



A study about you
and your experiences

Flux Study COVID-19 Diary

Monthly Report

Report 03: Reporting week ending 09 August

Prepared by Daniel Storer

On behalf of the BRISE Reference Group for the Flux Study

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Collaborating Organisations

COVID-19 Diary Study is a collaboration between the Kirby Institute, the National Drug and Alcohol Research Centre (NDARC), the Australian Research Centre in Sex Health and Society (ARCSHS), the Centre for Social Research in Health (CSRH), University of Auckland, Australian Federation of AIDS Organisations (AFAO), National LGBTI Health Alliance, ACON, and Thorne Harbour Health.

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Executive summary

This is a report on the findings from the Flux Study COVID-19 Diary for the period 13th June 2020 to 9th August 2020. The report is a summary of data collected during the COVID-19 pandemic in Australia among gay and bisexual men (GBM). Weekly data are collected on key sexual and other risk behaviours, and monthly data collected on health seeking practices and social connectedness in relation to COVID-19.

Between 499 and 524 GBM completed online diary entries at weekly intervals followed by an extended weekly diary at Week 12. There were 499 responses in Week 11, 514 responses in Week 12, 505 responses in Week 13, and 524 responses in Week 14.

Summary of findings:

- The number of sexual partners among GBM remained relatively stable over the four-week period. Men in NSW tended to have higher partner numbers than men in other jurisdictions.
- Consistently, just under half of men reported any type of sex each week over this four-week period.
- The proportion of men reporting sex with a non-relationship partner remained stable at around one in four men.
- Among men with more than one non-relationship partner, receptive and insertive condomless anal intercourse (CLAI) remained stable over the four-week period with both peaking in Week 12.
- Between 63.2% and 73.7% of non-HIV-positive men reporting CLAI with more than one non-relationship partner were protected by PrEP.
- Group sex was uncommon, with around one in 14 men reporting group sex at Week 12.
- NSW respondents were more likely to report sex with multiple non-relationship partners.
- The proportion of men reporting having tested for COVID-19 was relatively uncommon and peaked in Week 12 at 8%.
- Around one in four men indicated they were coping poorly with the current COVID-19 crisis over the four-week period.
- About one in five men reported testing for HIV and/or STIs at Week 12.

Previous reports

- [Flux Study COVID-19 Diary Monthly Report 01](#)
- [Flux Study COVID-19 Diary Monthly Report 02](#)

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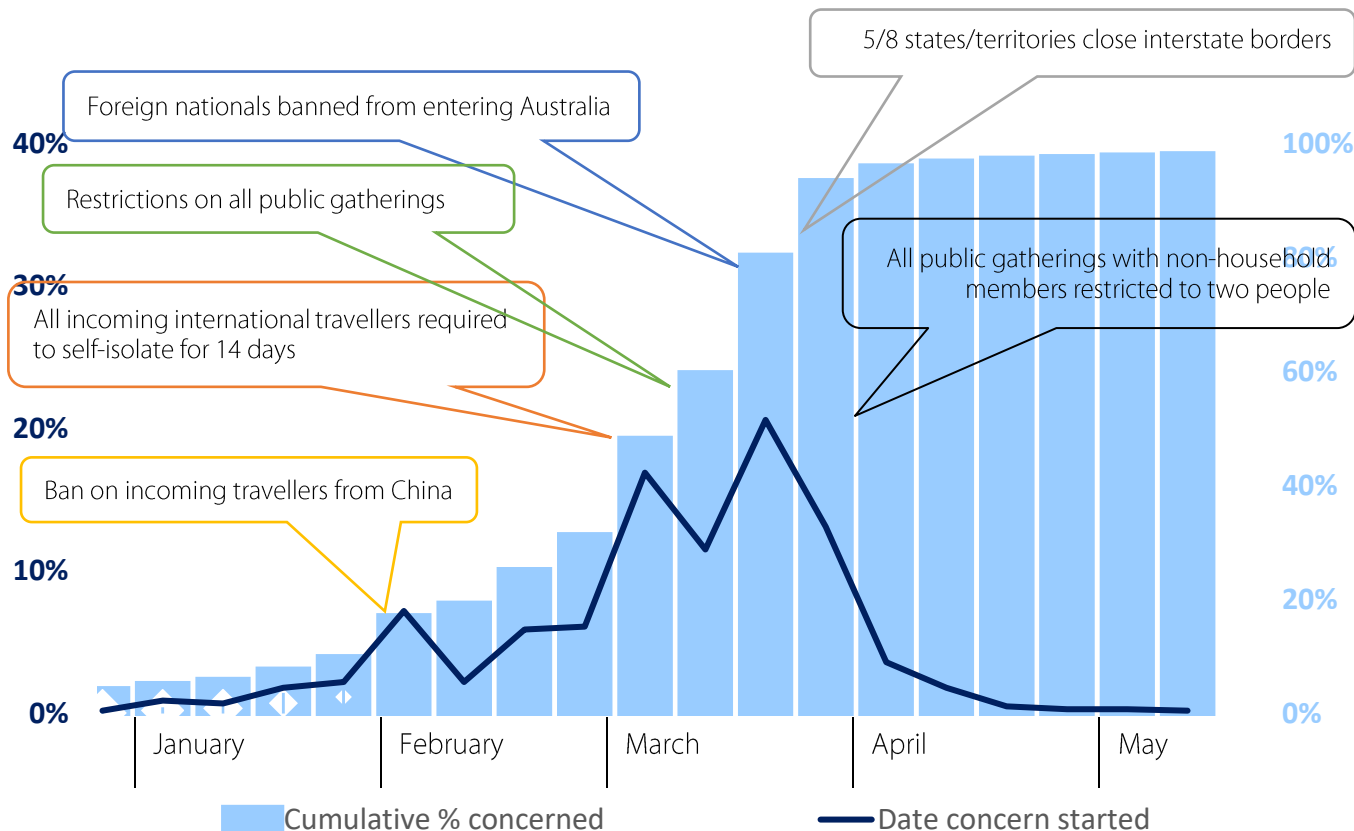
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Background

At baseline, gay and bisexual men reported the date they became concerned about the COVID-19 pandemic. Figure 1 details the cumulative percentage as men became concerned and the date concern started. This is accompanied by implementation of restrictions around the country.

Figure 1. Onset of concern about COVID-19 by date and cumulative frequency



Changes in restriction by study week

The COVID-19 Diary Study commenced collecting weekly diary entries from participants on 10th May 2020. Each Sunday thereafter participants are asked to complete their diary entries within 48 hours of receiving an emailed invitation. Below are the details of restrictions across each jurisdiction from Week 11 to 14 of the study.

Week 11 (13-19 July 2020)

NSW: Groups in pubs reduced from 20 to a maximum of 10 people and a cap on total patrons in a venue at 300 people. Returning international travellers required to cover cost of own hotel quarantine.

Victoria: All students in regional and rural Victoria and Year 11 and 12 students from metropolitan Melbourne and Mitchell Shire return to face-to-face learning. Screening public and private patients from metropolitan Melbourne and Mitchell Shire before elective surgeries commences. Pause on all Category 3 elective surgeries in metropolitan Melbourne and a reduction on elective surgeries in public hospitals by 50% and private hospitals by 75%.

Queensland: NSW local government areas of Liverpool and Campbelltown declared COVID-19 hotspots and any non-Queensland residents who have visited these areas will not be able to enter the state.

WA: Anyone who has travelled through Victoria in the previous 14 days must undergo hotel quarantine at their own expense. Anyone who has travelled through NSW will also be required to quarantine for 14 days but may do this at home or in a hotel. All travellers from Victoria and NSW will be required to have a test for COVID-19 upon arrival at the airport or within 48 hours and again at day 11 of quarantine.

Tasmania: Travellers to Tasmania from any location, region and premises in Australia that poses a high-risk of COVID-19 infection may be subject to border restrictions and quarantine requirements.

NT: People arriving from interstate who are not from a declared hotspot do not need to self-quarantine and those that have been in a declared hotspot in the last 14 days must undertake 14 days of mandatory supervised quarantine.

Week 12 (20-26 July 2020)

NSW: International arrivals into Sydney capped at 350 passengers per day, which is 100 passengers less than the previous cap. Restrictions placed on pubs the week before extended to restaurants, bars, cafes and clubs and all will be required to provide digital records of patrons within 24 hours. Weddings and corporate events restricted to 150 people subject to the four square metre rule and choirs and dancing prohibited. Funerals and places of worship limited to 100 people subject to the four square metre rule. A border zone, defined by the Murray River, restricts entry to NSW for Victorians to extremely limited purposes. NSW residents will also be restricted in their reasons for travelling into the Victorian side of the border zone.

Victoria: Prep to Year 10 students in metropolitan Melbourne and Mitchell Shire return to learning from home. Face coverings become mandatory for metropolitan Melbourne and Mitchell Shire residents when leaving home. All students over the age of 12 and staff attending school in

metropolitan Melbourne and Mitchell Shire required to wear a face covering or mask when at school. New procedures introduced if a potential contact of someone with COVID-19 cannot be contacted after two calls within a two hour window or if they refuse to participate in a contact tracing interview, ADF personnel accompanied by an authorised officer will visit the address on the same day.

