (57/71) compared with *Treponema pallidum* PCR. Serology was more sensitive in MSM with no previous syphilis (OR = 3.38, 95%CI: 1.002–11.43, $P < 0.05$). There were no differences in the characteristics, serological response or management between HIV positive and negative MSM.

Conclusion: Fifty percent of MSM with primary syphilis presented with painful lesions; extra-genital lesions are more likely to be painful than genital lesions and serology is sensitive in 80% of MSM, and there were no differences between HIV positive and negative MSM. Understanding the characteristics of primary syphilis will underpin public health campaigns.

P053 | The sensitivity and associated features of culture positive rectal gonorrhoea in men who have sex with men

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Background: Rectal *Neisseria gonorrhoea* is an important sexually transmitted infection in men who have sex with men (MSM). The past decade has seen and increasing rates of rectal *gonorrhoea* and antimicrobial resistant (AMR) *gonorrhoea* associated with recreational drug use, geo-spatial mobile phone dating apps and HIV risk reduction strategies including undetectable = untransmissible (U = U) and HIV pre-exposure prophylaxis (PrEP). Our aims were to review the microbiological findings and clinical characteristics of MSM with rectal *gonorrhoea*.

Method: A cross sectional study between January 2018-December 2019 to characterise the clinical and laboratory features of MSM with rectal *gonorrhoea* from our large clinic population of MSM attending the sexual health clinic in Brighton, UK.

Results: There were 12,186 MSM attendances during the study period, of which 379/12186 (3.1%, CI = 2.8–3.4) had a positive rectal *gonorrhoea* NAAT. The median age was 34 (IQR = 27–34), 103/379 (27%) were HIV positive and 72/379 (19%) also had rectal *Chlamydia*. HIV positive MSM with rectal *gonorrhoea* were significantly older than HIV negative MSM ($P = 0.001$). 73/379 (19%, 95%CI = 15.6 to 23.5) presented with ano-rectal symptoms. *Gonorrhoea* culture was performed in 291/379 (77%) overall and was positive in 190/291(65%); MSM with symptomatic *gonorrhoea* were more likely to be culture positive than asymptomatic MSM (OR = 8.04, CI 3.34–19.35, $P > 0.0001$). There were no differences in age or HIV status between MSM with symptomatic versus asymptomatic mono or dual (*Chlamydia*) infections.

Conclusion: Most MSM with rectal *gonorrhoea* are asymptomatic and asymptomatic MSM are significantly less likely to have *gonorrhoea* cultures taken and have a positive culture than symptomatic MSM. Measures are needed to ensure that all MSM (including asymptomatic) with rectal *gonorrhoea* have cultures taken prior to treatment to maintain adequate surveillance of AMR to prevent the urgent threat of multidrug resistance to *gonorrhoea* in MSM.

P054 | Evaluation of gonorrhoea rates in a semi-urban county-wide sexual health service pre- and post-COVID lockdown

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Background: During the first period of lockdown between March and June 2020, cases of gonorrhoea were still being diagnosed in the countywide sexual health serviced despite social restrictions. . Have the number of cases reduced compared to the previous year? In addition, were the demographics of patients and management of cases comparable to the previous year?

Method: The number of gonorrhoea cases attending the 3 main county hubs between March and November in 2020 were compared to the same period in 2019. If the number of cases were similar in 2020, these were analysed with respect to age, sex, sexual orientation, how the diagnosis was made, successful partner notification and attendance for Test of cures (TOC

Results: In 2 hubs there were 98 cases of gonorrhoea reported in the March- November 2019 The figure in 2020 was 64 representing a reduction of 35% . In Hub 3, there were 59 of gonorrhoea reported in 2019 the figure in 2020 was 66 representing an increase of 11%. A sample of 40 cases in Hub 3 were further analysed for both years. The average age of the attendees was 29 in 2019 compared to 35 in 2020. 15 were female and 17 were in Men having sex with Men (MSM) in 2019 compared to 12 female and 15 in MSM in 2020. In 2019 2/40 diagnoses were made online compared to 24/40 in 2020. In 2019 36/40 TOC took place compared to 24/40 in 2020. In 2019 10 (25%) contacts attended compared to 20 (50%) in 2020. In 2020 15/40 acquired their infection during the strictest period of lockdown between March and June.

Conclusion: Although overall county rates of gonorrhoea decreased comparing the 6 month periods in 2019 and 2020, rates in one hub increased. This may relate to the proximity of the hub to a large urban conurbation . In this hub patient demographics were similar to the previous year, with more diagnoses were made online in 2020. Partner attendance was more successful in 2020. Of concern was that in 15/40 (38%) cases, infection was acquired during the strictest period of lockdown.

P055 | Genital transmission of *Mycoplasma genitalium* through receptive oral sex

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Background: *Mycoplasma genitalium* (MG) is a common sexually transmitted infection (STI) that causes significant morbidity. The availability of molecular diagnostic tests has begun to improve our understanding of this infection. The

transmission of STI by oral sex is well recognised for chlamydia, gonorrhoea, herpes and syphilis. However, the role of oral sex in MG transmission is considered to be insignificant, as reflected in the current guidelines and clinical practice where the oral swab for MG is not tested.

We report a case of MG transmission by unprotected receptive oral sex in a heterosexual man.

Method: N/A.

Results: CASE REPORT

A 31 year-old man presented with pain on passing urine for 6 weeks and had noticed some penile discharge for 8 weeks. He reported receiving unprotected oral sex from a casual female partner 8 weeks before the onset of symptoms and did not have any vaginal or anal sex. He did not have any other sexual contact since breaking up from his regular female partner 9 months earlier. There was no previous history of any STIs. He already had negative test results for chlamydia and gonorrhoea on a urine sample in the second week of his symptoms, and had been treated with an extended dose of Azithromycin (2g over 3 days) without much improvement of his symptoms. The genitourinary examination was unremarkable apart from scanty urethral discharge. Urine dipstick detected leucocytes. Urine tested negative for chlamydia and gonorrhoea but positive for MG by PCR. The patient was treated with moxifloxacin 400 mg daily for 10 days without waiting for the macrolide resistance test result. Dual therapy with doxycycline and azithromycin was not tried as first line therapy due to suspected macrolide resistance.

MG macrolide resistance test demonstrated the presence of macrolide-associated resistance mutation (MRM) at nt2072G in the MG 23S rRNA gene. The patient tolerated moxifloxacin well apart from slight sickness on the first day. Penile discharge and dysuria disappeared on the third day of treatment. MG test of cure at 4 weeks was negative.

Conclusion: This case illustrates a very high probability of MG transmission by receptive oral sex in a heterosexual man. It is important for clinicians to undertake oral swabs for MG where there is suspicion of pharyngeal infection.

P056 | Standardising pharyngeal sampling for clinician-taken gonorrhoea culture specimens

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Background: The pharynx is an important site with respect to transmission and development of antimicrobial resistance (AMR) to gonorrhoea particularly in men who have sex with men. Maintaining culture-based sensitivity testing is important as part of wider efforts to prevent transmission of high level

AMR strains of gonorrhoea. The sensitivity of gonorrhoea culture at the pharynx is low and is dependent on several factors including sampling technique by clinicians. There is no consensus on the length of time taken to sample the pharynx for culture. We aimed to explore knowledge of pharyngeal sampling among sexual health clinicians to gain a consensus on optimal time for pharyngeal sampling for gonorrhoea culture specimens.

Method: An online anonymous survey was sent to clinicians in our local sexual health network. We included pictorial diagrams of the pharynx and asked clinicians which sites in the pharynx they sample and to estimate how long for when taking gonorrhoea culture specimens.

Results: 110 clinicians responded to the survey of whom 98 regularly take pharyngeal gonorrhoea cultures specimens: 54(55%) had more than 10-years of experience in sexual health. 82(84%) sample the tonsils, 75(77%) sample the posterior pharyngeal wall and 94(96%) sample either the tonsils or the posterior pharyngeal wall. 30(31%) always attempt to elicit the gag reflex and 52(53%) do not. The average time taken sampling the pharynx was 4.63(SD±2.04)seconds. There was no significant difference in time taken to sample the pharynx according to years of experience (4.7(SD±2.02) v 4.6(SD±2.3), $P = 0.45$).

Conclusion: Experienced sexual health clinicians are mostly appropriately sampling the tonsils and posterior pharyngeal wall for gonorrhoea culture specimens, and the median time taken to sample the pharynx was 4.63 seconds. Standardisation of pharyngeal sampling for the pharynx for gonorrhoea culture specimens could improve the sensitivity of culture and educational tools for clinic staff to support this are needed.

P057 | Prevalence of macrolide resistance mutations in *Mycoplasma genitalium* isolates

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Background: *Mycoplasma genitalium* (MG) is being increasingly diagnosed in the UK with increased awareness amongst clinicians and access to molecular diagnostic tests over the last few years. However, treating this infection is challenging due to antibiotic resistance, lack of access to macrolide resistance mutation (MRM) test for individual cases and the paucity of current or recent antimicrobial resistance data in the UK. To our knowledge, the last available data in the UK from samples collected in 2010–12 from the general population showed the presence of MRMs in 16.1% (9/56) MG positive specimens.

Method: In Clarewell clinics, MG PCR test was recommended to the patients who presented with the symptoms and signs suggestive of this infection or reported to have been a sexual contact of MG. Those who tested positive for MG were offered MRM tests, and the test was performed on the samples with the patient's agreement. MG PCR and MRMs test detecting the

mutation at nt2072G position in the 23S rRNA was performed by Micropathology Limited, University of Warwick.

Results: 277 patients between 18 and 76 years of age were tested for MG over a period of 18 months between June 2019 and October 2020.

Table 1 Prevalence of MG and MRM using PCR test

DNA PCR test	Patients tested n (100%)	Positive n (%)	Negative n (%)
MG	277 (100%)	22 (7.9%)	255 (92.1%)
MG MRM	13 (100%)	9 (69.2%)	4 (30.8%)

7.9% (22/277) patients tested MG positive using a DNA PCR test. Of these 22 patients, 17 (77.3%) patients were symptomatic, whereas 5 (22.7%) did not have any symptoms. 4 patients out of 22 who tested positive for MG, 2 patients were also positive for chlamydia, 1 for gonorrhoea and 1 for both chlamydia and gonorrhoea.

Out of the 22 patients who were tested positive for MG, 13 patients opted to go for MRM test. MRM was detected in 69.2% (9/13) patients at nt2072G position in the MG 23S rRNA gene using a DNA PCR test. Two patients did not have the MRM test as their partners' have already had their MRM test results available.

Conclusion: Macrolide resistance mutations were detected in 9 (69.2%) out of 13 patients who tested positive for MG. Such a high prevalence of MRM should be considered in formulating current guidelines to treat MG.

P058 | Inappropriate *Mycoplasma genitalium* testing: who pays the price?

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Background: Appropriate management of *Mycoplasma genitalium* (MG) is complicated by pervasive antimicrobial resistance and limited effective treatment options. The 2018 United Kingdom (UK) National Guidelines for MG recommends testing only in clinically indicated conditions (CIC) (non-gonococcal urethritis, epididymitis, pelvic inflammatory disease, contacts of MG, and test-of-cure). A Quality improvement project (QIP) to promote appropriate MG testing was done in 2018 on publication of the UK MG guideline. Following the QIP, MG testing was audited.

Method: Patients were selected by cluster sampling (all MG tests done in the month of November) over a 3 year period (2018–2020). MG testing was performed using Aptima® *Mycoplasma genitalium* assay (AMG; Hologic). Demographics and testing indication (CIC criteria) were

collected from patient records. Fisher's exact test was used to compare demographic groups. Cost analysis was carried out using estimated costs (AMG £30, Public Health England reference lab; £70 if not detected, £110 if detected).

Results: 309 patients were tested during the time periods. 80% (248/309) were heterosexual; 65% (202/309) were male; median age was 30. 17% (52/309) were positive for MG.

	November 2018 (N, %)	November 2019 (N, %)	November 2020 (N, %)	Total (N, %)
Total number of MG tests	82	165	62	309
Number of inappropriate MG tests	24, 29%	65, 39%	30, 48%	119, 39%
Female	8, 32%	31, 61%	18, 58%	57, 53%
Male	16, 28%	34, 30%	12, 39%	62, 31%
Number of positive inappropriate MG tests	3, 13%	7, 11%	4, 13%	14, 12%
Cost of inappropriate MG tests (£)	1,050	2,680	1,300	5,030

Females were more likely to have an inappropriate AMG than males ($P = 0.0001$).

The proportion of inappropriate AMG tests increased over time.

Conclusion: Inappropriate MG tests pose a significant financial burden. Sexual Health clinics are under financial pressure; unfunded testing/activity is unsustainable. Avoiding inappropriate testing could save over £20,000 per annum.

Asymptomatic MG is of unknown significance. Inappropriate testing leads to poor antimicrobial stewardship and may have detrimental impact on patient's psychosexual wellbeing.

Ongoing QIP to support appropriate MG testing may be helpful to promote clinically-appropriate testing with good antimicrobial stewardship and financial sustainability.

P059 | Performance of microscopy to diagnose rectal gonorrhoea

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Background: Light microscopy allows for rapid identification of presumptive *Neisseria Gonorrhoeae* (NG) infection through direct visualization of gram-negative intracellular diplococci (GNICD). Rectal microscopy is recommended for the evaluation of individuals with rectal symptoms who are at risk of rectal gonorrhoea infection. The sensitivity and specificity of rectal microscopy for the diagnosis of NG, relative

to the gold standard of nucleic acid amplification testing (NAAT), are unknown.

Method: A retrospective case note review was carried out for all attendees at a central London sexual health service on whom rectal microscopy and simultaneous NG NAAT were performed during January and February 2020. Presenting symptoms, microscopy findings and NAAT results were recorded.

Results: We identified 99 patients who underwent rectal microscopy (median age 32 years, IQR 28–41); 67/99 reported rectal pain, 31/99 bleeding and 59/99 discharge. Of 30/99 who were NAAT positive for NG, 9/30 were GNIDC positive on microscopy. Of 69/99 who were NAAT negative for NG, 68/69 were negative on microscopy. The sensitivity and specificity of microscopy to detect rectal NG were 30.0% (95% CI 14.7–49.4%) and 98.6% (92.2–100%); the positive and negative predictive value of microscopy was 90.0% (54.4–98.6%) and 76.4% (71.9–80.4%).

Conclusion: Identification of GNIDC on microscopy allows for prompt diagnosis at a single clinic visit and can facilitate early treatment and partner notification thus preventing complications, loss to follow-up and onward transmission. Microscopy has low sensitivity for the detection of rectal NG and patients should be advised that its absence on microscopy does not exclude the presence of infection. However microscopy had high specificity for NG infection in our analysis. Positive and negative predictive values were high owing to the high prevalence of NG in our cohort. Microscopy is operator dependent and measurements of sensitivity and specificity will vary accordingly. Our findings highlight the need for further data from different sexual health service populations to evaluate the utility of microscopy for NG diagnosis in the era of rapid NAAT diagnostics.

P060 | Syphilis in east London during the COVID-19 lockdown

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Background: Face to face (F2F) consultations during lockdown from March 2020 were limited and included syphilis. The number of STI tests in England declined sharply in early 2020 (by 71%) and positive syphilis cases also dropped correspondingly. Anecdotally it was felt we were still seeing many cases in our service, despite lockdown, so we reviewed the cases.

Method: Data was collected over an eight month period from 23rd March 2020. Demographics and coding were gathered. A random selection of a third of cases were reviewed to look at referrer, symptoms, testing location, coding and treatment accuracy, time to treatment.

Results: There were 164 cases of syphilis (for the corresponding period in 2019, there were 111). 82% male, 18% female. Of the males, 77% were MSM, 23% heterosexual. 83% were early syphilis infections (29% primary, 38% secondary, 33% early latent).

Month	Number of cases
23/3/2020 – 22/4/2020	12
23/4/2020 – 22/5/2020	20
23/5/2020 – 22/6/2020	34 (measures eased 28/5/2020)
23/6/2020 – 22/7/2020	17
23/7/2020 – 22/8/2020	17
23/8/2020 – 22/9/2020	19
23/9/2020 – 22/10/2020	29
23/1/2020 – 10/11/2020	16

54 sets of randomly selected notes were reviewed. Ethnicity was not well documented overall: 50% White European (a third from Romania), 13% White British, 15% of Asian and 7% Black. Most were self-referrals (72%), mainly from Sexual Health London (SHL) results; 15% were referred from antenatal and 4% GP. 60% had symptoms. 81% had same day treatment, the rest within two weeks. There was no difference in proportion of early syphilis before and after lockdown measures eased in May. There were more doxycycline treatments before the easing of measures (75%) compared with after (50%). 96% were correctly treated, 85% correctly coded.

Conclusion: Despite lockdown, early syphilis cases were a significant proportion of the F2F workload. Most patients received treatment immediately, however most of these already had a positive result. As expected, absolute numbers of diagnoses increased when restrictions were relaxed with no change in proportion of early/late diagnoses or sexuality of those presenting, but an increase in the proportion of those treated with benzathine.

11% had tried to seek help in other services including GP prior to getting through. Syphilis continues to be a seen frequently in our service and as restrictions ease further we expect to continue to see rising numbers.

P061 | *Mycoplasma genitalium* identified in one-third of men with symptomatic non-gonococcal urethritis, with at least 40% of cases demonstrating macrolide resistance

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Background: In recent years there has been increased awareness of *Mycoplasma genitalium* as a potential sexually-transmitted pathogen and national guidelines now recommend routine testing in a number of clinical scenarios in sexual health clinics, including non-gonococcal urethritis (NGU).

Factors including availability and cost of resistance testing, quinolone-associated toxicities and a lack of available alternative treatments, all impact on the feasibility of routine testing. Knowledge of local prevalence and rates of drug resistance can inform the development of patient pathways and management strategies.

The aim was to determine the prevalence of *Mycoplasma genitalium* in men with symptomatic NGU and the proportion of these infections that demonstrated macrolide resistance.

Method: Routine testing for *Mycoplasma genitalium* in symptomatic NGU was introduced in August 2020, during a period when walk-in attendances were limited due to the COVID-19 pandemic. Testing was performed inhouse using the validated Roche Cobas[®] TV/MG PCR assay and positive samples were tested for the macrolide resistance gene using SpeedX Resistanceplus[®] MG. Quinolone resistance testing was not routinely performed. Clinical information including patient demographics, treatments used, test of cure (TOC) results and coding data were reviewed and analysed.

Results: 42 symptomatic men presented during August 2020 and were diagnosed with NGU. 34 (81%) had testing performed for *Mycoplasma genitalium*, 10/34 (29%) tests were positive. Resistance testing was performed on all positive samples, 4 (40%) were positive for macrolide resistance; 2 (20%) were indeterminate and 4 (40%) were negative. All patients were treated with regimens according to BASHH guidelines and 1 (10%) patient had a positive TOC.

Conclusion: High rates of *Mycoplasma genitalium* were identified when screening men with symptomatic urethritis in a central London sexual health clinic. In this population, at least 40% of infections had macrolide resistance demonstrated. The majority of individuals cleared the pathogen with symptom resolution and a negative TOC using recommended treatment regimens. Larger surveys in different populations will enhance knowledge of risk factors associated with *Mycoplasma genitalium* infection and antibiotic

resistance. Further study of alternative treatment approaches for drug-resistant organisms are required.

P062 | A review of the management of non-gonococcal urethritis (NGU) during the COVID-19 pandemic at a community clinic

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Background: Non Urethritis is a multifactorial condition which is sexually acquired in the majority of (but not all) cases. Patients can present with dysuria and discharge. The diagnosis of urethritis is confirmed by demonstrating an excess of PMNLs in the anterior urethra.

The COVID-19 pandemic meant altering the way clinics worked. Losing vital laboratory facilities meant diagnosing common conditions such as NGU became a logistic challenge. Local protocols were drafted for managing patients in the absence of microscopy. The aim of this review is to determine how the changes affected the clinic practice of diagnosing and managing patients presenting with suspected NGU.

Method: A retrospective review of the electronic patient records (EPR) was conducted and all patients with a diagnosis of NGU were selected. The audited period was from April 2020-May 2020 and 50 patients were selected. The following were recorded: demographics, symptoms reported, duration of symptoms, sexual history, partners, urine PCR results, and treatment dispensed.

Results: Of the fifty patients audited there was an even spread across the ethnic groups attending the clinic (Black, White, Asian and Indian). The predominant age ranged between 23–34 (50%) and 18–24 30%(15/50). 90% (45/50) of those audited were heterosexual, 8% (4/50) MSM and 2% (1/50) bisexual. 68% (34/50) of patients reported dysuria and discharge. However, there was not always clear documentation on the discharge or duration. Just under half of patients 48% (24/50) had symptoms for <1 week, 38% 19/50 for 1–2 weeks and the remainder 2–4 weeks. 44% 22/50 had casual partners and 56% (28/50) regular contacts. In 46% (23/50) of the cases the last sexual contact was <1 week prior to clinic contact. All 50(100%) patients received antibiotics. 92% (46/50) doxycycline and 8% (4/50) azithromycin. Only 18% (9/50) tested positive for Chlamydia and 20% (10/50) for Gonorrhoea.

Conclusion: Due to the lack of microscopy to aid the diagnosis of NGU an increased number of patients with sometimes vague symptoms are treated with empirical antibiotics. It is clear from this review detailed histories are needed and the option to await PCR result must be encouraged to avoid excessive use of antibiotics. Our current way of working may continue for the foreseeable hence it is imperative

early treatment is given only where there is a high index of suspension.

P063 | A review of practice comparing self-taken versus physician taken cultures for gonorrhoea at two clinic sites

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Background: The number of gonorrhoea infections continue to rise during the COVID-19 pandemic. With the current restrictions in place patients are encouraged to test online. Obtaining culture is a crucial part of gonorrhoea management and not possible online. When patients attend clinics it is imperative to ensure contact is brief and examinations are conducted only if deemed necessary. Two clinics collaborated on reviewing the practice of taking swabs for culture either performed by the clinician or the patient. Site 1 maintained their pre-COVID practice of taking endo-cervical swabs for culture and Site 2 switched to patient taken vulvovaginal cultures to reduce patient contact. The aim of this review was to determine whether either method of sampling affected the culture result.

Method: A retrospective review of the electronic patient records (EPR) was conducted and all female patients with a positive gonorrhoea diagnosis were selected. The audited period covered was June 2020–November 2020. Forty patients were selected in total with 20 from each site. The following were recorded demographics, patient taken or clinician taken samples, sites which tested positive, culture results, treatment, antibiotic sensitivities and test of cure.

Results: Of the forty patients audited 97.5% (39/40) were heterosexual and 2.5% (1/40) bisexual. All GC positive samples had culture taken prior to treatment. 47.5% (19/40) were clinician taken endo-cervical cultures. 52.5% (21/40) self-taken VVS. All the endo-cervical swabs were taken at GU site 1 and the vulvovaginal swabs at site 2. From the clinician taken samples 63% (12/19) had no growth and only 37% (7/19) moderate growth. In the self-taken samples, 71% (15/40) had no growth, 24% (5/21) had a moderate growth and 5% (1/21) had scanty growth of GC. 97.5% (39/40) cases received Ceftriaxone. 2.5% (1/40) given ciprofloxacin. 70% (28/40) of the patients had a TOC done after 2wks, and only 30% (12/40) failed to return. All samples were sensitive to first line GC treatment.

Conclusion: There was no significant difference between the clinician and patient taken swabs for culture. Given the current climate and the need to reduce risks of the coronavirus, patient taken cultures should be encouraged.

P065 | General practitioners' (GPs') knowledge of and attitudes to prescribing pre-exposure prophylaxis for HIV (PrEP): a pilot study

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Background: In the UK PrEP is available only from sexual health services. The 2018 BHIVA/BASHH PrEP guidelines acknowledge the advantages of PrEP being delivered in sexual health services but raise concerns that this may restrict access for some people. Locally we have a large population of men who have sex with men (MSM) and provide PrEP to over 800, however many MSM and other people who would benefit from PrEP do not access sexual health services and may have more contact with primary care. We aimed to gain some insight into the knowledge and attitudes primary care have around PrEP to design an educational package.

Method: An online survey was circulated to GPs and trainee GPs working in an acute hospital trust.

Results: Of the 12 respondents; 11(92%) were aware of PrEP, 6(50%) reported having been asked about PrEP by patients, 5(42%) had previously prescribed PrEP (as part of training in attachment in a sexual health clinic); 7(58%) felt that some of their patients would benefit from PrEP, with the remaining 5(42%) being unsure. 3(25%) said they would prescribe PrEP for a patient at high risk of HIV in future, 4 (33%) said they would not prescribe PrEP and 5(42%) were unsure. Barriers to prescribing PrEP included unfamiliarity and uncertainty around which patients would benefit. 10(83%) respondents felt PrEP should only be prescribed in dedicated clinics or sexual health and 2(17%) suggested that PrEP should be available in primary care: 8(67%) felt training in prescribing and monitoring PrEP would be useful for primary care.

Conclusion: Our educational package on PrEP in primary care needs to focus on identification of patients at high risk of HIV and increase the general knowledge of PrEP in primary care to facilitate clinical pathways and signposting to sexual health services.

P066 | HIV transmission and previous PrEP awareness and use in men who have sex with men (MSM)

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Background: HIV Pre-Exposure Prophylaxis (PrEP) has been available to men who have sex with men (MSM) via clinical trials or self-funding (online) in the UK since 2017.

Despite its effectiveness and availability, we are still observing HIV transmission in MSM. This study aimed to assess prior awareness, prior usage and reasons for non-uptake of PrEP in MSM newly diagnosed with HIV.

Method: All MSM who were diagnosed with HIV at this sexual health clinic between January 2017 and September 2020 were identified and their clinical records examined for information on previous clinic attendances; PrEP discussion with a clinician and PrEP use prior to HIV diagnosis.

Results: 59 MSM were diagnosed with HIV during the study period, with a median age of 42 [IQR = 31.0–50.4]. 24 (41%) had attended the sexual health clinic between the time PrEP became available and HIV diagnosis. 24 (41%) had a concurrent bacterial STI at HIV diagnosis and 23 (39%) reported recreational drug use prior to HIV diagnosis, with 4 (7%) reporting intravenous drug use. 16 (27%) had prior awareness of PrEP. Of these, 1 MSM had used PrEP inconsistently due to concern about stigma and low self-perceived HIV risk, 5 were unable to access PrEP due to insufficient clinical trial spaces or barriers to self-funding, 2 cited no specific reason for non-uptake and 8 were found to be HIV positive at date of first PrEP discussion.

Conclusion: The majority of MSM diagnosed with HIV had poor prior PrEP awareness. Access to PrEP was also poor despite evidence of risk taking behaviour such as bacterial STIs and drug use. Barriers to uptake included lack of places in clinical trials, difficulty self-funding, low perceived risk and stigma. PrEP is now freely accessible in the UK, but continued efforts are needed to increase awareness and accessibility to further reduce HIV transmission.

P067 | Transitioning from PEP to PrEP in men who have sex with men.

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Background: HIV post-exposure prophylaxis following sexual exposure (PEPSE) and pre-exposure prophylaxis (PrEP) are used by people at sexual risk of HIV acquisition including men who have sex with men (MSM). Owing to the high risk of HIV seroconversion due to on-going risk behaviours, it is becoming commonplace for HIV-negative MSM requiring PEPSE (e.g. HIV sexual-exposure within 72-hours) to transition immediately to PrEP following the 28-days of PEPSE. We aimed to review how frequently PrEP is discussed and used by MSM following PEPSE.

Method: We reviewed the electronic notes of MSM who had accessed PEPSE between January 2018 – November 2020 and

collected information on sexual assault, recreational drug use at the time of PEPSE initiation, whether direct transition to PrEP had been discussed, and if PrEP had been initiated after PEPSE.

Results: During the study period, 277 MSM accessed PEPSE. The median age was 32 years (IQR 26–43), 17 (6%) started PEPSE following a sexual assault, 36 (13%) were using recreational drugs during sex and 30(11%) had used PrEP previously. Discussion about direct transition to PrEP after PEPSE was documented in 155 (56%) MSM, including 128 (51%) MSM who had never used PrEP before, and 67 (24%) MSM actually transitioned directly from PEPSE to PrEP. Clinicians were more likely to discuss PEPSE to PrEP transition in MSM with prior PrEP use ($P < 0.0001$), and MSM were more likely to transition to PrEP from PEPSE if they had used PrEP previously ($P < 0.00001$).

Conclusion: Only 56% of MSM who used PEPSE had a documented discussion about transitioning to PrEP and only a 24% actually transitioned from PEPSE to PrEP. Where indicated, MSM who access PEPSE should have a documented discussion and ideally transition immediately onto PrEP following completion of PEPSE.

P068 | Factors associated with sexual contact in the interval between gonorrhoea treatment and test of cure

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Background: A proportion of patients resume sexual activity after gonorrhoea treatment and prior to attending for a test of cure (TOC), increasing the risk of reinfection or onward transmission. This study explored the frequency of sexual contact and factors associated with sexual activity in the interval between treatment of gonorrhoea and attending for a TOC.

Method: Participants were recruited from fourteen clinics across England into the 'Gentamicin for the Treatment of Gonorrhoea (GToG)' trial between October 2014 and November 2016. We analysed demographic, behavioural and clinical data collected prospectively. Multivariable logistic regression was used to estimate odds ratios (OR) with 95% confidence intervals (CI) for sexual contact after treatment and prior to the 2-week TOC.

Results: 540 participants (82% male) with a median age of 28 years. 197/540 [37%] participants reported sexual contact in the time between treatment and TOC. A history of gonorrhoea (adjusted odd ratio—aOR 1.69[1.07 to 2.67]) or syphilis (aOR 1.52[1.16 to 2.00]), a history of same sex partners (aOR 1.64[1.04 to 2.60]), being in regular (aOR 1.70[1.15 to 2.53]) or ex-regular (aOR 1.39 [1.02 to 1.88]) sexual relationships, and higher number of partners in the last 3 months (aOR 1.05 [1.02 to 1.08]) or 12 months (aOR 1.01 [1.01 to 1.02]) were associated with increased odds of sexual contact

by the TOC appointment. However, demographic factors — age (aOR 1.00[0.99 to 1.02]) and gender (female vs male; aOR 0.81 [0.52 to 1.25]), and presenting with specific symptoms at baseline (aOR 1.16 [0.88 to 1.53]) did not associate with sexual contact by the TOC appointment.

Conclusion: A significant minority of participants reported sexual contact in the interval between treatment for gonorrhoea and attending for a TOC, and this was associated with previous sexual history and specific behavioural characteristics. Knowledge of these factors can help optimise safe sex counselling at the time of treatment.

P069 | An audit of routinely commissioned HIV pre-exposure prophylaxis (PrEP) in an inner-city sexual health clinic

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Background: Pre-exposure prophylaxis (PrEP) is effective in preventing HIV-acquisition and is recommended for men who have sex with men (MSM) engaging in condomless anal intercourse (CLAI). Routinely commissioned PrEP became available in our service in October 2020 and the audit was performed to evaluate the proportion of high risk MSM offered PrEP and any barriers to PrEP provision in our service.

Method: An audit was conducted on the records of all HIV-negative MSM who attended the service during November 2020 and had PrEP need as defined by starting post-exposure prophylaxis for sexual exposure (PEPSE) or diagnosis of early syphilis, chlamydia or gonorrhoea. The presence or absence of PrEP offer and subsequent initiation were reviewed. Patient demographics, sexual behaviour and STI diagnoses were also examined. Associations between PrEP offer and patient characteristics were analysed using univariable logistic regression.

Results: 110 MSM were included in the audit; median age was 35 years (IQR 27–43). 45% (n = 49) were already using PrEP and 17% (n = 19) were behaviourally bisexual. Among MSM who were not already using PrEP, it was offered to 61% (n = 37) with 59% (n = 22) of this group subsequently initiating PrEP. The majority (64%) of these MSM were commenced on PrEP via a nurse-led clinic. Reasons for non-initiation among MSM offered PrEP included low self-perceived risk, non-attendance at PrEP clinic appointment, no response to invitation of future appointment and patient desire for more time and/or information before deciding. Among MSM (n = 24) who were not offered PrEP, 16 reported CLAI, 11 were diagnosed with a rectal STI, 6 reported current recreational drug use and 19 reported

having >1 sexual partner in the last three months. There were no statistically significant associations between PrEP offer and age ($P = 0.17$), ethnicity ($P = 0.65$), reason for presentation ($P = 0.51$) and sexuality ($P = 0.065$).

Conclusion: This audit suggests that a significant proportion (39%) of at-risk MSM were not offered PrEP. Planned interventions include electronic medical record prompts for documentation of PrEP offer and discussion, streamlining of referral pathway to PrEP initiation, improving access to on-line information for patients, feedback of audit findings and changes to staff and regular discussion in huddle meetings.

P070 | How to improve PrEP awareness and access: insights and recommendations from the first 2 years in Scotland.

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Background: Large-scale implementation of oral HIV pre-exposure prophylaxis (PrEP) is key to elimination of HIV transmission. However, PrEP services and models of care are under-researched. We aimed to develop evidence-based, theoretically informed recommendations for optimal PrEP provision by undertaking a mixed-methods, retrospective evaluation of the first two years of the Scottish PrEP programme, in which PrEP is delivered through sexual health clinics. Drawing on the PrEP care cascade, we investigated: awareness and access/uptake and initiation/adherence and retention in care. Here we address awareness and access.

Method: We conducted semi-structured telephone interviews and focus groups (09/2018–07/2019) with geographically and demographically diverse patients seeking/using/declining or stopping PrEP (n = 39), sexual healthcare professionals (SHCP) (n = 54), community-based organisations (CBO) service users (n = 9) and staff (n = 15) across Scotland. Thematic analysis identifying barriers and facilitators to PrEP awareness and access was complemented by analyses using conceptual frameworks from implementation science (Behaviour Change Wheel, APEASE criteria, Socio-Economic Model) to systematically generate recommendations to enhance this aspect of the PrEP care cascade.

Results: Diverse and multi-layered barriers and facilitators included: Policy: political will enabled access whilst limited capacity and resource reduced it; Organisational: a lack of visible inclusivity and cultural competence sometimes limited access ('a minefield for trans-people'); Community: peer influence enabled awareness (e.g. dating app and social media amongst GBMSM) and a lack of targeted awareness raising activities reduced it (e.g. for racialised communities); Interpersonal: an over-reliance on written material limited awareness but community norms enabled it (i.e. GBMSM). We generated 24 diverse recommendations. Examples include: targeted awareness raising for the full range of people who may benefit from PrEP (e.g. not just GBMSM), incentivising organisations to work together to share expertise and learning, addressing new generations of PrEP users through school-based sex-education, expanding the reach of PrEP services through novel settings, cascading service innovations within and across services, instigating novel outreach. **Conclusion:** Increasing awareness and access to PrEP demands the considered co-ordination of a range of highly diverse stakeholders to directly address structural, social, interpersonal and individual level barriers. These must include interventions that reach all groups who many benefit from PrEP.

P071 | How to improve PrEP uptake and initiation: insights and recommendations from the first 2 years in Scotland.

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Background: Large-scale implementation of oral HIV pre-exposure prophylaxis (PrEP) is key to elimination of HIV transmission. However, PrEP services and models of care are under-researched. We aimed to develop evidence-based, theoretically informed recommendations for optimal PrEP provision by undertaking a mixed-methods, retrospective evaluation of the first two years of the Scottish PrEP programme, in which PrEP is delivered through sexual health clinics. Drawing on the PrEP care cascade, we investigated: awareness and access/uptake and initiation/adherence and retention in care. Here we address uptake and initiation.

Method: We conducted semi-structured telephone interviews and focus groups (09/2018–07/2019) with geographically and demographically diverse patients seeking/using/declining or stopping PrEP (n = 39), sexual healthcare professionals (SHCP) (n = 54), community-based organisations (CBO) service users (n = 9) and staff (n = 15) across Scotland. Data analysis focused on understanding the behavioural system central to PrEP uptake and initiation and mapping key barriers and facilitators to the priority areas across this system. We used conceptual frameworks from implementation science (Behaviour Change Wheel, APEASE criteria, Socio-Economic Model) to systematically generate recommendations to enhance this aspect of the PrEP care cascade.

Results: We identified nine priority areas within PrEP care models. Barriers and facilitators included Policy: some SHCP felt frustrated at "under-resourced, overly rapid" PrEP implementation which left them unprepared; Organisational: CBO staff, users and SHCP felt that inclusive, "PrEP-positive" language helped normalise PrEP; Community: some SHCPs' unfamiliarity with PrEP lead to fear of making errors with prescribing/ suitability for PrEP, especially non-daily dosing; Interpersonal: many SHCP felt they lacked skills to sensitively determine whether non-MSM might benefit from PrEP whereas CBO staff identified an important role in supporting this. We generated 30 diverse recommendations for policy makers, clinicians and CBOs. Examples include: provision of PrEP in diverse settings to reach all in need; co-produced, culturally sensitive training resources for SHCP, with focussed content on non-daily dosing, meaningful collaborative working across government/public health/clinical care/CBOs.

Conclusion: PrEP must be provided within care models which users and potential users find acceptable and which health services can roll out efficiently. These evidence-based recommendations could help optimise PrEP services to ensure PrEP reaches all who may benefit.

P072 | Changes in sexual behaviours and access to sexual health services of Londoners during the first COVID-19 lockdown

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Background: On 23rd March 2020 the U.K. government implemented restrictions to reduce the spread of SARS-CoV-2. These were slowly lifted from 13th May 2020. This study was conducted to explore if these measures changed Londoners' sexual behaviours or their uptake of sexual health services (SHS).

Method: An anonymous online survey was conducted during April 2020, targeting all Londoners aged 16 and over. Participants were recruited through Facebook, agency mailing lists and snowballing.

Results: 548 respondents completed the survey, with 65% MSM (cis and trans men who have sex with men) and 35% non-MSM.

Change in sexual behaviours: 39% of respondents reported not having sex during the survey period. MSM reported more likely to stop having sex (+17%, $P < 0.01$) and less likely to maintain physical sex activities (-14%, $P < 0.01$) than non-MSM. Overall oral sex reduced the greatest, with 52% reported having stopped completely. Reduction in use of a website/app to chat and hookup, engage with group sex, use PrEP, engage with chemsex and, have sex with casual partner(s) in public, were more evidenced among MSM respondents.

Change in use of SHS: Generally, use of SHS decreased during lockdown. More MSM reported reduced or completely stopped HIV testing (+20%, $P < 0.01$) and STI testing (+23%, $P < 0.01$) than non-MSM.

Need for SHS: Overall, non-MSM reported a lower need for most SHS. Non-MSM reported a lesser need for accessing HIV/STI self-testing (-29%, $P < 0.01$) but a greater need for contraception than condoms (+20%, $P < 0.01$) than MSM. MSM reported a higher need for domestic violence support than non-MSM (+8%, $P < 0.05$). 29% of all respondents believed access to mental/emotional support was very important.

Conclusion: During the first lockdown, non-MSM were more sexually active than MSM. There was a greater decreased use of SHS, by MSM compared to non-MSM, yet a greater need for some SHS by MSM compared to non-MSM. The results proved many of the assumptions in changes in sexual behaviour and sexual health needs during the period. The survey also provided some evidence for structuring SHS under a national crisis.

P073 | Advocating for community-based behavioural approaches within the combination HIV prevention framework: a literature review

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behavioural and structural interventions to effectively reduce new infections. Despite London surpassing UNAIDS's 90:90:90 targets, the importance of behavioural approaches in supporting solely biomedical interventions appears not to have been recognised. This review examines the reliability of community-based HIV prevention interventions, specifically those with behavioural components, in similar contexts to London.

Method: Medical and psychosocial databases and previous reviews were systematically searched. Inclusion criteria comprised peer-reviewed studies written in English, implemented in high-income urban areas, published between 2000–2019 that included behavioural interventions targeting high-risk populations in community settings. Twenty-two studies, comprising 6637 participants from MSM, BAME, PLWHIV, heterosexuals, women, sex workers, individuals convicted of crime and trans people were analysed.

Results: Twenty-two successful community-based behavioural interventions from USA, Europe and Australia were included in the review. Four combined with structural elements (stigma, public housing and unemployment) and 9 combined with biomedical strategies (PrEP promotion, HIV testing, ART adherence and condom use). Behavioural interventions were predominantly delivered in 3–6 sessions, with 1–28 hours of intervention exposure. Effective behavioural strategies include counselling (individual and group levels), peer support mentoring intervention and couple-focused approach, either face-to-face or remotely (video or computer-based). The review demonstrated that community-based behavioural change is effective to promote safer sex by improving HIV risk knowledge, reducing the number of sexual partners, and increasing condom use. The review highlighted an overall increase in HIV testing, improvements in HIV viral suppression and PrEP utilisation, and reductions in HIV/STIs.

Conclusion: The review underscores the importance of behavioural aspects in a combination HIV prevention approach, rather than a solely biomedical approach, to reach zero new infections in London. Recommendations, especially during COVID restrictions, include increased use of online discussions with peer-based facilitators to promote safer sex and increase HIV knowledge; peer mentoring to understand the emotional burdens that individuals face in relation to protection, HIV testing, diagnosis and treatment; and pre- and post-peer-based counselling to facilitate access to HIV testing, ART adherence and PrEP uptake.

Background: UNAIDS recommends the combination HIV prevention model of targeted effective biomedical,

P074 | Distributing a questionnaire for women attending a sexual health clinic increases PrEP uptake

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Background: The PrEP Impact trial was established in 2017 to assess the need for PrEP in English Sexual Health Clinics. Early recruitment data demonstrated significant under-representation of women (<5%). Barriers to women's PrEP uptake include lack of awareness, lack of offer, gender bias and low HIV risk perception at both clinician and individual level.

Method: A questionnaire based on the National PrEP guidelines was developed to assess potential factors associated with increased risk was given to women attending one sexual health clinic between 09/01/2020 and 19/03/2020, with the outcome completed by the clinician. We aimed to assess the effectiveness of the questionnaire in identifying women who might benefit from PrEP.

Results: A total of 624 questionnaires were completed; 573 (91.7%) by cis women. The median age was 25 years (range 14–55) and the majority were of white ethnicity (64.2%). The clinician recorded outcomes for PrEP discussion, PrEP eligibility and whether referred to the PrEP Impact Trial or opted for an alternative source. During the two months 21 women (6.6%) were identified as being PrEP eligible; of whom 15 (71.4%) then had a conversation about PrEP documented; 8 (38.1%) accessed PrEP via the trial (6 cis, 2 trans; 6 White, 2 Asian); 1 (4.8%) self-sourced PrEP privately and 1 (4.8%) declined to participate in the trial. During the preceding 26 months of the PrEP Impact trial 10 women had been recruited at the clinic.

Table 1 Sexual behaviours in PrEP eligible women

	n (%)
Sexual behavior and risk factors	21 (100%)
Sometimes do not use condoms	19 (90.5)
Sex with a person of unknown HIV status	9 (42.9)
Sex under the influence of drugs/alcohol	9 (42.9)
Asked to send naked/sexual images	9 (42.9)
Coerced into sex	5 (23.8)
Snorted drugs	6 (28.6)

Conclusion: Our data demonstrates a simple intervention was effective in initiating discussion about and increasing uptake of PrEP by women attending a SHC. More work is required to develop a brief intervention tool to aid these conversations taking place during routine SHC attendances.

P075 | Knowledge, use and acceptability of antibiotics to prevent sexually transmitted infections among respondents of the 2020 PrEP User Survey

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Background: The use of antibiotics as pre- and post-exposure prophylaxis (PrEP/PEP) to prevent sexually transmitted infections (STIs) is not recommended by BASHH or PHE. However, 9% of HIV-PrEP users in the 2019 PrEP user survey reported purchasing antibiotics to prevent STIs. We explored knowledge, use and acceptability of STI prophylaxis among a community sample of people who used or tried to access HIV-PrEP.

Method: From Oct-Nov 2020, 1,502 participants completed the online survey. Participants were eligible if they had used or attempted to obtain HIV-PrEP since January 2017 and were UK residents at the time. We collected data on demographics, HIV-PrEP use, sexual behaviour, HIV and STI testing and diagnoses. Participants were asked if they had heard about using antibiotics as STI prophylaxis, and ever used STI prophylaxis (if so, what was used, and how). They were asked if they would consider using STI prophylaxis if shown to be safe and effective.

Results: Of all respondents, 22% (n = 330) had heard of STI antibiotic prophylaxis. The minority (6%, n = 97) had ever used STI prophylaxis. HIV-PrEP users were more likely to have heard of (24%, n = 310, $P < .001$) and used (7%, n = 94, $P < .004$) STI prophylaxis compared to non-HIV-PrEP users (11%, n = 20 and 2%, n = 3, respectively). 77% (n = 75) used Doxycycline. 62% (n = 60) bought the antibiotics privately. 47% (n = 46) used antibiotics as PEP whilst 36% (n = 35) took antibiotics daily as PrEP. 27% reported '10+' condomless sex partners in the last 12 months. 74% were of white ethnicity, 86% were gay men, and 94% were cisgender. For willingness to use, 66% and 72% said they were likely to use STI PrEP or PEP, respectively, if proved to be safe and effective.

Conclusion: STI prophylaxis was evident among survey respondents. Most reported was; the use of doxycycline; STI PEP use; obtaining antibiotics privately. Willingness to use was high. Although not recommended, individuals at high risk of STIs reported using STI antibiotic prophylaxis. Clinicians and health promoters should be alert to this, and the risk of antimicrobial resistance, so they can support person-centred care and address the limited evidence base.

P076 | Sexual contact with partners outside the household during the COVID-19 pandemic: investigating motivations and decision-making using Natsal-COVID data

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Background: Worldwide, efforts to control SARS-CoV-2 transmission have included lockdowns and restrictions on contact with others, including sexual partners. Our research (Natsal-COVID) indicates that in the UK, 10% of people aged 18–59 had physical or sexual contact with a romantic or sexual partner outside their household (PCOH) during a period in which contact was limited. We explored motivations and decision-making among people reporting PCOH in the four months following the initial national lockdown on 23rd March 2020.

Method: Semi-structured interviews were conducted with 18 individuals reporting PCOH during a period in which physical distancing measures were in place. Participants were recruited through a large, quasi-representative survey investigating sexual behaviour in the UK during the COVID-19 pandemic (Natsal-COVID). Interviews were analysed thematically.

Results: Participants were single (n = 8) or in long-term, non-cohabiting, relationships (n = 10). While participants in the two groups differed in their reported motivations for PCOH, all demonstrated complex and individualised decision-making, weighing up risks such as SARS-CoV-2 transmission, judgement of peers, and benefits, including feelings of security and improved mental health. For those in relationships, the primary motivation was continuity: participants expected to continue seeing their romantic partner. Participants rationalised this contact as ‘low risk’ in relation to other ‘risks’ of COVID-19 exposure, and reduced other activities (such as shopping, seeing friends) to maintain this contact. For single participants, loneliness and boredom were reported as the primary motivators for PCOH, with dating apps often used to facilitate contact. For both groups, evidence of considered decision-making was clear, with participants referencing government guidance, personal situations, and risk when describing their deliberations.

Conclusion: Individuals did not make decisions about PCOH lightly. However, physical contact with partners was considered important and thus rationalised. Public health policy-makers must therefore consider sexual behaviour and needs for physical contact in designing effective future public health messaging.

P077 | Factors associated with chemsex in HIV+ MSM attending English HIV services

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Background: Chemsex, a phenomenon of sexualised drug use, is increasingly reported by men who have sex with men (MSM). We explored factors associated with engaging in chemsex among HIV-positive MSM in England.

Method: The Chems4EU study is a cross-sectional survey (April 2018 to May 2019) that investigated chemsex amongst HIV-positive MSM across four European countries. Demographic, clinical and sexual behaviour data relating to chems use were analysed in individuals who participated in the study from five HIV services in England. Stepwise logistic regression was used to explore factors associated with chemsex.

Results: Of the 512 participants (median age: 40 [interquartile range (IQR): 32–48]), half (258; 50.4%) were born in England. The majority (477; 93.2%) had initiated HIV treatment, of whom 91.4% (436) reported an undetectable viral load. In the past year, 52.9% (271) self-reported any recreational drug use and 32.8% (168) were engaged in chemsex. Of those engaging in chemsex, the most common drug was crystal methamphetamine (125, 74.4%). In univariable analyses, chemsex was significantly associated with attending a London service (odds ratio (OR): 2.14 [95% confidence interval: 1.33–3.46]), missing ≥ 3 doses of HIV medication (OR: 3.08 [1.12–8.49]), having more sexual partners (>10 sexual partners OR: 8.34 [4.21–16.52] vs. 0/1 sexual partner), group sex (OR: 6.81 [4.44–10.45]), fisting (OR: 4.99 [3.01–8.28]), having a bacterial STI in the past year [OR: 3.76 [2.53–5.59]) and being quite happy or unsure/unhappy with one’s sex life (OR: 2.30 [1.31–4.04]; OR: 2.46 [1.41–4.30], respectively). After adjustment, having a bacterial STI (adjusted OR (aOR): 2.72 [1.71–4.32]), being quite happy or unsure/unhappy with one’s sex life (aOR: 2.21 [1.15–4.26]; aOR: 2.49 [1.30–4.80], respectively), group sex (aOR: 3.86 [2.41–6.19]) and fisting (aOR: 4.05 [2.25–7.28]) remained associated with chemsex. In contrast, associations with attending a London clinic, missing ≥ 3 doses of HIV treatment and number of sexual partners were attenuated.

Conclusion: Chemsex was strongly associated with engaging in group sex, fisting and how happy one is with one’s sex life. Attending a London service did not remain associated, suggesting that the higher rate of chemsex in London may

be due to higher rates of risky sexual behaviours rather than geographical location of clinic accessed for care.

P078 | Pre-exposure prophylaxis (PrEP)

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Background: PrEP has been shown to reduce HIV transmission risk by 86%. PrEP has been provided and managed in our service since July 2017. It is important to monitor PrEP patients for any related issues. Our service has continued providing and managing PrEP uninterrupted throughout the current COVID-19 pandemic including starting new patients on PrEP. To continue providing and managing PrEP during the current COVID-19 pandemic while lessening COVID-19 transmission risk our service has used several different methods, including telephone consultations, postal testing kits and the ability for medication collection from a pharmacy or a mobile service.

Method: A retrospective review of how many new patients started on PrEP in our service during the COVID-19 pandemic from March 2020 to the present compared to the same period in the year before the pandemic and whether there was any difference in the number of new HIV diagnoses seen in our service from March 2020 to the present was performed. The new methods of providing our PrEP service were also reviewed.

Results: During the current COVID-19 pandemic from March 2020 to the present our service has started 66 new patients on PrEP compared to 102 new patients in the same period the year before, before the pandemic. From March 2020 to the present our service has seen 11 new HIV diagnoses which is similar to the average number of new HIV diagnoses our service normally sees per year. The majority of PrEP patients in our service are men who have sex with men (MSM). By using a combination of telephone consultations, postal testing kits and clinic visits PrEP patients have continued to be monitored appropriately including sexually transmitted infections (STI) screening and checking renal function.

Conclusion: During the current COVID-19 pandemic our service still sees a need for PrEP. The new methods of providing and managing our PrEP service are working well and are robust. New patients can be started on PrEP and PrEP patients monitored appropriately. It is important while providing PrEP to also undertake regular monitoring and health promotion for other STIs such as chlamydia and syphilis to help lower transmission of all STIs.

P079 | Distance travelled to access pre-exposure prophylaxis (PrEP) for HIV prevention on the PrEP Impact trial in England during 2017–2020

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Background: Pre-exposure prophylaxis (PrEP) has been proven to be highly effective in preventing HIV infection. The PrEP Impact trial was established in 2017 to answer key questions on the delivery of PrEP in England. To determine potential barriers to PrEP access and to guide equitable routine commissioning of PrEP, we explored the distance travelled by participants to access PrEP and how this differs to non-participants accessing sexual health services (SHS) in trial clinics.

Method: Data from trial clinics was collected between 13/10/2017–29/02/2020 by electronic case reports and linked to national GUMCAD surveillance data. Lower-layer-super-output-areas (LSOA) were linked to 2011 ONS population-weighted centroids. Geodesic distance was calculated between patient and clinic LSOA for residents in England. For participants (N = 20,732) the distance was calculated for enrolment visits only. Non-participants (N = 2,445,089) were defined as HIV-negative individuals accessing routine SHS, their distance was calculated for the first visit after the trial recruitment start date.

Results: The median distance travelled by participants to trial clinics was 5.4 km (IQR 2.8–10.2). Participants living in rural areas were more likely to travel further than those in urban areas (18.1 km (IQR 10.7–29.5) vs 5.1 km (IQR 2.6–9.4); $P < 0.001$). Participants living in the least deprived areas were more likely to travel further than those in the most deprived areas (9.1 km (IQR 4.2–19.0) vs 4.5 km (IQR 2.2–7.6); $P < 0.001$). The median distance travelled by non-participants to trial clinics was 4.6 km (IQR 2.3–9.7), which is significantly different from participants (5.4 km (IQR 2.8–10.2) vs 4.6 km (IQR 2.3–9.7); $P < 0.001$). Only 38.6% of participants attended their nearest clinic (regardless of PrEP availability) compared to 64.4% of non-participants (38.6% vs 64.4%; $P < 0.001$). Of those participants not attending their nearest clinic, 70.7% lived in London and 72.3% of the nearest clinics were a trial clinic.

Conclusion: Despite participants and non-participants being relatively well-served with short distances travelled to trial clinics, the differences seen in those patterns of access

highlight the need to further integrate PrEP services into routine care across England. Further research is needed to investigate key predictors of individuals not attending their nearest clinic.

P080 | Increased clinician confidence and uptake of event-based PrEP by men who have sex with men during the COVID-19 pandemic

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Background: HIV pre-exposure prophylaxis (PrEP) is an effective, safe strategy to prevent HIV. PrEP can be used either daily or as an event based dosing (EBD) regimen by men who have sex with men (MSM) having condom-less anal sex, however clinicians with expertise delivering daily PrEP often lack confidence delivering EBD-PrEP. During the COVID-19 pandemic, MSM appear to have tailored their sexual behaviour in-line with local social restrictions including the way they use PrEP.

Method: We aimed to investigate the proportion of MSM using EBD-PrEP between October–December 2020 and to survey clinician confidence in delivering EBD-PrEP through an online questionnaire.

Results: 551 MSM were seen who were eligible for PrEP in the study period, of which 448 were prescribed PrEP (64-declined, 2-stopped, 8-new patients and 29-repeat attenders accessed PrEP from another source). The median age of PrEP users was 37 years (IQR = 29–48). Overall, 94/448 (21%, 95%CI = 17–25) of MSM were using EBD-PrEP. New starters were significantly more likely to use EBD-PrEP compared to existing PrEP users (34% v. 13%, $\chi^2 = 27.6$, $P < 0.00001$). There was no significant difference in age between daily and EBD-PrEP users (37 years v. 41 years, $P = 0.2$).

There were 33/38 clinicians who responded to the online survey. Clinicians felt equally confident at delivering daily PrEP as EBD-PrEP (Likert scores = 4.4/5 v. 4.2/5, $P = 0.2$). However, potential barriers identified to providing EBD-PrEP by clinicians were; assessing which MSM would be suitable for using EBD-PrEP, having access to appropriate information for patients to support their understanding of using EBD PrEP; and clinician knowledge and belief in the efficacy of EBD-PrEP.

Conclusion: The uptake by MSM and clinician confidence in discussing EBD-PrEP appears to have increased since the start of the COVID-19 pandemic. Giving MSM greater choice in how PrEP is used will optimise its effect on reducing HIV transmission. More research is needed to support both MSM and clinicians to deliver EBD-PrEP.

P081 | Online partner seeking as a social practice: findings to develop the fourth National Survey of Sexual Attitudes and Lifestyles.

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Background: Rapid development and uptake of digital technologies have influenced sexual lives. As part of development research for the decennial British National Survey of Sexual Attitudes and Lifestyles (Natsal-4), we aimed to understand the practices of adults in Britain using digital technologies to meet sexual and romantic partners.

Method: We conducted 40 semi-structured interviews with adults in Britain on the role digital technologies played in their sexual lives. Here we draw on the accounts of 22 of those who had direct experience of online partner seeking. Informed by Social Practice Theory, we developed thematic codes encompassing the materials, skills and meanings that constitute online partner-seeking as a social practice.

Results: Online partner seeking is a social practice normalised in contemporary culture, enmeshed within broader online cultures of image presentation. It is associated with multiple goals and imbued with possibilities as well as risks. Material elements we identified related to the technology, its affordances, and how these shape interactions. We found that technological, interpersonal, and self-care skills were together required to seek and progress to various relationship forms and protect the self. Distinct linguistic, sexual, harm/damage limitation and exit strategies also drew on a range of skills. Participants reflected on how they presented themselves online, on their intentions, and on the skills required to ‘read’ situations and act authentically.

Conclusion: While online partner seeking has often been considered individualistic, outcomes can be read through a lens of Social Practice Theory. Successful partner selection, communication and avoidance of harm depend on a complex learned constellation of the skills, materials and meanings associated with dating choices. Our findings have potential to inform survey questionnaire design and effective, nuanced health promotion interventions which consider intersecting dimensions of this social practice to build skills,

develop goals and assess strategies to respond to unwanted interaction.

P082 | Impact of SARS-CoV-2 pandemic on viral suppression for young adults living with perinatally acquired HIV infection

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Background: Lockdown and reconfiguration of NHS services imposed to limit the spread of SARS-CoV-2 led to reduced uptake of routine NHS care, disproportionately affecting individuals in deprived areas with worse underlying health. We describe clinical and virological outcomes for young adults with perinatally acquired HIV infection (YAPaHIV) before and after the first UK lockdown. Face-to-Face (F2F) appointments continued for vulnerable patients, with options for remote consultations for stable patients.

Method: A retrospective single-centre cohort analysis of YAPaHIV with data compared between period 1; pre-lockdown, 23rd March 2019–23rd March 2020, to period 2; 24th March–23rd December 2020. Data analysed included age, ethnicity, sex, HIV viral load (VL), and CD4 count. Primary outcome; proportion with suppressed VL < 200 copies/ml by study period.

Results: 177 eligible individuals were included, 2/177 (1.1%) had no VL data in period 2 and were excluded from analysis. Of 175: 56.6% were female, median age 23 years (IQR 20–27). 86.9% were black, 6.9% white, 4.6% mixed-heritage, 1.6% other.

Primary outcome: 146/175 (83.4%) YAPaHIV had a suppressed VL in period 1 compared with 150/175 (85.7%) in period 2.

Of 146 YA with an undetectable VL in period 1, 11 (7.5%) had detectable VL (median VL 2100 [IQR 470–3585]) during period 2. Of 29 with detectable VL in period 1, 15/29 (51.7%) (median VL 3200 [IQR 694–15000]) were undetectable in period 2.

15 YAPaHIV entered lockdown with a CD4 count < 200 cells/uL (median 80 [IQR 38–128]), three (20%) reconstituted to > 200 cells/uL in period 2. Two individuals' count fell below 200 during lockdown.

Of 714 period 1 appointments, 626 (87.7%) were F2F, 75 (10.5%) telephone, 13 (1.8%) other. In 423 period 2 appointments, 292 (69.0%) were F2F, 117 (27.7%) telephone and 14 (3.3%) other.

During the study period 2/15 tested were diagnosed with SARS-CoV-2 by PCR (1), serology (1), and eight admissions (lower respiratory tract infection (2), *Campylobacter*

gastroenteritis (1), cryptococcal meningitis (1), overdose (1), oesophageal candidiasis (1), HIV wasting (1), deranged liver function (1)).

Conclusion: In a small, well-described cohort, we demonstrated that a proactive response maintaining F2F clinics and regular attendance for vulnerable populations can maintain virological control during pandemic restrictions.

P083 | Early impacts of the COVID-19 pandemic on sexual behaviour in Britain: findings from a large, quasi-representative survey (Natsal-COVID)

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Background: COVID-19 has impacted all aspects of life, including people's sex lives, via experience of the disease and measures to prevent transmission. We examined sexual behaviour in Britain during the initial national 'lockdown' ($\geq 23/3/2020$) and compare this to the 3 months pre-lockdown.

Method: We analysed weighted web-panel survey data from a quota-based sample of 6,654 people resident in Britain. The questionnaire, fielded 29/7–10/8/2020, included questions about sexual activities pre- and during lockdown, and perceived changes in frequency between these timeframes. We used descriptive statistics and multivariable regression to examine independent associations with relationship status, age, gender, and health.

Results: Altogether, 91.2% of sexually-experienced participants reported *any* sexual activity during lockdown; 85.7% reporting 'in-person'/physical partnered activities. Around half reported no change in frequency of partnered-sex versus pre-lockdown, however, those not cohabiting were more likely than those cohabiting to report changes (75.6% versus 35.1%) – typically declines. Masturbation (62.0%) and virtual/digital activities (54.3%) were less commonly reported during lockdown, although they were more commonly reported in those not cohabiting versus cohabiting (69.2% versus 57.9%, 67.4% versus 46.7%, respectively). Changes in reported frequency of virtual/digital activities were more common (66.4%) than in-person activities, with increases as likely as declines, except for porn use, where twice as many perceived an increase than a decrease. After adjustment, those reporting a decline in sexual activity were more likely to be: non-cohabiting (adjusted odds ratio, AOR:1.68, 95%CI:1.45–1.95), aged < 25 years (AOR:1.99, 95%CI:1.57–2.51), male (AOR: 1.17,

95%CI: 1.02–1.35), to report depressive/anxiety symptoms (AOR:1.63, 95%CI: 1.41–1.89) or COVID symptoms/diagnosis (AOR:1.24, 95% CI: 1.01–1.52).

Conclusion: Most people reported some form of sex during lockdown and around half had not experienced changes in partnered-sex compared to pre-lockdown. However, considerable differences existed for certain populations (e.g. young people) that may exacerbate, or be exacerbated by, COVID-19's wider detrimental effects on physical and mental health. This potential intersectionality needs consideration when designing individual and public health interventions.

P084 | Factors influencing accessibility of a novel, remote supported STI and HIV (NRS-STI/HIV) testing service among east London residents at risk of HIV

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Background: In response to COVID-19, an NRS-STI/HIV testing service was piloted in East London. Outreach workers guided clients through taking samples for STI screening and performing an HIV self-test posted in advance to their home. The aim of this research was to examine factors that affect accessibility of the service by under-served communities in East London, specifically Black and minority ethnic men having sex with men (BME-MSM), Black African (BA) residents and people experiencing homelessness (PEH).

Method: A qualitative approach was taken. Semi-structured interviews, focus groups and self-completed questionnaires were conducted with BME-MSM and BA straight cis-men and cis-women. For PEH, data was collected from service providers. Purposive and snowball sampling was used. All data collection instruments addressed four domains of access to care – approachability, acceptability, availability, and appropriateness.

Results: Information was collected and analysed from 6 BME-MSM, 13 straight BA people and 5 people providing services to PEH between October-December 2020. Barriers to accessing the NRS-STI/HIV testing service included low level HIV knowledge and risk perception; internalised stigma; and local testing services being unknown. Facilitators to access were trust in the testing organisation and its confidentiality; community-level advertising; health education as part of the service; a quick turnaround and out-of-hours service. Other perceptions of the service were that its convenience increases access; assistance during testing was important; and that privacy may not be possible due to multiple occupants in residence.

Conclusion: This research provides rich insights into the accessibility of an NRS-STI/HIV testing service among key

groups in East London. Analysis of participant insights suggests some critical barriers and facilitators to uptake of service. In times of COVID-19 restrictions, remote testing does not need to rival in-person HIV prevention work, but it can complement, and enhance the offer. Additionally, remote testing may engage people who have not previously been engaged around their sexual health and address late diagnosis.

P085 | COVID-19 vaccine uptake in people living with HIV: a clinic survey at the start of the UK national COVID-19 vaccine rollout

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Background: COVID-19 vaccines are safe and are expected to be protective in people living with HIV (PLWH). As a result BHIVA are recommending that PLWH are vaccinated with one of the approved COVID-19 vaccines. NHS data on the COVID-19 vaccine suggests that overall uptake to date is very high: >80% but that this figure is much lower in BME groups. As a large proportion of PLWH in the UK are from BME groups we wanted to look at the vaccine uptake amongst patients attending our demographically diverse HIV service.

Method: In January 2021 we added COVID-19 vaccine questions to our clinic proformas. We then randomly reviewed the clinical notes of patients attending the service over a two week period. We collected demographic, occupational and previous COVID infection history from patients where the answers to the COVID-19 vaccine questions had been documented.

Results: 50 patients had had the COVID-19 vaccine questions completed.

Cohort demographics: 22 (44%) male & 28 (56%) female. 17 (34%) White, 30 (60%) Black African & 4 (8%) Other ethnicity. Age range 19–70 years with the majority (70%) being 40–59 years old.

Occupational data: 19 (38%) were health / social care workers. COVID-19 infection history: 4 (8%) confirmed infection, 9 (18%) suspected infection and 37 (74%) no history of confirmed / suspected infection.

Vaccine uptake: 13 (26%) had already been vaccinated / accepted their vaccine invitation, 0 (0%) had declined their vaccine invitation, 31 (62%) had not yet been offered the vaccine but were planning to accept, 4 (8%) were planning to decline and 2 (4%) were still undecided.

Conclusion: Our early survey of COVID-19 vaccine uptake amongst our service users has reassuringly shown that 100% (13/13) of those who have been offered the vaccine to date have accepted it, that no one has declined it and that 84% (31/37) of those still to be offered the vaccine are planning to

accept it leaving only 12% (6/50) who are planning to decline or still undecided. Hopefully this overall high figure of 88% vaccine uptake will remain and increase amongst PLWH as experience with and confidence in the vaccine, especially in BME groups, increases with time.

P086 | Impact of COVID-19 on access to sexual health clinics for patients 18 years old and under

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Background: Due to constraints on clinical practice due to the COVID-19 pandemic, the walk in Young Persons Clinic changed to planned appointments with initial telephone triage. Clinics outside of the central hub were closed due to loss of clinical space and redeployment of staff. Online testing became available for those aged 16 and above but those aged below 16 had to contact sexual health services directly. This raised concerns that vulnerable younger people may not access the service.

Method: A service evaluation compared attendance of those aged 18 and under for 2019 and 2020 by accessing electronic patient records for the integrated sexual health service. Demographics were compared as were clinical outcomes (STI diagnosis and contraception.)

Results: In 2019 a total of 3278 patient episodes (12.2% of total) were recorded in those aged 18 and under compared with 1789 (8.0%) in 2020; a 45% reduction.

59/1116 (5.3%) of those testing positive for *Chlamydia trachomatis* in 2020 were 18 or under compared with 62/1719 (3.6%) in 2019. 477/5287 (9.0%) received contraception in 2020 compared with 707/9503 (7.4%) in 2019.

The breakdown of attendance according to age is shown in Table 1.

	12 and under	13 years	14 years	15 years	16 years	17 years	18 years	Total
2019	4	28	89	252	515	745	1645	3278
2020	8	20	64	153	272	444	828	1789
Percentage difference	+100%	-28.5%	-28%	-39%	-47%	-40%	-50%	-45%

Conclusion: The reduction was most marked in the 18 year old group, perhaps reflecting the absence of university students in the city and the provision of online testing services, along with potential changes in sexual behaviour due to the pandemic.

The increase in 12 years olds accessing the services suggested some vulnerable groups were able to access the service, perhaps

due to maintained support from the third sector and social services, however the reduction in other ages was of concern. Further work needs to be done to assess changes in sexual behaviour and uptake of the online testing service and their impact on our services.

P087 | Safeguarding case review during a pandemic: did everyone stay at home?

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Background: During the COVID-19 pandemic our clinic offered telephone triage and booked appointments if required to all patients. The dedicated young person’s walk-in clinic was temporarily suspended. These changes raised concerns regarding access for vulnerable patients especially under 18s. To assess the impact of these changes in access and the impact of the pandemic on young and vulnerable patients, we reviewed the number of cases discussed at monthly local safeguarding (SG) meetings between March 2020 – February 2021 and compared with pre-pandemic data (March 2019 – February 2020).

Method: EPR was used to access departmental SG meetings data between March 2019 and February 2021.

Results: 226 SG cases were discussed from March 2020 to February 2021 compared with 196 the previous year. This includes some patients who required multiple discussions. 99 (44%) patients between March 2020 – February 2021 were over 18 years compared with 73 (37%) patients from the previous year. 25 (11%) patients from March 2020 – February 2021 were male compared with 28 (14%) from the previous year. Table 1 shows the breakdown of patient age ranges.

When excluding repeated discussions, the total number of patients is shown in Table 2.

Conclusion: Safeguarding discussions increased despite fewer patients attending clinic. There were an increased number of patients requiring multiple SG discussions during the pandemic. This indicates that more complex cases were seen in 2020 (examples will be presented) this maybe as a result of unintended consequences of lockdown and pandemic management.

Table 1

	<12 years	13 years	14 years	15 years	16 years	17 years	18 years and over	Total
03/2019–02/2020	2	7	16	29	40	29	73	196
03/2020 -02/2021	2	9	16	20	34	46	99	226
Percentage difference	0%	+28.5%	0%	-31%	-15%	+59%	+36%	+15%

Table 2

	03/2019–02/2020	03/2020–02/2021
x3 or > SG discussions	7	18
x2 SG discussions	27	25
1 SG discussion	119	115
Total number of patients discussed	153	158

This data demonstrates that our current clinic model allows us to identify and engage with vulnerable patients although it is clear that not all vulnerable and young patients have presented to services during the pandemic.

P088 | HIV control in post-partum mothers: still a turbulent time

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Background: The postpartum period can be a difficult time for women living with HIV (WLWH), affecting engagement with care. We repeated our 2012 audit of postpartum medication adherence and engagement with care for WLWH against BHIVA guidelines.

Method: We retrospectively reviewed clinical records of WLWH who delivered their baby between June 2013 and December 2019. We recorded antiretroviral (ARV) management before pregnancy, during pregnancy and after 12 months; reasons for ARV regimen changes; CD4 count and viral load (VL) at booking, 36 weeks' gestation, delivery, 1 and 12 months postpartum along with any VL blips; the planned and actual delivery method and reason for change. For 12 months postpartum we categorised psychological and social problems and recorded the receipt and timing of mental health assessments and the number of follow-up appointments missed as a fraction of the total number of appointments.

Results: There were 64 pregnancies involving 53 women. All 64 were already diagnosed with HIV prior to the

pregnancy. 69% were Black African, 19% White British and 8% of any other ethnicity. 62/64 (97%) continued with ARV treatment after delivery for whom VL data were available for 52 (84%). 43/52 (83%) had undetectable (vs 84.1% in 2012) and 9/52 (17%) had a detectable VL respectively. Of these 9, 4/52 (8%) had virological failure (>400 copies/ml). 28 (44%) missed at least one HIV clinic follow-up appointment (vs 27% in 2012), of whom 7/28 (25%) had a detectable VL. Social or psychological problems were noted in 29 (45%) with the most common themes identified as financial (17%), relationship (14%), housing (11%) and asylum concerns (6%). Psychological or social problems were noted for 5/9 (56%) WLWH with detectable VL and 16/28 (57%) that had missed at least one appointment.

Conclusion: Virological suppression and clinic attendance remain suboptimal in WLWH during the postpartum period and continue to be associated with the same psychological and social difficulties as 10 years ago. A greater understanding of these problems is needed to determine how better to mitigate their impact on postpartum HIV care.

P089 | Paediatric sexual health in Cumbria: a review of paediatric attendances

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Background: Cumbria sexual health is responsible for the provision and delivery of services in a predominantly rural region of the UK with services spanning across Whitehaven, Workington, Barrow, Carlisle, and Kendal. 4/5 of the sexual health clinics in the service, distributed over the rural Northwest region of England, received patients under the age of 13 years between January 2017 and January 2021.

Method: The Electronic Patient Record, Inform, was scrutinised to generate the list of patient numbers within the age search (0–12 years old).

Results: 38 patients aged below 13 years were identified during this period. 29 females and 9 males presented to the service, with an average age at presentation of 7.5 years and median age of 6 years. 63% of the paediatric attendances were referrals

from a sexual assault referral centre (SARC), of which 96% were seen by a consultant at Cumbria sexual health services. The main reason for paediatric attendance to Cumbria sexual health services related to suspicion of or actual acute/historic sexual abuse. The most common presentation was asymptomatic review accounting for 32% of presentations, with suspected anogenital warts being the most common symptomatic presentation accounting for 24% of the total cases. All patients presenting with suspected anogenital warts attended following referral from either SARC, child protection, or healthcare provider. Patients with suspected anogenital warts were aged between 1 and 13 years, with 56% aged 4 to 5 years. Presentations for contraceptive services accounted for less than 10% of attendances.

Conclusion: The BASHH and RCPCH state that sexual abuse must be considered in children presenting with anogenital warts. As highlighted by the management algorithm of anogenital warts in children under 13 by Kingston *et al*, and the NICE guidance on the recognition and management of child maltreatment, presentation of anogenital warts in different age groups may raise different levels of concern where non-sexual transmission becomes less plausible; for example, anogenital warts in children 4 years and over. In this review, 43% of patients aged 4 years and over presented following a referral from SARC, reflecting potential concern and possibility of sexual abuse as a causative factor in these cases.

P090 | Stepping up from opt-out: achieving 100% uptake for antenatal HIV testing

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Background: The UK Infectious Diseases in Pregnancy Screening Programme recommends systematic population screening in pregnancy for HIV with 99.6% uptake. However the 0.4% of those not screened may be at higher risk of HIV. Our Hospital is in an extremely high HIV prevalence area and the number of new diagnoses is highest during child bearing age. There is an opportunity immediately after birth to test babies whose mothers declined HIV testing and reduce the risk of HIV transmission.

Method: We developed a policy for mothers who decline HIV testing in pregnancy with a supportive and non-discriminatory approach. This recommends HIV testing of their babies as soon as possible after birth with maternal

consent. We undertook an audit of the early implementation from 1.7.2018 to 1.4.2019. On the basis of learning from the initial audit the policy was refined and the audit loop completed between 1.4.2019 and 1.4.2020.

Results: In the initial audit period HIV testing uptake was 99.7%. The most frequently cited reason for declining, in 6 of the 18 mothers, was a perception they did not need HIV testing. Under this new policy two (11%) tested HIV positive and engaged well with care.

Five declined screening due to needle phobia, all then testing HIV negative, and five declined all antenatal screening. Of these 4 were from local Jewish communities with none accepting testing on re-offer. We developed a personalised approach to engage these mothers with screening. When completing the audit loop we found 22 mothers who initially declined HIV screening and all subsequently accepted testing.

We have now achieved an uptake rate for HIV screening in completed pregnancies under our care of 100%.

Conclusion: The results of the initial audit support previous findings that mothers who initially decline HIV testing in pregnancy are at an increased risk of having HIV. We found that an approach of a simple re-screening offer was not helpful for mothers who feel they are not at risk or those who decline all screening. However, a supportive and non-discriminatory approach that plans to test all pregnant mothers or their babies after birth is successful.

P091 | Managing metabolic issues: evaluation of a short-term comparative implementation project introducing a dietitian to an HIV service

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Background: Persons living with HIV (PLWH) face a number of nutritional issues including dyslipidaemia, non-alcoholic steatohepatitis, diabetes, and obesity that can be attributed to HIV infection/medications. Poor management of these complications can reduce quality of life and increase health costs. We implemented a dietetic service within our HIV clinic for 6 months and evaluated the outcomes.

Method: Twice weekly dietetic clinics were established. Eligible patients were offered group, face-to-face or telephone consultations. Medical records and our database were used to obtain demographics, treatments and co-morbidities. Cholesterol markers were measured along with weight, height, and body mass index (BMI).

Results: 84 (total clinic cohort 3308) PLWH were referred. 61/84 attended their appointment; 36 selected face-to-face, 25 selected telephone for their first appointment. Patients did not opt for group sessions. DNA rates were similar in both groups (31% and 28% respectively). In attendees median age was 54y, 59% male, 34% Black African origin. Eighty-five per cent of patients were diagnosed before 2010. 95.1% had undetectable viral load and 82% had CD4 count ≥ 400 cells/mm³ at most recent consultation. 82% of patients were on ≥ 1 NRTI and 36% were on a PI. Major reason for referral (40/61) was weight management; other reasons included type II diabetes management (7/61), irritable bowel syndrome (IBS) (8/61) and poor appetite (5/61). 15% of patients had an HbA1c of ≥ 48 mmol/L and 11% of patients were pre-diabetic (HbA1c 42–48 mmol/L), 50% had TChol >5.0 mmol/L, 11% had TChol:HDL ratio >5 and 38% had a LDL level >3 mmol/L. Of the patients with available BMI, 32% (13/41) were classed as overweight and 56% (23/41) were classed as obese. 18% of attendees were ≥ 55 y female and post-menopause could have been a contributing factor for weight gain. 28% of telephone and 31% of face-to-face consultations were scheduled for at least one follow up.

Conclusion: PLWH are at risk of complex metabolic conditions, which can be difficult to manage. A dietician was able to provide expert and personalised advice to our patients and helped to empower them to take care of their own health. Patients engaged with both telephone and face-to-face consultations. Due to the short-term funding available in addition to the COVID-19 pandemic, longer term impact could not be evaluated.

P093 | Screening for latent tuberculosis infection (LTBI) in adults infected with HIV: evaluation of local performance in a tertiary HIV centre

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Background: Progression from LTBI to active TB is more likely in people with HIV and is associated with high mortality. BHIVA guidelines (2018) recommend testing for LTBI using interferon-gamma release assay in adults from countries with high and medium TB incidence regardless of CD4+ cell count and receipt of antiretroviral therapy. Testing HIV-positive individuals from low-incidence countries is advised if there are additional TB risk factors. We introduced a local pathway in August 2018, based on the 2018 BHIVA

guidance, for screening for LTBI in newly diagnosed HIV-infected adults.

Method: All adults newly diagnosed or transferring care to our centre between 1 September 2018 and 1 September 2020 were included. Data was collected retrospectively from electronic hospital records. Compliance with our pathway was evaluated.

Results: 92 adults were newly diagnosed. 71% (65/92) were managed appropriately according to the pathway. 27% (25/92) were inappropriately not tested and 2% (2/92) were inappropriately tested. Of the 27% who were inappropriately not tested, 18/25 patients had a CD4+ cell count < 200 cells/mm³, 11/25 were from a high/medium incidence country, 2/25 had diabetes and 1/25 was an intravenous drug user. 156 patients transferred their care to our centre. 26/156 (16.7%) had quantiferon testing following transfer.

2/27 appropriately tested newly diagnosed patients tested positive. 3/26 transferred patients tested positive. All patients referred to TB clinic were seen within 7 weeks of the test and successfully completed chemoprophylaxis. 2/27 appropriately tested newly diagnosed patients tested indeterminate but received no further testing.

Conclusion: Compliance with the HIV clinic TB screening pathway was 71%. 27% of newly diagnosed patients were missed. Patients with indeterminate results did not undergo further testing. We aim to improve uptake by training colleagues on the risk factors for TB infection, in particular CD4+ cell count < 200 cells/mm³, and the need for repeat testing if result indeterminate. All patients with positive quantiferon tests, who had not previously been treated for TB infection, were appropriately referred to TB clinic and seen in a timely fashion.

P094 | SARS-CoV-2 antibody seroprevalence among people living with HIV

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Background: London experienced the peak of the COVID-19 pandemic in early April 2020. People living with HIV were excluded from online SARS-CoV-2 antibody testing. Our clinic in central London offered SARS-CoV-2 antibody testing to all HIV positive patients as a part of service improvement in collaboration with infectious diseases department during this pandemic. REACT

antibody study led by Imperial College London and conducted between June to September 2020 estimated higher seroprevalence of SARS-CoV-2 antibody in London at 9.5%. A retrospective review of our large HIV clinic cohort was conducted to estimate the seroprevalence among people living with HIV.

Method: It is a retrospective single-center cohort study. Data of people who underwent SARS-CoV-2 antibody test in our clinic from 1st August 2020 to 16th October 2020 were collected from electronic patient records. Data on demographics, CD4 count, HIV viral load, antiretroviral therapy (ART), comorbidities, and concomitant drugs were collected for those tested positive and described.

Results: A total of 1621 patients underwent the SARS-CoV-2 antibody test.

Among them, 150 (9.25%) were positive for SARS-CoV-2 antibody (Male 95, Female 55; MSM 32). Mean age was 48 years (range: 18 to 92 years). Ethnicity: White 37 (24%), BAME 103 (68%), others 10 (6%). Mean CD4 count was 605 cells/ul (Range 118 to 1537 cell/ul). All were on ART and 149 out of 150 had undetectable HIV viral load (< 200 copies/ml). ART drug exposure are described in table 1. BMI was more than 30 for 46% (69) of this cohort, 8% (12) had Diabetes Mellitus and 6% (9) had cardiovascular disease.

Table 1 Antiretroviral exposure among SARS-CoV-2 antibody positive people

Antiretroviral	Number of people exposed among SARS CoV-2 Ab positive cohort (%)
Tenofovir	96 (64%)
Emtricitabine	96 (64%)
Abacavir	32 (21%)
Lamivudine	46 (30%)
Efavirenz	12 (8%)
Nevirapine	7 (5%)
Rilpivirine	24 (16%)
Darunavir	36 (24%)
Atazanavir	10 (6%)
Raltegravir	24 (16%)
Dolutegravir	40 (26%)
Bictegravir	4 (2%)
Maraviroc	1 (0.006%)

Conclusion: The seroprevalence of SARS-CoV-2 Antibody among our HIV clinic cohort during the study period was

similar to London seroprevalence. ART was not a protective factor for COVID-19 acquisition.