Queensland: All patrons in food and drink venues must again be seated when eating or drinking after previously being able to stand. Events may operate in compliance with an Approved Industry or Site Specific Plan, as well as a COVID SAFE Event Plan.

WA: Phase 5 of the WA COVID-19 roadmap pushed back from 1 August 2020 to 15 August 2020 based on health advice.

Tasmania: Tasmanian border due to reopen but will remain closed to mainland Australia.

ACT: Implementation of stage 3 restrictions postponed for two weeks.

Week 13 (27 July-2 August 2020)

NSW: Gyms must register and have a COVID Safety Plan and have a dedicated COVID-19 Safe Hygiene Marshal on duty at all times.

Victoria: Only new Category 1 and the most urgent Category 2 elective surgeries to take will be booked and IVF treatments will continue. All positive cases of coronavirus will be visited by ADF and authorised officers. Employers are required to notify WorkSafe if they become aware a worker has received a confirmed coronavirus diagnosis. Face coverings mandatory for regional Victoria. Local government areas of Colac-Otway, Greater Geelong, Surf Coast, Moorabool, Golden Plains and the Borough of Queenscliffe no longer able to visit people or have visitors in their homes. State of Disaster declared. Stage 4 restrictions begin in Melbourne Sunday 2 August including an 8pm-5am curfew for six weeks. Exercise is limited to a maximum of one hour per day and no more than five kilometres from home and a maximum of two people. Shopping limited to one person per household per day within five kilometres from home. TAFE and university study must be done remotely.

Queensland: Sydney suburb of Fairfield declared a hotspot and anyone who has visited that area in the previous 14 days will not be able to enter Queensland. All Queensland residents returning from a hotspot must undergo 14 days of hotel quarantine at their own expense. Greater Sydney declared a hotspot. Queensland border closes to Greater Sydney.

SA: Only essential travellers can enter SA from Victoria. SA residents are no longer able to return to SA from Victoria. Funerals and weddings capped at 100 people. Private gatherings in homes capped at 50 people. To be considered for cross border community travel to and from Victoria, residents must reside within 40kms of the border, this has been restricted from 50kms.

Tasmania: Essential travellers who have spent time in an affected region or premises in the 14 days before arriving in Tasmania will be required to undergo COVID-19 testing on arrival.

Week 14 (3-9 August 2020)

NSW: The use of face masks are highly recommended in the following settings: in indoor settings where physical distancing is hard to maintain, including public transport or supermarkets, other indoor settings with a higher risk of transmission such as cafes, restaurants, pubs and clubs, and also during attendance at places of worship. Anyone flying into NSW from Victoria must be a NSW resident and have a valid permit. NSW residents, unless in the NSW border regions, will only be allowed to return via Sydney airport and residents returning from Victoria must go into mandatory hotel quarantine for 14 days at their own expense.

Victoria: Regional Victoria return to Stage 3 'Stay at Home' restrictions. Stage 3 restrictions also apply to businesses. All schools return to remote and flexible learning across all levels and across the state, with the exception of specialist schools. Although schools will be open to students whose parents are permitted workers and vulnerable kids who can't learn from home. These restrictions are also applied to kinder and early childhood education. Supermarkets, grocery stores, bottle shops, pharmacies, petrol stations, banks, newsagencies, post offices will continue to operate. Employees working in permitted industries who cannot work from home are required to carry a 'Worker Permit' when travelling to and from work. Retail, some manufacturing and administration will cease for the next six weeks. Retail stores are permitted to operate contactless 'click and collect' and delivery services and hardware stores can remain open for tradespeople only. All open businesses and services must enact a COVIDSafe plan focused on safety, prevention and response. The meat industry is scaled back to two-thirds. Warehousing and distribution centres in Melbourne are limited to no more than two-thirds normal workforce at any one time. Major construction sites can continue with no more than 25% normal workforce. Small construction will be limited to a maximum of five people onsite. Weddings in Melbourne cannot occur. Infringement offences introduced for breaches of Chief Health Officer directions to target people who fail to self-isolate after testing positive to COVID-19 or identified as a close contact. People who have tested positive for COVID-19 or are close contacts can

no longer leave their homes for exercise. All Category 3 and non-urgent Category 2 elective surgeries cease in regional Victoria with IVF exempt from these restrictions.

Queensland: Queensland closes its border to NSW and the ACT. Queenslanders who missed the 8 August 1am deadline must now fly into Queensland and quarantine at their own expense.

WA: Announced that the Phase 5 of the WA COVID-19 roadmap due to be implemented from 15 August will be moved to a tentative date of 29 August.

SA: Reintroduced cap on gatherings in private homes to 10 people. Food and beverages (including alcohol) can only be consumed by patrons while seated.

Tasmania: There are no quarantine restrictions for people travelling from SA, NT and WA. Health screening will be conducted at Tasmanian airports and ports. Anyone demonstrating COVID-19 like symptoms will be encouraged to undergo COVID-19 testing and quarantine until results are known.

NT: Chief Health Officer revoked hotspot status for purposes of travelling to the NT from City of Brisbane, Logan City, City of Ipswich, Eurobodalla Shire and City of Blue Mountains. People arriving from these areas will not be required to enter mandatory quarantine.

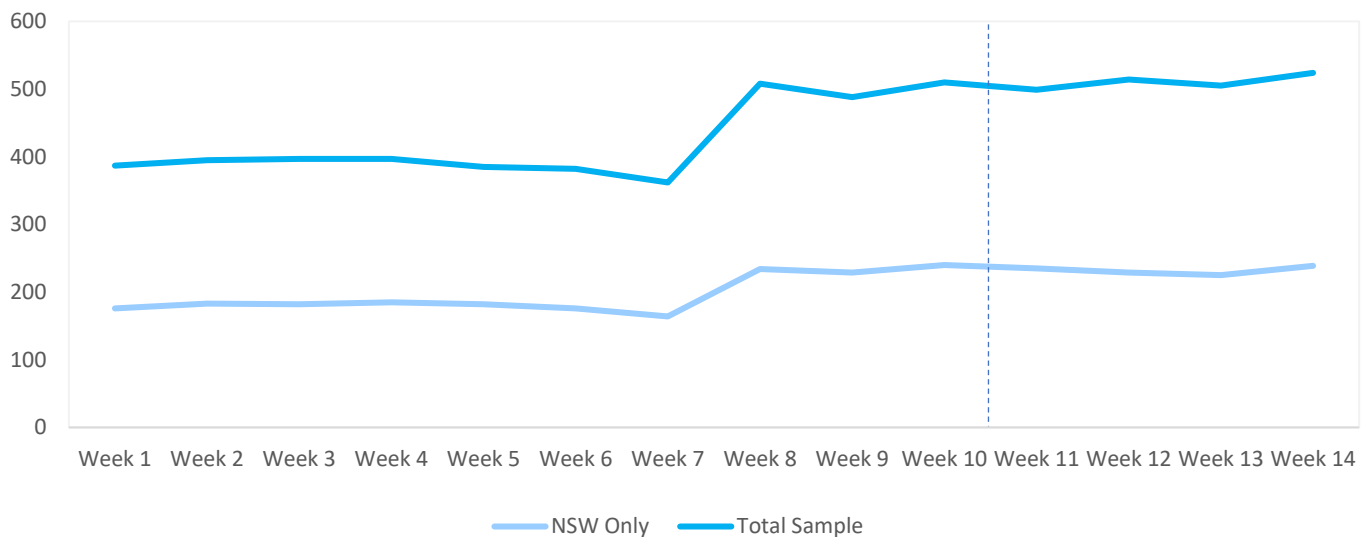
Responses

Responses have been consistent with high retention and remained stable over the four-week period. Men from NSW comprised around half of participants each week.

Table 1. Responses (for all study weeks see Table 1 in Appendix C)

	Week 11	Week 12	Week 13	Week 14
NSW only	235	229	225	239
Total sample	499	514	505	524
Initial enrolment	10	27	10	3
Previous enrolment	489	487	495	521
Non-response	155	167	186	170
Cumulative total	654	681	691	694

Figure 2. Number of respondents each week (total and NSW)*



*Note: weeks to the right of the dotted line in all figures indicates the period covered by this report

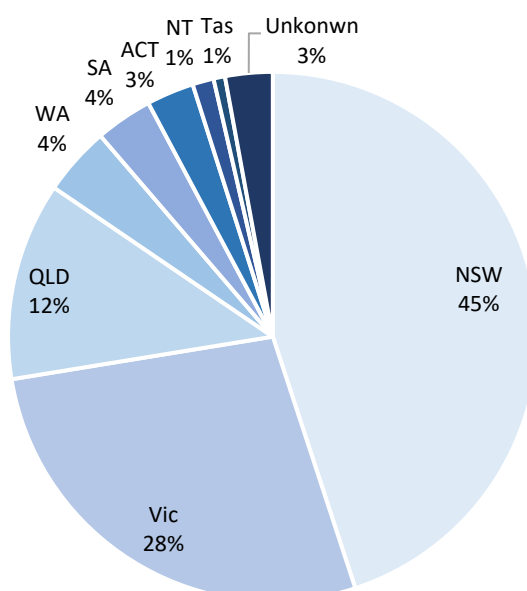
Geographic distribution

Table 2. Geographic distribution of sample

	Existing Flux cohort	Newly enrolled cohort*	Total
State/Territory			
New South Wales	243 (45.0)	70 (45.2)	313 (45.0)
Victoria	141 (26.1)	50 (32.3)	191 (27.5)
Queensland	73 (13.5)	11 (7.1)	84 (12.1)
Western Australia	28 (5.2)	1 (0.6)	29 (4.2)
South Australia	19 (3.5)	5 (3.2)	24 (3.5)
ACT	17 (3.1)	3 (1.9)	20 (2.9)
Northern Territory	8 (1.5)	1 (0.6)	9 (1.3)
Tasmania	3 (0.6)	2 (1.3)	5 (0.7)
Unknown	8 (1.5)	12 (7.7)	20 (2.9)
Postcode			
Very highly gay populated	49 (9.1)	12 (7.8)	61 (8.8)
Highly gay populated	100 (18.5)	23 (15.0)	123 (17.7)
Moderately gay populated	236 (43.6)	60 (39.2)	296 (42.7)
Sparsely gay populated	130 (24.0)	39 (25.5)	169 (24.4)
Very sparsely gay populated	15 (2.8)	7 (4.6)	22 (3.2)
No response	11 (2.0)	12 (7.8)	23 (3.3)

*Note: new enrolments began in Week 8

Figure 3. State of residence



Sample characteristics

Table 3a. Sample characteristics

		Existing Flux cohort	New enrolled cohort*	Total
Age	Mean (SD)	46.6 (14.3)	47.3 (14.3)	46.8 (14.3)
	Median	46.5	47.0	46.5
	Under 25	4	1	5
HIV Status	Positive	63 (11.7)	31 (19.7)	94 (13.5)
	Negative	443 (82.5)	113 (72.0)	556 (80.1)
	Unknown	31 (5.8)	13 (8.3)	44 (6.3)
Sexuality	Gay	491 (92.3)	137 (92.6)	628 (92.4)
	Bisexual	28 (5.3)	9 (6.1)	37 (5.4)
	Other/unknown	13 (2.4)	2 (1.4)	15 (2.2)
Country of birth	Australia/NZ	444 (82.4)	120 (77.4)	564 (81.3)
	Asia	23 (4.3)	9 (5.8)	32 (4.6)
	Other	49 (9.1)	19 (12.3)	68 (9.8)
	Did not answer	23 (4.3)	7 (4.5)	30 (4.3)

*Note: new enrolments began in Week 8

Table 3b. Employment status (for all study weeks where this data is collected see Table 3b in Appendix C)

Laid off temporarily	3 (3.4)
Laid off completely	1 (1.1)
Reduced hours	6 (6.8)
Working from home	17 (19.3)
Redeployed due to COVID-19	1 (1.1)
Commenced new job	2 (2.3)
Returned to workplace	9 (10.2)
Increased hours	4 (4.5)
Began taking payment for sex	0 (0.0)
No changes	55 (62.5)

Sexual Behaviour

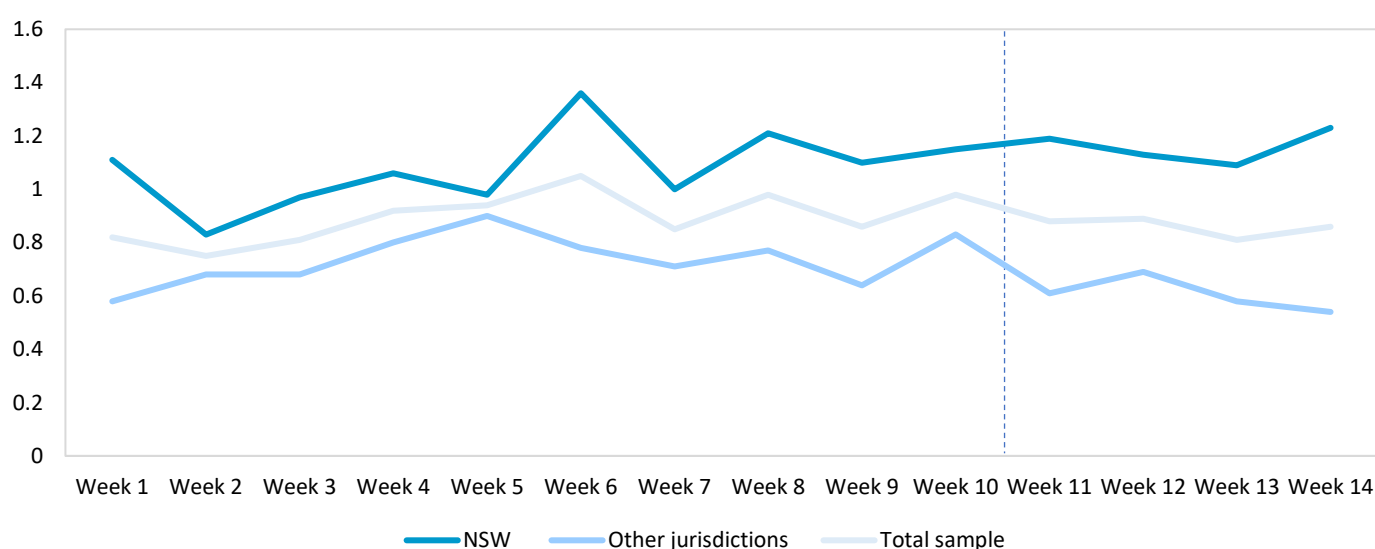
Number of sexual partners

Number of partners remained stable over the reporting four-week period. Men in NSW tended to have a higher mean number of partners than men in other jurisdictions during this period. It should be noted that most men had one or no partners.

Table 4. Number of sexual partners (for all study weeks see Table 4 in Appendix C)

Mean (SD)	Week 11	Week 12	Week 13	Week 14
NSW	1.19 (2.02)	1.13 (1.90)	1.09 (2.31)	1.23 (2.31)
Other jurisdictions	0.61 (1.19)	0.69 (2.26)	0.58 (1.14)	0.54 (1.21)
Total sample	0.88 (1.58)	0.89 (2.11)	0.81 (1.78)	0.86 (1.84)
Median	0	0	0	0

Figure 4. Mean number of sexual partners by week of response



Non-relationship partners and condomless anal intercourse (CLAI)

Men reporting any type of sex remained stable over the four-week period. Just under half of men reported any type of sex, peaking at Week 12. Around a quarter of men engaged in sex with a non-relationship partner (fuckbuddy/casual partner). The proportion of men using PrEP or TasP during receptive CLAI with casual or multiple non-relationship partners fluctuated slightly over the four-week period. There was a slight decline in the proportion of men using PrEP or TasP for insertive CLAI over the period.

Table 5. Sex by partner type and CLAI (for all study weeks see Table 5 in Appendix C)