P095 | High rates of comorbidities and polypharmacy in an ageing HIV cohort: findings of a clinical audit

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Background: Effective antiretroviral therapy (ART) has resulted in longer life expectancy for people living with HIV (PLWH). There is an increasing burden of comorbidities, polypharmacy and drug interactions in this ageing cohort. Around 35% of our HIV cohort is aged ≥ 50 years.

We conducted a retrospective audit to evaluate adherence to BHIVA guidelines (2016) in the care of PLWH aged ≥ 50 .

Method: Retrospective review of electronic patient records of 521 PLWH aged ≥ 50 attending for routine HIV-1 care between January-December 2019. Data was collected on demographics, lifestyle factors, virological and metabolic monitoring, medicines management and GP communication. SPSS was used for statistical analysis. Results were compared with our performance from the 2018 BHIVA audit.

Results: 72% (n = 379) were male, 62% (n = 325) were White and 58.5% (n = 305) were heterosexual. Around 65% of this cohort were aged 50–59 years. A positive correlation between age and comorbidity burden was noted. Hypertension was recorded in 24% (n = 125) and obesity in 23.2% (n = 121) of patients, potentially underestimated as n = 109 did not have weight documented. Black patients had twice the prevalence of Type 2 diabetes mellitus (17.7% cf 8%) and hypertension (36.2% cf 17.8%) compared to White patients. 75.6% were on co-prescribed non-ART medication however only 37.6% of those had potential drug interactions documented. The BHIVA target was reached for viral load monitoring (98.3%, n = 512), but targets were not met for: blood pressure:74.1% (n = 386), cardiovascular risk assessment: 66.4% (n = 346) and smoking history:47% (n = 245). Compared to our 2018 data, we noted a statistically significant reduction in monitoring of random glucose/HbA1C and review of alcohol/recreational drug use. Fracture risk was assessed in 56.4% though it was better adhered to in menopausal women. Evidence of

clinic correspondence to GP was seen in 84.5% of consenting patients.

Conclusion: Our audit shows that targets were not met for metabolic monitoring in those ≥ 50 despite site-specific feedback from BHIVA in 2018. This is of concern as we have observed a higher prevalence of obesity compared to national audit (11%). We plan to implement a nurse-led clinic for annual metabolic assessment to achieve the targets and offer lifestyle interventions that are culturally appropriate.

P096 | Mortality and causes of death among HIV patients in a single centre 2017–2020

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Background: Since 2017, ten UK cities have joined the international Fast Track City (FTC) community. By signing up, cities are committed to: ending new HIV infections, ending HIV-related stigma and discrimination, and stopping preventable deaths from HIV-related causes, all by 2030. We audited all deaths in our cohort to discern how many deaths were directly HIV-related and how many were preventable, to determine progress on the third parameter.

Method: Data on all patients who died between 1st January 2017 and 31st December 2020 were entered into the Public Health England/BHIVA National HIV Mortality Review online tool. Information sources included: hospital notes, HIV clinic electronic patient records, archived HIV paper notes, laboratory results database, consultants involved in the care, Cause of Death in HIV (CoDe) forms, GP and hospice records, and coroner reports, where applicable.

Results: A total of 76 deaths among people living with HIV (PLWH) were included: 19, 14, 22, and 21 for the years 2017 to 2020 respectively. One further person who died was excluded from analysis due to awaiting cause of death from an inquest. Seventy (92%) people who died were cisgender male, five (7%) were cisgender female, and one (1%) was transgender female. Five (7%) deaths were considered directly HIV-related (AIDS-defining illnesses) and potentially preventable. Twenty-four (32%) deaths were

considered not directly HIV-related but potentially preventable; 20 of these were due to lifestyle risk factors, namely smoking (8), alcohol excess/substance misuse (12), which likely directly contributed to the cause of death. Two people died due to suicide; two died as a result of hepatitis C (HCV) infection and may have benefited from earlier diagnosis and treatment.

Conclusion: The vast majority (93%) of PLWH at our centre did not die directly as a result of HIV, indicating that local services were largely successful in detecting cases early and ensuring they remained engaged with HIV clinical services and treatment. However, there were a substantial number of otherwise potentially preventable deaths, particularly from lifestyle factors, which remains a challenging aspect of care

P097 | First-line caspofungin/cotrimoxazole regimen for severe *Pneumocystis pneumonia* in HIV

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Background: *Pneumocystis pneumonia* (PCP) remains associated with high in-hospital mortality rates (~15%) in people living with HIV (PLWH). Caspofungin is an echinocandin that inhibits the synthesis of (1,3)- β -D-glucan (BDG), a cell wall component of *P. jirovecii*. Combination of cotrimoxazole (TMP-SMZ)/caspofungin as salvage therapy for PCP has been shown to be successful in previous reports, supporting the clinical use of caspofungin in severe cases. However, limited data are available on TMP-SMZ and caspofungin combination as first-line regimen for severe HIV-PCP.

Method: We conducted a retrospective review of all PLWH hospitalised with a definite (positive immunofluorescence or PCR-test/ serum BDG) or probable (WHO definition) PCP at Chelsea and Westminster Hospital – London (January 2012–November 2020). All patients were treated with standard TMP-SMZ PCP regimen according to BHIVA guidelines with addition of first line caspofungin for severely hypoxic cases (partial pressure of arterial oxygen <7.5 kPa, room air). Patients clinical characteristics and outcomes (mortality, treatment switch/failure, intensive care admission) were collected. Descriptive statistics were used to summarise the results.

Results: A total of 276 clinical records were screened, 32 cases (5 definite, 27 probable) were included in the analysis. On admission, 21/32 PLWH received TMP-SMX alone and 11/32 (34%) TMP-SMX/caspofungin. The latter continued for a median of 8 days (IQR 7–16). Baseline characteristics and outcomes of TMP-SMX vs TMP-SMX/caspofungin groups are shown in Table 1. Compared to TMP-SMX, the TMP-SMX/caspofungin severely hypoxemic PCP group had significantly lower CD4-T cell count ($P = 0.01$), increased C-reactive protein ($P = 0.03$), higher pulse rate and requirement of non-invasive ventilation (NIV) within 24 hours of admission ($P = 0.02$). Two individuals in the TMP-SMX/caspofungin group died (only one due to PCP-related complications) vs 0 deaths in the TMP-SMX group ($P = 0.11$). Both groups showed similar rates of intensive care admission ($P = 0.15$), requirement for mechanical ventilation and treatment switch due to failure or toxicity ($P = 0.66$).

Conclusion: We observed an overall favourable in-hospital mortality for HIV-PCP of 6.2%, compared to similar reported cohorts receiving TMP-SMX alone. This suggests that TMP-SMX/caspofungin combination may improve disease outcome when administered as first line therapy for severe PCP. Randomised studies are warranted to assess the value of adding caspofungin to the standard regimen for severe PCP.

Table 1. Baseline characteristics and outcomes

	TMP-SMX (n=21)	TMP-SMX/caspofungin (n=11)	P value
Gender, male	19 (90)	11 (100)	0.53
Age, years	47 (31.5-58)	50 (45-58)	0.15
CD4 T-cells count, cells/ul	61 (30.5 – 104)	10 (7-66)	0.01
Pulse rate, beats/min	121 (111-145)	100 (93-114)	0.01
C-reactive protein, mg/dl	60.10 (34.2-76.7)	125 (33-170)	0.03
All-causes hospital mortality	0 (0)	2 (18)	0.11
Length of hospital admission, days	11 (7.5-16)	25 (14-39)	0.006
Intensive care admission	2 (9)	4 (36)	0.15
Mechanical ventilation	1 (5)	2 (18)	0.26
Non-invasive ventilation	5 (24)	8 (73)	0.02
Non-invasive ventilation < 24 hours of hospital admission	3 (14)	6 (54)	0.03
Switch to second-line regimen total	4 (19)	3 (27)	0.66
Treatment failure	1 (5)	1 (9)	>0.99
Toxicity or allergy	3 (14)	2 (18)	>0.99

Data are n (%) or median (IQR)

P098 | ‘I didn’t know what to do or who to call’: a quality improvement project on experience of long COVID for people living with HIV at a large London centre

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Background: People living with HIV (PLHIV) with well-controlled disease (virally suppressed with CD4>350) do not appear to be at risk of worse Covid-19 outcomes than the

general population. However, there is limited knowledge of the longer term sequelae of SARS-CoV-2 infection – ‘Long Covid’ – for PLHIV. Long Covid has been defined as ‘not recovering [for] several weeks or months following the start of symptoms that were suggestive of Covid-19, whether you were tested or not’. This project sought to determine the prevalence of Long Covid in PLHIV with a baseline positive SARS-CoV-2 PCR or antibody test under the care of a large London HIV centre, and to evaluate PLHIV’s ability to access relevant support services.

Method: We included all PLHIV with confirmed baseline SARS-CoV-2 PCR or antibody positive test, between 1st January 2020 to 31st December 2020. We conducted a telephone based cross-sectional survey comprising of four different sub-sections i. socio-demographic characteristics ii. acute Covid illness iii. long Covid and iv. access to services, which utilised a mixture of binary, sliding scale, categorical and qualitative response items. We performed a descriptive exploratory analysis using Stata® version 16.0. This project was registered and granted local approval by the audit and compliance officers.

Results: We conducted in-depth telephone interviews with 15 patients. All patients had a suppressed HIV viral load (<40 copies/mL). Most had been hospitalised with SARS-CoV-2 (n = 9; 60%) and few required intensive care (n = 2; 13%). Average length of hospital stay was 22 days. 87% (n = 13) experienced persistent symptoms three weeks after initial symptom onset – most commonly fatigue (n = 12; 80%), memory problems (n = 7; 47%) and shortness of breath (n = 6; 40%). Most patients said they could not access support (n = 10; 67%). For those who did, there was little reported consistency in the services provided. Qualitative feedback included ‘After Covid life is not the same’ and ‘I need time to repair things’.

Conclusion: In this initial analysis, features of Long Covid were not uncommon for PLHIV with positive baseline SARS-CoV-2 PCR or antibody testing. These patients were offered varying support following acute Covid-19 infection and would benefit from the implementation of formalised multidisciplinary specialist follow-up.

P099 | The impact of the COVID-19 pandemic on HIV care in a large city centre service

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Background: The UK government implemented a nationwide lockdown in March 2020 in response to the SARS-CoV-2 (COVID-19) pandemic. Lockdown necessitated significant changes to the way healthcare services operate. A pragmatic approach to ongoing care of PLWHIV was adopted in order to maintain a safe service, in the face of shielding, social distancing, staff redeployment, and reduced laboratory capacity. We have reviewed the impact on HIV care in our service during the first lockdown.

Method: We identified all patients who had a patient contact with the service between March and June 2020, inclusively. Of the 1589 patient contacts undertaken, the electronic patient records of 358 (28.4%) patients were reviewed.

Results: These 358 patients accounted for 452 contacts. There were 322 (71.2%) telephone consultations and 130 (28.8%) face to face (F2F) appointments. Routine blood monitoring was deferred in 253 (56%) cases.

This table illustrates the outcomes:

Outcome	Number of patients (%)
Stable (<i>maintained virological suppression</i>)	286 (79.9%)
Transfer of care	10 (2.8%)
Lost to follow up	7 (2.0%)
No post-lockdown bloods to date	9 (2.5%)
Death	4 (1.1%)
Detectable VL:	42 (11.2%)
Longstanding issues with adherence	20
Newly/recently started treatment	7
New diagnosis	6
Missed doses/ran out of medication	5
Remain off treatment	2
Longstanding low level viraemia	1
Blip	1

Additionally, of the 34 (9.5%) patients with an eGFR <70 in their first bloods post-lockdown, only one of these was a new deterioration.

Conclusion: The majority of our patients had no variation in their outcome as a result of the changes to our service during the first lockdown. Our team implemented more telephone and video consultations, with good patient satisfaction, as demonstrated in an online survey carried out at the time. Additional specialist nurse support was available to focus on telephone and email support. Three patients had adverse outcomes potentially due to the changes in service. We are aware that the pandemic, and subsequent changes in the service, affects our patients beyond their biochemical markers. Our intention is to seek patient input to evaluate the psychological impact these changes may have had on them.

P100 | Characteristics and outcomes of COVID-19 infections in people living with HIV

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Background: Evidence on the clinical outcomes of people living with HIV (PLWHIV) diagnosed with SARS-CoV-2 (COVID-19) infections is limited. This is a case series to describe our experience of PLWHIV diagnosed with COVID-19 in a HIV service.

Method: We undertook a retrospective data analysis of patients presenting with suspected or confirmed COVID-19 between January 2020 – January 2021. Characteristics including demographics, symptoms, and outcomes were analysed.

Results: In total, 86 patients were included. The majority were male (60/69.8%), and from Black Asian Minority Ethnic (BAME) groups (48/55.8%). Comparatively, 31% of PLWHIV across the service are of BAME ethnicity.

Conclusion: From this group, 5 (5.8%) individuals died with Covid-19. Ethnicity, sex, BMI and age were important risk factors. However, two deaths were in individuals unrelated to COVID-19 as these individuals were in the terminal phases of cryptococcal meningitis and bladder metastatic cancer.

Total number	86
Gender	
Male	60 (69.8%)
Female	26 (30.2%)
Age (median)	49 (range 25–76)
Ethnicity	
White	38 (44.2%)
BAME	48 (55.8%)
CD4 (pre-COVID)	
>350	76 (88.4%)
<350	10 (11.6%)
HIV viral load (pre-COVID)	
<200	82 (95.3%)
>200	4 (4.7%)
Established on ARVs	83 (96.5%)
Comorbidities	
Hypertension	20 (23.3%)
Cardiovascular disease	10 (11.6%)
Diabetes	13 (15.1%)
Chronic respiratory disease	8 (9.3%)
Renal impairment	10 (11.6%)
BMI >30	38 (44.2%)
Diagnosis	
PCR positive	64 (74.4%)
Clinical diagnosis	5 (5.8%)
Suspected COVID	13 (12.8%)
Antibody positive	4 (4.7%)
Hospital admission	35 (40.7%)
Required ICU/HDU	2 (2.3%)
New renal impairment	8 (9.3%)
Outcomes	
Recovered	78 (90.7%)
Long COVID	1 (1.2%)
Death	5 (5.8%)
Remains in-patient	2 (2.3%)

The other three patients had a history of hypertension and two had diabetes.

In our cohort, black ethnicity, male gender, hypertension, raised BMI, cardiovascular disease and pre-existing renal disease were common. As in the general population, black individuals were disproportionately affected. The causes of this are multifactorial and require further exploration. This case series suggests that those with well controlled HIV have similar outcomes to the general population.

P101 | Secondary syphilis associated with immune thrombocytopenic purpura (ITP) in a patient with HIV: a case report

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Background: A 50-year-old male was recalled to the HIV clinic in November 2020 following a detectable HIV viral load (VL) of 9990 copies/ml, having been undetectable for 6 years with reported good adherence. He reported a maculopapular rash on his torso and arms of one-week duration, a bitemporal “splitting” headache present for 6 weeks and recent sexual contact with a person diagnosed with syphilis. His Rapid Plasma Reagin (RPR) level was 1:4096. A diagnosis of secondary syphilis was made. Given the new onset headache and laboratory findings, a cerebrospinal fluid (CSF) examination to rule out a diagnosis of neurosyphilis was organised. His platelet count was found to be unreadably low. A lumbar puncture was deferred due to bleeding risk, and he was treated empirically for neurosyphilis with prednisolone for 3 days and oral doxycycline at 200mg/BD for 28 days.

Method: A thorough thrombocytopenia screen revealed no clear underlying cause. With persistently declining platelet counts, he required two doses of intravenous immunoglobulin in early December 2020.

HIV genotyping did not identify any new mutations. As seen in Table 1, HIV VL remained >50 copies/mL until January 2021; platelet count recovered to normal levels over the next 6 weeks; and serum RPR concentrations dropped more than 4-fold by week 10. Over this time his symptoms improved significantly.

Results:

Table 1 Investigations including previous baseline results.

Date of Investigation	RPR	Platelet	HIV VL	CD4 (%)
Baseline	1:1	140	<20	553 (32.9)
10/11/2020	1:1024	LOW*	9990	
17/11/2020 [#]	1:4096	LOW*	444	212 (23.4)
20/11/2020		24		
2/12/2020		11		
21/12/2020		49	255	288 (26.1)
18/01/2021		75	30	207 (19.8)
28/01/2021	1:512	163		

*Platelets low on manual count. #antibiotic course started (Finished on 18/12/2020).

Conclusion: This case suggests that ITP could be precipitated by secondary syphilis with high RPR titres, and resolve with treatment. Though thrombocytopenia is a known complication of congenital syphilis, as well as other spirochaete infections, it is has not been described in adult acquired

syphilis. Conversely, thrombocytosis is a more typical consequence of syphilis. Transient detectable HIV viraemia can occur during acute systemic illnesses as seen here.

P102 | Factors associated with obesity in women living with HIV aged 45–60 in England: an analysis of the PRIME Study

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Background: Little is known about body changes in women living with HIV during menopause, and their association with racially-minoritised status. We explored factors associated with obesity in women with HIV aged 45–60.

Method: Analysis of cross-sectional data from the PRIME Study, which explores menopause in women with HIV. Women with available linked clinic data were eligible for this analysis (n = 396). Body mass index (BMI) was categorised as <25 (normal/underweight), 25–29.9 (overweight) and >30 (obese) kg/m². Logistic regression was used to explore demographic, social, lifestyle and clinical factors associated with BMI.

Results: Two-thirds of eligible women (396/592) had available BMI data (no differences between those with available and missing BMI). Median age was 49 (interquartile range [IQR] 47–52). Most (83.6%) were born outside the UK; the majority (69.4%) were Black African (BA).

The median (IQR) BMI was 28.6 (24.6–32.6) kg/m²; 110 (27.8%), 127 (32.1%) and 159 (40.1%) being normal/underweight, overweight and obese, respectively. Median [IQR] BMI did not differ by menopausal status (premenopausal: 28.3 [24.9–32.3], perimenopausal: 28.2 [24.6–33.0]), postmenopausal: 29.1 [24.4–32.0], *P* = 0.90).

In univariable analysis, being born outside of the UK was associated with BMI>30 (odds ratio 1.94 (95% confidence interval 1.07–3.53)). Compared to BA women, women of other Black ethnicities were more likely to be obese (2.37 (1.02–5.50)); White British women were less likely to be obese (0.34 (0.17–0.68)). Smokers were also less likely to be obese (0.37 (0.16–0.87)); each additional medical condition (of 6 conditions asked about including hypertension and diabetes) was associated with a 39% increase in the odds of obesity (1.39 (1.03–1.88)). We found no association between obesity and markers of socioeconomic status.

On multivariable analysis, only ethnicity remained associated with obesity (compared to BA: White British: 0.34 (0.17–0.68), Other Black: 2.50 (1.07–5.82)).

Conclusion: Nearly two-fifths of this sample of midlife women with HIV had BMI>30 (comparable to the prevalence in midlife women in the general population), with women of Black African and other Black ethnicities more likely to be obese. We found no association with menopausal status. The combination of obesity and HIV may place women at increased risk of co-morbidities. Tailored and culturally appropriate interventions are required.

P103 | A review of type 2 diabetes and traditional risk factors in a large HIV+ cohort

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Background: As antiretroviral therapy (ART) has become more effective, life expectancy of HIV+ patients has increased to normal levels. As a result, there is an increased risk of developing other chronic illnesses associated with age, including type 2 diabetes (T2DM). It is thought that some older antiretroviral medications and protease inhibitors may increase the risk of developing insulin resistance and diabetes. The aim of this study was to measure the prevalence of diabetes within a large HIV+ cohort and describe potential HIV and non-HIV related risk factors for developing diabetes and factors that might predict a poor outcome.

Method: A case note review of the 2390-person Brighton HIV+ cohort was conducted and people with concurrent diabetes were identified. Data on demographics, HIV duration, antiretroviral exposure, diabetic risk factors, and comorbidities were then collected from electronic records.

Results: 81 patients within the HIV+ cohort were identified to have diabetes, 77 had T2DM (3.2%) and 4 had T1DM, so were excluded. 63 were male (81.8%) and the median age was 59.0 (Interquartile range 54–67).

The median time between HIV and DM diagnosis was 16.3 years (IQR 12.4–24.0). The median duration antiretroviral therapy was 16.3 years, with a median of 14.5 years from antiretroviral start date until diabetes diagnosis (IQR 9.8–21.9). 50 (64.9%) had been exposed to protease inhibitors. 17 (22.1%) had a nadir CD4 <200.

In terms of risk factors for developing diabetes, 30/74 (40.5%) were overweight (BMI 25–29.9), 34/74 (45.9%) were obese (BMI >30) and 22 (28.6%) were from black or minority ethnic groups. Factors commonly associated with diabetic complications included 27 (35.1%) had hyperlipidaemia, 33 (42.9%) had hypertension, and 20 (26.0%) had other cardiovascular comorbidity.

Conclusion: This study shows a prevalence of 3.2% of T2DM within a large HIV+ cohort, not dissimilar to the

prevalence in the adult population of the UK. Traditional risk factors were common, and it appears those with a long duration of HIV infection and long exposure to ARV therapy, particularly protease inhibitors may be more at risk. Factors associated with a poor prognosis were frequent, suggesting more aggressive management may be required in HIV+ patients with T2DM to avoid complications. Further research into the outcomes of patients with T2DM and HIV is needed.

P104 | Obesity is highly prevalent in people of African ancestry living with HIV in the UK

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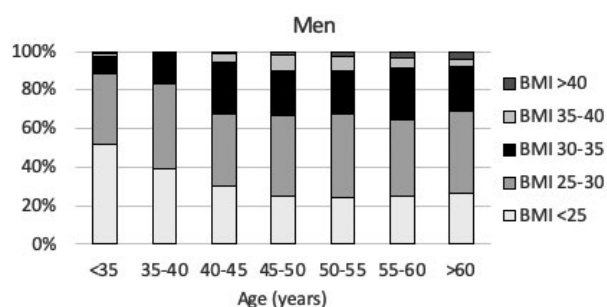
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Background: Obesity is a global public health emergency, and people of African ancestry are disproportionately affected. Data on obesity, and associated health issues in African populations with HIV are relatively sparse. We determined the prevalence of, and factors associated with, obesity in the GEN-AFRICA cohort.

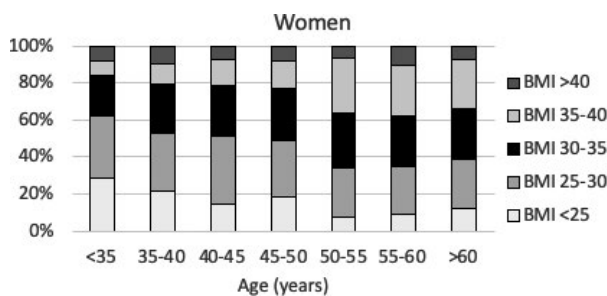
Method: Participants were recruited from HIV clinics across England and were eligible if they self-identified as black, aged ≥ 18 years and willing to provide consent. Demographic and clinical data including a diagnosis of diabetes mellitus (DM) and hypertension (HPT) were obtained. Analyses were restricted to those with both parents born in the same African region (East/South/Central/West) and excluded participants with end-stage kidney disease. Multivariable logistic regression was used to analyze factors ($P < 0.1$ in univariable analysis) associated with obesity (BMI >30 kg/m²).

Results: A total of 2,381 individuals (mean age 48.0 [standard deviation 9.9] years, 63% female, median CD4 count 556

cell/mm³, 99% on ART, and 93.4% with HIV RNA <200 c/mL) were included. The overall prevalence of obesity was 44% (men 30% vs. women 52%) and increased with age (Figures 1&2). In univariable analysis, obesity was associated with demographic factors (age, gender, region of ancestry), HIV-associated factors (risk for HIV acquisition, CD4 count, HIV RNA), and DM and HPT. In multivariable analysis, age >50 years (aOR 1.25 [1.03, 1.52], female gender (2.58 [2.13, 3.13]), East African ancestry (0.68 [0.54, 0.86]), HIV acquisition through vertical transmission (0.49 [0.30, 0.81]) or MSM (0.36 [0.13, 0.97]), CD4 cell count (1.03 [1.00, 1.04] per 50 cell increment), HPT (1.63 [1.33, 2.00]) and DM (1.36 [1.00, 1.85]) remained associated with obesity.



1 Prevalence of obesity increases with age (men)



2 Prevalence of obesity increases with age (women)

Conclusion: We report a high prevalence of obesity in African people with HIV, with older women particularly affected. Participants of East African ancestry were less likely to be obese. Obesity management should be prioritised as part of medical care to people of African ancestry with HIV.

P105 | A case of widespread pulmonary and osseous metastases secondary to the 'great imitator'

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Background: A 44-year-old sexually active, Colombian gay man, diagnosed with HIV in 2004, nadir CD4 unknown with no previous syphilis diagnosis or treatment before arriving in the UK in 2014. CD4 is 296 (25%), with a longstanding undetectable HIV viral load on combined antiretroviral therapy. He was treated for late latent syphilis in 2014 with intramuscular benzathine penicillin G (2.4MU x 3 over two weeks). His pre-treatment RPR was 1:16 and became negative, repeatedly, on six-monthly follow-ups. He was referred to the Cancer of Unknown Primary (CUP) Team with bilateral shoulder and chest pain, malaise and a suspicion of cancer.

Method

- Bloodwork demonstrated anaemia, raised CRP, hypoalbuminemia, and raised liver transaminases.
- X-rays showed lytic clavicular and acromion lesions, a sternal fracture, and a pulmonary nodule.
- Thorax/abdomen/pelvis CT and MRI demonstrated infiltrative lesions 'consistent with widespread pulmonary and osseous metastases' affecting acromion processes, clavicles, ribs, lungs with axillary lymph nodes, and distal rectal thickening.
- Extensive investigation by the CUP team excluded malignancy.
- The RPR titre rose from negative (February 2020) to 1:128 (October 2020), following investigation by the CUP Team.
- His GP also noted a HSV negative genital ulcer.

Results: No malignancy was found on three biopsies. Lung biopsy showed inflammation with fibrous granulation tissue and necrosis consistent with gummatous syphilis or *Mycobacterium tuberculosis* infection; the sample was *Treponema pallidum* (TP) PCR positive and *M.tuberculosis* PCR results are awaited, although a Quantiferon test was negative. Acromion process biopsy showed patchy inflammation suggesting periostitis, but negative for spirochaetes and TP PCR. Rectal mucosa biopsy showed increased chronic inflammatory cells. There was no clinical correlation regarding proctitis and TP PCR was negative.

Although syphilis serology was consistent with recent reinfection, we treated with a 3-week course of benzathine penicillin G to cover tertiary syphilis. There was clinical improvement following treatment.

Conclusion: This is most likely a florid presentation of secondary syphilis mimicking malignancy, with extensive imaging and biopsies demonstrating widespread tissue involvement during secondary syphilis. Follow-up imaging is planned to assess resolution of extensive changes post-treatment. This case illustrates the potential diagnostic value of syphilis PCR on tissue samples.

P106 | A case of delayed hepatotoxicity in a patient taking Triumeq

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Background: A 37-year-old man was diagnosed with HIV-1 in November 2018, following a negative test in July 2018. Baseline HIV viral load was 56882 cps/ml and CD4 610 cells/mm³ (32%). HLA B5701 was negative and genotype showed wild-type virus. Baseline ALT was 54 IU/L but this was felt to be related to recent seroconversion. He was commenced on abacavir/lamivudine/dolutegravir (Triumeq) and achieved full viral suppression after 4 weeks.

Method: Over the course of 2019, his ALT ranged from 40–150 IU/L with associated occasional rises in AST to around 80 IU/L; bilirubin, ALP and GGT remained within normal limits. He reported no other prescribed or over the counter medication including gym supplements, steroid use or recreational drugs and alcohol consumption was <7 units/week. Extensive investigation for causes of transaminitis were all within normal ranges/negative and hepatic ultrasound was normal. We referred him to hepatology and continued monthly liver tests, pending review. His transaminitis worsened and by Nov 2020 ALT 501 IU/L/AST 200 IU/L and an urgent liver biopsy was arranged. By

Dec 2020 ALT 997 IU/L, AST 316 IU/L and we decided to stop his Triumeq as there was no other explanation for his liver inflammation.

Results: The patient later disclosed the use of anabolic steroids during 2020 due to Covid-19 gym closures but he had stopped these in November. His transaminases improved immediately upon cessation of Triumeq and within 14 days ALT was 354 and AST 130.

Conclusion: Liver biopsy histopathology showed changes in keeping with drug-induced liver injury (DILI) that was not consistent with typical patterns seen with anabolic steroid use. Given other case reports of INSTI-associated DILI with a possible class effect, as well as omeprazole use, we recommenced ART with TDF/lamivudine/doravirine. The patient continues to use anabolic steroids. ALT/AST continue to fall and the patient remains in follow-up.

We report a case of probable delayed hepatotoxicity after 2 years in a patient taking Triumeq. Late ART-associated DILI should be considered in the context of worsening transaminitis.

P107 | Effect of COVID-19 pandemic on HIV diagnoses in Scotland’s largest sexual health service

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Background: COVID-19 has resulted in significant disruptions throughout healthcare services, including restrictions on the screening of sexually transmitted infections (STIs). The aim of this review was to determine any changes in HIV diagnoses associated with such restrictions in Scotland’s largest sexual health service.

Method: This was a retrospective case-note review of all first-time HIV diagnoses between 16th March and 28th October 2019, to the same dates in 2020. Electronic patient records were reviewed to identify demographics, indications for testing and acquisition risk factors.

Results:

Table 1

	2019 n(%)	2020 n(%)
Total HIV Tests	13,119	4,276
Total First-time HIV Positive Tests	15(0.11)	6(0.14)

The total number of HIV diagnoses was reduced by 60% from 2019 to 2020, whilst the positivity rate of screening tests was only slightly increased (Table 1). Lower rates of diagnoses were seen in certain demographic groups (males aged ≥45 years, males aged <25 years and heterosexual males) and was also seen among those presenting for asymptomatic

screening, those with symptoms of seroconversion and first-time testers of HIV. Lower rates were also seen in the most socially deprived quintile. Higher rates were observed in those with concurrent STIs, those presenting as contact of an STI and those reporting a history of transactional sex compared to 2019.

Conclusion: STI testing restrictions in response to the COVID-19 pandemic have been associated with a reduction in HIV diagnoses in our service. New barriers to HIV screening resulting from COVID-19 identified include reduced availability of testing opportunities and sites, patients’ fear of COVID-19 leading to less interaction with health services and misinterpretation of HIV symptoms for COVID-19 symptoms. Reduced HIV diagnoses now may be associated with a future rise in late diagnoses. It is crucial to continue to raise awareness that early diagnosis of HIV is associated with improved health outcomes, that testing and effective HIV care is available despite the COVID-19 pandemic, and that HIV infection can mimic other diseases including COVID-19. Further work is also needed to ensure any future or on-going restrictions to HIV testing do not disproportionately affect those already more vulnerable to delayed HIV diagnoses and its sequelae.

P108 | HIV care delivery in newly attending patients: influence of age

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Background: Significant advances in the understanding and care of HIV infection have resulted in its progression from a fatal disease to a complex chronic condition with a normal life expectancy. Thus, the HIV population is ageing.

Method: A retrospective analysis of all patients newly attending our HIV clinic in 2018 was performed, looking at differences in defined care metrics for patients >45 years old, and patients <45 years old. Data was collected from patients Electronic Patient Record.

Results: Two hundred and fifty three new patients attended the HIV Clinic in 2018; 50 were >45 years old (median age 52, 86% male) and 203 were <45 years (median age 32, 88% male). Modes of HIV acquisition in the >45 group were: 61% MSM, 33% Heterosexual, 6% IDU. HIV acquisition in <45 group; 81.5% MSM, 17% Heterosexual, 0.5% IDU. Geographical origin in >45 group was 31% Irish, 26.5% Sub-Saharan African (SSA), 22.5% European, 6% South American. In the <45 group, 18.5% of patients were Irish, 41% South American, 18% European, 12% SSA. There were no significant differences in CD4 count on presentation, percentage patients with a detectable viral load on presentation

(43% both groups), or viral suppression at >6 months (96% vs 97.5%). Fewer patients aged > 45 had documented influenza vaccination (55% vs 82.5%, $P = <0.0001$) and pneumococcal vaccination (44% vs. 69%, $P = 0.011$). Patients >45years were more likely to have a chest radiograph (65% vs 49% $P = 0.04$). The >45years group had less; screening for chlamydia and gonorrhoea (58% vs 75% $P = 0.0258$, no difference in these STI rates), syphilis antibody testing (94% vs 99% $P = 0.0248$) with no difference in antibody positivity and were less likely to be asked about drug use history (57% vs 80.5% $P = 0.006$) and high risk sexual behaviour (75% vs 90% $P = 0.006$).

Conclusion: In addition to demographic differences, we describe differences in care metrics provided to older people living with HIV, particularly regarding social history documentation and STI screening. Vaccination discrepancies may be explained by older patients more likely to have access to a GP and receiving vaccinations at primary care centres. Introduction of a vaccine passport would support monitoring of preventative health interventions.

P109 | HIV-1 transmitted drug resistance and non-B subtype prevalence from a clinic-based population in Brighton, UK

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Background: Using the WHO TDR list, we aimed to determine from our clinic database; the prevalence of TDR, non-B subtype and associated features in our large tertiary HIV department (~2500 patients) from 2014–2020.

Method: Using the WHO TDR list, we aimed to determine from our clinic database; the prevalence of TDR, non-B subtype and associated features in our large tertiary HIV department (~2500 patients) from 2014–2020.

Results: Of the 218 new diagnoses, 217 had a resistance test attempted (1 stored due to COVID-19). 212/217 had an available genotype (5 failed to amplify). 191/212(90%) were MSM, 12/212(6%) cis-female, 80/212(38%) non-UK born and the median age was 36 years (IQR = 29–46). The overall prevalence of TDR was 17/212(8%;95%CI = 5.0–12.4), seven (3%) had a NRTI mutation, six (3%) had at least one nNRTI mutation and 4(2%) had a PI mutation. There were no dual/triple class/INI mutations. There was no significant change in the prevalence of TDR over the study period. The overall prevalence of non-B subtype was 53/212(25%;95%CI = 19.6–31.2), and was not more frequently seen in non-UK born individuals (OR = 1.24;CI = 0.66–2.33, $P = 0.51$). Patients with TDR were older [45.v.36 years, $P = 0.006$] and have

non-B subtype (OR = 2.96;CI = 1.08–8.13, $P = 0.03$). Although overall rates of bacterial STIs was high (34%), having a bacterial STI was not associated with TDR(OR = 1.77; 95%CI = 0.66–4.82, $P = 0.26$).

Conclusion: TDR is associated with age and non-B subtype in our population. HIV TDR is not decreasing locally and remains a small but significant concern despite effective HIV prevention strategies, which may not reach hidden populations affected by HIV. Continued efforts to reduce HIV transmission must target hidden populations and we must maintain adequate surveillance of TDR.

P110 | The pandemic, lockdown, and their impact on admissions for patients with HIV

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Background: At the start of the UK national lockdown in March 2020, many of the most vulnerable patients with HIV were encouraged to shield, and HIV outpatient services were forced to remodel. We aimed to look at: first, how emergency admissions for patients with HIV had changed in 2020 in comparison with previous years and during/after lockdown; second, to examine whether any fall in admissions related to vulnerability factors (new diagnoses, CD4<350, other HIV-related presentations). Finally, to see if the spectrum of presentations had changed.

Method: Retrospective analysis of databases covering HIV admissions for two hospital sites in our urban trust was performed for matched time period (March – August) for 2017–2020. Elective and maternity admissions were excluded, as well as patients who did not have a recorded CD4 count either during the relevant admission or in the 18 months prior.

Results: Admissions fell for the period of March to August 2020 compared with previous years (see table). There were 7 covid admissions. A spike in admissions was seen in June, but admissions fell again in July and August. Patients with low CD4 counts (<350) accounted for a similar proportion of total admissions in 2020 (47.8%) compared with previous years (47.0%). Although admissions directly related to HIV fell slightly in 2020 (11, compared with an average of 16), they came to represent a slightly higher proportion of admissions (16.4%) compared with previous years (average 13.8%). This was one of only two admission categories which proportionately increased in 2020.

Table 1. HIV inpatient admissions from March-August for years 2017–2020

	2017	2018	2019	2020
March	28	14	21	14
April	14	20	14	7
May	33	12	15	7
June	22	19	18	18
July	17	19	21	11
August	19	18	23	10
Total	133	102	112	67

Conclusion: The fall in admissions during lockdown was to be expected. However, although numbers rebounded in June, this did not continue in July and August. There are numerous potential explanations for this. The reduction in emergency admissions for patients with a low CD4 count is of particular concern; the impact of this on morbidity or mortality remains to be seen.

P111 | Monitoring healthcare workers living with HIV: a review of the UK advisory panel for healthcare workers living with bloodborne viruses occupational health register (UKAP-OHR)

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Background: From 1993 Healthcare workers (HCWs) living with HIV in the UK could not perform exposure prone procedures (EPPs). These restrictions remained in place until 2014 when the UK advisory panel for HCWs living with Bloodborne Viruses (UKAP) removed these restrictions for HCWs who were either on effective treatment and have a suppressed viral load (<200 copies/mL) or were an elite controller. HCWs who meet these criteria are required to be registered on the UKAP Occupational Health Register (UKAP-OHR) and undergo viral load monitoring in order to perform EPPs. We present information on all HCWs living with HIV who have ever been registered on UKAP-OHR.

Method: Data held on the UKAP-OHR database and enquiries received between January 2014 and August 2020 were reviewed. This included; HCWs clearance status, viral load information and circumstances for leaving the register.

Results: Since January 2014, 158 HCWs living with HIV have registered with UKAP-OHR and 58% (92/158) are still registered. Encouragingly, most HCWs' viral load has remained suppressed since registration; only four people have ever been temporarily restricted from EPPs due to fluctuations in their viral load. UKAP have never needed to independently remove a HCW from the register, e.g. due to

negligence or other safety concerns. Re-registration is common where 22 HCWs have left the register and subsequently re-joined. Reasons for leaving the register is not well reported but when available the most common reason is that the HCW had moved into a non-EPP role. Following risk assessment of potential patient exposures, only three patient notification exercises were required between 2014 and 2020, and no transmissions from HCW to patient were reported.

Conclusion: The vast majority of HCWs living with HIV and registered on UKAP-OHR have consistently had a suppressed viral load and have been monitored effectively in accordance with UKAP guidance. Further work is required to understand the reasons for HCWs leaving the register. As the UK moves towards elimination of HIV transmission and HIV-related stigma, reducing the risk of nosocomial transmission remains crucial and UKAP guidance should continue to be promoted so that HCWs know that a HIV diagnosis does not limit their career prospects.

P112 | Enhancing HIV testing in GP practices and pharmacies in a region of disparate prevalence: an MDT approach

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Background: Locations within the Hampshire and Isle of Wight catchment high prevalence rates for HIV infection and between 34 and 74% of HIV infections are diagnosed 'late' (CD4 <350) across this region between 2017–19.

GP practices and community pharmacies provide clinician-led opportunities for testing based on local HIV rates and/or indicator conditions that may present to them. However, practice varies across the patch and there are dynamic areas of varying HIV prevalence within, which can make the provision of area-specific resources challenging.

Method: Solent NHS regional HIV services set up a task group of selected professionals to devise a strategy to improve GP and pharmacists' understanding and confidence in offering HIV testing with a longer-term view to increasing testing regionally outside a sexual health setting.

2 HIV pharmacists, an HIV consultant physician, a sexual health promotion practitioner and network and communications manager met to consider their experiences of HIV testing among GPs and community pharmacy sector across the diverse region. The following narratives were explored: community dispensing pharmacy experience; local enhanced pharmacist training pathways competencies; outcomes of GP investigations following late HIV diagnosis incidents; recent GP exercises to identify patients requiring COVID shielding letters; and

clients' perspectives and outcomes of past health promotion and HIV testing efforts.

Results: The study MDT produced free GP and pharmacist HIV testing resources (www.letstalkaboutit.nhs.uk/hivinfo) including training packages, bespoke testing options, and pathways into specialist services (to be detailed on poster). The resource was shared with regional CCGs and the Community Pharmacy South Central to be cascaded to GPs and pharmacists in time for HIV testing week 2021 (to be used all year round). Regional HIV specialists agreed to share this document with GPs following late HIV diagnosis look-backs.

Conclusion: The team's in-depth understanding of local communities and variation in practices enabled the production of a tailored resource to develop non-HIV professionals by addressing barriers and build confidence in offering tests. By collating prevalence recommendations, indicator conditions and risk stratification tools, this pack can be used by professionals in low and high HIV prevalence alike.

P113 | Attitudes and barriers to HIV testing in general practice: a survey of GPs in northwest England

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Background: Late HIV diagnoses remain a challenge. Public Health England estimate that 41% HIV cases are diagnosed late with 'missed opportunities' for diagnosis. Many of these 'missed opportunities' occur in primary care.

This study aimed to investigate the attitudes and barriers to HIV testing in primary care, from the point of view of GPs/GP trainees.