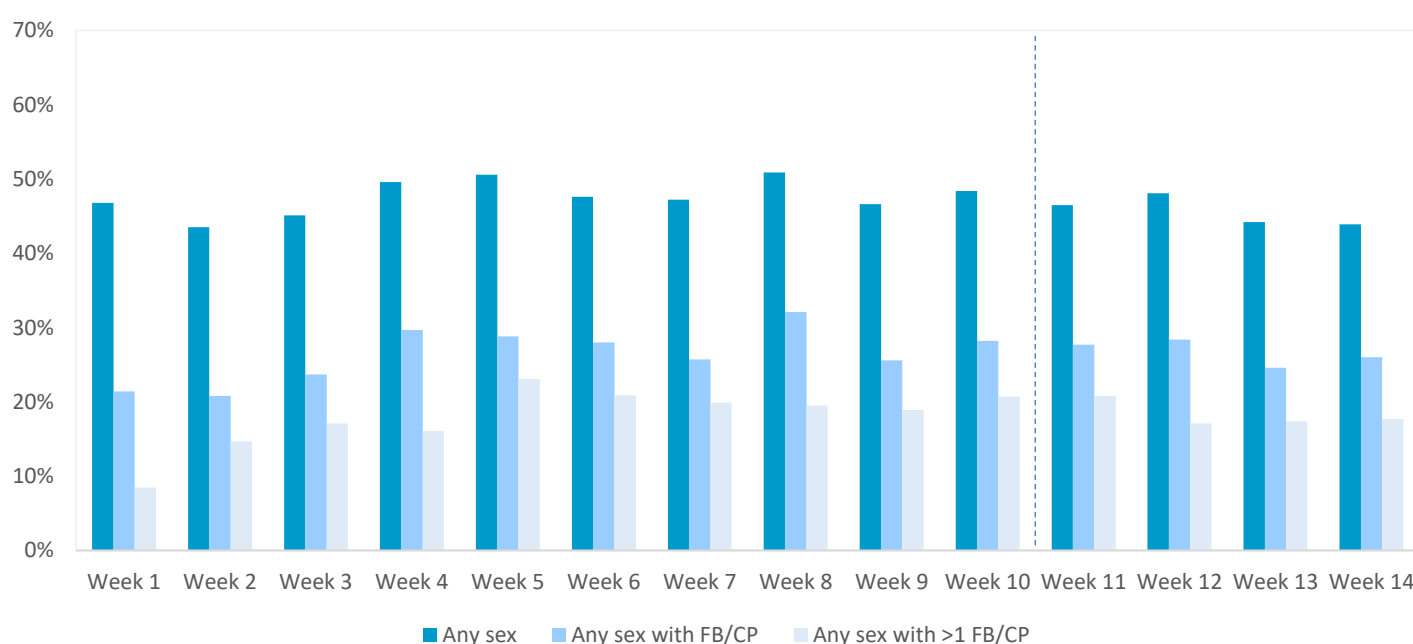
	Week 11	Week 12	Week 13	Week 14
Any sex	232 (46.5)	247 (48.1)	223 (44.2)	230 (43.9)
Sex with 1 partner only	144 (28.9)	153 (29.8)	154 (30.5)	159 (30.3)
Any sex with FB/CP	138 (27.7)	146 (28.4)	124 (24.6)	136 (26.0)
Any sex with >1 FB/any CP	104 (20.8)	88 (17.1)	88 (17.4)	93 (17.7)
Any receptive CLAI*	41 (39.4)	42 (47.7)	35 (39.8)	38 (40.9)
Used PrEP or TasP**	28 (68.3)	30 (71.4)	23 (65.7)	24 (63.2)
Any insertive CLAI*	56 (53.8)	42 (47.7)	39 (44.3)	40 (43.0)
Used PrEP or TasP**	40 (71.4)	29 (69.0)	25 (64.1)	23 (57.5)

*Note: CLAI is reported specifically among men who had sex with >1 FB/ any CP.

**Note: PrEP/TasP coverage is reported specifically among men who reported CLAI and had sex with >1 FB/ any CP.

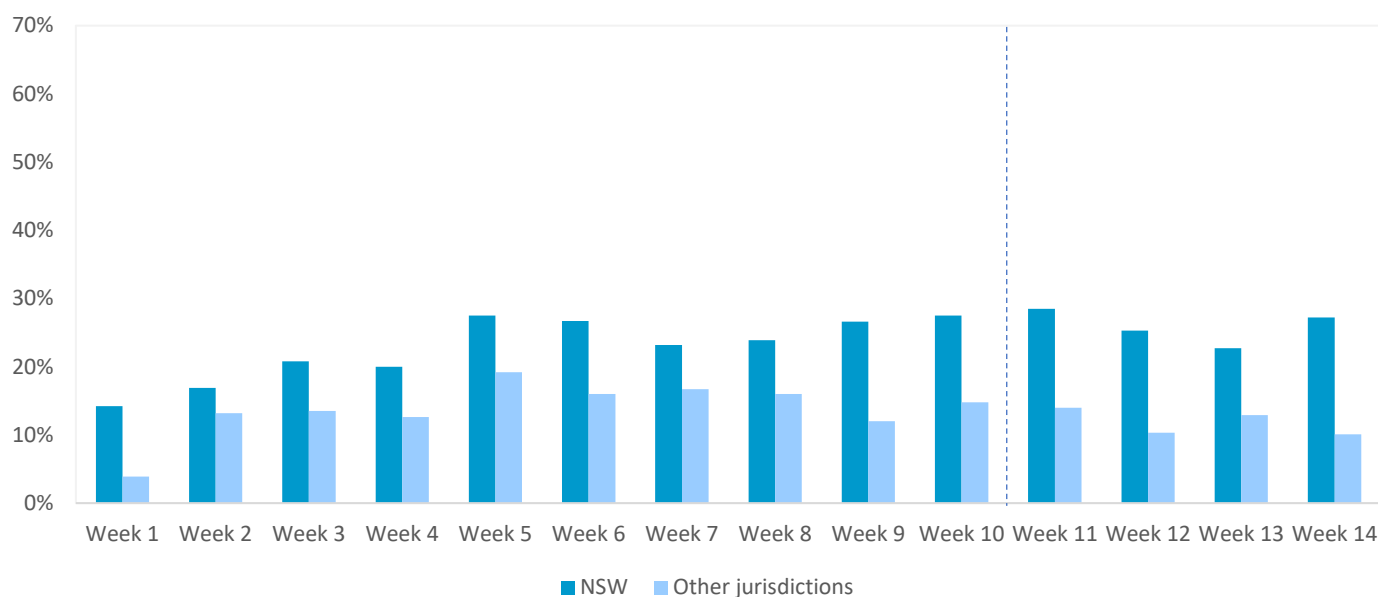
Reports of any sex with non-relationship partners remained stable over the four-week period. Any sex with any casual or more than one non-relationship partner also remained stable.

Figure 5a. Proportion of men engaging in any sex and sex with FBs/CPs



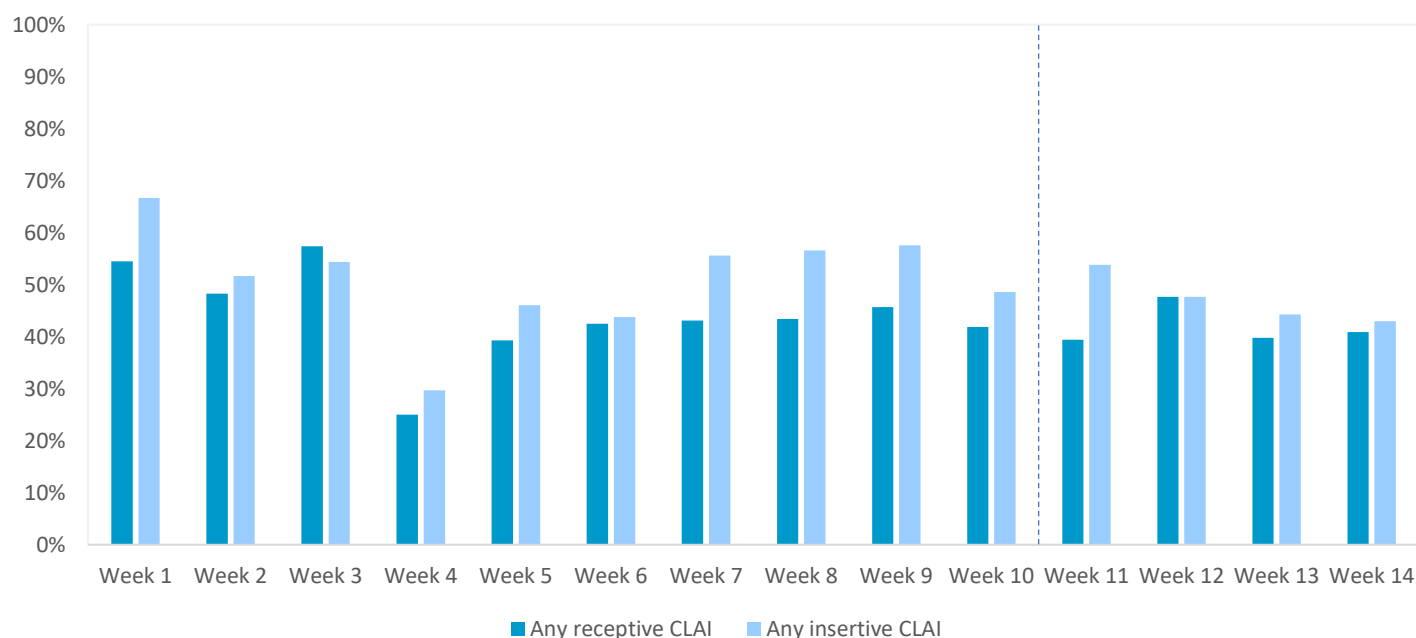
NSW respondents were generally more likely to report sex with more than one non-relationship partner over the four weeks, but this fluctuated over the period. The decline in other jurisdictions was largely due to changing restrictions in Victoria.

Figure 5b. Proportion of men in NSW vs other jurisdictions engaging in sex with multiple (>1) non-relationship partners



Men reporting receptive CLAI with any casual or more than one non-relationship partner fluctuated over the four-week period, while men reporting insertive CLAI decreased over the period. Receptive CLAI peaked at Week 12 and insertive CLAI peaked at Week 11.

Figure 5c. Proportion of men engaging in CLAI with multiple (>1) non-relationship partners



Group sex

Participation in group sex was uncommon with approximately one in 14 men reporting that they had engaged in group sex at some time at Week 12.

Sex within the household and with fuckbuddies/casual partners

Of the men that had sex with any non-relationship partners over the four-week period, a small proportion indicated they lived with all the men with whom they had sex with. Sex was mostly conducted with men outside of the participant's household.

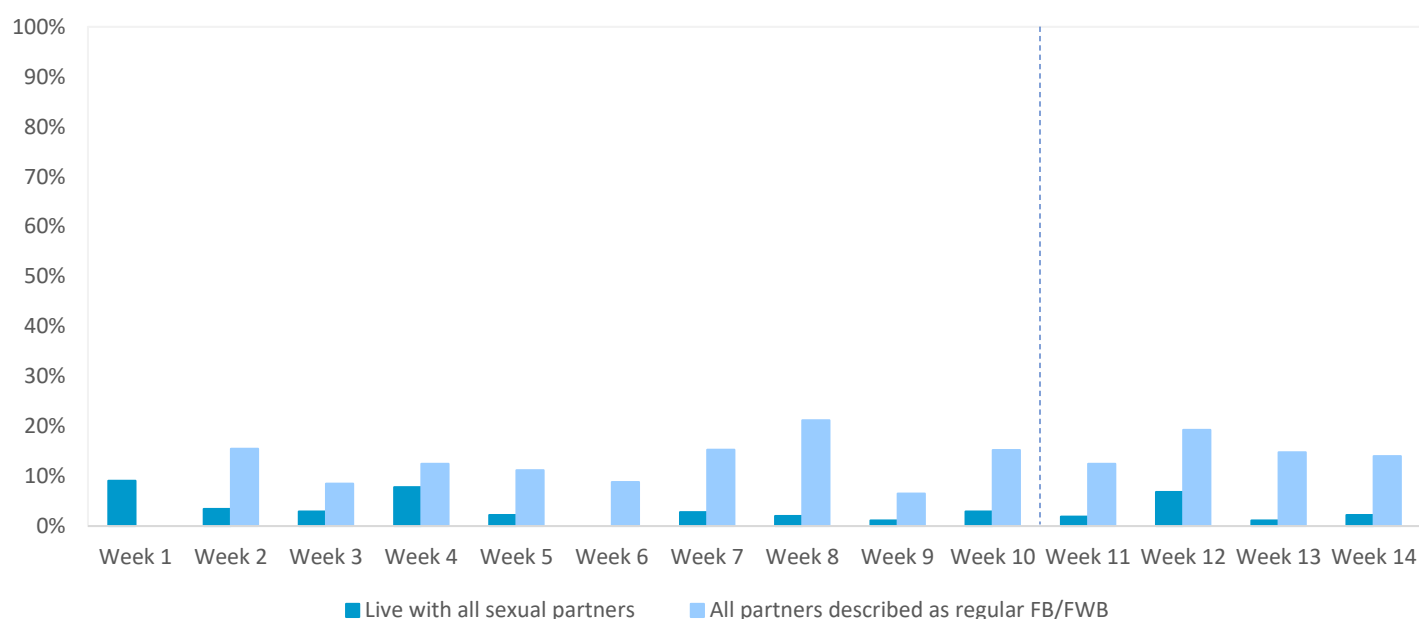
Table 6. Sex within the household and characterisation as FBs/FWBs (for all study weeks see Table 6 in Appendix C)

	Week 11 N=104*	Week 12 N=88*	Week 13 N=88*	Week 14 N=93*
Live with all sexual partners	2 (1.9)	6 (6.8)	1 (1.1)	2 (2.2)
All partners described as regular FB/FWB	13 (12.5)	17 (19.3)	13 (14.8)	13 (14.0)

*N = men each week who reported having >1 fuckbuddy or casual partner

Around one in seven of the small number of men who had sex with any non-relationship partners reported that they would describe all these partners as regular fuckbuddies or friends with benefits. Data were not collected to determine whether these were previously established or new regular partners. This proportion remained fairly steady over the period and peaked in Week 12..

Figure 6. Proportion of men having sex with FBs/CPs within their immediate household and describe as FBs/FWBs



PrEP and PEP use

Around a third of non HIV-positive men were using PrEP over the four-week period. On average, men who had PrEP pills in their possession had between 37-42 pills remaining.

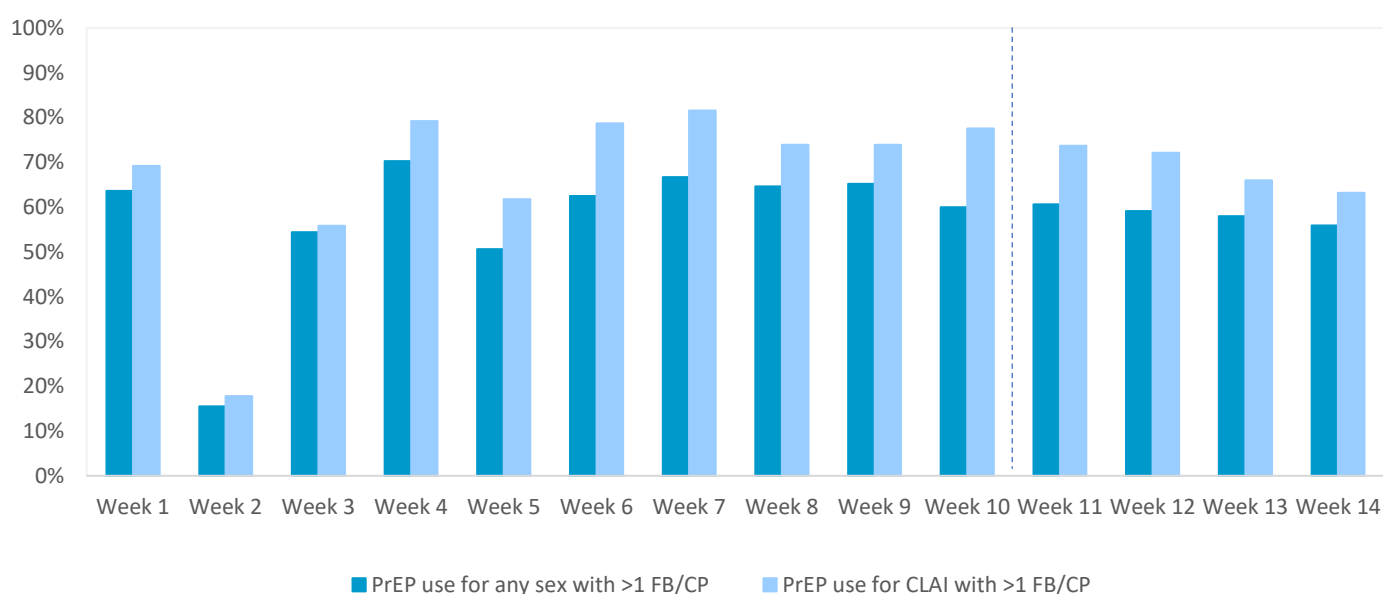
Table 7. PrEP and PEP use among non HIV-positive men (for all study weeks see Table 7 in Appendix C)

	Week 11	Week 12	Week 13	Week 14
No use	321 (68.9)	314 (68.7)	331 (70.0)	336 (68.9)
PrEP use	145 (31.1)	143 (31.3)	142 (30.0)	152 (31.1)
PEP use	11 (2.4)			
Mean PrEP pills remaining	38.5 (31.4)	41.9 (33.7)	37.7 (28.7)	37.8 (28.8)
Any sex with >1 FB/CP	104	88	88	93
PrEP use among men reporting any sex with >1 FB/CP	63 (60.6)	52 (59.1)	51 (58.0)	52 (55.9)
Any CLAI with >1 FB/CP	76	61	53	57
PrEP use among men reporting any CLAI with >1 FB/CP	56 (73.7)	44 (72.1)	35 (66.0)	36 (63.2)
4+ days/week PrEP use among men reporting sex with >1 FB/CP	55 (72.4)	40 (65.6)	33 (62.3)	34 (59.6)

HIV-positive men excluded.

Among non HIV-positive men reporting any casual or multiple non-relationship partners, almost two thirds reported using PrEP. Among men reporting any CLAI with any casual or multiple non-relationship partners the proportion using PrEP declined slightly over the period. Men who used PrEP at least four days in the previous week fluctuated over the period.