Method: An online survey was emailed to all GP trainees and GP trainers across Greater Manchester between October and December 2019. The survey covered knowledge of HIV testing, indicator conditions and barriers to testing.

Results: Interim results from 100 participants were analysed and previously presented. In total, 196 responses were received; full results are presented below.

Attitudes

99.5% of the surveyed GPs agreed that early diagnosis was important in management of HIV. 82% strongly agreed that conducting HIV tests was part of a GP's role. Despite this, 26% GPs had not conducted any HIV tests in the preceding year and 87% had done <5 HIV tests. 94% of GPs felt further training about HIV testing would be useful.

Barriers

The most common barriers identified were:

'Concerns around patient acceptance' (40.8%)

'Not enough time to counsel properly' (40.2%)

'Not something I think of doing' (32.1%)

Knowledge

When presented with scenarios of HIV indicator conditions and where current guidance states a test should be offered, there was no condition where 100% GPs said they would consider testing for HIV. Only 40% GPs were confident about HIV indicator conditions. The majority of GP's (87.6%) were unaware of HIV prevalence in the region in which they work.

Conclusion: GPs are in an excellent position to identify cases early yet despite this rates of HIV testing in primary care are low. Our results have highlighted barriers to testing and gaps in knowledge which need to be addressed to enable GP's to offer HIV tests in line with current NICE guidance.

The results suggest that these barriers to testing for GPs could be addressed relatively easily with further training to increase confidence and improve knowledge. GPs were keen to engage with further education.

P114 | Service review of point-of-care testing (POCT) of HIV and syphilis in pharmacies in a rural setting

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Background: Point of Care Testing (POCT) in pharmacies for HIV and syphilis was launched as a pilot project in Cumbria in November 2016 with an award of £63,300 from the HIV Prevention Fund. The area was recognised as being at high risk for late HIV diagnosis (66.7% of diagnoses). Late diagnosis is associated with higher complications and mortality, and a cost of £27,800 per annum per person in treatment costs. This is compared to a cost of £13,900 per annum per person for early diagnosis (CD4 >500). Evidence demonstrates the majority of new transmissions come from undiagnosed people.

Method: All pharmacies participating record demographic and counselling data on an electronic patient record (Pharmoutcomes). The data for the service since inception was reviewed.

Results: As of 18/01/2021, 15 Pharmacies across Cumbria have performed 369 tests. Three tested positive for syphilis and one for HIV.

The highest uptake was in the 20–24 age range, representing 21% of all tests done.

70% identified as men. 93% were of UK origin.

63.7% identified as heterosexual, 25.2% same sex attracted, and 11.1% bisexual.

87% said that they chose to be tested at the pharmacy due to its easy access.

For 37%, this was their first HIV test.

Every aspect of pre-test counselling was completed in more than 97% of cases, and post-test advice including health promotion in more than 90%.

Chlamydia and gonorrhoea screening packs and condoms were provided at 78% of encounters.

Of those that used the service and gave feedback, the vast majority was positive. 100% rated the service as either excellent or good, and would all recommend it.

Conclusion: The HIV diagnosis was early (CD4 >500) which will reduce the morbidity for the person, reduce and chance of transmission in the community and will save circa £14000 per year compared to a late diagnosis. One diagnosis amongst 369 tests is in line with the national predictions of 2 out of 1000 tests. Overwhelmingly positive feedback and a high standard of appropriate information conveyed to patients suggest that service quality is good, as well as the scheme being economically viable.

P115 | Bloodborne viruses screening (BBVS) for temporarily housed rough sleepers during the COVID-19 pandemic

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Background: At the start of the Coronavirus pandemic the UK Government pledged to house all rough-sleepers in temporary accommodation. This provided healthcare workers with a unique opportunity to access this 'hard-to-find' group, offer blood borne viruses screening (BBVS) and link clients testing positive into individualised treatment.

Method: A collaborative working group (HIV clinicians, HIV prevention specialists, hepatitis C outreach nurses and rough-sleepers health-engagement workers) established comprehensive risk-assessments, PPE supplies and dried blood spot procurement. Two experienced outreach workers worked along-side trusted homeless key-workers to offer BBVS (HIV, hepatitis B&C) in hotels, a hostel and student halls over 13-weeks (Jun-Sep 2020). Clients were offered £5 food-voucher for participating.

Results: 270 clients were housed during this time, 256 (95%) were offered BBVS; 192 (72%) tested. 148 (77%) tested 'mainly due to the incentive'. Of the 192 testers the median age (range) was 40y (18–69). Clients were mainly male 161 (83%); white-British 164 (85%) and heterosexual 179 (93%). 54 (28%) stated previous IVDU; 39 (20%) other drug use and 92 (48%) prison as risk-factors. 70 (36%) had

not previously tested. 31 (16%) were hepatitis C antibody positive; 13 (7%) RNA positive. To date 4 have started treatment; 5 deferred; 3 did not engage with services despite being aware of the diagnosis; 1 left the area. No new HIV diagnoses (two clients re-engaged with care). Most clients considered the service good or excellent, and would recommend (99%). Challenges included lab delays due to competing Covid-19 testing and engaging disenfranchised clients.

Conclusion: This project brought together a multidisciplinary collaboration, drawing on specialist knowledge to meet complex needs. Despite challenges during a pandemic, we obtained a useful snap-shot of BBV rates. Offering an incentive to a cohort sensitised to BBVS was important. New outreach testing opportunities were identified which will be progressed in 2021.

P116 | To test or not to test: exploring why service users of a large e-sexual health service (e-SHS) don't return blood samples for sexually transmitted infection (STI) testing

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Background: E-SHS have expanded access to STI testing. Many involve home-sampling of capillary blood for blood-borne virus screening (BBVS). Our regional e-SHS postal kits routinely include blood sampling components. We explore why our service users do not return their blood sample for testing.

Method: Between 03.11.20–01.12.20 all users ordering a kit were invited to complete an optional e-survey, enquiring about their intention to return a blood sample. We report the survey responses, kit/blood returns and whether a successful BBVS result was obtained. (Failure to obtain a BBVS result is usually because of sample haemolysis or insufficient volume).

Results: The service received 65231 kit orders. 19030 (29.2%) users responded to the survey. 10.7% of users reported no intention of returning a blood sample, citing perceived difficulty in the blood-sampling process as the main reason. Table 1.

Survey respondents were just as likely to return a kit than survey non-respondents: 14501/19030 (76.2%) vs 34205/46201 (74.0%) (OR 1.12 95% CI 1.08–1.17, $P < 0.0001$) but more likely to return a kit inclusive of blood, than survey non-respondents: 12152/14501 (83.8%) vs 22146/34205 (64.7%) (OR 2.82 95% CI 2.68–2.96, $P < 0.0001$).

User's intention to return blood sample	Orders (%)	Blood returns/kit returns (%)	Achieved BBVS result from blood returns (%)	Chlamydia/ Gonorrhoea positive (%)	Syphilis or BBV reactive (%)
Yes	14897 (78.3)	10810/11498 (94.0)	9300 (86.0)	677 (5.6)	436 (4.4)
Maybe	2097 (11)	929/1487 (62.5)	716 (77.1)	88 (5.6)	26 (3.4)
No (any reason):	2036 (10.7)	413/1516 (27.2)	298 (72.2)	119 (7.4)	18 (5.5)
<i>Recently tested</i>	470 (2.5)	86/371 (23.2)	70 (81.4)		
<i>Low perceived risk</i>	452 (2.4)	74/336 (22.0)	61 (82.4)		
<i>Perceived difficulty</i>	865 (4.5)	191/629 (30.4)	124 (64.9)		
<i>Decline/other reason</i>	249 (1.3)	62/180 (34.4)	43 (69.4)		
Total	19030	12152/14501 (83.8)	10314 (84.9)	884 (6.2)	480 (4.3)

Blood returns from survey respondents who intended to return their blood were more likely to obtain a valid BBVS result, than blood returns from those without intention (OR 2.38 95% CI 1.90–2.97, $P < 0.0001$).

Conclusion: 10% of users initially declined BBV testing, yet 27% returned a blood sample. Providing blood-sampling equipment in all postal kits and exploring a user's intention/rationale around testing may encourage users to return a blood sample. Further work is required to encourage uptake of online BBVS and support reluctant users throughout the blood self-sampling process.

P117 | The indirect effects of COVID -19 on the morbidity and mortality of people living with HIV

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Background: Whether morbidity and mortality due to Covid-19 infection are worse in people living with HIV (PLWH) is still unclear as there have been contrasting reports in the literature. However, at the end of the first wave of Covid-19 in the UK, we noticed an increased number of PLWH being admitted to Chelsea and Westminster Hospital with advanced HIV/AIDS.

As observed in the general population, the repercussions of the pandemic on PLWH may well go beyond the direct effects of Covid-19 illness itself.

Method: We undertook a retrospective case note review of all HIV patients admitted to Chelsea and Westminster Hospital, London, UK between July and October 2020 and compared them to those within the same period in 2019.

Results: The absolute number of hospitalisations in the 2020 time period was reduced (48 vs 80), however we observed a significantly higher proportions of admissions due to AIDS defining conditions ($P = 0.023$). Whilst in 2019 26.5% of admissions were due to an AIDS defining illness (48% with an oncological diagnosis, 52% with an opportunistic infection (OI)), in the 2020 period over half of admissions were due to AIDS defining conditions (54%), with OIs and oncological diagnoses accounting for 72% and 28% of cases, respectively. Moreover, among hospitalised patients in the 2020 period, we observed a higher proportion of new HIV diagnoses (16% vs 6%, $P = 0.073$), and patients presenting with lower CD4+ counts (median CD4+ 157cell/mm³ in 2019 versus 63cell/mm³ in 2020, $P = 0.0076$) and higher HIV viral loads (VL) (median VL 115copies/mL in 2019 versus 123000 copies/mL in 2020, $P = 0.23$).

Conclusion: These findings suggest that patients presented to hospital with more advanced HIV disease in the second half of 2020, compared to the same time period in 2019. We believe this variation could be due to difficulty in accessing healthcare and/or reluctance to attend healthcare facilities during the first wave of the COVID-19 pandemic and the resulting lock-down.

Hence, when addressing the consequences of this pandemic, it is important to consider the potential repercussions in accessing HIV testing and HIV diagnosis, and the obstacles to linking into care, ultimately translating into increased morbidity and mortality for PLWH.

P118 | HIV testing uptake maintained in COVID-secure remote self-sampling sexually transmitted infection (STI) screening

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Background: Measures to mitigate corona virus transmission have necessitated delivery of asymptomatic STI screening via remote self-sampling in many regions. In our clinic, asymptomatic STI screening was initially paused during the first national lockdown, and then offered from June 2020 via in-house “DIY-Kits” which provide blood borne virus screening via dried blood spot testing. We sought to compare the uptake of HIV testing in this new patient pathway against pre-Covid care, where patients could choose between remote self-sampling and a same-day face-to-face (F2F) clinic appointment.

Method: New patients who returned a DIY self-sample kit between 01/10/20–31/12/20 were identified from the electronic patient record. Demographics and HIV testing uptake were compared with those of new patients who attended for asymptomatic screening in the same time period in 2019, including both F2F attendees and DIY kits users. Data was stored in excel and descriptive statistics performed in STATAv16.

Results: A smaller number of new patients were seen for asymptomatic screening in the 2020 study period compared with that in 2019 (2020 DIY = 501; 2019 DIY = 247; 2019 F2F = 462, total 2019 = 709). Gender and age were similar in all clinic groups, but a significantly higher proportion of individuals testing in 2020 did not record their sexuality(see table1). Despite this, uptake of HIV testing was maintained with 399/501 DIY screens in 2020 including an HIV test.

users is limited. Despite the change from F2F screening to remote self-sampling for the majority of attendees, HIV testing uptake was maintained, which illustrates the public health utility of this screening strategy in our region.

P119 | HIV testing in cases of community-acquired pneumonia in a large teaching hospital

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Background: HIV is now a treatable medical condition but despite this there are still some people unaware of their diagnosis. Late diagnosis is the most important factor associated with HIV related morbidity and mortality in the UK. The prevalence of late diagnosis in Bradford was 46% in 2018 which was slightly worse than the national average (43%).

The 2020 BHIVA HIV testing guidelines state that all patients diagnosed with an indicator condition (any condition with an undiagnosed HIV seroprevalence rate of >1 per 1000), such as community-acquired pneumonia (CAP), should be tested for HIV, to prevent late diagnoses. Following a significant late diagnosis in our trust we decided to start with an audit to target a common indicator condition.

Method: A retrospective review of admissions to Bradford Royal Infirmary (BRI) in April-June 2019 with the working diagnosis of CAP was performed. Notes were reviewed in order to identify whether these patients were offered HIV testing during their admission. Cases were also investigated as to whether there was confirmation of HIV status, a diagnosis of CAP in the preceding year and any subsequent change in HIV status since the admission.

Table 1 Demographics and HIV testing outcomes of STI screening service attendees.

	DIY Testing 2019 n = 247	F2F Testing 2019 n = 462	DIY Testing 2020 n = 501	Chi2 Test (p value)
Female Gender	107 (43%)	217 (47%)	241 (48%)	0.07
Age < 35 years	223 (90%)	421 (91%)	447 (89%)	0.44
Sexuality unknown	152 (61%)	16 (3%)	360 (71%)	0.00
HIV test declined	57 (23%)	130 (28%)	102 (20%)	0.02

Conclusion: Remote self-sampling has enabled a large cohort of asymptomatic patients to access screening during Covid-19 restrictions, who would not otherwise have been accommodated within F2F appointments . Sexuality was documented infrequently in the 2020 DIY-kit users, thus our understanding of the wider needs of this group of service

Results: 59 cases were identified for the identified time period, 23 of whom had a recurrent CAP. 37.2% (22) were admitted to the Medical admissions unit, 47.4% (28) were sent home from the Emergency Department and 15.2% (9) were admitted to Elderly admissions unit. Only 1.8% of patients with CAP had an offer of a HIV test during their admission.

There was evidence of previous HIV testing in 14.5% of patients. There was no evidence of any subsequent HIV diagnosis in the group.

Conclusion: The results show that we have to make some significant changes to improve our rates of testing for HIV. We have discussed the results at the local clinical governance meeting and have made posters for the admissions and emergency department. We plan to attend both doctor and nursing handovers and do a session on HIV testing at junior doctor teaching. We hope that these measures will improve our level of HIV testing and we will re-audit in 3 months.

P120 | 2020 BHIVA/BASHH/BIA adult HIV testing guidelines: time to revisit the window period discussion

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Background: Since March 2020, our clinic has used remote self-sampling for asymptomatic HIV testing as a means of delivering COVID-secure care whilst symptomatic patients attend face to face. In 2014, BASHH/EAGA guidelines recommended re-screening for HIV at 8 weeks following events deemed high risk of transmission. The updated 2020 guidelines recommend a window period (WP) of 45 days to detect 99% of infections for fourth-generation serological HIV tests. We aimed to audit practice against the 2014 recommendations, implement the 2020 guidelines and re-assess HIV WP discussion outcomes.

Method: Using a plan-do-study-act (PDSA) model, case notes of all patients tested for HIV in a face-to-face appointment between 01/08/20 and 15/08/20 were reviewed (cycle 1, audit standard 2014 guidelines). Data on eligibility for HIV re-screen, WP discussion and follow-up testing were extracted from our electronic patient record. Eligibility for a HIV re-screen at the end of the WP was defined as having a sexual risk within that time or a regular partner for less than the WP duration. An intervention to improve clinician knowledge of HIV testing guidelines was delivered via online group teaching, alongside updates to our website and patient information leaflets. Practice was re-audited against the 2020 guidelines between 31/10/20 and 14/11/20 (cycle 2).

Results: Eligibility for end of WP screening was similar in both PDSA cycles (Table 1). Following the intervention, the proportion of cases where an appropriate WP discussion was documented increased, with a higher percentage having specific follow-up testing.

Table 1 Eligibility for end of WP screening and WP discussion outcomes

	PDSA cycle 1 n = 32 (%)	PDSA cycle 2 n = 63 (%)
Eligible for HIV re-screen	14/32 (44%)	26/63 (41%)
Appropriate WP discussion	5/14 (36%)	13/26 (50%)
Follow-up testing arranged	3/5 (60%)	10/13 (77%)

Conclusion: Empowering patients to consider HIV re-screening at the end of the WP facilitates best use of available resources. Amidst multiple competing demands and evolving clinical practices designed to mitigate COVID-19 risk, finding time to deliver appropriate WP advice is difficult. Whilst there were improved HIV WP discussion outcomes following an intervention, further work is required so that national standards are fully met.

P121 | HIV and the police: reducing HIV-related stigma and discrimination in the police force

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Background: National AIDS Trust (NAT) conducted a project to better understand the barriers to reducing HIV related stigma and discrimination within the police and develop recommendations to overcome them. It is widely recognised that there is a need to improve practice, with discriminatory or stigmatising behaviour unfortunately still commonly reported when interacting with the police as well as a high level of undue concern about risk of HIV transmission in the police. Misinformation around HIV has devastating effects for people living with HIV, contributing to stigma. HIV stigma stops people from accessing HIV testing and treatment, hindering public health efforts, and significantly affecting the wellbeing of people living with HIV.

Method: NAT held roundtable discussions with two police forces, Merseyside and Avon & Somerset. Attendees included local police officers and staff, the Police Federation, National LGBT+ Police Network, UNISON, local HIV organisations, people living with HIV and HIV clinicians. We discussed what had worked in reducing HIV stigma and discrimination, what had not worked and what more could still be done.

Results: Merseyside and Avon & Somerset have worked closely with local HIV support services to reduce HIV related stigma and discrimination in their forces. Successful initiatives include implementing HIV awareness training for all new recruits and creating the role of HIV Champion to

lead HIV initiatives within the force. However, there are still areas where more progress is required, such as implementing regular and force-wide HIV awareness training and issues around data confidentiality.

Conclusion: Our recommendations for all police forces from the roundtables are:

- Involvement of people living with HIV in all initiatives to improve practice is essential.
- Buy in from senior police officers within each force is necessary for initiatives to succeed.
- All police officers and staff should receive HIV awareness training. This should be run by an HIV support service where available.
- Police forces should communicate about HIV as an equalities issue. Internal policies, including Occupational Health guidance, should be reviewed and updated regularly.
- HIV status is confidential medical information and should only ever be recorded securely.

The results of the roundtable will be published with our recommendations in February 2021.

P122 | ‘I have the strength to get through this using my past experiences with HIV’: a mixed-method survey on health and wellbeing among people living with HIV during the COVID-19 pandemic

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Background: We examined the impact of Covid-19 restrictions on psycho-social well-being and access to care among people living with HIV (PLWH) in the UK.

Method: A cross-sectional anonymous online survey was co-designed with PLWH and circulated to patients attending care at three HIV services in Southeast England. Quantitative questions covered key themes identified in the co-production phase: sociodemographic characteristics; changes in physical and mental health; accessibility of essential health services and information; and socio-economic concerns. In addition to quantitative questions, free-text comment boxes asked participants to share anything else about how the Covid-19 pandemic had affected their lives. Descriptive quantitative

analysis was run in Stata version 15.0. Qualitative data were examined using a framework analysis approach.

Results: A total of n = 653 PLWH completed the survey, of which n = 385 offered free-text qualitative responses. In terms of mental health, 501 (77.6%) respondents reported feeling more anxious; 464 (71.8%) reported feeling more depressed than usual; and 128 (19.8%) reported having suicidal thoughts since the start of the pandemic. Respondents worried about running out of HIV medicine (n = 264, 40.7%); accessing HIV services (n = 246, 38.0%) as well as other health services (n = 408, 63.0%). Access to health services was disrupted during the Covid pandemic: 208 (32.2%) respondents encountered difficulties while trying to access services, and 219 (33.9%) respondents avoided accessing services. Approximately half of respondents (n = 324, 50.4%) felt that not enough support had been available for PLWH during the pandemic. Widespread resilience was also noted: 537 (83.3%) of respondents felt that living with HIV had equipped them with the strength to adapt to the Covid-19 pandemic.

Qualitative data revealed a diversity of experiences. In some cases, the current pandemic triggered distressing memories for respondents who had lived through the AIDS pandemic of the 1980's and 1990's. Yet, despite – or perhaps because of experiences with HIV – many PLWH reported having resilience to cope with the pandemic, both at the individual level (emotional strength) and community level (peer support).

Conclusion: Findings point to expanding needs for health and psychosocial support services among PLWH during the Covid-19 pandemic. However, PLWH reported difficulties accessing essential health services and information during this pandemic. Multisectoral collaborations and investments are needed to adequately support PLWH, and to build resilience to future shocks within HIV services.

P123 | Outcomes in young people with HIV: a retrospective single-centre study

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Background: This study aims to describe outcomes in a cohort of young people with horizontally (hHIV) and perinatally (pHIV) acquired HIV at a UK centre.

Method: A retrospective case note review of patients diagnosed with HIV under 19 over a 30-year period (1989–2019) was conducted.

Results: A total of 102 patients were identified. 21 pHIV; 9 male, 12 female, median age at last appointment 23.5 years, majority heterosexual (90.4%) and born in Africa (57.1%). 10 diagnosed pre-1999 and 11 post-2000. Age at diagnosis 0–1

years (7), 2–5 years (2), 6–10 years (5), 11+ years (7). 81 hHIV; 59 male, 22 female, median age at last appointment 27 years. Majority homosexual (58%) and UK born (58%). 43 diagnosed pre-1999 and 38 post-2000. Age at diagnosis 6–10 years (3), 14–15 years (4), 16–17 years (30), 18 years (44).

The following outcomes were observed in hHIV and pHIV patients respectively: mental health conditions (56.7% vs 42.8%), smoking (48% vs 33%), alcohol excess (38.2% vs 19%) attendance issues (34.1% vs 30.2%) and medication non-adherence (44.4% vs 42.8%): Rates of STIs (49% vs 19%) drug use (39.5% vs 9.5%) and housing instability (33% vs 9.5%) appeared higher in the hHIV group. 82.3% of patients changed HIV healthcare provider. Between 2018–19, 93% (89.5% hHIV and 100% pHIV) had an undetectable viral load.

Conclusion: HIV treatment outcomes in young people are encouraging, however this is a diverse vulnerable, transient group, in whom mental health and sexual health, housing and addiction issues must be tackled to improve long-term outcomes.

P124 | Quality of life in people living with HIV-associated neurocognitive disorder: a scoping review

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Background: Quality of life (QoL) is recognized as an essential end point in the disease management of chronic conditions such as HIV, with calls to include good QoL as a ‘fourth 90’ in the 90-90-90 testing and treatment targets introduced by World Health Organization in 2016. Cognitive impairments impact a broad spectrum of experiences and are a common issue affecting people living with HIV (PLWH). Despite this, few studies have examined this QoL in PLWH who also have a cognitive disorder. This review aimed to synthesize and describe what is known about QoL in those living with HIV-associated neurocognitive disorders (HAND) in the post-combination antiretroviral treatment (cART) era.

Method: A scoping review of peer-reviewed literature was conducted to identify how QoL has been investigated and measured in PLWH with HAND, and how PLWH with HAND report and describe their QoL. Following PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) methodology for scoping reviews, systematic searches of PsychInfo, Medline, Scopus, and Web of Science were conducted along with hand-searching reference lists from relevant studies found. Included studies were those published in English after 1st January 2003 which included PLWH with cognitive impairment not due to other pre-existing conditions.

Results: 15 of 1005 articles met criteria for inclusion; all were published between 2003 and 2020. Two studies measured QoL as a primary aim, with others including QoL assessment as part of a broader battery of outcomes. The MOS-HIV and SF-36 were the most commonly used measures of overall QoL, with findings generally suggestive of poorer overall QoL in PLWH with HAND, compared to PLWH without cognitive impairment. Studies which examined dimensions of QoL focused exclusively on functionality and physical health, level of independence, and psychological QoL domains.

Conclusion: There is a considerable dearth of research examining QoL in PLWH with HAND. The initiatives which advocate for healthy ageing and improved QoL in PLWH must be extended to include and understand the experiences those also living with cognitive impairment. Research is needed to understand the broad experiential impacts of living with these two complex, chronic conditions, to ensure interventions are meaningful to patients and potential benefits are not missed.

P125 | Understanding quality of life in people living with HIV-associated neurocognitive disorder: a qualitative study

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Background: Despite effective treatment clinically significant cognitive impairment (CI) is reported in between 15–20% of people living with HIV (PLWH). Quality of life (QoL) is considered a key outcome in HIV clinical care and intervention efficacy, along with a predictor and mediator of successful ageing. QoL in PLWH is reported at rates lower than the general population, but understanding QoL in the context of living with an HIV-associated cognitive disorder (HAND) has not been examined.

Method: In depth, semi-structured qualitative interviews with: PLWH (maximum variation purposively sampled by age, gender, ethnicity, and sexuality) with objective cognitive impairment considered at least in part due to HIV disease (diagnosed via multidisciplinary working by an HIV consultant, dementia specialist, and neuropsychological examinations). Severity of CI was defined based on Montreal Cognitive Assessment score. Interviews were analysed using techniques from grounded theory, to generate themes pertaining to factors impacting on QoL.

Results: 25 people were recruited from 2 UK HIV services: median age 56 years (range 38–73); 44% white British, 32% Black

African; 56% men that have sex with men, 40% heterosexual; 44% mild CI, 40% moderate CI, 16% severe CI. Participants described factors impacting on QoL within six broad inter-related themes: function (cognitive abilities, activities of daily living, recreational abilities), social connectedness (social withdrawal and avoidance, social support), physical and mental health and wellbeing (global health physical health, neuropsychiatric comorbidities, coping, happiness, worry, compensatory/remediation strategies), HIV experiences (acceptance, stigma, help-seeking), self concept (identity, confidence, self-esteem), and external environment (cultural and community attitudes, support and services, religious beliefs/community).

Conclusion: PLWH with HAND reported the significant impact of living with both HIV and CI had on their QoL. While they described experiences shared by those living with either HIV or CI alone, the combination of living with these two chronic conditions presents additional challenges not otherwise described in QoL models. This study provides valuable insight and points to the importance of considering additional factors when examining QoL in this population.

P126 | Preference-based measure of health from participants in Phase 3 studies of long-acting cabotegravir and rilpivirine for the treatment of HIV

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Background: Antiretroviral Therapy as Long-Acting Suppression (ATLAS) and First Long-Acting Injectable Regimen (FLAIR) phase 3 studies demonstrated non-inferiority of cabotegravir long-acting and rilpivirine long-acting (CAB LA + RPV LA) dosed monthly versus daily oral antiretroviral therapy (ART) in virologically suppressed people living with HIV (PLHIV). PLHIV have ranked 'less frequent dosing' as an important unmet treatment need because of stigma, fear of disclosure, adherence anxiety or unwanted daily reminders of HIV. Such benefits can be difficult to capture using generic health-related quality-of-life (HRQoL) instruments. The objective of this analysis was to compare health state utility values between treatment groups, traditionally used in cost-utility analyses to derive quality-adjusted life-years (QALYs).

Method: The 12-Item Short Form Survey (SF-12), a generic HRQoL instrument, was administered to ATLAS and FLAIR participants. 6-Dimensional Short Form (SF-6D) utility scores were derived from the SF-12. Adjusted mean difference in SF-6D scores at Weeks 24 and 48 between treatment groups (CAB LA + RPV LA vs daily oral ART) was calculated using

an analysis of covariance model including the following pre-specified covariates: gender, age, race, CD4+ counts.

Results: At baseline, no difference between treatment groups was observed in SF-6D scores ($P = 0.533$). Statistically significant differences in SF-6D scores favoring CAB LA + RPV LA were observed at Weeks 24 and 48, showing a utility advantage of 0.02 points for CAB LA + RPV LA (Table).

Conclusion: Significant improvement in SF-6D utility scores for CAB LA + RPV LA versus daily oral ART is consistent

Table. Treatment Difference in SF-6D Utility Scores—Pooled ATLAS/FLAIR Intention-to-Treat-Exposed Population

Week	Treatment	Adjusted mean (95% confidence interval)	Adjusted difference	P value
24	CAB + RPV (n=535)	0.84 (0.82-0.85)	0.02 (0.00-0.04)	0.024
	Current ART (n=546)	0.82 (0.81-0.83)		
48	CAB + RPV (n=500)	0.84 (0.83-0.85)	0.02 (0.00-0.03)	0.030
	Current ART (n=548)	0.82 (0.81-0.83)		

ent with the high preference for CAB LA + RPV LA among ATLAS and FLAIR participants. This difference will also translate into QALY benefits for PLHIV who would prefer long-acting treatment in cost-utility analyses. However, this is an underestimate as generic HRQoL instruments (eg, SF-12) cannot fully capture the humanistic burden of HIV.

P127 | Challenges of HIV medication and differences in experiences, coping, and optimism among people living with HIV in the UK

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Background: All antiretroviral therapies (ARTs) have side-effects, but perceived extent may depend on coping mechanisms, comorbidities, and comedication. Ensuring person-centered care when planning treatment requires considering quality of life issues beyond viral suppression. We investigated this among people living with HIV (PLHIV) in the UK. **Method:** We analyzed the 2019 UK 'Positive Perspective Study'—a self-reported cross-sectional survey of 123 adult PLHIV on ART. Polypharmacy was defined as ≥ 5 pills/day or receiving medicines currently for ≥ 5 conditions. Percentages were compared with χ^2 at $P < 0.05$.

Results: Mean age was 42.8 (SD = 12.51) years; 27.6%[34/123] were women; 46.4%[57/123] had ≥ 1 comorbidity; 13%[16/123] were diagnosed during 2017–19, 47%[58/123] during 2010–16, and 40%[49/123] prior to 2010. Overall, 11.4%[14/123] reported insomnia; 9.8%[12/123] lipodystrophy; 43.9%[54/123]

gastrointestinal side-effects; and 52.9%[65/123] any side-effects—of whom 76.9%[50/65] felt it impacted their life. Among those experiencing side-effects, 40%[26/65] missed ART ≥ 1 time in the past month from side-effects. However, 40%[26/65] of those acknowledging ART side-effects were *not* comfortable discussing this with their HCP, and 35.4%[23/65] indicated their HCP did *not* frequently ask about side-effects. Yet, the commonest reason for switching ART among those who ever switched was side-effects (47.7%[51/107]), followed by desire to reduce number of pills (31.8%[34/107]), or medicines (29.0%[31/107]) taken. Many worried about taking more medicines with age (53.7%[66/123]), drug-drug interaction risk (46.3%[57/123]), and long-term ART side-effects (58.5%[72/123]). Overall, 48.0%[59/123] reported polypharmacy. Individuals with polypharmacy reported poorer health outcomes than those without polypharmacy, including lower optimal physical health (33.9%[20/59] vs 60.9%[39/64], $P = 0.005$), sexual health (28.8%[17/59] vs. 51.6%[33/64], $P = 0.017$), overall health (32.2%[19/59] vs. 54.7%[35/64], $P = 0.020$), and treatment satisfaction (71.2%[42/59] vs 87.5%[56/64], $P = 0.043$). Overall, 78.1%[96/123] were optimistic future HIV advances would improve their health and 69.9%[86/123] were open to ART with fewer medicines, regardless of treatment satisfaction ($P = 0.470$), or viral load ($P = 0.206$).

Conclusion: PLHIV may not readily acknowledge/discuss their treatment challenges. This may even be greater issue now with COVID-19 as preexisting challenges become amplified, newer ones emerge, and opportunities for face-to-face consultations with HCP reduce. Therefore imperative for HCPs to proactively review treatment even when all appears well. Patient preferences should be considered when starting/switching treatment.

P128 | One size fits one model in patient care: ensuring flexible treatment options among people living with HIV in the UK

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Background: A one-size-fits-all treatment approach is inconsistent with person-centered care as people living with HIV (PLHIV), their social/health circumstances, and their broader cultural values differ. Treatment flexibility is therefore paramount. We examined perceptions towards daily oral and longer-acting (nondaily) antiretroviral therapy (ART) among PLHIV.

Method: We analyzed the 2019 UK 'Positive Perspectives' self-reported survey of 123 adult PLHIV on ART. Statistical comparisons were with χ^2 .

Results: Mean age was 42.8[SD = 12.5] years and 27.6%[34/123] were women. Some participants reported conditions that could interfere with oral dosing, including difficulty swallowing (24.4%[30/123]), gastrointestinal disease (15.4%[19/123]), and malabsorption (0.8%[1/123]). Overall, 33.3%[41/123] felt daily oral dosing limited their life, 40.7%[50/123] were stressed by it, 62.6%[77/123] said it reminded them of their HIV, and 52.8%[65/123] worried about missing doses. Furthermore, 39.0%[48/123] disguised/hid their HIV medication, 50.4%[62/123] would be anxious if someone saw it, and 39.8%[49/123] were concerned that daily dosing increased chances of unwanted disclosure. The following challenges were reasons for missing ART ≥ 5 times in the past month: problems swallowing pills (2.4%[3/123]); privacy challenges (2.4%[3/123]); work (3.3%[4/123]); side-effects (4.9%[6/123]); wishing to forget HIV (4.1%[5/123]); and being busy with leisure activities (4.1%[5/123]). Compared to those not stressed by daily oral dosing, those stressed reported higher sentiments of HIV-related premature mortality (86.0%[43/50] vs 43.8%[32/73], $P < 0.001$), optimal physical health (34.0%[17/50] vs 57.5%[42/73], $P = 0.017$), and optimal overall health (32.0%[16/50] vs. 52.1%[38/73], $P = 0.044$). A higher percentage of those stressed by daily oral dosing felt their HIV management could be improved (74.0%[37/50] vs 53.4%[39/73], $P = 0.034$) and were more open to nondaily ART (76.0%[38/50] vs 49.3%[36/73], $P = 0.005$). Interest in nondaily regimens was also higher among those diagnosed in 2017–19 (81.2%[13/16]) vs 2010–16 (67.2%[39/58]) or pre-2010 (44.9%[22/49]), and those with vs without concerns about unwanted disclosure from daily oral dosing (77.6%[38/49] vs 48.6%[36/74]) (all $P < 0.05$). Overall, 60.2%[74/123] preferred nondaily regimens.

Conclusion: PLHIV have substantial unmet needs with daily oral dosing, contributing to treatment avoidance. Alternatives to daily oral dosing (e.g. injectables) may be indicated for a significant number of PLHIV and may alleviate some of these challenges and improve health-related quality of life.

P129 | Qualitative findings from Natsal-COVID: exploring difficulties and distress within established relationships during COVID-19 pandemic

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Background: COVID-19 related restrictions have impacted the dynamics of romantic relationships, with many

cohabiting partners spending more time together and non-cohabiting partners much less. We explored qualitatively, the vulnerabilities (characteristics that decreased resilience) and stressors that impacted intimate relationships following the initial COVID-19 lockdown.

Method: 45 semi-structured interviews were undertaken with participants who had completed a national web-panel survey (Natsal-COVID) and agreed to follow-up. Here we draw on the accounts of 19 participants in steady relationships who reported relationship difficulties. Analysis drew on Karney and Bradbury's 'Vulnerability-stress-adaptation' model.

Results: The sample comprised 12 women and 7 men, 13 were living with their partner and 6 were not. Participant's pre-existing attachment, coping, and communication styles shaped their susceptibility to relationship difficulties. The stress of COVID-19, amplified by financial strain and health issues, affected couple's ability to adapt. In live-in relationships, childcare, divisions of housework, and a lack of space in which to unwind and escape from negative behaviours intensified pressures on relationship quality. One participant described these in the context of a violent relationship that worsened during lockdown, which she had managed to leave. Participants who did not live with their partners described struggling with phone/digital communication, physical distance, and a lack of certainty in the future of their relationship. In adapting to 'pandemic life', tensions arose over how much time to spend together. Those in non-cohabiting relationships were torn between balancing risks of COVID-19 against those of not seeing each other, with many reporting feeling they had placed their relationship on hold. For some, their sex life improved their adaptation, while for others it was a further source of stress.

Conclusion: Understanding how existing vulnerabilities interact with a stressful event to shape adaptive processes in couples' relationships might provide insights for counsellors and healthcare providers to better support couples through COVID-19.

P130 | 'For me, it is my second pandemic': experiences of people living with HIV accessing support from Positively UK during COVID-19

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Background: COVID-19 has had multidimensional impacts on people living with HIV. We report results from a survey of Positively UK members, the UK's leading peer-led HIV

charity, examining how COVID-19 has affected the physical, social and emotional wellbeing of people living with HIV.

Method: An anonymous online survey of 245 service users at Positively UK was conducted in June 2020 (response rate = 43.6%). Demographic data were collected, as well as data on healthcare access, adherence to antiretroviral therapy (ART), mental health, and social isolation. This was supplemented with routine service user statistics. We present a descriptive analysis of quantitative data and content analysis of free text.

Results: The number of individuals accessing support per month increased two-fold from 80 in March (when services were moved online) to 178 in December (median 186/month). Of those surveyed, 60.0% (n = 147) were 45–64 years; 68.0% were male (n = 166); and 69.0% were of White ethnicity (n = 169). Over 50% (n = 126) reported that COVID-19 had impacted access to HIV care, mainly as a result of service closures (n = 63), whilst 41.6% (n = 102) had struggled to access healthcare more broadly. One-in-five (n = 46) stated that their adherence to medication (including ART) had been impacted by COVID-19; poor mental health was the most commonly cited reason (32.1%, n = 17).

Nearly 60% of respondents (n = 138) had experienced mental health issues since the start of the pandemic; 90% (n = 219) reported social isolation. This was echoed in the content analysis; loneliness and poor mental health were the most common themes. For some, this new pandemic brought back painful memories of the early days of HIV. Mental health was further impacted by disruptions in healthcare and financial insecurity.

Conclusion: People living with HIV faced numerous psychosocial challenges as a result of COVID-19, as well as disrupted medical care, all of which negatively impacted mental health. Furthermore, fears of acquisition and stigma around COVID-19 served as potent reminders of earlier experiences of HIV-related stigma and discrimination. Voluntary sector organisations such as Positively UK, which has seen a rise in service use during the pandemic, are uniquely placed to support people living with HIV to maintain their health and wellbeing.

P131 | HIV status-sharing on dating apps in men living with HIV, who have sex with men

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Background: Men living with HIV, who have sex with men, (MSMLH) can experience stigma after sharing their

HIV status with new partners. Dating/Hook-up apps (DAs) are commonly used by men who have sex with men (MSM) to meet new partners, potentially providing novel HIV status-sharing opportunities. However, previous research has not investigated this in depth. This study aimed to address the main research question of 'what is the experience of MSMLH sharing, or not sharing, their HIV status with partners met on DAs?'. It also investigated whether recent Undetectable = Untransmittable (U = U) findings has any perceived influence over status-sharing on DAs.

Method: Semi-structured interviews were conducted with ten MSMLH. Participants all had undetectable viral loads and ranged in age, ethnicity, use of psychology services, relationship status and length of time since HIV diagnosis (median age: 40 years; median time since diagnosis: 6 years). Interview transcripts were analysed using Grounded Theory.

Results: Findings suggested participants experienced a range of positive and negative status-sharing experiences on DAs, including feeling accepted, being 'blocked' and receiving discriminatory messages. These outcomes then influenced future status-sharing decisions. DAs provided opportunity for novel status-sharing strategies, depending on participants' personal goals and concerns around rejection. Many reported status-sharing was easier on DAs compared to face-to-face, but some still used protective strategies, including only seeking those stating 'on PrEP' or 'HIV-positive' on their profiles. Participants considered status-sharing directly on their profile to avoid potential later rejection. However, most thought this might limit partner options. Participants reported U = U and PrEP developments increased awareness on DAs, boosting status-sharing confidence. Participants suggested DAs could advertise HIV-awareness related information to improve experiences for MSMLH. HIV services could use findings to guide psychological support for status-sharing decisions, including enhancing awareness of status-sharing options. Psychological therapy could also help challenge unhelpful appraisals or behaviours associated with emotional difficulties while status-sharing on DAs.

Conclusion: DAs provide unique opportunities for MSMLH deciding how, when, and to whom to status-share. Participants reported a range of positive and negative status-sharing outcomes on DAs. DAs could help raise awareness of HIV and psychological support could help MSMLH using DAs.

P132 | A review of lost to follow-up (LTFU) patients successfully linked back into care at a central London HIV unit: these are highly vulnerable individuals who require targeted interventions

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Background: A project to link LTFU patients back into care was established in June 2020 funded by the Elton John AIDS Foundation. Interventions include dedicated clinic time, enhanced communication with primary care, and financial reimbursement. This study compares successfully re-engaged LTFU patients to new HIV diagnoses over the same period, and identifies risk factors contributing to patients becoming LTFU.

Method: We conducted an electronic notes review of LTFU patients re-engaged in care and newly diagnosed patients 1.7.2020 – 31.1.2021. Patients were classed as re-engaged in care once they had attended a single appointment after having been LTFU >9 months. Data collected included demographics, immune status and psycho-social factors. Fisher's exact test was used to compare demographics.

Results: 35 LTFU patients were linked back into care and 39 had a new HIV diagnosis 1.7.2020 – 31.1.2021.

Table 1 shows demographics and baseline results at point of re-engagement/diagnosis.

	LTFU re-engaged in care	New HIV diagnosis	P value
Number	35	39	
Mean age (range)	46 (25–71)	40 (20–72)	
% Women	57%	18%	0.0007
% Black African or Caribbean	82%	47%	0.0044
Mean time out of care	32 months (9–80)		
Mean CD4 (range)	369 (17–1282)	383 (1–968)	
	HIV-1 (n = 29) (non-elite controllers)	Elite controllers or HIV-2 (n = 6)	
	286 (17–606)	768 (422–1282)	
Hepatitis B or C co-infection	11%	3%	

Of the re-engaged patients, 80% (28/35) restarted antiretroviral therapy (ART). 71% (5/7) not on ART were elite controllers or HIV-2, and two have refused, including one patient with a CD4 <200.

66% (23/35) had historical virological failure and 49% (17/35) had previously been LTFU.

Following re-engagement 8% (3/35) have disengaged again. Self-reported barriers to accessing care included mental health or stigma issues 46% (16/35), drug/alcohol abuse 14% (5/35), and homelessness 6% (2/35).

Conclusion: LTFU patients make up a vulnerable patient group both in terms of immunosuppression and psychosocial issues. The majority of these patients are black females with high rates of stigma. Previous virological failure and episodes of being LTFU should be considered predictors of disengagement. High rates of repeated disengagement demonstrate the need to provide targeted interventions for these individuals.

P133 | The mental wellbeing and quality of life of people living with HIV: an evaluation of a holistic community model of care

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Background: As people living with HIV (PLWH) in the UK reach near-normal life expectancy, HIV services have to adapt to respond to psychological and social needs. This study evaluates the impact of a community HIV specialist service that offers inpatient and outpatient support to PLWH with complex needs on the mental wellbeing and quality of life (QoL).

Method: PLWH attending the community inpatient facility in Brighton, UK between March and July 2017 were included. Mental well-being and QoL were assessed using the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) and the EQ-5D-5L QoL questionnaires at admission and discharge. A subgroup of participants also took part in qualitative semi-structured interviews. Demographic data was analysed using descriptive statistics and the Wilcoxon Signed Rank test was used to determine changes to mental well-being and QoL outcomes. Interviews were analysed using a thematic approach.

Results: Forty participants were enrolled and six were interviewed (85% male, 54% men who have sex with men). The majority (78%) reported >2 comorbidities in addition to HIV. Support with antiretroviral therapy followed by mental health support were the most common indications for admission. A significant improvement in mental well-being (WEMWBS score of +11.07 points ($P = 0.000$) and QoL (+21.03 ($P = 0.0003$) in the EQ-5D-5L) was observed

following attendance to the centre (table 1). All those interviewed were overwhelmingly positive towards the community service identifying the environment, privacy, support network and staff encouragement with self-care as factors contributing to improved mental wellbeing and QoL.

Table 1 Baseline and discharge questionnaire results

Questionnaire	Baseline score (mean)	Discharge score (mean)	Change (mean)
WEMWBS	37.17 (SD = 15.79)	48.24 (SD = 9.05)	+11.07
EQ-5D-5L	49.55 (SD = 23.5)	70.58 (SD = 20.91)	+21.03

Conclusion: By delivering a patient-centred service with an emphasis on psychological and social support in addition to physical needs, a community service for PLWH has the potential to improve the mental wellbeing and QoL of PLWH. This model may be valuable for other services looking to develop in response to the changing needs of PLWH.

P135 | Early impacts of COVID-19 on sex life and relationship quality: findings from a large British quasi-representative online survey (Natsal-COVID)

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Background: By regulating behaviour at household level, COVID-19 restrictions drastically altered relationships. Given strong links between intimate relationships and health, we investigated how the pandemic impacted relational and sexual aspects of steady relationships in Britain in the 4-months following first national lockdown (23/3/2020).

Method: 6,657 participants aged 18–59 years completed a web-panel survey questionnaire between 29/7–10/8/20. A quasi-representative population sample was achieved via quotas and weighting. We analysed sexual activity by age, gender and cohabitation status, and used descriptive statistics and logistic regression to explore self-perceived changes in sex and relationship quality among those in steady relationships ($n = 4,271$).

Results: Of the full sample, 64.2% were in a steady relationship, mostly cohabiting (88.8%). Following lockdown, 48.9% of those in cohabiting relationships and 36.4% in non-cohabiting relationships reported sex (anal, vaginal, oral) at least weekly. Frequency of sexual activity varied greatly by

age, gender and cohabitation status. The majority reported no change in their sex life and relational quality compared with the months pre-lockdown. Among those perceiving change, quality of sex life was more commonly reported to deteriorate, whereas quality of relationship was more commonly reported to improve. Change – both positive and negative – was more commonly reported by younger people. Overall, 7% reported deterioration to a ‘lower quality’ relationship, with deterioration more commonly reported by those: in mid-life (35–44 vs. 45–59) (men, AOR:2.31; 95%CI:1.45–3.66; women, AOR = 1.63; 95%CI:1.03–2.56); living in an urban area (among men) (AOR:2.61; 95%CI:1.15–5.90); and not living with a partner (among women) (AOR:2.01; 95%CI:1.28–3.16). Deterioration was associated with poor health and with decline in sexual aspects of the relationship. **Conclusion:** COVID-19 led to an early net gain in relationship quality but net loss in quality of sex lives in steady relationships in UK. A sizeable minority of steady relationships were adversely affected with implications for sexual – and wider – wellbeing.

P136 | An audit of a ‘mental health check-in’ initiative with HIV patients during the COVID-19 pandemic

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Background: Elevated rates of risk towards mental health difficulties have been consistently shown in people living with HIV (PLHIV). The mental health and wellbeing of PLHIV is critical for quality of life concerns, engagement with HIV services, medication adherence and disease progression. Emerging evidence illustrates the unprecedented psychosocial risk factors of the COVID-19 pandemic and national lockdowns on negative mental health outcomes in the general population and the additional challenges PLHIV face. A ‘mental health check-in’ initiative was developed to identify patients under the care of the HIV service who may be at greater risk of mental health difficulties and proactively offer brief and long-term psychological support, signposting, risk assessment, and enhance relationship and trust with the service. There is a sustained need for evidence-based mental health initiatives and interventions that respond to the changing psychosocial needs and stressors for PLHIV.

Method: We identified HIV patients who had recently re-engaged with HIV services, had been assigned to a recently diagnosed pathway or had not responded to contact efforts following a referral to the HIV psychology service. Two rounds

of telephone contact were attempted with patients in May 2020 (n = 77) and in February 2021 (n = ~50) by the psychology team and a HIV social worker. Response rate, presenting psychosocial difficulties, follow-up and referral information and qualitative feedback of the calls were recorded.

Results: Successful contact with over half (n = 39) of patients identified was made in the first round of the initiative. Of these, 18 patients reported they were managing well, while the remaining patients who reported psychosocial difficulties did not require further contact (n = 7), requested onward (re)referral for psychological therapy (n = 5), and/or assessment of risk concerns (n = 2), brief psychological and skills-based interventions (n = 3), or follow-up with medical teams (n = 6). Predominantly positive qualitative feedback was recorded. The second round of the initiative is ongoing.

Conclusion: This audit highlights the value of responsive mental health initiatives for PLHIV in the COVID-19 pandemic, who may face additional psychosocial stressors. The range of support provided and requested contributes to our understanding of ‘relationship to help’ in PLHIV, psychosocial stressors experienced during a global health crisis, and multidisciplinary approaches to patient care in HIV services. Future initiatives should identify novel ways of navigating the digital divide and digital poverty.

P137 | The mental health of women aged 45–60 living with HIV in England: a latent class analysis of the PRIME Study

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Background: There is limited understanding of the mental health of women living with HIV during the menopause transition. In a UK sample, we aimed to establish sub-clusters of women suffering from similar types of mental health difficulties and to link these groupings to demographic factors and HIV-related outcomes.

Method: We analyzed data from the PRIME (Positive Transition through Menopause) study, which explores menopause in women living with HIV aged 45–60 (N = 869). Self-reported data on eight mental health indicators were collected using validated measures. We performed latent class analysis to identify clusters of women with similar mental health difficulties. Class membership was linked to demographic predictors using nominal logistic regression, and HIV-related outcomes using Wald’s tests.

Results: We identified five classes: 1) few mental health symptoms ($n = 501$, 57.8% of sample); 2) high current anxiety and depression ($n = 120$, 13.8%); 3) history of depression, plus elevated current substance use ($n = 40$, 4.6%); 4) history of depression plus high current psychological menopause symptoms ($n = 81$, 9.3%); and 5) history of depression plus high current depression, anxiety, psychological menopause problems, and sleep difficulties ($n = 125$, 14.4%).

Compared to class 1, members of the other four classes were more likely to have not attended university and been diagnosed with HIV longer; menopausal status was not associated with class. The majority of women were virally suppressed (88.1%) and/or had a CD4-count ≥ 200 cells/mm³ (93.6%); neither varied by class. Sub-optimal antiretroviral therapy adherence was more common in classes 3 (11%), 4 (19%) and 5 (24%) compared to class 1 (4%; all $P < .001$). Class 5 members were also more likely to have missed ≥ 1 HIV clinic appointment in the past year than those in class 1 (34% vs. 17%, $P = .005$).

Conclusion: We identified five distinct groups of women with varying mental health difficulties. Those with a history of depression, current anxiety and depression, plus menopause-related symptoms (such as irritability or sleep difficulties) were more likely to have poorer HIV outcomes. Although we cannot comment on causality, this highlights the importance of assessing and managing menopausal symptoms, especially in those with pre-existing poor mental health, in order to improve wellbeing and engagement in HIV care.

P138 | Right test, right time: ensuring timely renal function monitoring in individuals taking PrEP

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Background: Patients receiving PrEP (HIV Pre-Exposure Prophylaxis) require renal function (estimated Glomerular Filtration Rate (eGFR)) monitoring as detailed in BASHH/BHIVA guidelines. For those aged under 40 with normal baseline eGFR and no risk factors for kidney disease, this should be annually. Our busy urban sexual health clinic lacked a structured system for scheduling these tests and there was concern that patients were having eGFR tested unnecessarily or not at all.

Method: An audit was undertaken of all patients under 40 years old who received PrEP from June – November 2020 with patients identified using GUMCAD PrEP prescription codes. Patient records were reviewed to document eGFR checks in the year preceding issue of the PrEP prescription including extra tests performed without clinical justification.

The number of times eGFR was repeated within 12 months was also recorded.

Results: 199 patients were identified of whom 186 (93.5%) had eGFR checked in the year prior to the issue of their prescription. Therefore, 13 (6.5%) patients had inadequate eGFR monitoring whilst continuing to take PrEP.

Of those tested, 55 patients (30%) had eGFR re-checked within a year without clinical justification with a total of 69 unnecessary eGFR tests performed. This equates to £345 expenditure on tests, six hours of wasted clinical time administering results and over-investigation of patients with minor fluctuations in eGFR.

We implemented a new pathway for the eGFR testing process including a visible alert on each patient's record allowing all clinical staff members to immediately see when the last eGFR was checked and when the next test is due.

Conclusion: This study identified both under- and over-testing of eGFR for patients on PrEP. Whilst it is vital that eGFR testing is not missed as this may result in obvious harm to patients, over-testing wastes clinical and financial resources which are at a premium in an era of budgetary constraints and reduced appointment availability due to COVID-19. Furthermore, the anxiety and unnecessary clinic visits are detrimental to patients. As the number of patients taking PrEP increases, it is important to ensure efficient and robust methods of eGFR follow up and testing.

P139 | Remote consultations for routine HIV care: parallel staff and patient surveys

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Background: Remote consultations have been upscaled as part of the NHS COVID-19 response and our service has swapped to a predominantly telephone based model of care for routine HIV follow up. A survey was conducted of HIV clinic attenders and HIV healthcare professionals (HCPs) with the aim of exploring their views and experiences of telephone consultations (TCs) during the COVID-19 outbreak.

Method: Parallel web-based anonymous surveys of HIV clinic attenders and HCPs were developed in collaboration with patient representatives and were available online via hyperlink and QR-codes. Data were analysed in Excel using descriptive statistics.

Results: Thirty-four HCPs and 38 patients participated. Of patient respondents 76% were older than 45 years and 89% spoke English as their main language. The majority of HCPs and patients agreed that TCs allow them to discuss important issues (59% and 61% respectively), including private/

sensitive issues (59% and 58% respectively), and they felt secure and confidential (53% and 63% respectively).

Advantages of TCs, identified by HCPs, included improved convenience for patients (cited by 89%) and improved ability to review patients who infrequently attend clinic (cited by 71%). Drawbacks included concerns about language and communication barriers (cited by 85%) and the inability to examine patients (68%). Additionally, only 29% of HCPs felt TCs were convenient for themselves, explanations for this may include difficulties with technology or patients not answering their phone which were also highlighted as areas of concern.

Sixty-eight percent of patients liked that TCs require less travel and 68% also feel safer having TCs during the COVID-19 outbreak. The commonest concern from patients, expressed by 45%, was that TCs waste time as they need to attend clinic for blood tests anyway and 31% were worried about blood tests being missed or delayed.

Overall 82% of HCPs and 68% of patients felt future routine HIV care should be through a combination of face-to-face and TCs or video-calling.

Conclusion: TCs are generally acceptable to HCPs and patients, however it will be important to encourage a bilateral flow of communication between key stakeholders to ensure the service continues to evolve in a mutually acceptable way and to address highlighted concerns.

P140 | Sexual health services for young people during COVID-19

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Background: Across the UK sexual health services have been affected by the changing landscape of Covid-19. Some staff were redeployed to other areas, non-urgent services were reduced and it was recommended to limit face-to-face contact with patients wherever possible. NHS Grampian Sexual Health Services were affected by these issues and also, the main clinic site was moved temporarily to smaller premises and under 18s drop in clinics ceased. Staff were concerned that young people were not approaching the service in the same numbers as prior to Covid-19.

Method: Data confirmed a large drop in under 18 year olds approaching the Grampian Sexual Health Services after March 2020. Key stakeholders met to discuss this; proposed contributory reasons included: the new location, thoughts that service is 'closed', unable to attend due to lockdown restrictions and a reluctance to engage in virtual consultations. The

group decided to survey young people regarding their opinions on provision of sexual health services during Covid-19. The online survey was shared through schools, universities and on social media.

Results: 86 young people completed the survey. Only 3 had used Grampian Sexual Health Services during 2020. 36 (46%) stated they would not consider using telemedicine (telephone / video) appointments to access sexual health services (13 (16%) would be happy to, 30 (38%) were unsure). When asked their preference for appointments, video consultation was the least preferred method. Telephone was less preferred compared to face-to-face appointments, but was more popular than video. The most common reason for finding it difficult to participate in a telemedicine appointment was not liking going on video with someone they don't know and the most common suggestion of what may make it easier to participate in a telemedicine appointment was the ability to have friends/family/someone they trust present.

Conclusion: The survey findings have been used locally to influence services provided for young people, with increased advertising of the current available services for young people and a reintroduction of dedicated under 18s clinics (by appointment), which have the choice of face-to-face, video or telephone appointments. Considering the future beyond Covid-19, ongoing use of telemedicine may be valuable in certain situations, but this study has shown it may be less appropriate for young persons services.

P141 | Maintaining access to HIV PrEP in a pandemic: PrEP-user and healthcare professional perspectives on a telephone-based PrEP service

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Background: To maintain access to PrEP during the COVID-19 pandemic our PrEP service (1000 PrEP-users) shifted to a largely telephone-based model (tele-PrEP). A service evaluation of this tele-PrEP service was conducted to explore the views and experiences of PrEP-users and sexual health care professionals (HCPs) to understand the benefits and drawbacks to inform future service delivery.

Method: Parallel web-based anonymous surveys of PrEP-users and HCPs were developed using validated questions wherever possible. The PrEP-user survey was offered to those who had a tele-PrEP appointment between 13.11.2020–17.12.2020 and consented to participation. All HCPs conducting tele-PrEP appointments were invited to participate. Basic demographic data was captured. Data were analysed

in Excel using descriptive statistics. Free text responses were thematically categorised using the Framework for a Systems Approach to Healthcare Delivery.

Results: Sixty-two PrEP-users and 8 HCPs completed the surveys (response rate 55% and 89% respectively). Demographic characteristics of PrEP-user respondents were broadly representative of our whole PrEP-cohort. Most PrEP-user respondents booked their tele-PrEP appointment using the online booking tool (54/62) and for follow up appointments (52/62). The service was rated “excellent” or “good” by 61/62 PrEP-users, and 59/62 would recommend it to friends. Of the 62 respondents, 49 would like to continue with tele-PrEP in the future and 10/62 would prefer face-to-face appointments. PrEP-users identified convenience as a key benefit along with access to PrEP with reduced potential for COVID-19 exposure. Drawbacks were largely technological, including poor connection or issues with on-line booking. All HCPs felt that tele-PrEP allowed them to assess patients safely and confidently. Seven of eight HCPs felt well supported to undertake tele-PrEP appointments. One HCP expressed a preference for face-to-face appointments. HCPs also rated its convenience highly and felt it enabled better use of limited face-to-face clinic capacity. However, HCPs thought that tele-PrEP might create barriers for vulnerable patients, particularly those with low digital, health and/or English-language literacy.

Conclusion: Tele-PrEP is feasible and highly acceptable. While most respondents rated the service highly, others identified a need or preference for face-to-face appointments. Therefore, our service will continue tele-PrEP whilst ensuring availability of face-to-face care for those who require or request it.

P142 | The role of patient factors acting as barriers for HIV testing and use of latest guidelines to overcome them

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Background: Our city-centre sexual health clinic is in an area of high HIV prevalence (2.7/1000), with late diagnoses remaining high. Accessible, universal and, where appropriate, indicator condition focused HIV testing, as in BASHH/ BHIVA guidelines, is a key component of reducing HIV transmission and ensuring timely treatment. However, opportunities for testing continue to be missed. This project aimed to identify educational tools to increase HIV testing.

Method: Our health adviser spreadsheet of STI diagnoses was used to identify individuals diagnosed with HIV from January – October 2020.

All patients diagnosed in this period were offered participation in the study.

Telephone interviews were carried out with patients who consented to participate. Online clinical data sources (GP and hospital records database) were also reviewed. Timelines of individuals’ risks, health and healthcare contacts were developed. Interviews also gained qualitative data regarding individuals’ perceptions of HIV and accessibility of testing.

Results: 4/8 (50%) patients diagnosed with HIV consented to participate in the study. Of these – 2/4 (50%) should have been offered HIV testing several years earlier had BHIVA/BASHH HIV testing guidelines at the time been followed.

3/4 (75%) individuals experienced barriers to accessing HIV testing. All of them felt implementation of NICE and latest BHIVA/BASHH guidelines would significantly reduce these barriers.

Interviews highlighted the impact of multiple factors on individual’s perceptions and ability to access HIV testing. Firstly, beliefs about individual identity: “I didn’t want to have to face my sexuality”. Secondly, fear associated with an HIV diagnosis: “I was really affected by HIV campaigns from the 80’s”. Thirdly, perceptions around accessibility: “I felt that Sexual Health Clinics were for people with symptoms.”

Conclusion: This study demonstrates the importance of building into guidelines and systems an approach that takes into account human factors and beliefs to ensure timely and appropriate HIV testing. Implementation of BHIVA/BASHH HIV testing guidelines will help achieve this. The contextualised information generated from this project will be used as an education tool in primary and secondary care to reinforce the importance of tackling patient and clinician barriers to HIV testing.

P143 | Motivational interviewing by paraprofessionals and health outcomes for young people living with HIV

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Background: Young people (YP) aged 10 to 25 are disproportionately affected by HIV. High rates of risk behaviours including alcohol consumption and poor adherence to antiretroviral therapy (ART) contribute to poor outcomes in this age group. Motivational Interviewing (MI) has been demonstrated as an efficacious intervention to address these areas and subsequently improve viral load. Limited availability of MI has prompted training of paraprofessionals without formal mental health training to deliver MI. However, the quality of MI delivered by paraprofessionals and the relationship

to outcomes for YP living with HIV has not yet been explored. This study aimed to investigate this relationship and to contribute to existing evidence to enable tailoring of MI training and interventions for this population.

Method: Secondary data from a randomised controlled trial in the United States was analysed. Existing paraprofessionals in HIV clinics delivered four MI sessions in either the home or clinic to 65 YP living with HIV aged 16–25 years (9 female, mean age 21 years). Paraprofessionals' use of MI skills were coded from audio-recorded sessions using the Motivational Interviewing Treatment Integrity code (MITI). Data from YP were included if they had a minimum of one MITI coded session and viral load (copies/ml) and alcohol consumption data (using the Timeline Follow Back Schedule) from at least one time point. Multi-level models were used to analyse the association between MI skills and outcomes (viral load and alcohol consumption) at four time points (pre-intervention and 16, 28 and 52 weeks post-baseline).

Results: All paraprofessionals met competency levels for MI skills as measured by the MITI. MI partnership, a specific MI skill which promotes a collaborative client-therapist relationship, was associated with reduced alcohol consumption outcomes in YP. No other MI skills by paraprofessionals were associated with outcomes.

Conclusion: Paraprofessional MI skills appear largely unrelated to viral load or alcohol consumption outcomes for YP living with HIV. MI partnership skills may, however, be a particularly important MI skill for therapists engaging with this population who are also consumers of alcohol. This study is the first to provide MI process research evidence for YP living with HIV when MI is delivered by paraprofessional therapists.

P144 | How can HIV physicians' pre-COVID views on virtual conferences help inform conference organisation in the coronavirus era?

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Background: HIV doctors' perceptions of the usefulness of online videos of specialty conference lectures were explored at a time when attending conference in person could prove to be difficult due to service pressures. This is particularly relevant now in the context of a pandemic where social distancing is crucial and there is a need to move to virtual conferences.

Method: Semi-structured interviews were used to explore nine doctors' opinions on this topic. These clinicians, who comprised of consultants and registrars, were based at a busy London clinic. The data analysis process began with

open coding and then categorisation and comparison of data. Conventional content analysis was employed. Thematic analysis was applied to the interview transcripts to find emerging themes.

Results: Key themes produced from the data analysis were that online videos enhanced personal learning and teaching of others and are a convenient alternative to attending conference in person, that allow learners to control the pace at which they study. The online conference lecture videos were found to provide a positive educational experience by helping consolidate knowledge, learning through repetition and learning through reflection. The absence of networking when watching these videos instead of being present at conference was perceived as a loss and a disadvantage.

Conclusion: Online videos of conference lectures were found to be a useful educational tool, which are highly valued by these physicians. It was acknowledged that the videos could not replace all the benefits of attending conference in person but were still advantageous as an adjunct to conference attendance and when doctors are unable to attend. This is useful and reassuring to know when in-person events are currently not possible. It also leads us to consider investing time into finding options for networking virtually.

P145 | Rapid service evaluation of in-house blood self-sampling for interval STI testing for PrEP cohort at minimal cost

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Background: In March 2020 our clinics providing three monthly interval sexually transmitted infection (STI) testing for HIV pre-exposure-prophylaxis (PrEP) users closed due to COVID-19. In absence of funding for commercially available solutions we planned a home sampling kit (HSK) to screen for HIV and syphilis on our existing laboratory platform.

We proposed a self-obtained capillary blood sample of >0.6mls in a paediatric sample tube would be achievable and sufficient to conduct a 4th generation HIV test, enzyme-immunoassay (EIA) for treponemal (IgG) and if EIA positive, a non-treponemal (RPR) test. A rapid service evaluation was implemented.

Method: Written instructions were drafted, consumables sourced and an evaluation form developed. Ten patients were invited for observed self-sampling in lieu of their routine testing appointment. Both patients, and clinicians observing the self-sampling, completed an evaluation form which was used to refine the technical procedure, instructions and evaluation process. Subsequently postal HSK's

were implemented with a telephone evaluation completed for the first forty patients.

Results: In face-to-face evaluation, 5/9 obtained sufficient blood for testing and 7/9 reported they would use the HSK method if offered.

Satisfactory HSK results for HIV and syphilis testing were obtained in 25/40 patients. 15/40 required further testing, 5/40 samples were not processed, 2/40 were unlabelled, 4/40 were insufficient for both tests and 4/40 had a positive EIA but inadequate blood for RPR.

In patient evaluation: 32/40 agreed the test was easy to perform, 29/40 agreed HSK's were a good option, 37/40 felt instructions were clear.

Conclusion: Technical challenges included the relatively high volume of blood required for the existing laboratory platform. This issue was more marked in a cohort with high rates of new and previous syphilis infection, thus requiring both EIA and RPR testing from the sample. 8/29 had a positive EIA but there was only sufficient blood to perform RPR in 4/8. Consequently, the screening test for syphilis in the HSK was changed from EIA to RPR.

Even with a relatively high rate of insufficient samples requiring follow up, the rate of attendance to the clinic is dramatically reduced at a consumable cost of around £8 per full testing panel.

P146 | Re-shaping the HIV consultation model: our patients' perspectives

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Background: During the acute COVID-19 pandemic HIV services in Scotland were rapidly redesigned to provide HIV care by telemedicine consultation, with only a proportion of face-to-face (FTF) care being reinstated from May 2020. To ensure service recovery was patient focused a working group representing multiple health boards across Scotland developed a patient survey to gain feedback on patients' experience of telemedicine consultations (telephone or video).

Method: The questionnaire, based on previous sexual health patient questionnaires exploring views on telemedicine consultations, was adapted and piloted with 5 patients before being offered to patients having a telemedicine consultation for HIV care across Scotland from 24/08/20 to 13/01/21. Patients were invited to participate via telephone interview or a text-link to an online survey. Results were collated as

simple proportions and common themes identified from free text responses.

Results: 59 participants completed the survey in 7 Health Boards. The majority of respondents attend services in 1 health board (55%), identified as male (79%) and Scottish White (60%). They were mostly employed (71%). Almost all had a telephone consultation (97%). Participants were in their own home (88%), work (3%) or outside (7%) during their telemedicine consultation.

Respondents were 'comfortable' talking with their clinician during telemedicine consultation (90%) which compared well with FTF consultation (85%), while 82% found telemedicine consultation 'acceptable'.

Challenges attending FTF appointments were: getting time off work, access to parking and long journey time. Benefits of telemedicine consultation were: time saving, not having to travel and being able to attend from their location of choice.

Respondents were concerned about telephone reception (50%) or internet access (35%), their ability to find a private space (38%) and confidence with video technology (30%). Respondents would like the option to choose the mode of future consultations, with a majority preferring a mixture of telephone and FTF (53%), telephone only (24%) or FTF only (19%).

Conclusion: High levels of comfort and acceptability with telemedicine consultations were reported. Whilst the sample does not reflect our HIV community as a whole, the results support the continuation of telemedicine in HIV care in Scotland as part of a mixed model of care delivery.

P147 | Impact of a new rapid specialist sexual health result service on time from testing to treatment of *Chlamydia trachomatis*

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Background: Our inner-city Sexual Health Service introduced a Panther (Hologic Inc) system in November 2018, at point-of-care. This rapid *Neisseria gonorrhoeae* (GC) and *Chlamydia trachomatis* (CT) nucleic acid amplification test (NAAT) provides results to patients within 4–48 working hours compared with 1–2 weeks previously. Patients are now only treated if CT NAAT-positive, symptomatic and unable to wait for results, or a sexual contact of CT/GC within the preceding 2 weeks. We hypothesised the new service would

result in more rapid treatment of CT/GC infections. We evaluate the effect on time to CT treatment.

Method: All new CT NAAT-positive cases attending over a 2 month period approximately 1 year before and 1 year after the introduction of the new service were evaluated (01/01/2018–28/02/2018 and 01/01/2020–28/02/2020). Cases were identified using GUMCAD coding data. Patients who were known to have a positive CT diagnosis at time of first presentation were excluded. Dates of NAAT testing and treatment were obtained from electronic patient records. The one-sided Mann-Whitney U-test was used to compare time to treatment before and after service introduction.

Results: 134 CT-positive patients were diagnosed before and 116 were diagnosed after service introduction. Of these, 2 (1.5%) and 8 (6.9%) respectively were treated elsewhere and excluded. Average time to treatment decreased from 6.5 days before Panther introduction to 4.1 days ($p = 0.09$). When we excluded patients who were treated as contacts of CT (before NAAT result was available) the time to treatment decreased from 8.7 to 5.1 days ($P < 0.001$). The reduction in time to treatment decreased significantly more in women; 11.3 to 6.1 days ($P < 0.001$) than men; 6.8 to 4.7 days ($P = 0.27$).

Conclusion: Introduction of a rapid STI service significantly reduced time from testing to treatment of CT in our patient population. Availability of microscopy for symptomatic men allows immediate treatment of urethritis, a common presentation of CT in men. This is likely to explain why men were treated earlier than women. Earlier treatment is expected to reduce both asymptomatic CT transmission, and risk of CT complications, particularly in women.

P148 | Developing a remote prescription service for oral contraceptive pills

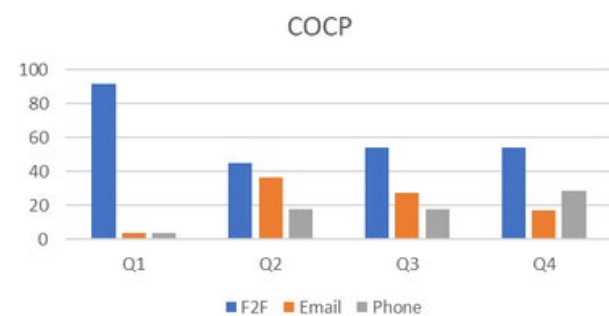
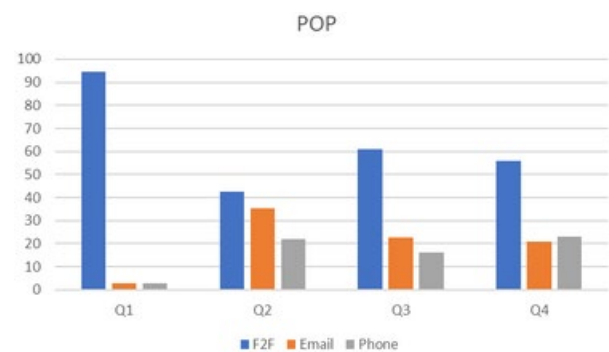
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Background: The Faculty of Sexual and Reproductive Healthcare (FSRH) recommend that remote and online prescribing are suitable for oral contraceptive pills (OCP) and that assessment for suitability can take place remotely. During the COVID-19 pandemic we developed a self-completed questionnaire for patients to enable remote prescription of OCP. Here we describe the development, implementation and feedback from patients of the new service.

Method: Self-completed questionnaires were developed for combined oral contraception (COCP) and progestogen only pills (POP). The questionnaire included a checklist with the woman's age, past and current medical conditions, smoking, drug history and family history of significant medical conditions. For COCP, body mass index (BMI) and blood pressure

were required. The questionnaires were uploaded onto our NHS Trust website, and an SMS containing the link to the questionnaires was created. Patients requesting new and repeat prescriptions for OCPs were sent the relevant SMS. Once the form was completed, patients email the form to our secure email address. The form is then reviewed by a clinician and if safe to prescribe, patients are sent an FP10 prescription or collection arranged depending on their preference. Those unsuitable for remote prescription either had a telephone consultation or were invited into clinic for a face-to-face (F2F) consultation. **Results:** From January 2020 – December 2020, 1179 patients were prescribed the POP. Of these, 816 (69%) had a F2F consultation, 198 (17%) completed a self-completed questionnaire, and 165 (14%) had a telephone consultation.



During the same period, 1449 patients were prescribed COCP with 957 (66%) having a F2F consultation, 265 (18%) completing a self-completed questionnaire and 229 (16%) having a telephone consultation.

In total 58% had non-F2F supply of OCP during the first lock down, reducing thereafter. More women on the COCP required telephone follow up compared with those on the POP.

Conclusion: Since implementation, 46.5% ($n = 795$) patients have accessed oral contraception through self-completed questionnaire and remote prescription. There were some initial technical challenges, but these were addressed following feedback from staff and patients. Patient feedback of the new service is very positive. We plan to expand the service by introducing posting contraceptive pills directly to patients.

P149 | HIV service provision: how can we empower the HIV community to have access and confidence in a sustainable and person-centric care model?

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Background: What are the current services to support holistic care for people living with HIV (PLHIV)? What changes are needed to improve services? How can communication reach for services be improved for both users and providers? A qualitative deep-dive market research project with PLHIV and health care professionals (HCPs) was conducted during COVID-19 restrictions to explore these questions, and the emotional experiences of individuals within the HIV community.

Method: Between September/ October 2020, 23 PLHIV were recruited: 78% male, 22% female; 70% homosexual, 26% heterosexual, 4% other; 75% white British, 13% BAME, 8% other; average age of 42. They first completed an online diary over a two-week period, followed up with a 1:1 60-minute telephone interview. In parallel, 14 nurses and 9 consultants were invited for 1:1 interviews to explore their perception of HIV services, both pre and post COVID-19.

Results: While 65% of PLHIV involved in this study were “stable” and 35% as “complex” (HARS definition), within both groups, 50% of respondents were perceived to be “not coping” with changes in their HIV care. Typical drivers included: dissatisfaction with lack of face-to-face, uncertainty over monitoring frequency and co-morbidity management, and inability to access emotional support. These factors increased the risk of experiencing significant anxiety, leaving PLHIV feeling isolated from services and concerned over the impact that may have on their overall health. The remaining 50% of the stable and complex cohort were content with the shift to online services and were comfortable utilising available primary care services (e.g. blood monitoring). All HCPs acknowledged the significant disruption to HIV care, and nurses recognised the emotional distress of PLHIV due to limited contact with care providers. The majority of HCPs expressed a desire for improved links between clinics and primary care.

Conclusion: Changes to HIV services in response to COVID-19 demonstrated the resilience and adaptability of clinics and staff, but also exposed the emotional vulnerability of some patients, regardless of their co-morbidity status. This research indicates a need to understand the changes required to empower all stakeholders in the HIV community to have

access and confidence in a sustainable person-centric HIV care model.

P150 | Pharmacist-led antiretroviral therapy (ART) switch during a pandemic: improving patient safety and reducing footfall in a London tertiary centre

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Background: The COVID-19 pandemic mandated reduced face-to-face consultations/monitoring for our people living with HIV (PLWH). Eviplera (EVI) has a low genetic barrier to resistance and drug-drug interactions (DDIs) that may lead to virological failure (VF). We have had 23 known DDI related VFs between 2012–2018. Stringent food requirements may also reduce compliance. The commissioning of Delstrigo (DEL) presents an option for stable PLWH receiving EVI to switch to a regimen without food requirements, a higher barrier to resistance (in vitro) and fewer DDIs. A dedicated pharmacist contacted PLWH receiving EVI to counsel them regarding a remote DEL switch.

Method: Clinician lists were obtained of PLWH on EVI and screened for switch suitability. A pharmacist undertook a telephone consultation with eligible patients due for a follow-up between September–November 2020. Patient decision was recorded and conveyed to the treating clinician prior to routine appointments. A follow-up survey was sent via SMS to all patients to record satisfaction scores. Post-switch, a follow-up was planned to look at viral outcomes and other safety/tolerability parameters.

Results: 135 patients were found to be on EVI at our site. 23 patients from three clinicians were deemed appropriate for pilot consultation. 19/23 (82.6%) agreed to DEL switch. 16 responded to survey; 14/16 (87.5%) of patients reported being either satisfied or very satisfied with a pharmacist-led switch. 15/16 (94%) would opt for future consultations with pharmacists. 57% (13/23) of patients were successfully switched at the time of writing. Of the patients who were switched and followed up, 100% continued on DEL. 6/13 (46%) had a complete follow-up. Of the six who have had follow-up, 100% remained virologically suppressed.

Conclusion: The pilot improved patient safety, reduced footfall and offered patients choice. Switching to DEL currently represents a cost saving compared to continuing EVI. Lack of food restriction was the most popular switch incentive for patients. Pharmacist-led switches are safe, efficient and can improve patient care alongside saving costs.

P151 | Exploring the data-sharing ecosystem in HIV care: healthcare professionals' beliefs and practices

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Background: Understanding data-sharing in HIV care is timely given the shift to remote consultations during COVID-19 and increasing expectations for self-management. We describe the 'data-sharing ecosystem' in HIV care by analysing HIV healthcare professional (HCP) beliefs and practices around sharing diverse types of service user and clinic-generated data across multiple contexts.

Method: During February-October 2020, we conducted 14 semi-structured interviews with HCPs working in a large UK HIV outpatient service. Participants engaged in a card sorting task, sorting 33 data types routinely shared in HIV care into categories (comfortable/not comfortable/not sure) across three data-sharing contexts: (a) from service users to HCPs in consultations; (b) HCPs to GPs; and (c) HCPs to non-HIV HCPs. Data were analysed thematically.

Results: Over half (57%) of participants were female; 57% were doctors. Participants had worked in HIV for 12 years on average.

HCPs were comfortable with a wide range of data being shared with them by service users. Across all sharing contexts, HCPs were uncomfortable with sharing of service user photographs, perceiving them as not routinely shared, unnecessary, and potentially risking inadvertent sharing of inappropriate content. HCPs were comfortable sharing data with GPs and other non-HIV HCPs in two broad categories: (a) demographic data (e.g. age) and (b) non-sensitive data related to general health (e.g. sleep). HCPs were less comfortable sharing sensitive information about HIV status, sexual health, behaviour and identity, perceiving them as not relevant to care provided by other HCPs or as risking stigmatisation. Service user consent and relevance of data to sharing context were key determinants of data-sharing comfort.

Conclusion: With a growing emphasis on self-management of HIV and on remote care provision, understanding the context of data-sharing in HIV care is increasingly important, particularly given the perceived durability of some current service changes as a result of COVID-19. We demonstrate the complex interplay of data types, relationship dynamics, and contexts of care provision that shape the data-sharing ecosystem in HIV care. Developing guidance on the sharing

of service user and clinic-generated data in HIV care must account for these complexities.

P152 | Implementing a virtual genital dermatology clinic during COVID-19 pandemic

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Background: Due to the COVID-19 pandemic, sexual health consultations are largely being conducted via telephone. To facilitate care for patients with genital dermatoses a virtual genital dermatology service (VGD) was developed to provide extra capacity, where patients provide self-taken digital images to aid with diagnosis and management.

Method: Referral criteria were created for the VGD service. All patients < 18 years were excluded. Those patients identified with genital dermatology conditions (during routine phone consultations) were texted a centralised email address to request an appointment in the VGD clinic. Patients were then sent an information leaflet including instructions on emailing images. Signed consent form was obtained to upload the images to their electronic notes.

Following the consultation an anonymised survey link was sent inviting patient feedback.

Results: In a 5 months period 200 surveys were texted to patients. The response rate was 52/200 (26%), of these 47/52 (90%) found the service convenient to use with 43/52 (83%) happy to use the service again.

the referral process was clearly explained in 42/52 (81%). Patients were reviewed within 2 weeks in 45/52 (86%) cases. Patients felt their skin problems were diagnosed and initial treatment offered in 46/52 (88%) cases; 46/52 (88%) were satisfied with their virtual appointment.

Of those not happy to be referred for this service again, 9/52 (17%) preferred to be seen face to face and 3/52 (5%) found taking digital images difficult.

Conclusion: Overall patient satisfaction was high and the majority of patients found the service convenient.

Not all patients are suitable for virtual services, with specific barriers e.g., age, vulnerable patients, providing consent, technological factors, and patients not wishing to provide genital images. Alternative options need to be provided and face to face consultations were offered to these patients. There were also limitations with some images being poor in resolution. The service did require significant secretarial support to email patients and upload images to patients notes. The sustainability of such a service in the long term will need to be evaluated to offer alternative platforms for patients to consent and send in images securely, and be more easily accessible.

P153 | An evaluation of a joint HIV and cardiology clinic

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Background: People living with HIV are at increased risk of cardiovascular disease (CVD), especially coronary artery disease. In order to provide focused and specialist care for these patients, we set up a monthly joint HIV and cardiology clinic in 2015. Our aim is to evaluate the service provided and determine its impact on patient care.

Method: We collected data from patients attending the clinic from electronic patient records and clinic letters.

Results: 148 individual patients were seen in the clinic for a total of 296 visits. We analysed the data for 60 patients (55 male, 5 female), mean age 57. On average, patients attended the clinic twice. The duration of HIV treatment at first appointment varied from 2 months to 30 years and only 2 patients had a CD4 count of < 200. Risk factors for CVD were common: diabetes(12%), chronic kidney disease(18%), hypertension(23%), hyperlipidaemia(35%), family history of CVD(25%), smoking(32%), previous smoking(40%). 70% of patients had previous CVD. Parameters such as blood pressure, lipid profile and HbA1c were measured in the last 15 months in 77%, 90% and 88% of patients, respectively. Source of referral was from the HIV team in 83% of cases. Reason for referral were categorised as follows: chest pain(27%), post acute coronary syndrome(22%), arrhythmia/ palpitations(13%), adjustment of HIV regimen/ optimisation of cardiac medication(2%), presyncope/ syncope(8%), primary prevention for significant risk factors(7%), heart failure/ shortness of breath(13%), valvular heart disease(3%), structural heart disease(3%), hypertension(2%). Further investigations were requested in 80% of patients. Ischaemic heart disease was diagnosed in 47% of patients, with 13% being referred for primary cutaneous intervention. Outcomes included: medication optimisation/ advice(50%), a new cardiovascular diagnosis(17%), additional cardiovascular intervention(8%), lifestyle modification advice only(7%), referral to cardiovascular subspeciality/ other speciality(7%), reassurance about cardiovascular risk profile(7%).