Figure 7. Proportion of men with multiple non-relationship partners and having CLAI with multiple non-relationship partners using PrEP



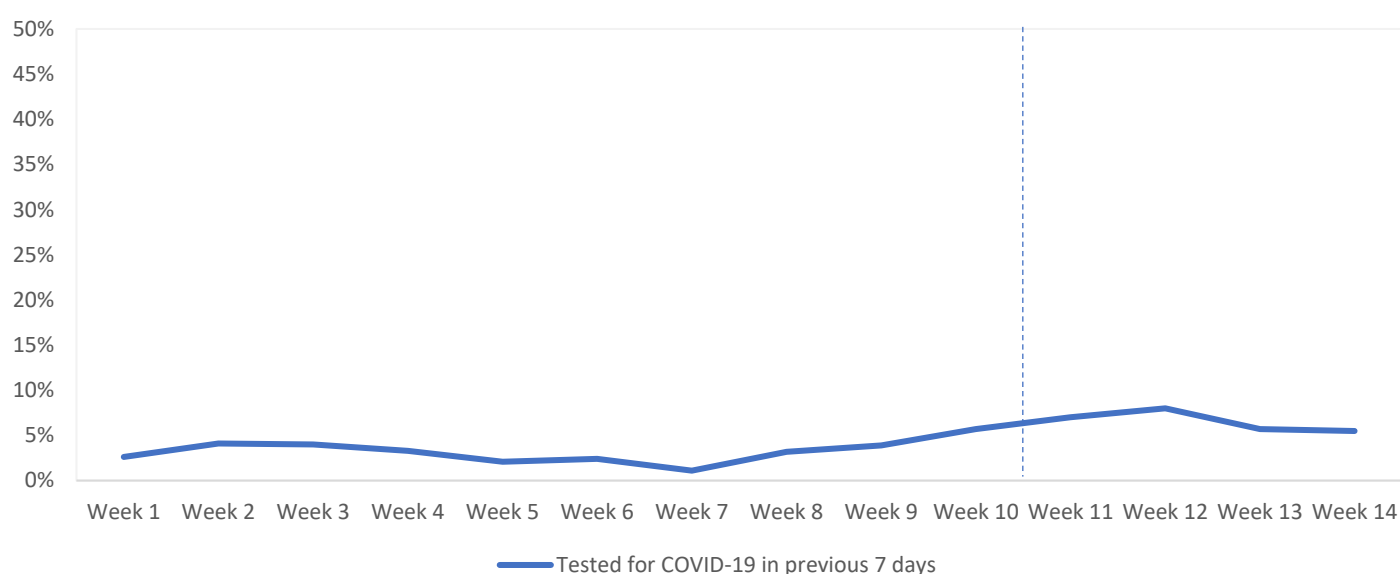
COVID-19 Testing

Recent (in the past 7 days) testing for COVID-19 has been relatively uncommon among participants. During the four-week period, testing peaked at Week 12, possibly reflecting increasing community transmission in Victoria and stable transmission in NSW.

Table 8. COVID-19 testing (for all study weeks see Table 8 in Appendix C)

	Week 11	Week 12	Week 13	Week 14
Tested in previous week	35 (7.0)	41 (8.0)	29 (5.7)	29 (5.5)

Figure 8. Proportion of men tested for COVID-19 in previous seven days



Test type

Table 9. COVID-19 test type (for all study weeks see Table 9 in Appendix C)

	Week 11	Week 12	Week 13	Week 14
Blood test	1 (2.9)	1 (2.4)	0 (0.0)	0 (0.0)
Nose and throat swab	33 (94.3)	40 (97.6)	29 (100.0)	29 (100.0)
Other	1 (2.9)	0 (0.0)	0 (0.0)	0 (0.0)
Positive COVID-19 result	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

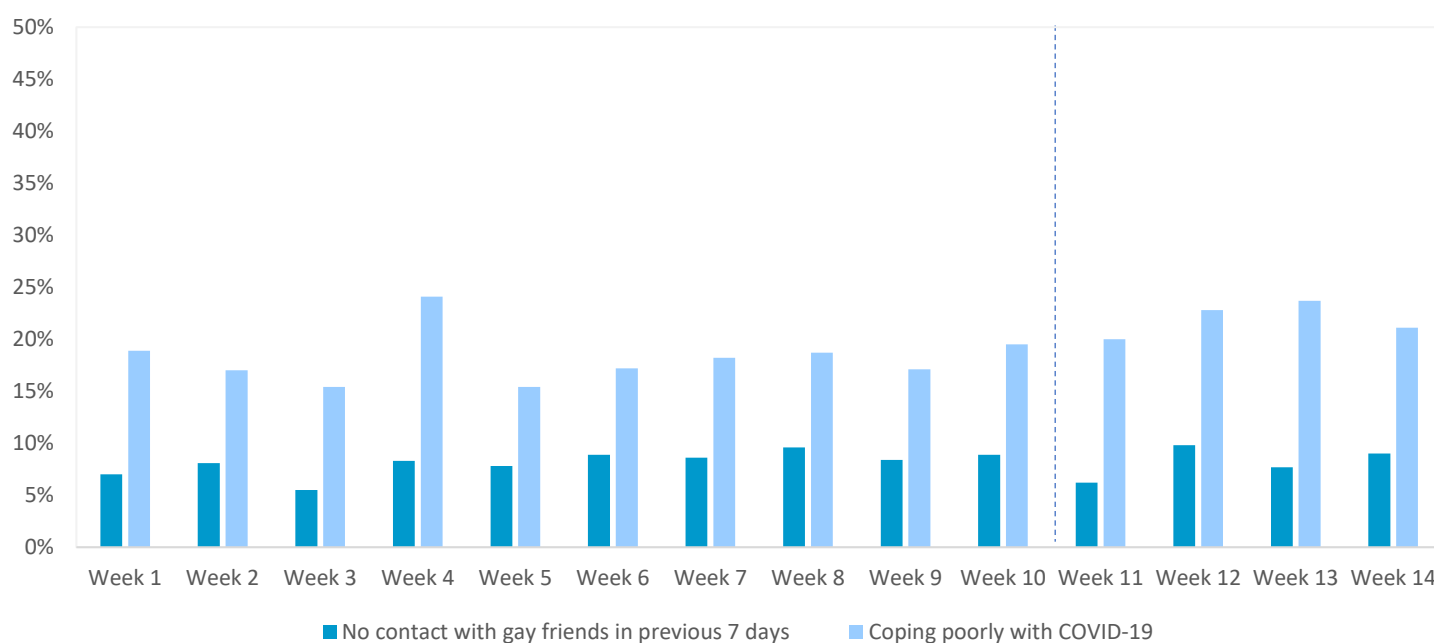
Social connectedness

Despite some fluctuations, contact with gay male friends remained fairly steady, with fewer than one in ten reporting no contact, including the small proportion who have no gay friends. The majority of men had some contact with family or other friends at Week 12, with about five percent reporting no contact. Most men reported coping with COVID-19 concerns and restrictions fairly well, with a slight increase over the period. Coping was measured on a six-point scale from 'Very well' to 'Very poorly'. About one in five men indicated that they were coping poorly, and this reached a peak in Week 13.

Table 10. Proportion of men having no contact with friends and family and coping poorly (for all study weeks see Table 10 in Appendix C)

	Week 11	Week 12	Week 13	Week 14
No contact with gay friends in the past 7 days	31 (6.2)	51 (9.8)	39 (7.7)	47 (9.0)
No contact with other friends and family in the past 7 days	26 (5.1)			
Coping poorly	100 (20.0)	118 (22.8)	120 (23.7)	111 (21.1)

Figure 9. Proportion of men with no contact with gay male friends and coping poorly with COVID-19



Time spent communicating with gay male friends

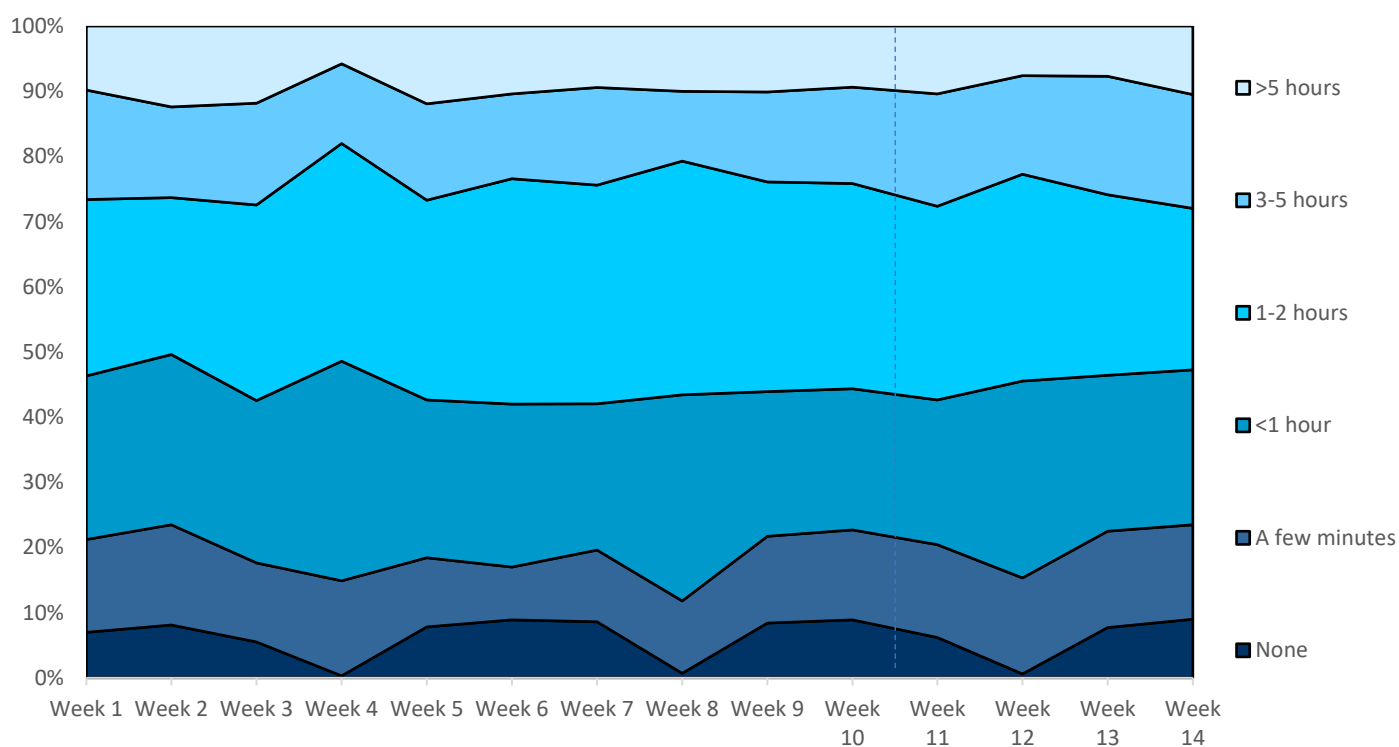
Communication, in person, by phone or online, with gay male friends by participants has been fairly consistent during Weeks 11-14. During this period, over half the sample consistently spent an hour or more each day communicating with gay male friends.

Table 11. Time spent communicating with gay male friends among all respondents (for all study weeks see Table 10 in Appendix C)

	Week 11	Week 12	Week 13	Week 14
None	31 (6.2)	3 (0.6)	39 (7.7)	47 (9.0)
A few minutes	71 (14.2)	68 (14.7)	75 (14.8)	76 (14.5)
<1 hour	111 (22.2)	140 (30.2)	121 (23.9)	125 (23.8)
1-2 hours	148 (29.7)	147 (31.7)	140 (27.7)	130 (24.8)
3-5 hours	86 (17.2)	70 (15.1)	92 (18.2)	92 (17.5)
>5 hours	52 (10.4)	35 (7.6)	39 (7.7)	55 (10.5)

The proportion of men not engaging in daily communication with gay male friends remained low over the four-week period, at less than one in ten men. The majority of men spent up to two hours communicating with gay friends each day.

Figure 10. Time spent communicating with gay friends



Health-seeking behaviour

Influenza vaccine uptake

At Week 12 there was little change in the proportion of men that had received the 2020 seasonal influenza vaccine compared to Report 01 and 02. About three quarters of men indicated they had received the 2020 seasonal influenza vaccine.

STI/HIV testing

About one in five men indicated they had been tested for STIs or HIV at Week 12. During this period positive STI results were low. 2.5 percent of men indicated they tested positive for chlamydia and gonorrhoea respectively, and 1.5 percent indicated they tested positive for syphilis.

Almost all men reported being HIV negative at Week 12, around one in 20 men were HIV positive and one percent reported an unknown HIV status. None of the men who indicated they were HIV positive reported their viral load at Week 12.

Appendix A – Methods

Data collection

The Flux Study COVID-19 Diary leverages the existing Flux cohort study infrastructure to investigate the experiences of the coronavirus (COVID-19) and its impact on pre-existing epidemics among GBM. Individual follow occurs systematically among consenting GBM every week for an initial three-month period, to be revisited at the end of each three-month period for up to a maximum of one year to collect specific information about sexual and other risk behaviours and direct impacts of COVID-19.

Baseline questionnaires are completed by newly enrolling participants to establish the characteristics, behaviours, and beliefs required to assess changes over time, during the COVID-19 pandemic. Additional information collected includes associated harms, health-seeking, social connectedness, COVID-19 physical distancing behaviours, mental health, and relevant personal characteristics.

Weekly diary questionnaires collect specific limited information on sexual behaviour, PrEP use, and COVID-19 health-seeking practices, to enable measurement of changes in behaviours against the rapid changes in physical distancing regulations as they are enforced, or relaxed. Every four weeks, a slightly expanded questionnaire will also collect specific information on physical distancing and social connections, drug use, and access to services.

Six-monthly follow-up questionnaires monitor changes in characteristics, behaviours, and beliefs over time, throughout the COVID-19 pandemic, required to assess changes over time as specified in the study aims.

Data analysis

SPSS™, Version 26 (IBM Corporation) was used to analyse data. Percentage values exclude the proportion of respondents who did not answer the question and may not add to 100 because of rounding. Data may change slightly over time due to minor error checking.

Ethical approval for data collection was obtained from UNSW Human Research Ethic

Appendix B – Glossary

CLAI – condomless anal intercourse

COVID-19 – the disease caused by the novel coronavirus SARS-CoV-2

Fuckbuddy/Friend with benefits – a regular sexual partner with whom ongoing sexual contact occurs, generally in the absence of romantic attachment

GBM – gay and bisexual men

HIV – human immunodeficiency virus

HIV status – a person's antibody status established by HIV testing (e.g. HIV-negative, HIV-positive, or unknown [untested])

Non-relationship partner – a sexual partner that is not a boyfriend or husband with whom participants are in an ongoing romantic relationship, but characterised as a fuckbuddy, friend with benefits or casual partner

PEP – post-exposure prophylaxis; for the purpose of this report, it refers to the use of antiretroviral drugs by HIV-negative people to reduce the risk of HIV infection after a potential exposure has occurred

PrEP – pre-exposure prophylaxis; for the purpose of this report, it refers to the use of antiretroviral drugs by HIV-negative

Appendix C – Complete data tables

Table 1. Responses

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
NSW only	176	183	182	185	182	176	164	234	229	240	235	229	225	239
Total sample	387	395	397	397	385	382	362	508	488	510	499	514	505	524
Initial enrolment	387	47	5	2	0	0	0	134	45	24	10	27	10	3
Previous enrolment		348	392	395	385	382	362	374	443	486	489	487	495	521
Non-response		39	42	44	56	59	79	67	132	134	155	167	186	170
Cumulative total	387	434	439	441	441	441	441	575	620	644	654	681	691	694

Table 3b. Employment status

	Week 4	Week 8	Week 12
Laid off temporarily	8 (11.9)	7 (8.8)	3 (3.4)
Laid off completely	3 (4.5)	2 (2.5)	1 (1.1)
Reduced hours	10 (14.9)	9 (11.3)	6 (6.8)
Working from home	18 (26.9)	15 (18.8)	17 (19.3)
Redeployed due to COVID-19	1 (1.5)	1 (1.3)	1 (1.1)
Commenced new job	4 (6.0)	1 (1.3)	2 (2.3)
Returned to workplace	4 (6.0)	10 (12.5)	9 (10.2)
Increased hours	5 (7.5)	8 (10.0)	4 (4.5)
Began taking payment for sex	0 (0.0)	0 (0.0)	0 (0.0)
No changes	31 (46.3)	43 (53.8)	55 (62.5)

Table 4. Number of sexual partners

Mean (SD)	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
NSW	1.11 (2.31)	0.83 (1.44)	0.97 (1.61)	1.06 (1.93)	0.98 (1.51)	1.36 (3.36)	1.00 (1.61)	1.21 (2.18)	1.10 (1.74)	1.15 (2.40)	1.19 (2.02)	1.13 (1.90)	1.09 (2.31)	1.23 (2.31)
Other jurisdictions	0.58 (0.90)	0.68 (1.19)	0.68 (1.21)	0.80 (1.40)	0.90 (1.80)	0.78 (1.45)	0.71 (1.30)	0.77 (1.17)	0.64 (1.30)	0.83 (2.30)	0.61 (1.19)	0.69 (2.26)	0.58 (1.14)	0.54 (1.21)
Total sample	0.82 (1.72)	0.75 (1.31)	0.81 (1.42)	0.92 (1.67)	0.94 (1.67)	1.05 (2.55)	0.85 (1.45)	0.98 (1.74)	0.86 (1.54)	0.98 (2.35)	0.88 (1.589)	0.89 (2.11)	0.81 (1.78)	0.86 (1.84)
Median	0	0	0	0	1	0	0	1	0	0	0	0	0	0