Conclusion: This demonstrates that a significant number of patients benefited from specialist advice resulting in a change of their medical management. Having an HIV physician working alongside a cardiologist also allowed rapid

optimisation of antiretrovirals to reduce cardiovascular risk and avoid drug interactions.

P154 | Improving health and wellbeing across HIV/ GUM departments in the UK

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Background: Sexual Health staff support patients at times of high emotional stress. This can impact on staff health and wellbeing. The GMC states that 'staff wellbeing significantly improves productivity, care quality, patient safety, patient satisfaction, financial performance and sustainability of our health service.' Research demonstrates that multilevel interventions- both organisational changes as well as wellbeing activities, help to reduce burnout. As well as emphasising the importance of always considering wellbeing in management meetings (rota/ IT systems/ staff issues), I launched a quality improvement project, evaluating whether we could improve staff wellbeing by introducing healthy and fun activities.

Method: In June 2019, 30/120 of our staff and then in October 2020, 36/120 of our staff, completed a survey which rated their wellbeing in relation to work, and indicated which activities they would like the department to provide. I established a Wellbeing Committee with volunteers from the department, and invited our city Mayor to launch our wellbeing events (meditation, yoga, fruit in staffroom, craft groups, sports events, Balint-style group, sea-swim club, gin club).

Results: The second survey showed that happiness ratings at the beginning of work days, satisfaction at the end of work days, how well they got on with their colleagues and how supported they feel in challenging work situations, improved after the implementation of wellbeing initiatives. Staff gave valuable feedback such as "not having to talk about work and doing something fun improves relationships between staff."

Conclusion: This is an ongoing, long-term quality improvement project. The impact of covid and how redeployment and virtual working are affecting staff wellbeing may be reflected in our results. I have spread our ideas across GUM departments by speaking at regional training days and communicating online with colleagues from different regions. Our wellbeing ideas have also been taken on by different specialities in the Trust. It is our aim to continue to strengthen and consolidate our wellbeing activities locally and nationally.

P155 | Local gender clinic

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Background: It is estimated that around 1 percent of the population in Britain might identify as transgender, that is around 600,000 people. In order to access gender identity clinics some people may have to travel significant distances and waiting times for appointments can be very long, even years. In order to improve access to gender identity services and care our sexual health service set up a local gender clinic in our department as part of a wider gender identity service network with a central gender clinic and local gender clinics in each health board. Once people have been endorsed for hormone therapy they will be referred to the local gender clinic in their health board.

Method: The local gender clinic in our service was set up in September 2019 and runs once per week. Our pharmacist sources any medication or therapies needed and a leaflet of transgender support groups and information has been designed for use if needed. Sexual health screening and treatment, contraception and prophylaxis such as HIV pre-exposure prophylaxis (PrEP), hepatitis B and human papilloma vaccines are also available as well as hormonal therapy. In the future once people are stable on therapy they will be handed back and managed by GPs under a Direct enhanced service (DES).

Results: At present 47 people attend the local gender clinic in our service who identify as transmale, transfemale or non-binary. Hormonal therapies prescribed include oestrogen tablets, patches or gel, testosterone gel or injections and gonadotrophin-releasing hormone antagonists. There is no waiting list and the service has continued uninterrupted throughout the COVID-19 pandemic.

Conclusion: The local gender clinic in our service has received excellent feedback and enables people to access care close to their homes. With time these increased services should reduce waiting times for gender identity services and as mentioned once people have been endorsed for hormonal therapy there is no waiting list for our local gender clinic. The local gender clinic being in our sexual health department ensures optimum holistic care for not just hormonal therapy but also sexual health treatment and prevention and contraception.

P156 | Conflicts in clinical reasoning between clinicians and their electronic medical record: a grounded theory analysis

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Background: Clinical usability can be defined as *'the extent to which a clinician-machine interface can be used to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use'*.

Global criticism of most Electronic Medical Records (EMR) suggests that the traditional EMR interface fails to meet basic usability needs.

This study builds a conceptual theory from qualitative data from Integrated Sexual Health (ISH) clinicians, describing their current EMR and / or a visual provotype (provocative prototype).

Method: Grounded theory is a qualitative research method that builds a theory of user experiences from the ground up. A mixed-methods paper survey was distributed between January and November 2017 to four ISH clinics in the UK. The qualitative data were analysed using the constant comparative method of grounded theory. This involves deriving concepts from qualitative data, exploring the relationships between concepts in theoretical memos, revealing the shape of the theory through sorting memos and thereby achieving conceptual integration. The resultant theory identifies a shared concern of participants and how they process that concern.

Results: There were 56 respondents working across all clinical roles. At 4 clinic sites, there were 47 female and 9 male respondents. Some returned separate surveys on both their own EMR and the prototype.

Of 142 paper surveys distributed, 120 were completed (84%), totalling 3,793 words. Of these, 64 (53%) related to the visual provotype, 31 (26%) to 'EMR1' and 25 (21%) to 'EMR2'.

Users are obliged to tolerate a conflicted perspective with their EHR.

Four central usability concepts were discerned:

1. There are two distinct domains of EMR functionality:
 - Data retrieval (reconstituting the patient history)
 - Data capture (taking the patient history)
2. Being obliged to work with an EMR which has a 'data storage' perspective does not support the way the clinician's mind works.
3. The EMR fragments the narrative nature of clinical medicine.

4. The heart of the consultation is the clinician's relationship with the patient.

Quantitative data (not shown) shows significant usability differences between the two EMRs, as well as the provotype.

Conclusion: Beyond interoperability and functionality lies the challenge of clinical usability.

These findings describe a fundamental conflict in how clinicians work with their EMR.

The ability to communicate what clinicians want is essential when designing EMR with next-generation digital technology.

P157 | Annual blood monitoring in stable HIV patients during the COVID-19 pandemic: what did we learn?

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Background: Current BHIVA guidelines recommend blood monitoring six monthly for the majority of patients established on antiretroviral therapy (ART) with a suppressed viral load (VL). During the COVID-19 pandemic, patients in our large urban HIV service who were clinically stable (established on ART and virologically suppressed) were moved to annual monitoring in line with the 'BHIVA interim ART guidelines COVID-19'. We wanted to review the impact of this revised guidance at the earliest opportunity.

Method: This retrospective single centre evaluation analysed the demographics and blood results of 100 patients who had been clinically stable and moved onto annual monitoring during the COVID-19 pandemic.

Results: Age range: 25–73 years with 77% being 40–59 years. Ethnicity: 49% Black African and 38% White British. Gender: 61% male and 39% female. Backbone regimens: Emtricitabine/Tenofovir 62%, Abacavir/Lamivudine 29% and Emtricitabine/Tenofovir Alafenamide 5%. Third agents: non-nucleoside reverse transcriptase inhibitor 37%, integrase inhibitor 32% and protease inhibitor 27%. 2% were on dual therapy and 2% were on an alternative regime. The mean length of time on therapy was 10 years (range 2–29 years). 3% had Hepatitis B co-infection. The mean time between monitoring bloods was 11.6 months (range 9–17 months). All patients (100%) maintained virological control at <200 copies: VL <50 = 99% and 1% had VL = 130 (on Symtuza). A new ALT rise >2 x upper limit of normal was seen in 3% (3 patients). 2 normalised and 1 remained static. 3% (3 patients) had an eGFR drop of ≥15% (range 15–31%, median 16%). All 3 were on a tenofovir regime. 2 of the 3 patients

had normal urine protein:creatinine ratio and 1 had a normalised eGFR on repeat. Nil necessitated a change in ART regime.

Conclusion: Our results are extremely reassuring, suggesting a move to annual blood monitoring for clinically stable, virologically suppressed patients, on ART (regardless of the regimen) is safe. Data from other services will, however, be needed before BHIVA is in a position to be able to review their current monitoring guidance.

P158 | Using the Healthcare-OP tool to evaluate the overall cost of introducing an online service for STI and HIV self-sampling

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Background: Online services for STI and HIV self-sampling are increasingly being adopted by sexual health services (SHSs). Exploring the impact on overall cost of introducing a new service can be challenging. We developed a simple costing tool, Healthcare-OP, for use by clinicians and managers to support business case preparation for introducing a new service. Using routine data, Healthcare-OP was used to examine the impact on overall cost for the introduction of an online service within a specialist SHS providing STI and HIV self-sampling for asymptomatic clients.

Method: Patient care-pathways were categorised into 16 types based on clinic workflow and estimated duration of consultation. Each pathway was broken down into discrete "processes" which were costed based on healthcare professional time and costs of tests/consumables. The probability of patients entering each care-pathway and of transitioning between "processes" in Healthcare-OP was estimated using 12 months data from the electronic patient records. Costs were derived from national pay scales and literature. The model did not include costs which remain the same before and after the introduction of online self-sampling service (e.g. fixed overheads or diagnostic and treatment costs when the service is provided in-house). We used Healthcare-OP to compare costs of providing the online service in-house or externally, via a commercial provider. Fixed costs and overheads preclude a SHS from recouping the full cost of

a test when it is externally provided. We modelled this discrepancy at 30% and 50%.

Results: The average weekly cost for managing 227 male and 237 female clients was £3104 and £3075, respectively. 50% of 76 male and 78 female asymptomatic clients using the online self-sampling services resulted in: a weekly cost saving of £261 and £49 respectively when provided in-house, and ranged from a weekly cost saving of £103 to an additional £241 for male pathways and an additional £126–£479 for female pathways when provided externally.

Conclusion: The introduction of online-based self-sampling for asymptomatic patients may reduce the overall cost when provided in-house but not externally via a commercial provider. Simple costing tools such as Healthcare-OP are useful in planning and developing service changes.

P159 | Audit on management of rectal *Chlamydia trachomatis* in MSM

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Background: Rectal Chlamydia is a common infection in MSM. Many patients with rectal chlamydia may also be positive for Lymphogranuloma venereum (LGV). Most patients with LGV present with proctitis, however, asymptomatic infection may occur, which is more likely in HIV positive individuals. We evaluated our management of rectal Chlamydia in MSM against 2015 BASHH audit standards.

Method: Data collected from electronic patient record of first 50 consecutive MSM patients diagnosed with rectal Chlamydia from 1st January 2020. Records were reviewed for age, symptoms, HIV status, STI screening, treatment offered, test of cure (TOC), partner notification and PrEP /HIV risk discussion.

Results: 74% were under the age of 40. 16% were HIV positive. 52% were HIV negative and not on PrEP; PrEP and HIV risk was not discussed in 64%. 16% had symptoms of proctitis; positive LGV in 2%. All positive LGV cases were treated with three weeks of doxycycline. LGV test was performed in 75% of patients with proctitis and in 62.5% in HIV positive individuals. Of 28 patients (56%) without LGV testing and treated with a week of doxycycline, 65% patients had TOC at 6 weeks. 25% of HIV positive patients who did not have LGV testing and were treated with one week of doxycycline did not have test of cure. 100% had triple site swabs and HIV testing; 10% did not have Hepatitis B/C testing. 38% had concomitant STI's, most common being rectal Gonorrhoea. All patients with rectal Chlamydia were treated with Doxycycline and partner notification was done in 94%.

Conclusion: We achieved BASHH standards for testing, treatment, and partner notification. However, we identified need for improvement in two areas. First, requesting LGV testing in all symptomatic and HIV positive patients and recall for TOC at six weeks, especially where doxycycline was given as treatment for one week. We now offer TOC at 6 weeks for all < 25 years and all MSM patients. Second, discussion of PrEP and HIV risk in all patients with Rectal Chlamydia. We have since trained our staff nurses to offer and discuss PrEP

P160 | The evolving role of HIV pharmacist independent prescribers (PIPs) within varied clinic settings

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Background: HIV pharmacist independent prescribers (PIPs) are ideally positioned to review people living with HIV (PLWH) to ensure clinically appropriate, cost-effective use of antiretrovirals (ARVs), identify and manage drug-drug interactions (DDIs) and provide specialist pharmaceutical advice. In 2020, the roles of HIV PIPs in our Trust advanced in two major ways:

- In August 2020, a pharmacist-led HIV Clinic was piloted in Clinic 1, providing ARV switch/start reviews, and polypharmacy/medication reviews. Consultations were face-to-face or telephonic.
- From July 2020, PIPs consulted in the HIV telemedicine service at Clinic 2 (alongside medics and nurses prescribers), providing telephone triage and stable patient reviews.

This evaluation reviews the impact of PIPs within both settings

Method: Data were collected prospectively over 5 months (August–December 2020) at Clinic 1, and 6 months (July–December 2020) at Clinic 2, on the consultation type, patient complexity (HIV Viral Load (VL), number of co-medications/comorbidities) and interventions made by PIPs.
Results: PIPs completed 310 consultations across both clinics.

Clinic 1: 33 consultations were undertaken. PIPs prescribed ARVs in 29/33 consultations. 3/33 patients had detectable VL; two were recent starters and one sustained low level viraemia (SLLV). Patients had a mean of 4 co-medications (range 0–15) and 2 comorbidities (range 0 – 10). DDIs were

identified and managed in 5/33 consultations. Bloods were requested and managed in 25/33 consultations.

Reason for consultation	Number of consultations at Clinic 1
Post-start review	2
Post-switch review	23
Switch	6
Polypharmacy/medication review	2
Total	33

Clinic 2: PIPs completed 277 consultations. PIPs prescribed ARVs in 119/277 consultations. VL data was available for 240/277 consultations; 223/240 had an undetectable VL, 12/240 SLLV and 5/240 were off treatment. Patients had a mean of 2 co-medications (range 0–19).

Overall, 10% of consultations required onward doctor referral as the complaint was outside the PIPs' scope. Zero prescribing errors were made by the PIPs.

Conclusion: HIV PIPs can safely prescribe ARVs and review PLWH, in pharmacy-led face-to-face and telephone clinics. Utilising the PIPs' expertise supports effective use of the HIV MDT skill mix, which is increasingly important as NHS services evolve.

P161 | National service evaluation of non-medical prescribers in HIV care: an underused resource?

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Background: The aim was to evaluate different settings and clinical areas in which non-medical prescribers (NMPs) practice in HIV services. We also wanted to identify how their qualification is utilised and supported as well as common development needs.

Method: An online questionnaire was distributed to NMPs via specialist groups: HIV Pharmacy Association and National HIV Nurses Association. This was developed in line with 'A Competency Framework for all Prescribers', published by the Royal Pharmaceutical Society, 2016.

Results

- 51 NMPs completed the questionnaire (34 nurses; 17 pharmacists)
- NMPs qualified in their profession: mean of 25 years
- Qualified as an NMP: mean of 7 years

- All NMPs work within a clinical capacity across inpatients, outpatients and community services
- 67% were currently not using their qualification for reasons including staffing pressure, not part of their role, not a requirement for their service and lack of senior support
- Practising NMPs were using their qualification for a variety of services including repeat/emergency prescribing, starting/switching anti-retroviral therapy, opportunistic infection management and clinical trials
- Almost all NMPs utilise multi-disciplinary meetings and apply national/regional guidelines to their clinical practice
- 45% attended an annual NMP update; 49/51 would like an HIV specific update
- 61% identified key learning needs to facilitate their practice. The most common included cardiovascular, neurocognitive and metabolic assessments and polypharmacy management
- Support/advice for NMPs is sought from varied sources including medical practitioners, pharmacists, BHIVA, electronic medicines compendium and University of Liverpool drug interaction website
- 63% have a nominated clinical supervisor however the type and frequency of support is variable
- 22% have completed an audit in the last year relating to their practice
- 53% do not keep a portfolio of their clinical practice

Conclusion: NMPs working within HIV are highly experienced and able to practice in a wide range of clinical situations. However, these results suggest an underutilisation of this resource as well as a clear need for HIV specific support to aid professional development and enhance services. Development could be supported through establishing an HIV-specific NMP Network to deliver tailored education and training as well as support for NMPs working within HIV services.

P162 | Retrospective analysis of new cases of neurosyphilis: increasing prevalence and shifting patient demographics

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Background: Within the past decade, Public Health England reported a 162% increase in the incidence of syphilis, highlighting the importance of syphilis diagnosis and prevention. Neurosyphilis clinical presentation overlaps with several

neurological conditions leading to misdiagnosis and late referral to sexual health services. This retrospective cohort study explores the cases of neurosyphilis, its diagnosis, and compliance to national guidelines regarding management.

Method: Patients diagnosed with syphilis between April 2020-October 2020 were identified on an electronic patient records system, using GUMCAD syphilis codes. Using the “BASHH Auditable Outcomes for Syphilis”, patient data regarding primary outcomes were collected. Information related to patient demographics was also recorded to identify high-risk populations and co-infection with HIV.

Results: In total, 6 new diagnoses of neurosyphilis were identified within the 6-month period, as compared to only 1 in the same 6-month period in 2019. The majority of patients were referred from other specialties (ophthalmology (n = 2), general practice (n = 2), neurology (n = 1)), whilst one patient presented following partner notification. Secondary neurosyphilis (n = 5) presented with rashes in upper limbs or neurological symptoms. Late neurosyphilis (n = 1) presented with visual disturbances and dizziness. All patients obtained serological diagnosis before treatment initiation and full STI screening. Treatment included a 14-day regimen of procaine-penicillin and probenecid (n = 5), excluding one patient due to allergy. Partner notification and treatment of partners was achieved in 100% of cases. Patients were diagnosed at a range of ages: 20–39y (n = 3), 40–59y (n = 2), and over 65y (n = 1). The majority of cases were homosexual males (n = 4), the remainder were heterosexual females (n = 2). One patient was HIV positive.

Conclusion: This audit suggests a significant increase in neurosyphilis prevalence seen in our service and a shift in associated patient demographics. Results show that neurosyphilis is becoming increasingly more common amongst younger populations. This can have implications for sexual health services as treatment is labour intensive, requiring nursing staff and 7-day-a-week patient attendance. These findings highlight the importance of promoting symptom awareness, particularly amongst healthcare professionals, to ensure prompt referral for STI screening when there is a high index of clinical suspicion.

P163 | An ‘in-house’ simulation-based workshop on medical emergencies within sexual health

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Background: Although rare, medical emergencies can and do occur within sexual health clinical settings. All staff working within sexual and reproductive healthcare services should be trained to provide basic life support and manage vasovagal

syncope and anaphylaxis. We developed an ‘in-house’ simulation-based workshop to provide staff in a local sexual health service with training on recognising and managing medical emergencies. Our aim is to share our experiences in developing this workshop and the feedback from staff who participated.

Method: We developed a simulation-based workshop in recognising and managing medical emergencies using the 2016 Faculty of Sexual and Reproductive Healthcare ‘Service standards for resuscitation in sexual and reproductive healthcare services’. This workshop was offered to all clinical staff in a local sexual health service in March 2020. The workshop comprised of three separate simulated scenarios: a collapsed patient requiring basic life support, a patient with anaphylaxis, and a patient with vasovagal syncope. Each scenario was supervised by a registrar or consultant working within the department. Medical student volunteers were recruited to act as patients. Participants were asked to complete anonymous questionnaires before and after the workshop, rating their confidence in dealing with each of the 3 scenarios on a scale of 1–10 (1 = not at all confident, 10 = extremely confident).

Results: A total of 19 staff members participated in the workshop; 15 completed pre- and post-workshop questionnaires. Participants were asked to rate their confidence in dealing with each of the 3 scenarios on a scale of 1 (not at all confident) to 10 (extremely confident) before and after training. The proportion of participants who rated their confidence as between 6 and 10 increased across all scenarios following training: from 80% to 100% in managing a collapsed patient requiring basic life support, from 40% to 100% in managing a patient with vasovagal syncope, and from 40% to 100% in managing a patient with anaphylaxis.

Conclusion: Our experiences demonstrate that ‘in-house’ simulation-based training is a useful tool to improve staff confidence in managing medical emergencies within a sexual health setting, as an addition to mandatory resuscitation training.

P164 | Frontline clinician awareness of pre-exposure prophylaxis (PrEP) for HIV in Scotland

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Background: Pre-Exposure Prophylaxis (PrEP) for HIV has been licensed for use in NHS Scotland since 2017. PrEP is currently accessed through sexual health services and subject to eligibility criteria. Frontline doctors in General Practice, A&E and Paediatrics may care for patients already taking PrEP – or be uniquely positioned to discuss PrEP and refer eligible patients on to sexual health services. It is important that these doctors are aware of PrEP, the current eligibility criteria and are comfortable discussing PrEP and risk factors with their patients.

Method: This study aims to assess frontline clinician awareness of PrEP by surveying doctors working in emergency medicine, paediatrics and general practice in Scotland. An online survey was created and distributed to doctors across Scotland, with data collected between January and February 2021.

Results: Responses from 50 doctors were collated and analysed (19 emergency medicine, 16 paediatrics, 11 GPs, and 4 'others' (e.g. neonatologist)). The majority of respondents were at least registrar or consultant level (66%). Only 24% of doctors rated their knowledge of PrEP as 'good' or 'excellent', with the majority (62%) reporting their knowledge came from informal sources (e.g. news outlets or social media). 70% either didn't know, or were unsure of the eligibility criteria for PrEP provision. Nearly a quarter (24%) of doctors have had patients ask them about PrEP and over a third of respondents have looked after patients taking PrEP (36%). 86% of respondents report not being happy with their level of knowledge about interactions and contra-indications of PrEP. 42% of doctors reported being either 'uncomfortable' or 'very uncomfortable' discussing risks and benefits of PrEP with patients.

Conclusion: Whilst it is encouraging to see some levels of confidence in clinician knowledge around PrEP, most respondents had poor awareness of PrEP and felt uncomfortable discussing the risks and benefits of PrEP with patients. The knowledge of interactions and contraindications was also poor. Despite this, a majority of respondents had looked after patients taking PrEP. Free text responses showed a wish for more education and guidance on PrEP, including from paediatricians looking after adolescent patients.

P165 | What do patients really think about remote consultations?

Natasha Astill

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Background: The SarsCoV2 pandemic necessitated reduced face-to-face appointments.

This study aimed to assess patient views on remote consultations during national lockdown and into the future in order to plan appropriate services.

Method: All patients who attended a telephone appointment between 18/2/20 and 10/6/20 were sent a subsequent SMS link to a web-based survey. Data was collected and analysed by Survey Monkey™.

Results: 258 completed surveys. Respondents: 62% male; 54% identified as 'White all' (88% male); 39% as 'Black African / Black Caribbean / Black British' (BA/BC/BB) (73%

female); 3.4% under 25 years; 10% 25–35 years; 24% 35–44 years; 36% 45–54 years; 20% 55–65 years; 7% 65+ years.

Regarding their recent telephone appointment 95% were 'satisfied' or 'very satisfied', and 65% had 'No concerns'.

Only 12% responded, 'No concerns, preferred telephone consultation. Preference for a telephone consultation varied between demographic groups: 17.9% BA/BC/BB versus 6% white (OR 3.43, 95% CI 1.41 – 8.33, p value 0.0053); 19% women versus 8% men (OR 2.79, 95% CI 1.28 – 6.09, p value 0.0096). Women expressed a higher preference for telephone consultations than men, even within the same ethnic groupings. Under 35s expressed least preference for a telephone consultation (1%).

Commonest reported concerns: 16.9% 'less personal', 31% of under 35s; 12% 'less reassuring', 20% of BA/BC/BB under 45 years; 8% 'difficult to describe health problems', 13% of under 35s; 7% 'difficult to find a private space'; 6% 'confidentiality', 17% of BA/BC/BB under 35.

Less than half (42.2%) of respondents expressed a preference for video over telephone consultations. Video preference was higher in BA/BC/BB respondents (56.5%), lower in white respondents (32.6%), the over 65s (33.3%), and lowest in the under 35s (21.7%).

84.5% (demographic group range 82–90%) were 'somewhat', 'very' or 'extremely interested' in telephone or video consultations in the long-term.

Conclusion: Low preference was shown for telephone over face-to-face consultations and less than half showed preference for video over telephone consultations. BA/BC/BB had a higher preference for remote consultations and young people more concerns.

However, there was a high interest in future remote consultations amongst all groups. Future utilisation of remote consultations should be tailored to the individual.

P166 | Improving sexual and reproductive health services for transgender and gender diverse patients

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Background: Healthcare for transgender and gender diverse (TGD) patients often fails to represent this group of people. We aim to improve the quality of services at our integrated sexual health centre in line with BASHH guidance.

Method: 21 TGD individuals completed an online questionnaire. In-depth interviews of 3 TGD patients were conducted over telephone. We explored issues experienced in sexual healthcare and how services could be improved. We used descriptive statistical analysis of quantitative questions. For qualitative data, we conducted a thematic analysis.

Demographics
(participants could skip questions/select multiple options)

Identity		Gender identity same as assigned at birth	
Transgender male	8	Yes	2
Transgender female	6	No	22
Non-binary	9		
Other	1		
Age		Ethnicity	
Median age group	25–34	White British	17
		Black African	1
		Asian	2
		White other	2
		White mixed	1
Orientation		Previous attendance at a Sexual Health Clinic in our region	
Gay	4	Yes	13
Heterosexual	2	No	10
Pansexual	4	Unsure	1
Queer	9		
Bisexual	8		

Results

Barriers to accessing healthcare

- Previous experiences of discrimination and vulnerability
- Service-users had dealt with unwanted assumptions from clinicians regarding their health, especially whether they had undergone gender re-assignment surgery

Healthcare professionals

- Patients wanted healthcare professionals to use inclusive language
- Formal diversity training to improve TGD knowledge was recommended

A good sexual health service

- Gender diverse or neutral waiting areas were preferred; only 33.3%(n = 7) of patients who filled in the questionnaire said that the waiting areas in clinics they had visited were appropriate ‘most’ or ‘all of the time’
- 83%(n = 20) of patients said a designated TGD sexual and reproductive health clinic would be useful
- We asked online survey participants what services they would like a clinic to provide: 90.5%(n = 19) wanted sexual health screens, 57.1%(n = 12) cervical smears, 81%(n = 17) vaccinations, 85.7%(n = 18) hormone therapy monitoring, 61.9%(n = 13) pre-exposure prophylaxis, 71.4%(n = 15) contraception services and 42.9%(n = 9) asked for post-exposure prophylaxis or HIV care

Conclusion: Higher quality care for TGD patients is necessary. We recommend: designated transgender/non-binary sexual and reproductive health clinics with the provision of specific services described above, non-gendered waiting rooms and diversity training for clinician and administrative staff.

P167 | Re-introduction of a young person’s walk-in clinic during COVID-19 pandemic restrictions

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Locala Community Partnerships CIC, West Yorkshire, UK

Background: The COVID 19 pandemic led to cessation of all our integrated sexual health queue and wait services which included our young persons’ clinic (YPC) at 2 sites. Our phonelines became the only access points into clinical care. We were concerned about the barriers that vulnerable groups including young people may face and were aware that the number of young people accessing care had dropped dramatically during the first lockdown.

We therefore recommenced our weekly drop-in YPC in November 2020 with use of a detailed risk assessment. This included: covid screening questions at clinic entrance; offer of face mask; careful capacity monitoring; encouraging accompanying individuals to wait elsewhere; use of young persons’ engagement worker to streamline clinic flow. The clinic was advertised on social media and information circulated to relevant partner agencies.

Method: We reviewed all YPC attendances between the 18th November 2020 to 27th January 2021. Individual demographics and reason for attendance were recorded.

Results:

Total attendances	84
% female	92%
Age range (mean)	13–17 (15.9)
Primary reason for attendance	STI related care 33 (39%); contraception 51 (61%) of which 12 had a LARC fit on the same day
Face to face appointment	94%

Conclusion: Re-opening our YPC during lockdown has been a success and with careful risk assessment we have maintained a covid-secure environment.

Ensuring the correct skill-mix for this clinic has been crucial to its success. The presence of a young persons’ engagement worker has assisted with under 18 risk assessments and aided referrals and communications with other agencies. We have seen that many of the young people do have multiple vulnerabilities with ongoing and previous safeguarding concerns.

The number of U18 attendances in May 2020 in one of our services was 35% of the total in May 2019. By December 2020 this had risen to 92% of December 2019. Whilst this is likely to be multifactorial, we are encouraged by the continued use of the service.

P168 | Operational safeguarding in sexual health: using data as part of a structured review

Heather Slim, Paula Adams, Nicola Fearnley and Sophie Brady

Locala Community Partnerships CIC, West Yorkshire, UK

Background: As part of our structured approach to safeguarding we have a quarterly meeting where patient data is presented from across our services eg numbers, vulnerabilities, referrals and involvement of other agencies. Additionally, safeguarding training compliance, safeguarding team and social care referrals are monitored.

COVID 19 led to significant changes in the way we deliver our integrated sexual health care; our services are based in a region where enhanced measures have been in place for much of the year. We present the changing picture for patients across 2019 and 2020.

Method: A standard report for safeguarding has been designed. We present a snapshot of this.

Results: Representative data is shown below.

Conclusion: The use of a regular report pulled from data within the electronic patient record has helped the sexual health operational safeguarding meeting become structured and data based. The numbers of both vulnerable adults and children accessing our sexual health services were seen to fall during 2020. It shows that children who are under the care of children’s social care continue to attend, albeit in reduced numbers. Likewise, adults where there is an adult safeguarding

	April- June 2019	July- Sept 2019	October- Dec 2019	Jan- March 2020	April- June 2020 (% of same quarter 2019)	July-Sept 2020 (% of same quarter 2019)	Oct-Dec 2020 (% of same quarter 2019)
U18 total	684	603	686	743	251 (37%)	315 (52%)	314 (46%)
Over 18 total	9100	9815	9366	8189	4055 (44%)	4808 (49%)	5129 (54%)
U18 witness of domestic abuse	101	72	77	60	22	27	62
U18 under care of social services	69	77	87	56	33	35	56
U18 Under care of youth offending team	4	3	5	6	2	6	4
Adult safeguarding concern	21	19	22	11	9	5	6

concern continue to attend but in much reduced numbers. We have implemented a number of measures to try to address these issues : by reopening our young person's walk in, by developing e-referral forms for other agencies ease of referral; by using a young person's mobile for texting instead of calling.

P169 | Random sampling of records of under 18s who attend integrated sexual health services: high rates of pre-existing safeguarding concerns

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Background: Our service dip-samples the records of individuals under the age of 18 (U18) who attend our integrated sexual health services in the North of England. Originally this was set up as an assurance that U18 are having documented safeguarding risk assessments and to check that other recommendations, some from serious case review learning, were taking place. Such an example is the documentation of the involvement (or not) of other agencies. During the review we have also noted information within the "safeguarding node", a feature of the SystmOne electronic patient record which our service uses, which alerts the health-care provider to current or previous safeguarding concerns.

Method: Every quarter, randomly selected records of 10 U18 are reviewed, and the findings summarised.

Data is presented from between 1/6/19 and 31/12/21.

Results: 72 U18 records were reviewed 65 were female; 7 were male including one trans male. The age range was 12–17. Average age 15.6. For 31 (43%), it was their first contact with our services; for 13 this was at least their 4th visit. 23 were attending for STI related care. 25 (35%) had entries on the safeguarding node, 17 of which were dated within the last 12 months. The concerns documented included: domestic abuse; criminal and sexual exploitation; parental drug and alcohol misuse; missing episodes. Completion of the U18 risk assessment was 99% (one child left before they were seen). 61/72 had documented that agencies were or were not involved with the child.

Conclusion: Random sampling of the records of young people has confirmed that recommendations from serious case reviews and national guidelines are being followed. Previous developments and improvements to our proformas have made it easier to record when no agencies are involved and this review demonstrates that this is now being completed in the majority of cases. We have demonstrated that a high proportion of U18s have prior safeguarding concerns flagged. This is interesting in the context of the pre-existing vulnerabilities of service users and

has aided our clinicians to see the bigger picture when assessing children, hopefully helping to keep them safe.

P170 | COVID vaccines and long-acting antiretrovirals: what do patients really think?

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Background: Healthcare professionals sometimes make assumptions about the attitudes and wishes of their patient population. Furthermore, these perceptions may be incorporated into healthcare policies, including those regarding the roll-out of novel treatments and vaccines. We invited all patients booked for a routine HIV appointment to complete an anonymous questionnaire on COVID vaccination and long-acting antiretrovirals, to ascertain whether we were correct in our expectation that our cohort was enthusiastic about both new interventions.

Method: A text message containing a survey link was sent to patients 7 days preceding their clinic appointment. The survey, designed to take <1 minute to complete, was set to be comprehensible at an English reading age of 8yrs. Texts were only sent to patients who had already agreed to receive SMS communications from the service. Analysis was conducted using 'SurveyMonkey' tools. This survey is ongoing and will gather data until 1st April 2021.

Results: Texts were sent to 270 patients between 04/01/21 and 05/02/21, with 102 responses (37.8% response rate). 59.8% of respondents identified as male and 46.1% as Black African. 84.3% had accepted previous influenza vaccination. 62.4% stated they would accept any form of COVID vaccine; however, 7.9% were only willing to accept the AstraZeneca vaccine. 22.7% were still undecided about COVID vaccination and 7 respondents (6.9%) declined any COVID vaccine (of these, 6 had accepted influenza vaccination). All COVID vaccine decliners had lived with HIV for at least 5 years. No gender or ethnicity differences could be ascertained due to the small numbers but further data may be available by April. 52% of respondents were enthusiastic about long acting antiretrovirals, preferring these over their current treatment. A further 34.3% were unsure but interested. 45.3% of those who were keen to switch have lived with HIV for >10 years. No gender or ethnicity differences were seen.

Conclusion: Whilst we were broadly correct in predicting enthusiasm for long acting antiretrovirals, a surprising proportion of respondents remain unsure or significantly concerned about COVID vaccination. It therefore remains critical to assess patient acceptability for novel interventions so that education and reassurance can be tailored and delivered appropriately.

P171 | Evaluation of outcomes from deferred HIV monitoring in the context of the COVID-19 pandemic

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Background: The British HIV Association (BHIVA) guidelines recommend monitoring blood tests, including an HIV viral load as a minimum, at six monthly intervals for patients established on antiretroviral treatment (ART). With the COVID-19 pandemic and associated lockdowns, our service switched to telephone consultations and deferred blood tests. This service evaluation aimed to identify patients where monitoring tests were deferred and any adverse outcomes from doing so.

Method: Patients attending the service in 2020 and having at least one non-face to face consultation were identified from clinic HARS returns. Dates of monitoring blood tests were recorded and those with deferred monitoring (defined as >270 days between HIV viral load tests) identified. The patient electronic record was reviewed to identify any adverse events potentially attributable to the delay. These were classified as virological failure, new renal function abnormalities, new liver function abnormalities and other.

Results: From a cohort of 378, a total of 80 patients (21%) met the definition of deferred monitoring. Of these, 7 had not attended for monitoring bloods since the covid pandemic: 3 lost to follow up (2 known to be in lockdown out of area), 1 shielding, 2 declining to attend but continuing to access medications via home delivery, 1 declining antiretrovirals and monitoring visits. Of 73 who had attended for monitoring subsequent to the deferral period, 1 experienced virological rebound which rapidly resuppressed, 1 had a significant increase in HbA1c (likely related to weight gain). No other clinically significant issues were identified from laboratory monitoring.

Conclusion: In this small cohort, deferred monitoring of HIV viral load and other laboratory parameters due to the COVID-19 pandemic did not lead to adverse outcomes for the majority. Our service plans to evaluate the patient experience of telephone consultations and deferred monitoring to inform provision of care in future.

P172 | Doing what we do best – sexual health team develop Trust-wide standalone test and trace service for COVID-19

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Background: Our countywide sexual health service (SHS), in collaboration with Public Health (PH), established local

contact tracing for COVID-19, prior to the national system. Subsequently, our SH service has developed a standalone COVID-19 test and trace hub (STTH) for the Trust.

Method: In May 2020, we supported the development of a local COVID-19 contact tracing service; 10 days prior to the national system, within which time outbreaks were recognised and contained promptly.

The project has a multiagency approach, involving SH, occupational health (OH), local PH, Public Health England (PHE), local council, clinical commissioning groups and the military. Daily outbreak meetings have been maintained. SH staffed the contact tracing with environmental health officers (EHOs) until August 2020.

OH continued to contact trace Trust employees and their work contacts. EHOs prioritised completing contact tracing for businesses in the county. A specialist group was established with PHE to connect with people the national system could not contact.

Results: The local contact tracing venture gained national and international recognition. Firm working relationships were established between the multiple agencies involved.

Due to the experience gained in May 2020, the SH team have established a standalone Trust-wide STTH. STTH has used the SH staff to develop the service whilst SH clinics were providing only urgent care. STTH provides a central point for staff to book swabs, ask advice, receive support and arrange follow up as required. Contact tracing for both work and social contacts is completed, which is faster than the national system.

The data collected is filtered to OH to update staff records; the infection prevention team to recognise outbreaks within the Trust, COVID-unsafe areas and support local research; the council database to reduce duplication; the Trust's health and safety team to complete RIDDOR; and PH to support outbreak management and national research.

Conclusion: The experience gained in May 2020 has provided the understanding, insight and contacts to establish a robust STTH. New staff are being recruited to the STTH to enable SHSs to reopen to full capacity. Thus delivering a long term solution for the management of COVID-19 in our Trust.

P173 | Developing an educational package for dental staff to address HIV stigma and discrimination

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Background: People living with HIV (PLWH) consistently report difficulties when accessing dental services. There is a reasonable evidence base concerning the experiences of PLWH, however little is known about the attitudes, behaviours and knowledge of dental care staff providing care. The

aim of this service evaluation was to gather data on this missing perspective to inform the design of a bespoke educational resource for dental staff to improve services.

Method: A 25-item online questionnaire was constructed using validated questions tailored for dental settings. Single answer, multiple choice questions, Likert-scales and free entry text boxes were utilised. The questionnaire was sent to 38 practices in January and February 2021. Descriptive/thematic analysis was conducted.

Results: So far there have been 22 respondents: 17 female, 5 male; 8 dentists, 6 hygienists, 3 nurses, 3 receptionists, 3 practice managers. Findings to date indicate that dental staff have an adequate basic understanding of HIV and HIV transmission: 100% (22) recognised that HIV is distinct from AIDS; participants demonstrated an awareness that HIV could be transmitted via unprotected sexual intercourse (100%, 22), blood transfusion (96%, 21), and from mother-to-baby (68%, 15). However, only 27% (6) recognised that an undetectable viral load rendered HIV untransmittable sexually. This was echoed by thematic analysis of free text where only 23% (5) referenced reduced transmissibility. Stigmatising beliefs regarding the acquisition of HIV persisted with 32% (7) attributing *most infections* to *high-risk* behaviours such as injecting drugs. 73% (16) felt that only individuals engaging in *high risk behaviours* warranted regular HIV testing. 36% (8) of staff reported not having access to written guidelines on how to protect PLWH from discrimination when accessing their practice despite 86% (19) of staff having treated PLWH. Encouragingly, 86% (19) of respondents were open to learning more about HIV, with online self-directed learning proving the most popular method of delivery (57%, 12). Data collection will cease 01/03/2021.

Conclusion: Adopting this approach to explore the poorly reported experiences of PLWH when accessing dental care has yielded new data on areas to address when designing an educational package. Early appetite for professional development amongst staff is promising.

P174 | Snap diagnosis: review of a self-taken photodiagnosis pathway in sexual health

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Background: During the COVID-19 pandemic, face to face (F2F) consultations have at times been restricted to emergencies only. Many telephone consultations relate to issues requiring visual assessment of the genitals, some of which could be managed remotely. A pathway was set up for patient self-taken genital photographs to be emailed in for clinician review

and management. The Trust's Information Governance and Safeguarding teams were consulted. This pathway was implemented using the secure platform Egress from July 2020. We reviewed the patients who had used this pathway so far.

Method: All patients participating in the pathway were coded on our electronic patient record (EPR) system and notes were reviewed. We collected demographics, whether images were sent, image clarity, diagnoses and management.

Results: 47 patients consented to the pathway.; 57% male and 43% female. 83% of these actually sent images back, and 66% of those were clear. The most common diagnosis was genital warts (38%), followed by simple benign skin conditions e.g. sebaceous cysts or skin tags (30%). Treatment was posted to 34% and collected by 9%; in 32% reassurance alone was required. 11% required F2F as a result of the image review.

	Number (%)
Ethnicity	
White British	13 (28)
Asian	13 (28)
Black	6 (68)
White other	9 (19)
Other	1 (2)
Not documented	5 (11)
Images clear	
Yes	31 (66)
No	8 (17)
Not Applicable (N/A)	8 (17)
Diagnoses	
Warts	18 (38)
Herpes	3 (6)
Eczema	1 (2)
Cyst/simple skin condition	14 (30)
Other	4 (9)
N/A	7 (15)
Management	
Posted treatment	16 (34)
Collected treatment	4 (9)
Reassurance	15 (32)
Subsequent F2F	5 (11)
N/A	7 (15)

Conclusion: 74% of patients were managed remotely, avoiding unnecessary F2F attendance. Visual triage of issues that patients may struggle to describe accurately (e.g. primary chancre) was possible, allowing us to prioritise these patients for F2F, avoiding delayed treatment or missed diagnosis. Image clarity was good overall. Patient satisfaction survey is planned. Whilst this pathway provides another way of accessing sexual health care, the digitally excluded will not be

able to benefit, and not all patients will feel comfortable taking and sending genital images.

P175 | The PrEP Impact trial – experience in setting up independent provider sites

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Background: All patients attending healthcare services in England should have access to research trials. There is increasing service provision by Independent Providers (IP); however there is little data on their research delivery and potential barriers they may face. Here we describe our experience initiating and working with IP sites in a National non-interventional research trial.

Table 1. Set-up and performance of NHS and IP sites

	NHS Sites n (%)	IP Sites n (%)
	147 (100)	10 (100)
Time to open (days)		
<20	42 (31.6)	
20–50	34 (25.6)	
50–100	28 (21.0)	
100–150	20 (15.0)	
150–200	7 (5.3)	
>200	2 (1.5)	10 (100)
Time to recruit first participant (days)		
≤5	47 (31.9)	1 (10)
6–30	77 (52.4)	8 (80)
31–60	17 (11.6)	1 (10)
61–90	2 (1.4)	
>90	4 (2.7)	
Recruitment of MSM target		
≥100%	68 (46.2)	6 (60)
90–99%	42 (28.6)	1 (10)
80–89%	12 (8.2)	1 (10)
70–79%	14 (9.5)	1 (10)
60–69%	5 (3.4)	
50–59%	2 (1.4)	1 (10)
<50%	4 (2.7)	

Method: The PrEP Impact Trial was established in 2017 to assess the need for PrEP in English sexual health services (SHS) irrespective of service provider. All Level-3 SHS were invited to take part, and each clinic was given target allocations. Data on site initiation and recruitment was collected via internal reporting systems. Principal Investigators were contacted for feedback on the process of site initiation, and their overall experience of participating in a research trial.

Results: A total of 157 sites participated in the trial, of which 10 were IPs. IP sites were slower to open compared to NHS services, however once open the IP sites had comparable performance.

The most frequent reasons for delays were slow finalisation of contracts and unfamiliarity with and work load of various administrative steps. Feedback indicates such issues are largely caused by a lack of research infrastructure at IP sites with no dedicated research teams or R&D support staff and lack of formal Principal Investigator roles and capacity.

Conclusion: Our experience with IPs indicates they are interested and enthusiastic about participating in research, but currently lack an adequate level of support or infrastructure to do so.

P177 | Sexual healthcare professionals' views on the rapid provision of remote services at the beginning of the COVID-19 pandemic (March–June 2020): a mixed-methods study

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Background: The COVID-19 pandemic and social distancing measures forced sexual health services to engage with patients remotely. This study aimed to understand perceived barriers and facilitators to the provision of digital sexual health services (DSHS) during the first months of the pandemic.

Method: In May–July 2020, we conducted an online survey and follow-up interviews with UK sexual healthcare professionals, recruited virtual and via snowball sampling. The survey consisted of 11 attitudinal items with telephone interviews exploring the range and depth of opinions on DSHS. Descriptive analysis of the quantitative data and Thematic Analysis of the interviews were performed.

Results: Amongst 177 respondents (73% female, 87% White, mean age = 47, SD = 9), most utilised telephone and

email as their main communication channels, however their perceived effectiveness varied (94% and 65%, respectively). Most agreed that staff needed additional training (89%), that the available technology was not adequate (66%), and health professionals were hesitant to provide online consultations (46%). The qualitative analysis showed that health professionals had positive attitudes towards digitalisation, improving service quality and cost-effectiveness, but were concerned about exacerbating health inequalities due to restricted access to digital technologies in some patient groups.

Conclusion: The study demonstrates support and concerns about DSHS in the context of COVID-19. It identifies a need for clear guidelines and training around the use of digital tools as well as a demand for investment in hardware and software required for the provision of remote services. Future research needs to explore the acceptability, safety and effectiveness of various digital tools to narrow health inequalities in sexual health service users.

P178 | Are we seeing newly diagnosed HIV patients within the recommended timeframe?

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Background: The total number of new HIV diagnoses in 2019 was 4,139 within the UK. NICE guidelines have a clear referral pathway for newly diagnosed HIV patients with the aim of those that test positive are to be seen by a HIV specialist preferably within 48h and certainly within two weeks.

Method: We reviewed the notes of all new patients diagnosed with HIV between January 2018 and December 2020. The time from which patients were informed of their HIV diagnosis to when they were seen in our HIV specialist service was reviewed.

Results: There were 37 new referrals to our local clinic between 2018–2020. Three patients were excluded from the data as it was unclear when they were referred to clinic or informed about their HIV diagnosis. Across these 37 cases the average time between referral and HIV diagnosis was 7.05 days, with the shortest time being 1 day and the longest being 20 days.

Conclusion: The target of reviewing newly diagnosed HIV patients within 14 days was met within an average time frame of 7 days. The main delay evidenced was due to either the patient not being able to attend sooner to an appointment or that they were current inpatients in a different hospital. Overall, this data is consistent with us meeting the current NICE guidelines.

P179 | A relational approach to the implementation and integration of new technology within traditional sexual health services

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Background: The successful implementation of a new intervention requires careful evaluation of local contextual factors that will impact on spread and sustainability. Since 2017, HIV self-test kits have been available from digital vending machines (VMs) in Brighton. As part of the Darzi Fellowship in Clinical Leadership programme, this project aimed to evaluate and develop the role of the VMs and to ensure robust links with traditional local services.

Method: Phase 1: Deming's System of profound Knowledge was used to determine the project scope. Existing services and care-pathways were reviewed from a number of different perspectives.

Phase 2: A relational approach was adopted to conduct a system-wide consultation exercise. A range of methodologies were used included semi-structured interviews, workshops and informal networking.

Phase 3: A framework analysis was used to identify important and recurring themes. These were then used to design the next generation of VM.

Results: Twenty-three service-users and thirteen stakeholders (public health, local authority, voluntary sector) were interviewed. Fourteen healthcare professionals attended a workshop.

Key emerging themes included: the benefit of the convenience, accessibility, anonymity and choice provided by VMs but a potential detrimental impact on STI testing behaviour, linkage to care and stigma. Future priorities identified for local sexual health services included: greater integration and consistency, better understanding of local intersectionality, improved use of social media and the promotion of self-care. The existing VMs were redeveloped to enable STI self-sampling kits to be dispensed in addition to HIV self-test kits. A shared management pathway will promote integration and linkage to care. A new interface has unified branding across the city and the relocation of machines aims to promote access to a wider population.

Conclusion: By adopting a relational approach, this piece of implementation work has successfully produced a new pathway of care, supported by redeveloping the original vending machines. By co-producing the change with a comprehensive network of stakeholders, not only is the outcome based

on local need, but the project has helped to further develop the active and dynamic network of stakeholders working in sexual health in Brighton.

P180 | What is the impact of a national HIV PrEP programme on number and stage of HIV diagnoses in the largest HIV and sexual health service in Ireland?

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Background: The national PrEP programme launched in Ireland in November 2019 with tenofovir/emtricitabine free to those meeting eligibility criteria attending approved services. We assessed the impact of the first year of the national PrEP programme on new HIV diagnoses in the largest sexual health and HIV service in Ireland. We aim to review if the rate of late presenter vs recent HIV acquisition has changed with the national PrEP programme.

Method: The GUIDE Clinic established a PrEP service in November 2019 in line with national rollout of free PrEP.

We reviewed the number of new diagnoses of HIV at the GUIDE clinic between November 2018–2019, before the introduction of the national PrEP programme and compared this with the number of new HIV diagnoses between November 2019–2020. Clinical and laboratory data was reviewed to stage duration of HIV infection, including CD4 count at diagnosis, date of previous HIV test and RITA (recent incidence testing algorithm).

Results: There were 94 new HIV positive diagnoses (67% MSM) from November 2018 – 2019 and 75 new HIV diagnoses from November 2019–2020. Of the 94 patients diagnosed from November 2018–2019, 31 had a CD4 count >500 with 20 patients having a RITA assay suggestive of recent infection. Of the 75 patients diagnosed from November 2019 – 2020, 21 had a CD4 >500 and 8 patients had a RITA assay suggesting recent infection. 4 of the new HIV diagnoses were previously on PrEP with 2 actively engaged with services. Both were using event based dosing incorrectly. One had no baseline HIV mutations identified and the other's viral load was too low for genotyping. Of the 546 patients (99% MSM) on PrEP as of December 2020, 338 (62%) opted for Daily PrEP, the remainder EBD. 105 patients elected to change their PrEP dosing regimen due to lockdown. 202 patients had previously received PrEP by private prescription or online. 139 individuals (25%) had a rectal infection diagnosed at commencement of PrEP or during follow up.

Conclusion: While the rollout of PrEP is in its early days there has been a reduction in new HIV diagnoses seen in our clinic (although this has occurred during a global pandemic).

A significant number of rectal infections have been identified in the PrEP clinic suggesting ongoing risk activity despite pandemic restrictions.

P181 | Opportunity undertaken during COVID-19 restrictions: a lesson in clinical risk management

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Background: In May 2018, the British HIV Association (BHIVA) released a statement highlighting an association between Dolutegravir (DTG) use at the time of conception and increased risk of neural tube defects (NTD). Following this statement, we conducted an audit of all women living with HIV taking DTG, particularly patients of child bearing age, under our care and made them aware of this evidence.

In October 2020 patient B who had been diagnosed HIV+ in September 2018, after completion of the audit, became pregnant while taking DTG but having not received the appropriate advice. As a result, we undertook a risk management investigation to identify further patients at potential risk.

Method: A re-audit was undertaken of women, aged 50 or younger, who were taking Dolutegravir and data collected on contraception use and sexual activity. Any woman identified as not being on reliable contraception and potentially fertile was contacted, counselled and given the BHIVA patient information leaflet (PIL) on Dolutegravir and Pregnancy. The national restrictions allowed for medical student participation due to the limited clinical teaching.

Results: We identified 22 out of a total of approximately 160 female patients aged 50 or less and taking Dolutegravir.

6 women were identified as at 'High probability of pregnancy or planning to become pregnant'. 4 of these were counselled about the updated risk of NTD and Dolutegravir and given the PIL. 1 of the women was patient B who continued on DTG; presented at 9 weeks gestation. The final woman had also become pregnant on DTG but had a history of non-adherence and had chosen to continue DTG as her viral load was fully suppressed.

Conclusion: This study highlights the importance of the audit cycle, risk management and learning from mistakes. It ensured a review of all female patients of childbearing age taking antiretroviral's and regular reviews being held within the department. This also allows for the development of the Integrated Screening Outcomes Surveillance Service (ISOSS) database, which can monitor the usage and outcomes of drugs used during pregnancy in women with infectious diseases.

P182 | The 12th National Genitourinary Medicine (GUM) taster day

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Background: The GUM taster day was established in 2009 and aims to provide an insight into a career in GUM before applying for specialist training.

Method: For the first time, the day was held virtually, in real-time, over MS TEAMS on 5/10/20. All presentations were recorded and uploaded to Synapse to allow viewing flexibility. Attendees were asked to complete an online questionnaire on their grade, workplace and interest in a career in GUM. Data collated and analysed in Excel.

Results: 257 registered, 170 morning/157 afternoon attendees. 40/170 (23%) completed the online questionnaire. Most, 18/40 (45%), were FY 2, 13/40 (33%) FY 1, 4/40 (10%) GP trainees, 3/40 (8%) Internal Medicine trainees (IMT), 2/40 (5%) clinical fellows. Trainees from most UK regions attended, the majority working in/around London, North England, the Midlands, Yorkshire (Table 1). There were 73 attractors and 44 detractors to the specialty. 8/40 (20%) specified no detractors to working in GUM. Attractors: variety of work 16/40 (40%), perceived work/life balance 10/40 (25%), interesting work 9/40 (22.5%), health promotion aspect 9/40 (22.5%), diverse patient cohort 6/40 (15%). Detractors: entry to IMT 13/32 (41%), concern re competition for/perceived lack of jobs in certain regions 10/32 (31%), dual accreditation 7/32 (22%), concerns re future of the specialty 2/32 (6%). Following the taster, 21/40 (52%) considering a career in GUM, 10/40 (25%) unsure, 9/40 (23%) decided not to pursue GUM. In parallel, 37/40 (93%) were also considering other specialties: GP 19/37 (51%), Obstetrics and Gynaecology 9/37 (24%), Palliative Care 6/37 (16%), Infectious Diseases 5/37 (13%), other medical specialities 9/37 (24%). Most attendees, 30/40 (75%), preferred the virtual format.

Table 1. Attendees' UK region of work

Region of work	N (%)
London and surroundings	9 (22.5)
North of England	9 (22.5)
Midlands/ Yorkshire	8 (20)
Scotland	5 (12.5)
South West England	3 (7.5)
South East England	2 (5)
Northern Ireland	1 (2.5)
Unknown	3 (7.5)

Conclusion: The 2020 feedback mirrored that from 2019. Following the taster the majority were still considering

a career in GUM despite no experience of the specialty. The variety of work and perceived work/life balance were the main attractors with perceived concern over entering IMT, lack of jobs and dual accreditation with IM being the main detractors. The change to a virtual, real time and recorded format was well received, allowed viewing flexibility and enabled participation from a wider audience across the UK.

P183 | Patient preferences for routine HIV outpatient consultations (virtual or face to face?)

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Background: One of the features of the BHIVA national standards of care for people living with HIV is the provision of equity of access. There is little research into patient preferences for outpatient clinic appointments however and this has been brought into sharp focus by the changes to service delivery due to the COVID-19 pandemic lockdown. This study aims to identify patient preferences for routine HIV outpatient appointments.

Method: We undertook semi-structured interviews with a representative sample of current HIV patients registered with the service between March & April 2020 collecting information on preferences for attending appointments. Demographic information was obtained from clinic records.

Results: 50 patients (10% of total) were randomly selected for interview. In total 41 (82%) of interviews were completed. Demographic data (Age, sex, ethnicity and sexual orientation) of those interviewed were representative of the total clinic population. The median age of respondents was 47 years (range 24–76), 23 (56%) were male, 25 (61%) were heterosexual and 25 (61%) were white British. 38 (92.7%) patients had access to a smartphone or computer with a webcam. 5 (12.2%) had difficulties travelling to clinic for outpatient appointments.

Willing to have a telephone HIV consultation?	39 (95.1%)
Willing to have a video HIV consultation?	33 (80.5%)
Willing to provide photographs if useful for a consultation?	36 (87.8%)

Respondents also had to choose a preferred medium for consultations. 14 (34.1%) patients were happy with face to face, video or telephone modalities and had no preference. The results for the remaining 27 patients (65.8%) are tabulated below

Preference for consultation

Telephone consultation	8 (29.6%)
Video consultation	6 (22.2%)
Face to face consultation	13 (48.1%)

There was no significant difference in preference for virtual or face to face appointment by univariate analysis by age (above/below median), sex, ethnicity (white British vs others)

Conclusion: More than half of respondents who expressed a preference preferred a virtual (telephone / video) outpatient appointment to a face-to-face appointment. Further work is required in looking at the reasons behind patient preferences and if these might change once the pandemic has ceased. HIV outpatient services should endeavour to provide a mixture of virtual and face to face appointments in future.

P184 | Reaching out to sex workers

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Background: Outreach is essential to Integrated Sexual Health Services (ISHS). POW is a sex worker (SW) project that supports vulnerable men and women in the sex industry in an inner city area. The ISHS outreach team have provided ISHS at a weekly drop in service at POW premises, a monthly migrant SW clinic and an Off-Street service in saunas, massage parlours, homes and working flats. Due to the current Covid-19 pandemic ISHS has adapted to still provide this service via a weekly clinic within the ISHS hub. They provide education, contraception, condoms, STI and BBV screening and treatment. The aim was to review the characteristics of the individuals accessing the POW outreach clinics.

Method: A retrospective review of notes from 1st January 2019 to 31st December 2019 was undertaken. Data was collected on demographics, STI screening, contraception and vulnerable factors such as recreational drug use, safeguarding issues, sexual assaults and domestic violence.

Results: 77 individuals were identified, of whom, 35% (27) were new to the clinic. 5% (4) Male and 95% (73) Female. Ages ranged from 19–59 years. 4% Bisexual, 5% MSM and 91% Heterosexual. Table 1 summarises the findings. Women were high risk for pregnancy (Table 1) with a maximum of 6 terminations and 13 pregnancies in 1 individual alone. Condom use among all SW was 63%. 1 individual was commenced on pre exposure prophylaxis (PrEP).

Table 1. Summary of Results

1 in 2	Had never had an STI screen until this attendance
1 in 2	Use of contraception – OCP, LARCs, Sterilisation
1 in 4	Diagnosed with an STI at this attendance
1 in 4	At least 1 termination of pregnancy
1 in 5	≥5 pregnancies

Conclusion: Sex workers (SW) remain a vulnerable, stigmatised group with high sexual health needs. Multiple attendances are sometimes required before an individual will trust the team enough to access testing, contraception or safe sex education. An outreach team dedicated to SW, spending time and effort building trusting relationships with these individuals has been key to the success of POW outreach clinics. Having a link POW worker for the specific communities such as the Romanian community, translating teaching sessions and leaflets has improved attendance and testing. Strong partnership working has been key to effectively supporting the needs of this vulnerable group.

P185 | Liberating structures to support co-production as a method of quality improvement

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Background: Co-production is increasingly recognised as a powerful tool for quality improvement. This is particularly relevant where the expertise of the multidisciplinary team is fundamental to the delivery of high-quality care. Despite this, traditional medical hierarchies can act as a barrier to joint decision making. This project aimed to trial the use of a co-production tool to help identify key priorities for shaping future services.

Method: All clinical staff from the Lawson unit, Brighton's HIV clinic, were invited to attend a Whose Shoes?® workshop. The Whose Shoes?® tool is a values-led approach to change management in the form of a board game which uses the experiences of real patients to promote discussion and challenge assumption. Three external facilitators supported the session and one member of the clinical team acted as an observer and scribe. Participants were encouraged to make note of ideas and themes which emerged and on conclusion of the session, they and the facilitators were asked to reflect on the experience.

Results: Eighteen people attended the workshop; nine doctors, three nurses, two health advisors and the three facilitators. A number of key priorities for future service development were identified including the improving methods of communicating with patients, how to address HIV-associated stigma, departmental teaching and reducing laboratory delays. Initial plans on how to develop these ideas were made and a number of participants made personal pledges of how they would proceed. Participants reported being initially unsettled by the lack of structure or formal agenda. However, most reported finding the process liberating and felt it promoted deeper discussion and exploration of the challenges facing the department. Some found the format made them question previously held assumptions about the performance of the department. All found the exercise valuable as a way to build relationships and most expressed a desire to repeat the exercise with patients present.

Conclusion: Co-production can transform the way services are delivered by making use of each other's assets, resources and contributions. Creativity may be required to liberate teams from tradition meeting structures and hierarchies to promote true collaborative working.

P186 | Why do our patients living with HIV (PLWH) go to the emergency department (ED)?

Rebecca Marchant

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Background: NICE recommend patients should be offered HIV testing when admitted to hospital or attending ED in areas with a prevalence ≥ 2 per 1000. Routine HIV testing in adults aged 18–59 years having blood tests in the ED was implemented on 01/10/2018. The associated HIV service does not run an emergency clinic for non HIV related illness.

Method: HIV testing of adults aged 18–59 was initiated in the ED on 1st October 2018. A retrospective data analysis was carried out of all HIV tests performed in the ED 01/10/2018 – 30/06/2019, all PLWH who attend the HIV service at the hospital were identified. Electronic patient records of the ED attendances were reviewed.

Results: There were 80 ED attendances of PLWH during the 8 month period, representing 67 PLWH. 62 (93%) had face to face clinic review in the preceding 6 months. 1 had not attended and was on recall, 1 had a medical condition affecting personality and following treatment has reengaged, 1 was in prison, 1 has mental health problems and has never engaged despite significant efforts, 1 had been recalled and letter had already gone to GP. 1/80 (1%) ED attendance was related to HIV due to side effects from opportunistic infection treatment, however 79/80 (99%) of attendances were not related to HIV. Difficult to define “appropriate” use of the ED, however 18 attendances (22.5%) could have used primary care.

These included hiccups, chronic abdominal pain and menorrhagia. 66 PLWH(83.5%) disclosed their HIV status, 11 (14%) did not disclose their diagnosis, 2 did not wait to be seen, there was no documentation for one patient.

Conclusion: This data shows our PLWH are generally using the ED appropriately, there was only 1 PLWH who attended ED with an HIV related problem rather than the HIV service. This data indicates no demand for services in addition to what is already provided for HIV related illnesses. Data also shows that we are good at maintaining our patients in care, and have a robust system to identify and recall our non-attenders

P187 | COVID-19 vaccination in people living with HIV

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Background: In a cohort of people living with HIV (PLWH) attending a small district general HIV service in NW Northern Ireland disclosure of HIV status to GPs is often declined by patients due to confidentiality concerns. We approached the Trust about provision of Covid-19 Vaccination to PLWH within the HIV service and this was arranged.

Method: All PLWH were contacted by telephone and offered Covid-19 vaccination. A full vaccination clinic was run on a specified day at 15-min intervals to allow for social distancing. Pfizer BioNTech vaccine was used (as per Trusted vaccination clinics). Vaccines were administered by two Sexual Health clinic nurses who were trained vaccinators.

Results: Despite the short notice, 37 patients were contacted: 2 had recent positive Covid-19 tests, 1 was isolating as a contact, 2 were unable to attend that day and 4 declined. The remaining 28 were vaccinated: 4 were female and 24 male, 21 identifying as men who have sex with men. 26 of the 28 identified as having White UK/Irish ethnicity. Median age was 48 years (range 26–72 years). Of those vaccinated, 3 reported previous Covid-19 positive tests. Two patients were considered extremely vulnerable due to other medical conditions; 4 patients had a CD4 <200 with detectable HIV RNA. We contacted patients after vaccination to ask about symptoms/side effects (2 could not be contacted): 23/26 experienced a sore arm but only 3 reported that it lasted > 48 hours (2 reported no other symptoms, one had headache and sore arm persist for >48 hours but <7 days; of note he has been diagnosed with Long Covid). The next most common side effect was headache (n = 3 patients). No patients reported a fever.

Conclusion: Although this is a small cohort, Covid-19 vaccination with Pfizer BioNTech vaccine was well tolerated with limited side effects and similar to those reported in the general population. We achieved high vaccine uptake using this model (only 11% declined) and it allowed for safe, effective vaccination for our PLWH without compromise to their confidentiality or having to disclose their HIV status to obtain vaccination from their GPs.

P188 | Domestic abuse screening in people living with HIV

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Background: In 2019, 2.4 million adults reported domestic abuse (DA) in the UK. During the COVID-19 pandemic, DA organisations saw an increase by 25% in calls, and 150% in access to information online (Source: ONS). There is increasing evidence of DA in PLWH, with correlation to poor health outcomes including death. Studies have specifically reported on DA screening in PLWH, showing female heterosexuals as predominantly affected. BHIVA recommends asking about previous or current intimate partner violence at initial assessment, and six monthly. We aimed to improve routine DA routine inquiry of PLWH at a London HIV service and determine the DA prevalence in PLWH.

Method: All clinicians conducting consultations were asked to routinely ask PLWH about DA. All staff were trained on how to screen and manage DA cases, including national guidance from BASHH. Weekly reminders with DA screening rates were circulated, with continued support and encouragement to continue asking. Disclosures were referred to health advisors, and reviewed by the safeguarding team.

Results: Routine DA screening improved from an average of 8% (range 0–19%) pre-lockdown (3148 asked from 10/2019–02/2020), to 33% (range 0–56%) post-lockdown (2530 asked from 03/2020–09/2020) (figure 1).

17 patients (0.3%) reported DA. 59% were male, of whom 70% homosexual, 53% Caucasian and 47% Black African-Caribbean. Non-British Caucasians accounted for 60%

of all those that reported DA. Pre-lockdown 35% (6/17) disclosed DA, rising to 65% (11/17) post-lockdown. 89% were asked twice before disclosure, one was asked four times.

Conclusion: Routine DA screening for PLWH by clinicians within the HIV service improved from 8% to 33%, peaking at 56%. The increase in screening, almost doubled DA disclosure. The majority did not disclose on first DA inquiry. Education and training, with weekly continued support and encouragement were the main interventions used to drive improvement. The majority of DA survivors in PLWH were homosexual Caucasian males, different to previous studies. Screening needs to be a continuous process, with everyone being asked, if we are to truly impact preventing the consequences of DA.

P189 | Anorectal syphilis in men who have sex with men (MSM)

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Background: There has been a significant increase in infectious syphilis in men who have sex with men (MSM) Recent data also suggests a corresponding increase in ano-rectal syphilis. Despite this, there is a lack of knowledge and syphilis testing in MSM with ano-rectal symptoms.

Method: The aim of this study is to describe the presentation and management of MSM with ano-rectal syphilis. The sexual health clinic in Brighton sees 6500 MSM per year for sexually transmitted infection testing and treatment. We reviewed the electronic clinic notes of MSM with ano-rectal syphilis from January 2017 to August 2020 and collected data on patient demographics, HIV status, previous syphilis, syphilis serology including VDRL titre, TP-PCR testing and details of treatment.

Results: In the study period, 128 MSM were diagnosed with primary syphilis, 108(84%) with genital lesion(s), 4(3%) with oral lesion(s) and 16(13%,95%CI = 7.3–19.5) with ano-rectal lesion(s). All 16 with ano rectal lesions presented with anorectal pain, had reactive serology and 12/16 had a TP-PCR taken of which 12/12 was positive. The median age was 51 years (IQR 40–58) and 7/16(44%) were HIV positive and 4/16(25%) had a previous history of syphilis. Clinicians treated 6/16(38%) presumptively for syphilis on the day of presentation; the 10/16 who were not treated presumptively on the day waited a median of 8 days(6–28) for treatment. HIV positive MSM with ano-rectal syphilis were significantly more likely to have had previous treated syphilis(OR = 24.4, 95%CI1.03–580.7, $P < 0.05$) than HIV negative MSM, and

Figure 1: % PLWH routinely asked about Domestic Abuse



clinicians were significantly more likely to treat HIV positive MSM presumptively on the day (OR = 20.0, 95%CI = 1.4–282.5, $P < 0.03$).

Conclusion: We have shown that a small, but significant number of MSM with syphilis present with painful ano-rectal symptoms and suggest that all MSM with ano-rectal symptoms including pain should be tested for syphilis. Point of care testing for syphilis from ano-rectal samples would support syphilis control and prevention.

P190 | Prevalence and associations of syphilis amongst MSM attending as sexual contacts of syphilis.

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Background: Partner notification strategies have increased the number of MSM attending sexually transmitted infection (STI) clinics as sexual contacts of syphilis. Current guidelines suggest testing and consideration of presumptive antimicrobial treatment. Syphilis treatment with benzathine penicillin; requires clinic resources, is painful and is associated with complications: it is important we consider strategies to rationalise presumptive antimicrobial use in MSM and promote antimicrobial stewardship.

Method: We aimed to determine if there are any factors associated with having syphilis among MSM attending as sexual contacts of syphilis. We examined the clinical records of MSM attending as sexual contacts of syphilis from January through December 2019.

Results: Of the 6613 MSM who attended for STI testing, 142/6613 (2.1%) presented as sexual contacts of syphilis. The median age was 40 years (IQR = 31–51), 43/142 (30%) were HIV positive, 38/142 (27%) had been diagnosed and treated for syphilis in the past and 11/142 (8%) presented with symptoms (possible lesions of primary or secondary syphilis). Thirteen (9%, 95%CI = 4.4–13.9) tested positive for syphilis on the day of presentation and all were treated presumptively. MSM who were symptomatic (genital ulcer or body rash), HIV sero-positive or had a history of previous syphilis were significantly more likely to test positive for syphilis (OR = 51.88, 95%CI= 3.01–893.14, $P = 0.007$).

Conclusion: Factors associated with acquiring syphilis amongst MSM presenting as sexual contacts of syphilis were; being HIV sero-positive, having a previous history of

syphilis, or presenting with symptoms (possible lesions of primary or secondary syphilis).

P191 | Pharyngeal *Chlamydia trachomatis* in HIV positive and HIV negative men who have sex with men (MSM)

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Background: Simultaneous testing for both *Gonorrhoea* and *Chlamydia* using dual nucleic acid amplification tests (NAAT) has increased pharyngeal *Chlamydia* testing in MSM. There has been increasing interest in pharyngeal *Gonorrhoea* due to emerging *Gonorrhoea* antimicrobial resistance but less is understood about the characteristics of pharyngeal *Chlamydia* in MSM.

Method: We aimed to explore the prevalence and associated features of pharyngeal *Chlamydia* amongst HIV positive and negative MSM in a large urban population. We collected data on HIV status, pharyngeal symptoms, number of recent sexual partners, use of HIV pre-exposure prophylaxis (PrEP), concomitant STIs, previous history of syphilis and current smoking status. Statistical analysis was performed using bivariate odds ratio and Mann Whitney U tests and 95% confidence intervals.

Results: In 2019, 6613 MSM attended for pharyngeal STI testing. 75/6613 (1.13%, 95%CI = 0.9–1.14) tested positive for pharyngeal *Chlamydia*. The median age was 35 years (IQR = 28–43), the median number of sexual partners in the preceding 3 months was three, four (5%) reported throat symptoms, 22 (29%) were current smokers, 20 (26%) were HIV positive, and 24 (44%) of the HIV negative MSM were using PrEP. MSM with pharyngeal *Chlamydia* often had multi-site infection; rectal chlamydia [39 (52%)], urethral chlamydia [12 (16%), and concomitant infection; early syphilis [2 (3%)] and *gonorrhoea* at any site [14 (19%)]. Twenty-two (29%) had previously treated syphilis. HIV positive MSM with pharyngeal *Chlamydia* were significantly more likely to have had previous syphilis (OR = 4.9, 95%CI 1.6–14.7, $P = 0.005$) and were significantly older ($P = 0.02$) than HIV negative MSM.

Conclusion: We have shown that the prevalence of pharyngeal *Chlamydia* is 1.13% in MSM and only 5% reported pharyngeal symptoms, similar to other studies. HIV positive MSM with pharyngeal *Chlamydia* were older and more likely to have had previous syphilis. Further research is needed to explore the characteristics of pharyngeal *Chlamydia* and the benefits of increased screening for asymptomatic pharyngeal *Chlamydia* in MSM.

P192 | Sexually transmitted *Shigella* in men who have sex with men

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Background: *Shigella* outbreaks in MSM are associated with sexual networks involving transmission of other sexually transmitted infections (STIs), geosocial app use for meeting sexual partners and chem-sex. There is increasing antimicrobial resistance (AMR) in *Shigella* amongst MSM.

Method: We aimed to describe cases and patterns of AMR amongst MSM with *Shigella* between 2016–2019.

Results: There were 33 cases of shigellosis in MSM identified, with a median age of 38-years (IQR 34–47). 11/33(33%) reported recent chem-sex use, 14/33(42%) were HIV positive. Of the 19/33 HIV negative MSM, 7/19(37%) were using HIV pre-exposure prophylaxis. The mean number of sexual partners in the previous 3 months was six. 15/33(45%) had *Shigella sonnei*, 5/33(15%) *Shigella flexneri*, and 13/33(39%) were DNA-PCR positive but culture negative. 14/33(42%) were diagnosed with at least one other STI. MSM with *Shigella flexneri* were more likely to be HIV positive than *Shigella sonnei* ($P < 0.05$). Antimicrobial sensitivities were only available in 11/15 cases of *Shigella sonnei* [fully sensitive(9%), resistant to ciprofloxacin(9%), resistant to azithromycin(36%), resistant to ciprofloxacin and azithromycin(45%)]. 7/33(21%) were treated presumptively on the day of presentation with intramuscular ceftriaxone 2g for 1–3 days followed by oral ciprofloxacin. No MSM with ciprofloxacin resistance received ciprofloxacin; the remaining 26/33 (78%) did not receive antimicrobials and their diarrhoea resolved.

Conclusion: We have shown that *Shigella flexneri* is more frequently seen in HIV positive MSM and is associated with chem-sex, and resistance to both azithromycin and ciprofloxacin is common in *Shigella sonnei*. The increasing use of PCR culture independent diagnostic tests make it more difficult to identify cases and clusters within sexual networks in MSM of multi-drug resistant shigellosis: clinicians and microbiologists should be vigilant when managing MSM with diarrhoea to prevent large outbreaks of highly resistant shigellosis.

P193 | Sexual and reproductive health telemedicine appointments during COVID-19

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Background: There has been a large expansion in the use of telemedicine for sexual and reproductive health services due to Covid-19. It was important for the Sexual and

Reproductive Health team in Aberdeen Community Health Village in Scotland, UK to see how patients and staff felt about these consultation types to strengthen the current service and plan the service design beyond Covid-19.

Method: An online survey was shared with patients after their telephone or video consultations and a staff-specific online survey was circulated via email. 48 patients and 19 staff members participated in the survey. Both quantitative and qualitative data was collected about their experiences and future preferences.

Results: All 48 patients had telephone consultations; no patients had video consultations. 44 of the 48 patients were promoters of their telephone consultations (i.e. rating their consultation 9 or 10 score of 10, with 10 being extremely satisfied). In terms of future preferences, 26 of the 48 patients responded, “it depends”, 12 patients preferred telephone consultations, 10 patients for in-person consultations, and no patients for video consultations.

19 staff members completed the staff survey. 17 had experience conducting telephone consultations and 10 had experience conducting video consultations. When asked about their ability to assess patients reliably and adequately, only 35% ($n = 17$) of staff members were promoters for telephone consultations and 20% ($n = 10$) for video consultations. However, 100% ($n = 19$) of staff believe telephone and video consultations are an added benefit to the department overall delivery of care and something that should continue post-COVID.

Conclusion: Patients appreciate the ability to choose between consultation type, however staff have mixed opinions on its reliability and efficiency for the service, but overall see the benefit of telephone and video consultations. Both staff and patients perceive the service would benefit from telemedicine beyond COVID-19.

P194 | Holistic healthcare for women with HIV: are we getting better at asking the right questions? Comparison with data from 2016

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Background: Of the 103,800 patients (2018) living with HIV in the UK, 29,600 were women. BHIVA guidelines recommend monitoring characteristics concerning women's sexual and reproductive health, as well as broader aspects of their health. These factors include regular STI screening, regular discussion of contraceptive options and sexual dysfunction, as well a monitoring of cardiovascular risk and bone density.

Method: The electronic notes of 147 women who attended the Kings College Hospital outpatient HIV service between 01/01/2019 and 01/01/2020 were reviewed. Clinical and

holistic variables regarding these women's sexual and reproductive health were analysed and reviewed against the current recommended monitoring guidelines. We compared these results to data collected over a similar timeframe in 2016.

Results: Patients within our cohort had an age range of 16–79, and a median age of 47. A total of 96% (141) were on ART at their latest recorded attendance, and of these 141 patients on ART, 82% (121) had a HIV RNA <200. Compared to the 2016–2017, 78% (115) of patients vs 19% were offered STI screening as per guideline recommendations. 46 women were documented to be menopausal, and of the remaining 101 patients, 38% (39) compared to 31.6% had contraceptive options discussed at each attendance. Out of the 141 patients aged 25–65 (6 patients were excluded due to age or previous medical history), 72% (102) vs 36.8% were recommended to have their annual cervical cytology. Of the 92 women over 50 and/or menopausal, 45% (41) compared to 12% had a FRAX risk score documented, and out the 117 women over 40 and on ART 40% (47) vs 19% had a q-risk score within 12 months. It was also noted that 39% (57) vs <1% of these women had a documented discussion regarding domestic violence, 17% (25) vs <1% were asked about FGM, and that 14% (21) vs 5.7% had a documented discussion regarding undetectable = untransmittable (U = U). Discussion regarding sexual dysfunction, was only documented in 3% (4) vs <1%.

Conclusion: When compared to the 2016 audit some improvement in recording specific health issues relating to women was seen. There remains, however, room for improvement particularly discussions about U = U which are important in educating woman about transmission, maintaining adherence and reducing stigma around HIV.

P195 | How do we measure unmet need within sexual and reproductive health? A systematic review

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Background: Addressing health inequality with sexual and reproductive health requires a nuanced understanding of unmet need within a range of populations. This review examined the methods that have been used to measure unmet need, the populations most frequently assessed, and the definitions of unmet need that have been used.

Method: Five databases (PubMed, Web of Science, Scopus, CINAHL and HMIC) were searched for studies that described quantitative measurement of unmet need within sexual and/

or reproductive health between 2010 to 2020. Data on the country of analysis, the population of interest, the methods used and the definition of unmet need was subsequently extracted. A narrative synthesis was then undertaken to ascertain themes within the published literature.

Results: The database search yielded 18539 papers; 145 papers were included after screening. 128 studies assessed unmet reproductive health need, of which 94 were analyses of trends among women living in low/lower-middle income countries; 121 used cross-sectional data, with only seven analyses being longitudinal.

Twelve studies analysed unmet sexual health need, of which nine focused on high and upper-middle income populations. All twelve used cross-sectional analyses.

The remaining five studies examined unmet need for a combination of sexual and reproductive health services, all among populations from upper-middle or high income countries and all being cross-sectional analyses.

138 of the papers were analyses of questionnaire data, five used reviews of medical records, one compared demand before and after an intervention, and one used modelling techniques. 113 studies used the Westoff and Bradley indicators (used as part of the Demographic and Health Surveys) to define unmet need, and there was no other standardised definition of unmet need among the remaining 32 papers.

Conclusion: There is a significant focus on unmet need for contraception among women in low income countries within the published literature, leaving considerable evidence gaps in relation to unmet need within sexual health generally and among men in particular, and unmet reproductive health need in high income settings. Additionally, using an increased range of data collection methods, analyses and definitions of unmet need would enable better understanding of health inequality in this area.

P196 | Outcome of genitourinary (GU) referrals during the first COVID lockdown

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Background: During the first lockdown, services had to adjust to provide emergency care only, and provide screening and treatment remotely if possible.

Method: A retrospective review was undertaken of GU referrals from 1st April 2020, to ascertain whether care was in line with guidance on provision on emergency care in line with the British Association for Sexual Health and HIV (BASHH) advice.

Results: The audit reviewed 112 patient contacts (57 female and 55 male).

Nine men presented with symptoms of discharge or dysuria, of whom 3 had suspected Gonorrhoea, and 1 case each had Non Specific Urethritis, Chlamydia and Mycoplasma Genitalium. In addition one patient with testicular pain was assessed in clinic.

Acute pelvic pain in women should have been offered an appointment, however all 12 of the patients presenting with pain were initially asked to complete express test. Only one patient was subsequently treated for pelvic inflammatory disease.

Seven patients contacted the service with ulcers / sores, of which 3 were seen in clinic, 2 were managed by their GP, 1 had known herpes and received treatment, and 1 declined the appointment.

Symptomatic patients excluded by triage

Thirteen patients contacted the service with genital lumps. These were all deferred, as were the 9 patients contacted the service with symptoms of thrush or bacterial vaginosis. Only 2 were seen in service – one of which also had pain, and 1 who needed to attend for bloods (positive serology).

A further 8 patients had other presentations of whom 3 attended clinic:

- 2 had reactive blood tests and attended for confirmation.
- 1 patient was under 16 years old and could not access remote testing

All patients presenting with bacterial sexually transmitted infections were managed as per BASHH guidelines.

Overall, 55 patients were recommended to access express testing, of whom only 25 completed (45.5%).

Conclusion: Adherence to the emergency guidance was good, however improvements could be made in the assessment of pelvic pain in women. Assessment in clinic should be considered if non return of on line testing would affect management.

P197 | Access to, and usage of, online postal sexually transmitted infection self-sampling services: a scoping review

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Background: Increasing service user demand and rising incidence of key sexually transmitted infections (STIs), alongside developments in diagnostics and digital health provision, at a time when services have faced fragmentation and reduction in funding, have resulted in a huge expansion in online postal sexually transmitted infection (STI) self-sampling

services across some parts of the UK. This systematic scoping review aimed to explore who is accessing and using on-line postal self-sampling services in the UK, the acceptability of these services and whether they are exacerbating sexual health inequalities.

Method: Following the PICO (Population Intervention Comparators Outcome) framework, a systematic search was conducted in nine databases in June 2020. Included studies were published between 01/2010–06/2020, in the English language, based on pre-agreed inclusion/exclusion criteria. A second reviewer carried out abstract and full text screening. 15 studies were included. Extracted data were analysed using descriptive statistics and inductive thematic analysis.

Results: Study designs were heterogenous, including quantitative, qualitative and mixed method analysis, and were therefore appraised using the Mixed Methods Appraisal Tool. Overall, studies were of good quality. However, the majority were either evaluating a single site/testing provider, were exploratory or observational. All included studies were conducted in England, as online postal STI self-sampling services have only recently been made available in Wales, Scotland and Northern Ireland. Few studies collected comprehensive demographic data. Individuals accessing online postal STI self-sampling services tended to be asymptomatic, white, women, over 20s, and from less deprived areas. These services tended to increase overall STI testing demand and access. There were varied results on whether services reduced time to treatment. Services were deemed highly acceptable if they were trustworthy, reliable, convenient, and improved patient choice.

Conclusion: Existing and new online postal STI self-sampling services must complete comprehensive evaluations to establish whether services are inclusive, accessible and address, rather than exacerbate, sexual health inequalities. Services must be appropriately funded, integrated and provide ease of transition between remote and face-to-face care pathways. Now is a critical time to identify the effectiveness of these digital health interventions given the wave of service expansions across the UK.

P198 | Treating sexual dysfunction during the pandemic: can virtual psychosexual group interventions for women experiencing painful sex be effective?

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Background: The NHS long-term plan identifies digitally-enabled care as a priority for NHS services in the next

decade. The COVID-19 pandemic accelerated the modernisation of services as digital care needed to be adopted. To enable an NHS sexual problems service to continue during the pandemic, a virtual psychoeducational and sex therapy workshop for women experiencing painful sex was developed and delivered via a video conferencing platform. This was piloted as part of a stepped-care approach in a sexual problems service based within an integrated sexual health clinic in London.

Method: All patients experiencing vulval pain during sex and/or difficulties with penetration had a psychological and medical assessment. Any underlying medical conditions were investigated and managed before patients were invited to join the psychosexual workshop. The intervention comprised six group sessions facilitated by two Clinical Psychologists conducted via a video conferencing platform, followed by an individual review session. Psychoeducation, sex therapy and cognitive behavioural therapy techniques were included, as well as an opportunity to reflect upon the contextual influences on beliefs about sex. Participants were given self-report outcome measures pre and post intervention, which included quantitative and qualitative measures of change.

Results: Data for 14 participants who completed the pilot workshop are included. The table below shows the outcomes pre and post intervention.

Outcome	Pre Group*	Post Group*
↑ NSOG	29.6	40.2
↓ NATSAL-SF	38.1	27.4
↑ Sexual confidence	3.9	6.1
↑ Satisfaction with sex life	2.8	4.4
↑ Understanding of sexual difficulty	4.8	6.9
↑ Having a plan to move forward	4.1	7.3

*Mean average total score across all participants

↑ higher values represent better function

↓ lower values represent better function

Conclusion: The virtual workshop was well-received and evaluated favourably by participants. Participants showed considerable change in understanding their sexual difficulty and in improving sexual confidence, satisfaction, and functioning. Qualitative feedback suggested the virtual format was convenient and less stressful to attend. Expanding virtual workshops for sexual problems as part of 'digital first' care options for patients will support the sustainable provision of psychosexual services in NHS sexual health settings as well as being more conducive to patients' lives.

P199 | Biomarkers of ovarian ageing in postmenopausal women living with HIV: a prevalence study

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Background: UK guidelines advise that menopausal status be determined from menstrual history in women aged >45. However, women living with HIV may experience prolonged amenorrhoea for other reasons. We examined follicular stimulating hormone (FSH) levels, a biomarker of ovarian activity, in women with HIV aged >45 reporting ≥12 months amenorrhoea, and investigated correlation with menopausal symptoms.

Method: A cross-sectional study of serum FSH in a sub-sample of women from the PRIME Study, supplemented with clinical data and assessment of menopausal symptoms (Menopause Rating Scale). Women were eligible if they reported irregular periods at baseline AND, by the time of recruitment into this sub-study (mean = 2.7 years post-baseline), they reported ≥12 months amenorrhoea. Sample characteristics were described using median/interquartile range [IQR] or proportions; associations between FSH and menopausal symptom severity were assessed using Pearson correlations.

Results: Of 114 eligible women, 85 (74.6%) consented to participate. Median age was 53 (IQR 51–55); two-thirds were Black African (n = 59) and prevalence of current smoking (7.1%) and drug use (1.2%) were low. All were on antiretroviral therapy, 76.5% (n = 65) had a CD4>500 cells/mm³ and 91.8% (n = 78) had an undetectable HIV viral load (VL). Median FSH was 65.9 mIU/ml (IQR 49.1–78.6). Only four women (4.7%) had FSH ≤30 mIU/ml (pre-menopausal levels); all were Black African, none reported smoking or drug use, nadir CD4 was ≥200 cells/mm³ in two, most recent CD4 was ≥200 cells/mm³ in all, and only one had a detectable VL. Their median body mass index (BMI) was elevated compared with women with FSH >30 mIU/ml (40.8 vs. 30.5 kg/m²); all four had a BMI ≥35 kg/m².

A quarter of women (25.9%) reported severe menopausal symptoms. We found no correlation between FSH and severity of menopausal symptoms ($r = -0.14$; $P = 0.21$), or hot flushes specifically ($r = -0.06$; $P = 0.60$).

Conclusion: In this sample of women living with HIV reporting ≥ 12 months amenorrhoea, 95.3% had an FSH > 30 mIU/ml, consistent with post-menopause. All four women with low FSH had BMI ≥ 35 kg/m²; obesity is associated with lower FSH during menopause. Our findings suggest that menopausal status can be ascertained from menstrual history alone in women with HIV aged > 45 .

P200 | How confidential are UK sexual health services?

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Background: UK Sexual Health Services (SHS) have been established as free, open access and confidential since their inception. Patients are assured confidentiality and anonymity beyond that which is routinely provided within the NHS. Following the Health and Social Care Act 2012 the 2000 Directions only apply to NHS Hospital trusts, not Foundation Trusts or 3rd sector clinics.

Recent clinic reorganisation following tendering processes has encouraged clinics to link regionally for single point of access telephone services and IT across a number of clinics giving concern that individual clinics are no longer able to assure patients that their information is kept within the boundary of that clinic.

The aims of this study were to evaluate confidentiality for patients contacting sexual health services.

Method: A mystery shopping service evaluation was undertaken in October 2020 telephoning all 218 clinics in the UK to access for 'patients' requesting an implant or an appointment for STI. Data was collected regarding GP registration requirements and whether an address was required.

Results: 2.3% (5/218) of patients requesting an urgent STI appointment needed to be registered with a GP; from that figure 23.5% (4/17) clinics were in Scotland. In 76.6% (167/218) of clinics, a postcode was required to be able to be offered an appointment: 70.6% (12/17) in Scotland, 80.0% (4/5) in N. Ireland, 66.7% (8/12) in Wales, and, 77.7% (143/184) in England. When requesting an implant 20/152 (13%) of the clinics who could offer an appointment required a postcode. Additionally, when telephoning clinics within the same geographical area it became transparent that the electronic services and data were linked across several clinics.

Conclusion: Patient confidentiality could be improved in SHS settings as GP registration nor postcode should not be required for patients requesting access to sexual health provision. Care should also be taken to ensure that patients are not falsely reassured about confidentiality within a clinic when service IT systems are shared.

P201 | Cervical screening in a sexual health setting widens access and detects high rates of cervical dyskaryosis

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Background: Since the introduction of the NHS cervical screening programme there has been a dramatic fall in deaths from cervical cancer. However significant inequalities have been identified in access to and uptake of cervical screening, with low uptake in our local authority. In 2019 our service was commissioned to provide a weekly cervical screening clinic in addition to opportunistic screening. In November 2019 high risk Human Papilloma Virus (hrHPV) testing was introduced as a primary screening tool with positive samples undergoing cytological analysis.

Method: Patients who underwent cervical screening through an integrated sexual health, contraception and HIV service between 01/02/2019 and 31/12/2020 were identified through GUMCAD coding. Retrospective review of notes was undertaken and a database created to collect demographic information and results.

Results: 583 patients made 618 attendances for cervical screening. Median age was 34. 562(96%) identified as female, and 21(4%) as male or non-binary. 417(67%) were seen in smear clinic, 95(15%) in general clinic, 67(11%) in HIV clinic and 34(6%) in specialist sexual health clinics. 63(11%) were living with HIV. 570 cervical smears were performed. In total 61(11%) of patients had dyskaryosis requiring colposcopic referral. Following the introduction of primary hrHPV testing 59/281(21%) were hrHPV positive. Of these, 39(66%) were referred for colposcopy. Prevalence of hrHPV in patients attending smear clinic was 48/195(25%), with 30(63%) having dyskaryosis. hrHPV prevalence in patients screened opportunistically was 11/86(13%) with 9(82%) having dyskaryosis.

Conclusion: Cervical screening in sexual health widens access to groups with low uptake of screening (for example gender minorities) and groups at higher risk of cervical cancer (for example people living with HIV). We observed a high prevalence of hrHPV, which likely reflects a sexually active population. The proportion of patients with dyskaryosis was significantly higher than in the national screening

programme, both in attendees at scheduled smear clinic and those screened opportunistically, suggesting screening in this setting serves people at higher risk of progression to cervical cancer. Our findings emphasise the need to offer cervical screening in a variety of settings, and the important role sexual health has to play, in order to target those at highest risk.

P202 | Managing genital lesions remotely during the coronavirus (COVID-19) pandemic: a prospective pilot of 170 patients managed in a new virtual photo-diagnosis clinic

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Background: The current COVID-19 pandemic has encouraged healthcare providers to establish new clinic pathways to manage patients. Telemedicine has taken on rapidly in Sexual Health with a significant number of patients being managed via telephone consultations, online testing and remote prescriptions. We present our initial experience in a new virtual genital photo-diagnosis clinic with a view to reduce face-to-face (F2F) contact.

Method: All patients were initially triaged, and if eligible (e.g., a new onset/recurring skin lesion) invited to upload an image of their skin lesion to a secure online platform. Patients were informed about the process, confidentiality, and the need for a F2F review if image quality not ideal for diagnosis. If required, treatment was either posted to, or collected by, the patient.

We analysed the first 170 patients who used the new pathway. Details including patient demographics, presenting complaint, diagnosis, management, need to be seen F2F and patient satisfaction were prospectively collected to establish the effectiveness of the new pathway.

Results: 111/170 patients (65.2%) were male with a mean age of 30.4 (SD 9.7). The most common diagnosis was genital warts 107/170 (62.9%) followed by normal skin changes 14/170 (8.2%) and herpetic ulceration or molluscum 13/170 (7.6%). 30/170 (17.6%) were managed with reassurance alone. 137/170 (80.5%) were managed entirely remotely avoiding F2F attendance. Those who attended for F2F appointment: (26/34 for examination, 8/34 for biopsy). 14/26 (53.8%) requiring a F2F review had their provisional diagnosis confirmed; 6/26 (23%) attended for additional reassurance without significant pathology. Only one patient attending for F2F review received an alternative diagnosis to that given at their initial remote consultation.

40/41 patients rated their satisfaction with the new pathway as satisfied or higher

Conclusion: The virtual photo-diagnosis clinic appears to be an effective way of providing a virtual diagnostic service. During, the global COVID-19 pandemic, patients accessed assessment and management of genital lesions avoiding unnecessary clinic attendance. Our findings support the feasibility and acceptability of a photo-diagnosis clinic within sexual health services. As a result of our findings, we plan to continue this innovative service for future use beyond the confines of the current pandemic.

P203 | What are the risk factors for *Chlamydia trachomatis* in women attending an abortion service?

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Background: NICE abortion guidance (2019) suggested that prophylactic antibiotics should no longer be routinely given for medical abortions. Concerns regarding antimicrobial resistance led to NICE recommending an individual risk assessment, however this was not clearly defined.

Untreated *Chlamydia trachomatis* is an important cause of severe infection post abortion, with at least 17% expected to develop pelvic inflammatory disease (PID) following medical abortion. In 2002, 75 (7.5%) of 998 women having an abortion tested chlamydia-positive using a nucleic acid amplification test (NAAT). *Chlamydia* was associated with younger age but not sexual behaviour. Women attending our abortion service have been tested for *Chlamydia* using a NAAT since 2010 with information on sexual behaviour recorded. We wished to obtain contemporary estimates of *Chlamydia* prevalence in women having an abortion and examine associated risk factors.

Method: Data from 13,427 women aged between 15–50 years having an abortion between April 2010 and March 2020, was retrospectively analysed (SPSS, IBM). Ethics approval was sought and all data was anonymised.

Results: Of 12,772 women with *Chlamydia* NAAT results available, 4.2% (565) were *Chlamydia*-positive. *Chlamydia* was associated with younger age ($P < 0.0001$, Chi-square) as 7.1% (164/2135) of 15–19 year olds, 5.5% (222/3782) of 20–24 year olds and 4.2% (560/6948) of women over 24 years were *Chlamydia*-positive. *Chlamydia* detection was associated with 2 or more partners within the past year in women aged 20–24 years, 8% (94/1181) vs 4.6% (106/2304) ($P < 0.0001$, OR 1.8; 95%CI, 1.35–2.39) and women over 25 years old, 4.2% (53/1270) vs 2.1% (95/4507) ($P < 0.0001$, OR 2.0; 95% CI 1.44–2.85) but not women aged 15–19 years old, 7.8% (50/643) vs 6.1% (83/1367) ($P = 0.13$ OR 1.3; 95%

CI 0.91–1.9). For women who had a new partner in the last 3 months, findings were similar regardless of age.

Conclusion: *Chlamydia* prevalence in women undergoing an abortion is lower than that observed in 2002 but is higher than the general population. Although *Chlamydia* was associated with 2 or more partners in the previous year in women aged over 19 years, the association is weaker than that observed in the general population and no association was observed with partner change in women aged 15–19 years old.

P204 | The long shadow of colonialism: a review of authorship for herpes simplex virus type 2 research conducted in low- and middle-income countries between 2000 and 2020

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Background: Significant inequities are thought to occur in the awarding of authorship positions in health research that has been conducted in low and middle-income countries (LMICs). First and last author positions have the greatest value. In 2001, the World Health Organisation (WHO) held a workshop to set priorities for *herpes simplex virus type 2* (HSV-2) research in LMICs. Despite the workshop's focus on LMICs, only 11 (28%) of the 40 expert attendees were from LMICs. This study aimed to examine whether this imbalance extended to the authorship of research in the priority areas.

Method: Databases CINAHL, MEDLINE, Global Health, and The Cochrane Library were systematically searched. Studies in English addressing HSV-2 in LMICs in the five areas prioritised by the WHO workshop and published 2000–2020 were included. Data on author country, gender, and authorship position were extracted, collated in Excel and analysed using IBM SPSS. Author country was determined through listed country affiliations; where there were both LMIC and high-income country (HIC) affiliations, authors were allocated to the LMIC. Author gender was established by analysis of first name.

Results: In total, 297 eligible papers were identified. Of these, 241 (81%) included at least one author from an LMIC. First and last author positions were held by an LMIC researcher in 143 (48%) and 123 (42%) studies, respectively. Studies funded by an LMIC source were more than twice as likely to include a first or last author from an LMIC compared to those

funded by a HIC (RR 2.36, 95% CI, 1.93–2.89). Female first and last author positions were present in 136 (46%) and 106 (36%) studies respectively.

Conclusion: Despite location of the research itself in LMIC settings, only a minority of first and last authorship positions were held by researchers from LMICs. Inequity was greater for last author position and among female authors. For reasons of social justice, achieving equitable inclusion of LMIC researchers and women in the authorship of global health research should be a priority. Addressing current and historical gender and geographical power disparities in global health research and how it is funded may be key to this.

P205 | Comparison of patients seen in sexual services before and during the COVID-19 pandemic

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Background: This study investigates the impact that the COVID-19 pandemic and the related social distancing restrictions have had on patient's sexual health and the sexual health services in an urban setting of Scotland. The three main areas of research include the difference in demographics, the reasons for presenting to clinics and the STI burden between patients before and during the pandemic outbreak.

Method: An observational study was conducted by collecting data from patient electronic records during two separate time periods: pre-COVID pandemic (period 03/02/2020–21/02/2020) and during COVID pandemic (period 16/11/2020 – 05/12/2020). Three cohorts were reviewed according to date and method of consultation: 1. patients seen in urgent care FTF clinics before the COVID pandemic period (n = 70), 2. patients who receiving a phone consultation during the COVID pandemic period (n = 70) 3. Patients who during the COVID pandemic period were seen for an urgent FTF review (n = 50). Data was statistically analysed using SPSS. A chi-square test was conducted for categorical variables and the *t*-test for continuous variables.

Results: All results commented on have a statistically significant difference (p value ≤ 0.05).

Demographics:

- There is no significant difference in demographics (sex, age, ethnicity, deprivation index or sexual orientation) of patients accessing sexual health services between group 1, group 2 or group 3.

Reason for access:

- The most common reason for accessing sexual health services across groups 1, group 2 and group 3 symptomatic testing (61.4%, 47.1% and 80.0% respectively).
- More patients requested asymptomatic testing in group 2 (21.4%) than group 1 (10.0%).

STI burden:

- 27.1%, 7.1% and 54.0% of patient in group 1, group 2 and group 3 respectively tested positive for an STI.
- In group 3, more males (81.5%) than females (18.5%) had a positive STI result.

Conclusion: This study has reported no change in demographics of patients accessing sexual health services before and during the COVID-19 pandemic. This has implications on the importance of access to sexual health services, ensuring they remain freely available to patients of all sectors of society. The evidence also shows that despite social distancing restrictions patients are still developing STI symptoms and testing positive for STIs. Therefore regardless of whether a patient had a FTF or phone consultation, management must remain equally as effective.

P206 | Sexual and reproductive health needs for young women living with perinatally acquired HIV through the pandemic.

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Background: Lockdown and reconfiguration of NHS services imposed to limit the spread of SARS-CoV-2 led to significantly reduced uptake of routine NHS care including access to cervical screening, contraceptive and sexual health services. We describe female sexual and reproductive health of a cohort of young women living with perinatally acquired HIV (YWLPaHIV) over the time-period covering SARS-CoV-2 restrictions.

Method: Single-centre observational cohort review of sexual and reproductive health for YWLPaHIV attending HIV services 01.07.2020 to 01.01.2021. Data collected included demographics, age of menarche/coitarche, Human papillomavirus (HPV) and Hepatitis B virus (HBV) vaccination, contraception, past sexually transmitted infections (STIs), cervical screening and obstetric history. Analysis was descriptive, with categorical analysis of qualitative data.

Primary aim was to identify individuals in need of contraception, cervical screening and HBV vaccination/boosting.

Results: 71 YWLPaHIV median age 23 years (IQR 21–27), 87% of black ethnicity, average body mass index 25.9kg/m² (SD 5.6) with 58/71 (82%) latest viral load <200 copies/ml. Median age at menarche 13 years (IQR 12–14) with 5/64 (8%) reporting delayed puberty (menarche³16 years). 51/71 (72%) reported coitarche, average age 17.6 years. 24 women reported 45 pregnancies; 16/45 (36%) live births (all infants HIV-negative), 19(42%) terminations, 7(16%) miscarriages and 3(7%) current pregnancies. Excluding pregnant women; 31/48 (65%) reported current contraception; 10 (32%) condoms, 8(26%) intrauterine systems, 7(23%) Depo-Provera, 4(13%) implant and 3(10%) oral contraceptive pill. 18/51 (35%) reported previous STIs; HPV (11), chlamydia (9), Herpes Simplex (2).

27/71 (38%) reported ever having a cervical smear including 20/28 (71%) women aged 25 or older, 15(54%) within 3.5 years (national average 69%). Abnormal findings reported in 7/27 (26%) included 5 CIN1 and 3/27 (11%) were HPV positive. 59/71 (83%) recalled prior HPV vaccination. Excluding four YWPaHIV with HBV coinfection, 41/63 (71%) demonstrated HBV surface antibodies >10mIU.

Conclusion: In this small cohort cervical smear uptake was below the national average despite high levels of previous abnormal findings. Given the high rates of prior STIs and pregnancy terminations, addressing the contraceptive and sexual health needs including vaccination for young women, may require accessible face-2-face services despite the pandemic.

P207 | Twenty years of HSV-2 research in low- and middle-income countries: a scoping literature review of the progress made in HSV-2/HIV interactions, HSV-2 control measures and HSV-2 mathematical modelling

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Background: In 2001, the World Health Organization (WHO) held a research priority setting workshop for herpes simplex virus type 2 (HSV-2) in low and middle-income countries (LMICs). Researching the bidirectional relationship between HSV-2 and HIV infections was identified as a priority. Understanding and harnessing this relationship to decrease HIV transmission has largely driven HSV-2 research in LMICs. Reviewing and updating research priorities is essential to ensure optimal allocation of financial and human

resources to research with the highest likelihood of patient and population benefit. This study aimed to describe progress between 2000 and 2020 in three of the five key areas identified as research priorities by the workshop: HSV-2/HIV interactions, HSV-2 control measures, and HSV-2 mathematical modelling. See companion presentation for the other priorities.

Method: A systematic literature search of MEDLINE, CINAHL, Global Health and Cochrane databases was carried out. Relevant primary research studies based in LMICs, written in English, and published 2000–2020 were included. Papers were screened by two independent researchers, and suitable variables selected for manual extraction from study texts. Data were organised into an Excel spreadsheet and analysed using IBM SPSS.

Results: In total, 2145 discrete papers were identified, of which 162 were eligible for inclusion (HSV-2/HIV interactions = 90, control measures = 52, mathematical modelling = 20). Most studies were located in East Africa with very few from North Africa and the Middle East. The majority of the 2001 HSV-2 research priorities areas were addressed at least in part. Overall, despite several studies describing a strong relationship between HSV-2 and acquisition and transmission of HIV, HSV-2 control repeatedly demonstrated little effect on HIV shedding or transmission. However, although mathematical modelling predicted that vaccines could significantly impact HSV-2 indicators but, HSV-2 vaccine studies were few. Studies of point-of-care testing and antiviral resistance were also few.

Conclusion: Since 2000, LMIC HSV-2 research addressing its control, HIV interactions, and mathematical modelling has largely addressed the priorities set in the 2001 WHO HSV-2 workshop. However, key knowledge gaps remain in vaccine research, antiviral resistance, and point of care testing. In addition to these areas, renewed research priorities should also address previously neglected geographical areas.

P208 | The effects of COVID-19 on a rural countywide sexual health service: the good, the bad and the ugly

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Background: We have analysed our rural countywide integrated sexual health service’s provision of care in the 4 quarters of 2020 to establish the effect of COVID-19.

Method: Retrospective review of health records from January 1 to December 31, 2020.

Results: There were 9,086 attendances: 2827 (31%) quarter 1 (Q1); 1195 (13%) quarter 2 (Q2); 2668 (29%) quarter 3 (Q3); 2396 (26%) quarter 4 (Q4).

The majority of attendees were heterosexual (93%); female (67%); over 16 years of age (93%).

The service performed 5, 266 STI tests in 2020.

Positive results in 2020

Thirty-nine cases of sexual assault documented: 15 (39%) in Q1; 11 (28%) in Q2; 4 (10%) in Q3; 9 (23%) in Q4.

Conclusion: In Q2, 90% of staff were redeployed, yet we maintained a sexual health service with reduced capacity. 13% attendances were in Q2; reinforcing that there is no place for the closure of sexual health services.

The demographics reflect our county and the integrated service provided. The service remained open throughout 2020 and facilitated access for vulnerable and high risk groups, including women from Pause & men who have sex with men. However, the number of documented sexual assaults was lowest when not in lockdown – does this indicate that our standard service is not well tailored for identifying sexual

	Chlamydia	Gonorrhoea	Syphilis	HIV	Total
Q1	206	36	10	0	252
Q2	78	18	6	0	102
Q3	107	21	9	1	138
Q4	138	20	12	2	172
TOTAL	529	95	37	3	664

assault and vulnerable persons? In order to identify vulnerable groups and provide care for those with geographical and/or cultural barriers we are establishing online booking and testing; COVID-safe walk-in services for vulnerable patients; and an equality driven campaign to improve service access for all.

Fewer positive results in Q2 is likely to reflect reduced testing. Further analysis is required comparing testing available; prevalence of STIs and demographics of those with STIs to fully understand where needs are not being met. Separate analysis of contraceptive provision in 2020 is in progress.

COVID-19 has ensured we have developed robust pathways for safe working during pandemics; and engaged with innovative approaches to tackle patient access across the population of our county to improve our service further.

P209 | High prevalence of sexually transmitted infections, homelessness and drug use among street-based sex workers in London: results from a pilot intervention of mobile outreach testing and treatment

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Background: There is an overlap between problematic drug use, homelessness, and sex work. During the COVID crisis, an increasing number of women have fallen into homelessness and street-based sex work due to financial instability. There is an ongoing need for sexual health, drug treatment, and housing interventions to support these vulnerable women. Find&Treat, mobile homeless health service, UCLH initiated pilot work in collaboration with the sexual health sex work outreach team, CLASH, from Mortimer Market Centre.

Method: Outreach testing sessions took place in North London at a location where clients were engaging in street-based sex work. All clients were offered pregnancy testing, point of care testing for HIV, hepatitis C and syphilis All were offered STI screening for Neisseria gonorrhoea and Chlamydia trachomatis, using NAAT triple site testing. Emergency contraception and referral for HIV PrEP was offered to all who needed it. Patients were recalled for STI treatment.

Results: So far, 23 clients have been screened, two male, one trans-female, and 20 females. 17/23(74%) reported homelessness (insecure housing or rough sleeping), 8/23(34%) born in the UK. 13/23(58%) reported current drug use, 10/23(43%) reported current injecting. All reported engagement in

transactional sex. One client reported inter-menstrual bleeding, 22/23 clients reported no symptoms at the time of screening.

45 infections were identified in 21/23(91%) clients screened; 6 syphilis antibody positive (confirmed on serology), 4 HCV RNA+, 19 CT infections (7 vaginal CT, 8 rectal CT, 4 pharyngeal CT), 16 NG infections (7 vaginal NG, 5 rectal NG, 4 pharyngeal NG) 21/23(91%) clients had infection at more than one anatomical site.

Conclusion: These pilot sessions have demonstrated a clear unmet need and overlap of homelessness, drug use and sex work. This client group is high risk for STIs and bloodborne viruses (BBVs), with 91% of people tested having infection. This high burden of infection will increase risk of complications for the individuals, transmission within the community, and risk of HIV acquisition. There is low rate of follow-up attendance in clinic, due to working hours of the clients, difficulty travelling to clinic and difficulty contacting the clients over the phone.

Urgent intervention is needed to increase access to point of care testing, treatment and HIV PrEP in the outreach setting, to ensure equity of access to healthcare and to improve the health and wellbeing of vulnerable individuals.

P210 | Increasing incidence of syphilis in heterosexual young people: an emerging problem?

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Background: Since the re-emergence of syphilis in the early noughties, new infections have, in the majority, been linked with MSM communities. In 2019 PHE reported a significant rise in the incidence of early infectious syphilis in heterosexuals, a 20.1% increase in heterosexual males and a 33.3% increase in heterosexual females. The increased incidence in women was largely observed in those of reproductive age.

Method: In late 2020 we observed a small cluster of new syphilis presentations in heterosexual young people at our integrated sexual health service in Oxfordshire. As this is highly unusual, we sought to investigate and look for any identifiable links between the cases. We performed a GUMCAD coding search for any heterosexual patient aged 25 or under with an 'A code' presenting to the service between July 2020 – January 2021.

Results: We identified 6 patients, 4 female and 2 male. Age range 16–25 yrs. 2 cases were linked through partner notification, otherwise the cases were unrelated. No MSM contact was documented and no patient reported >2 sexual partners within the preceding 6 months. 3 (50%) were diagnosed as late latent syphilis and 3 (50%) were diagnosed as early infectious syphilis (primary, secondary or early latent).

2 (33%) had co infection with another STI (1 chlamydia, 1 gonorrhoea).

Of the 4 female patients, 1 was pregnant and 3 were established on contraception. 2 LARC (1 implant, 1 contraceptive injection) and 1 taking the progesterone only pill. 3 (75%) reported a previous history sexual assault and at least one other vulnerability characteristic. These included: history of domestic violence, previous social care support, learning disability, history of mental health illness and deliberate self-harm.

Conclusion: We report a small cluster of syphilis diagnoses amongst heterosexual patients <25yrs. Of the patients reviewed, the majority were women of reproductive age with 2 or more vulnerability characteristics. We hope that this work will help to remind clinicians to remain alert to the signs of early infectious syphilis and to continue to routinely test all patients for syphilis. We highlight that this is particularly important for vulnerable young women of reproductive age.

P211 | Successful treatment of highly resistant *Trichomonas vaginalis* with intravaginal administration of oral metronidazole tablets

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Background: Treating resistant *Trichomonas vaginalis* (TV) can be challenging as the treatment options are limited with high failure rates. We report a case of chronic TV which was finally cured with re-purposing of oral Metronidazole tablets for intravaginal administration.

Method: N/A

Results: Case report

A 44-year-old Caucasian woman presented to our clinic with confirmed failed treatment for TV. She had severe vaginal itching and discharge for the previous 12 months. She last had sexual contact 5 months before the onset of symptoms with a male partner of 10 years. It was initially diagnosed and managed as bacterial vaginosis. Her STI screens on multiple occasions were normal. Nine months into her symptoms, she had a positive TV PCR test done privately.

She had already received the following treatment before coming to us:

- Metronidazole orally (400 mg bd for 7 days) and intravaginally (at bedtime for 14 days).
- Metronidazole orally (800 mg bd) and intravaginally for 14 days.
- Tinidazole orally (1g tds) and Metronidazole intravaginal gel for 14 days.

There was no risk of re-infection and compliance to therapy was not in doubt. When the patient presented to us, she was in a state of despair with severe symptoms. Treatment options in such a resistant case of TV are limited and discussed with the patient. Whilst arrangements being made to procure Paromomycin, it was mutually decided to cautiously try an experimental therapy in the form of intravaginal administration of Metronidazole 400mg oral tablets bd for 3 days. Written consent was obtained for the same. On the first day, the tablets came out but were retained for the next two days when inserted with the help of a plunger. She tolerated this well and her symptoms improved. Thereafter, she was subsequently treated with intravaginal administration of metronidazole 400mg oral tablets tds for 7 days. Her symptoms disappeared completely, and TV PCR two weeks later became negative.

Conclusion: Commercially available vaginal preparations have 37.5mg of Metronidazole and are designed to treat bacterial vaginosis. These preparations may be inappropriate to treat TV. This case report demonstrates the need for further research in this area to develop higher dose vaginal preparations of nitroimidazoles to treat TV including the resistant cases.

P212 | Hepatitis A susceptibility in men who have sex with men (MSM) in an urban sexual health centre

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Background: Hepatitis A is an important sexually transmitted enteric infection in MSM and an effective vaccination is available. It has been estimated that 70% of MSM need to be immune to hepatitis A in order to provide adequate herd immunity. In the UK, hepatitis A transmission in MSM is associated with high risk behaviours such as anonymous sex, multiple sexual partners, sex-on-premises venues and dating apps. European Centre of Disease Prevention and Control (ECDC) and the British Association for Sexual Health and HIV (BASHH) recommend opportunistic vaccination for all MSM.

Method: We aimed to estimate the proportion of MSM who were susceptible to hepatitis A over a 10-year period (from 2010 to 2019) and to determine if there are any demographic factors associated with susceptibility which may provide useful information for future vaccination programmes.

Results: 6884 MSM attended for the first time during the study period. 1401/6884 (20%) were tested for hepatitis A IgG at this first attendance. Testing rates increased significantly

between 2010 and 2019 (OR = 67.79;95%CI = 39–118, $P = <0.0001$). 626/1401 (45%, 95% CI = 42–47) showed susceptibility to hepatitis A (conferred by a negative IgG). Susceptibility rates did not change significantly during the study period (OR = 0.98;95%CI = 0.33–2.89, $P = 0.98$). MSM aged 35 and under had significantly higher susceptibility vs MSM over 35 (OR 3.42;95% CI = 2.71 to 4.31, $P = <0.0001$). UK-born MSM had significantly higher susceptibility vs non-UK born MSM (OR = 1.5,95% CI = 1.21–1.86, $P = 0.0002$). There was no difference in the presence of a sexually transmitted infection (*chlamydia*, *gonorrhoea*, syphilis, HIV) at their first attendance between susceptible and immune MSM (OR = 1.2,95%CI = 0.95–1.62, $P = 0.1099$)

Conclusion: Susceptibility of Hepatitis A in MSM is much lower than necessary to control future outbreaks. It is important that effective targeting of MSM, particularly young MSM occur at all levels of healthcare, rather than waiting until opportunistic presentation at a sexual health clinic.

P213 | Twenty years of HSV-2 research in low- and middle-income countries: a scoping literature review of the progress made in HSV-2 epidemiology and HSV-2 diagnostics

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Background: In 2001, the World Health Organization (WHO) hosted a workshop to set research priorities for Herpes simplex virus type 2 (HSV-2) in low and middle-income countries (LMICs). LMICs have a high burden of HSV-2 infection, and of HIV (for which transmission and acquisition have been associated with HSV infection), and limited resources to support effective control programmes. Periodic re-evaluation of research priorities is essential for ensuring effective allocation of resources. This study aimed to describe progress between 2000 and 2020 in two of the five areas identified by the workshop as key research priorities: HSV-2 epidemiology and HSV-2 diagnostics. The remaining 3 priorities are addressed in a companion presentation.

Method: A systematic literature search of MEDLINE, CINAHL, Global Health and Cochrane databases was carried out. Relevant primary research studies based in LMICs, written in English, and published 2000–2020 were included. Papers were screened by two independent researchers, and

suitable variables selected for manual extraction from study texts. Data were organised into an Excel spreadsheet and analysed using IBM SPSS.

Results: Overall, 3362 discrete papers were identified of which 165 publications (HSV-2 epidemiology = 102, HSV-2 diagnostics = 63) were eligible for inclusion. The highest general population HSV-2 prevalence was reported in the South and West Africa regions, despite most of identified studies were located in East Africa (14). Prevalence was higher among women than men and increased with age. HSV-2 prevalence studies among key populations were few, and the majority were located in East and South Asia. The most researched topic in HSV-2 diagnostics included serological techniques (33) and direct molecular biology(16). Studies of point of care testing and antiviral resistance were few. Cohort studies of HSV-2 incidence among younger populations (mean age = 25 years) and HSV-2 infection prevalence in North Africa and the Middle East were also very few.

Conclusion: The majority of HSV-2 research priorities identified by the 2001 WHO workshop in HSV-2 epidemiology and HSV-2 diagnostics have been addressed. New research priorities should include point of care testing, exploration of HSV-2 epidemiology in neglected geographical settings(e.g. North Africa and the Middle East), and improved understanding of the high HSV-2 incidence among younger populations.

P214 | Characteristics and outcomes of respiratory bacterial co-infections in HIV-positive inpatients admitted with COVID-19 compared to a matched HIV-negative cohort (RECEDE C-19 study)

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Background: Bacterial co-infection in hospitalized COVID-19 inpatients may impact clinical outcomes and may be more significant amongst people living with HIV (PLWH), but reports are limited in existing literature. In a sub-analysis of a retrospective multicentre UK study of matched HIV-positive and HIV-negative inpatient cohorts with COVID-19, we analysed clinical outcomes and mortality.

Method: 68 COVID-19 PCR+ PLWH patients hospitalized between 01/02/2020 – 31/05/2020 were matched to 181 HIV-negative individuals up to a 1:3 ratio by hospital site, test date, age bracket, gender, deprivation index. Follow-up was right-censored at day 28 for patients still in hospital or dead. Outcomes analysed included length of hospitalization and death. Patients with baseline positive respiratory bacteriology within 48hrs from COVID-19 test (COVID/MR+) were compared to those diagnosed with COVID-19 alone (COVID/MR-); stratified by HIV-status. Associations between COVID/MR status and baseline investigations or outcomes were analysed using Fisher’s exact or Wilcoxon rank-sum test where appropriate.

Results: Proportionally more PLWH (9/68, 13.2%) than HIV-negative individuals (12/181, 6.7%) had COVID/MR+ co-infection, but overall numbers were small and difference not significant ($P = 0.123$).

COVID/MR+ PLWH did not differ in median length of hospitalisation (LOH) or 28-day mortality from COVID/MR- PLWH (Table 1). In contrast HIV-negative COVID/MR+ patients had longer median LOH, and greater 28-day mortality than HIV-negative COVID/MR- patients.

COVID/MR+ were associated with higher median baseline WCC than COVID/MR- in PLWH, but not HIV-negative individuals (Table 1). Median CRP and Ferritin did not differ significantly between COVID/MR+ and COVID/MR- in both groups. Median CD4 count (247 (IQR 230–386) vs 360.5cells/ μ L (IQR 250–626), $P = 0.24$) and proportion with HIV RNA <200copies/ml (100% vs 94.8%, $P = 1.00$) did not differ between COVID/MR+ and COVID/MR- PLWH.

The most common respiratory pathogens identified were *E. Coli* (2/9), *Klebsiella aerogenes* (2/9) in HIV+/COVID/MR+; *Staphylococcus aureus* (3/12), *Streptococcus pneumoniae* (2/12), *Citrobacter krosleri* (2/12) in HIV-/COVID/MR+ patients.

Table 1. Outcomes and baseline investigations stratified by COVID/MR status and HIV-status

	PLWH			HIV-negative		
	COVID/MR+ n=9	COVID/MR- n=59	p-value	COVID/MR+ n=12	COVID/MR- n=169	p-value
Outcomes						
Median length of hospitalisation (days)	12 (IQR 10, ≥28)	16 (IQR 7, ≥28)	0.96	≥28 (IQR 25, ≥28)	8 (IQR 4, 22)	0.0007
28-day mortality	1 (11.0%)	13 (22.0%)	0.67	7 (58.3%)	27 (16.0%)	0.0020
Baseline Investigations						
Median WCC ($\times 10^9$)	12.2 (n=9) (IQR 7, 14.9)	5.9 (n=57) (IQR 4.5, 7.5)	0.0022	8.45 (n=12) (IQR 5.85, 11.7)	7.4 (n=165) (IQR 5.5, 9.8)	0.42
Median CRP (mg/l)	78 (n=9) (IQR 59, 174)	110 (n=59) (IQR 43.1, 183)	0.99	100 (n=12) (IQR 46.8, 193.9)	91 (n=164) (IQR 44, 185)	0.60
Median Ferritin (μ g/L)	1554 (n=4) (IQR 969, 2607)	438.5 (n=32) (IQR 257.5, 948.5)	0.053	1370 (n=7) (IQR 1007, 2329)	786 (n=105) (IQR 433, 1395)	0.070

Conclusion: Incidence of bacterial co-infection at time of COVID-19 diagnosis was low in both PLWH and HIV-negative cohorts and similar to existing reports in the literature. There was no significant difference in LOH or 28-day mortality amongst hospitalised COVID+ PLWH compared to matched HIV-negative individuals.

P215 | Added value of *Treponema pallidum* DNA testing in the diagnosis and management of primary syphilis

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Background: Primary syphilis is typically characterised by the appearance of an ulcerated lesion (chancre) on the anogenital or oral mucosa from which *Treponema Pallidum* (T Pallidum) DNA may be detectable by PCR. Whilst most syphilis infections are identified by serological assays, such tests may remain negative before a chancre develops and for up to 2 weeks afterwards. We reviewed the performance of standard diagnostic serological tests for syphilis in patients presenting with T Pallidum PCR positive lesions in a central London sexual health service with a high volume caseload of early syphilis.

Method: A retrospective review of cases was performed for individuals with detectable T Pallidum DNA on multiplex-PCR (M-PCR) testing from September 2019 until April 2020. Concomitant results for Treponemal serology and/or rapid plasma reagin (RPR) were extracted along with demographic data, history of previous syphilis and indices of sexual behaviour including number of contactable partners. Any subsequent Treponemal serology and RPR results were also reviewed.

Results: M-PCR swab specimens were performed in 451 individuals in whom 63 (14%) had detectable T Pallidum DNA; 60/63 (95%) were gay or bisexual men and 11/63 (17%) were living with HIV. A history of prior, treated syphilis was present in 17/63 (27%). Same day treponemal serology/RPR testing was performed in 58/63 patients. Of the 58 who had same-day syphilis serology/RPR, 9/58 (16%) had their syphilis infection identified by treponemal DNA PCR alone; 4/58 had a concurrent negative syphilis EIA and of those with prior treated syphilis 5/17 (29%) had either a negative concurrent RPR (n = 2) or a positive RPR without a diagnostic four-fold increase from their prior baseline (n = 3). A total of 165 partners were traced as contacts of infection of whom 25 (15%) were contacts of individuals diagnosed by M-PCR testing alone.

Conclusion: In individuals with T Pallidum PCR positive ulcers, around one in six in our cohort were negative on standard diagnostic serological tests for syphilis. Treponemal DNA testing is an important adjunct to serological assays in individuals with anogenital or oral ulcers who are at risk of recent syphilis infection and facilitates early diagnosis and contact tracing.

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