Table 5. Sex by partner type and CLAI

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Any sex	181 (46.8)	172 (43.5)	179 (45.1)	197 (49.6)	195 (50.6)	182 (47.6)	171 (47.2)	255 (50.9)	227 (46.6)	246 (48.4)	232 (46.5)	247 (48.1)	223 (44.2)	230 (43.9)
Sex with 1 partner only	129 (33.3)	122 (30.9)	122 (30.7)	135 (34.0)	127 (33.0)	117 (30.6)	115 (31.8)	169 (33.3)	150 (30.0)	169 (33.3)	144 (28.9)	153 (29.8)	154 (30.5)	159 (30.3)
Any sex with FB/CP	83 (21.4)	82 (20.8)	94 (23.7)	118 (29.7)	111 (28.8)	107 (28.0)	93 (25.7)	163 (32.1)	125 (25.6)	144 (28.2)	138 (27.7)	146 (28.4)	124 (24.6)	136 (26.0)
Any sex with >1 FB/CP	33 (8.5)	58 (14.7)	68 (17.1)	64 (16.1)	89 (23.1)	80 (20.9)	72 (19.9)	99 (19.5)	92 (18.9)	105 (20.7)	104 (20.8)	88 (17.1)	88 (17.4)	93 (17.7)
Any receptive CLAI*	18 (54.5)	28 (48.3)	39 (57.4)	16 (25.0)	35 (39.3)	34 (42.5)	31 (43.1)	43 (43.4)	42 (45.7)	44 (41.9)	41 (39.4)	42 (47.7)	35 (39.8)	38 (40.9)
Used PrEP or TasP**	12 (66.7)	17 (60.7)	22 (56.4)	15 (93.8)	22 (62.9)	28 (82.4)	26 (83.9)	35 (72.9)	33 (78.6)	36 (81.8)	28 (68.3)	30 (71.4)	23 (65.7)	24 (63.2)
Any insertive CLAI*	22 (66.7)	30 (51.7)	37 (54.4)	19 (29.7)	41 (46.1)	35 (43.8)	40 (55.6)	56 (56.6)	53 (57.6)	51 (48.6)	56 (53.8)	42 (47.7)	39 (44.3)	40 (43.0)
Used PrEP or TasP**	15 (68.2)	16 (53.3)	20 (54.1)	15 (78.9)	23 (56.1)	28 (80.0)	31 (77.5)	38 (67.9)	38 (71.7)	37 (72.5)	40 (71.4)	29 (69.0)	25 (64.1)	23 (57.5)

*Note: CLAI is reported specifically among men who had sex with >1 FB/CP.

**Note: PrEP/TasP coverage is reported specifically among men who reported CLAI and had sex with >1 FB/CP. This may be an underestimate of PrEP coverage in Week 2 due to variation in the questions asked in that week.

Table 6. Sex within the household and characterisation as FBs/FWBs

	Week 1 N=33*	Week 2 N=58*	Week 3 N=68*	Week 4 N=64*	Week 5 N=89*	Week 6 N=80*	Week 7 N=72*	Week 8 N=97*	Week 9 N=92*	Week 10 N=105*	Week 11 N=104*	Week 12 N=88*	Week 13 N=88*	Week 14 N=93*
Live with all sexual partners	3 (9.1)	2 (3.4)	2 (2.9)	5 (7.8)	2 (2.2)	0 (0.0)	2 (2.8)	2 (2.0)	1 (1.1)	3 (2.9)	2 (1.9)	6 (6.8)	1 (1.1)	2 (2.2)
All partners described as regular FB/FWB	0 (0.0)	9 (15.5)	8 (8.5)	8 (12.5)	10 (11.2)	7 (8.8)	11 (15.3)	21 (21.2)	6 (6.5)	16 (15.2)	13 (12.5)	17 (19.3)	13 (14.8)	13 (14.0)

*N = men each week who reported having >1 fuckbuddy or casual partner

Table 7. PrEP and PEP use among non HIV-positive men

	Week 1	Week 2*	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
No use	254 (72.2)	306 (77.5)	255 (72.2)	248 (67.0)	226 (70.8)	239 (67.7)	218 (65.3)	319 (66.6)	306 (67.8)	315 (66.6)	321 (68.9)	314 (68.7)	331 (70.0)	336 (68.9)
PrEP use	98 (27.8)	89 (22.5)	98 (27.8)	121 (32.7)	93 (29.2)	114 (32.3)	116 (34.7)	146 (30.5)	145 (32.2)	158 (33.4)	145 (31.1)	143 (31.3)	142 (30.0)	152 (31.1)
PEP use				0 (0.0)				14 (3.0)				11 (2.4)		
Mean PrEP pills remaining			38.4 (31.0)	41.3 (32.2)	38.6 (31.9)	38.2 (28.5)	38.7 (30.8)	38.0 (27.7)	39.2 (29.3)	36.5 (30.2)	38.5 (31.4)	41.9 (33.7)	37.7 (28.7)	37.8 (28.8)
Any sex with >1 FB/CP	33	58	68	64	89	80	72	99	92	105	104	88	88	93
PrEP use among men reporting any sex with >1 FB/CP	21 (63.6)	9 (15.5)	37 (54.4)	45 (70.3)	45 (50.6)	50 (62.5)	48 (66.7)	64 (64.6)	60 (65.2)	63 (60.0)	63 (60.6)	52 (59.1)	51 (58.0)	52 (55.9)
Any CLAI with >1 FB/CP	28	45	52	24	55	47	49	69	69	67	76	61	53	57
PrEP use among men reporting any CLAI with >1 FB/CP	18 (69.2)	8 (17.8)	29 (55.8)	19 (79.2)	34 (61.8)	37 (78.7)	40 (81.6)	51 (73.9)	51 (73.9)	52 (77.6)	56 (73.7)	44 (72.1)	35 (66.0)	36 (63.2)
4+ days/week PrEP use among men reporting sex with >1 FB/CP	17 (60.7)	8 (17.8)	29 (55.8)	1 (4.2)	29 (52.7)	30 (63.8)	36 (73.5)	47 (68.1)	47 (68.1)	48 (71.6)	55 (72.4)	40 (65.6)	33 (62.3)	34 (59.6)

Note: HIV-positive men excluded.

*Note: May be an underestimate of PrEP coverage in Week 2 due to variation in the questions asked in that week.

Table 8. COVID-19 testing

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Tested in previous week	10 (2.6)	16 (4.1)	16 (4.0)	13 (3.3)	8 (2.1)	9 (2.4)	4 (1.1)	16 (3.2)	19 (3.9)	29 (5.7)	35 (7.0)	41 (8.0)	29 (5.7)	29 (5.5)

Table 9. COVID-19 test type

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Blood test	1 (10.0)	0 (0.0)	1 (6.3)	0 (0.0)	1 (12.5)	1 (11.1)	0 (0.0)	0 (0.0)	1 (05.3)	1 (3.4)	1 (2.9)	1 (2.4)	0 (0.0)	0 (0.0)
Nose and throat swab	7 (70.0)	16 (100.0)	15 (93.8)	13 (100.0)	7 (87.5)	8 (88.9)	4 (100.0)	16 (100.0)	18 (94.7)	28 (96.6)	33 (94.3)	40 (97.6)	29 (100.0)	29 (100.0)
Other	2 (20.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (2.9)	0 (0.0)	0 (0.0)	0 (0.0)
Positive COVID-19 result	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

Table 10. Proportion of men having no contact with friends and family and coping poorly

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
No contact with gay friends in the past 7 days	27 (7.0)	32 (8.1)	22 (5.5)	33 (8.3)	30 (7.8)	34 (8.9)	31 (8.6)	49 (9.6)	41 (8.4)	45 (8.9)	31 (6.2)	51 (9.8)	39 (7.7)	47 (9.0)
No contact with other friends and family in the past 7 days				18 (4.6)				17 (3.4)				26 (5.1)		
Coping poorly	73 (18.9)	67 (17.0)	61 (15.4)	95 (24.1)	59 (15.4)	66 (17.2)	66 (18.2)	95 (18.7)	84 (17.1)	99 (19.5)	100 (20.0)	118 (22.8)	120 (23.7)	111 (21.1)

Table 11. Time spent communicating with gay male friends among all respondents

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
None	27 (7.0)	32 (8.1)	22 (5.5)	1 (0.3)	30 (7.8)	34 (8.9)	31 (8.6)	3 (0.7)	41 (8.4)	45 (8.9)	31 (6.2)	3 (0.6)	39 (7.7)	47 (9.0)
A few minutes	55 (14.2)	61 (15.4)	48 (12.1)	53 (14.6)	41 (10.6)	31 (8.1)	40 (11.0)	51 (11.1)	65 (13.3)	70 (13.8)	71 (14.2)	68 (14.7)	75 (14.8)	76 (14.5)
<1 hour	97 (25.1)	103 (26.1)	99 (24.9)	122 (33.7)	93 (24.2)	96 (25.0)	81 (22.4)	145 (31.6)	108 (22.2)	110 (21.7)	111 (22.2)	140 (30.2)	121 (23.9)	125 (23.8)
1-2 hours	105 (27.1)	95 (24.1)	119 (30.0)	121 (33.4)	118 (30.6)	133 (34.6)	121 (33.5)	165 (35.9)	157 (32.2)	160 (31.5)	148 (29.7)	147 (31.7)	140 (27.7)	130 (24.8)
3-5 hours	65 (16.8)	55 (13.9)	62 (15.6)	44 (12.2)	57 (14.8)	50 (13.0)	54 (15.0)	49 (10.7)	67 (13.8)	75 (14.8)	86 (17.2)	70 (15.1)	92 (18.2)	92 (17.5)
>5 hours	38 (9.8)	49 (12.4)	47 (11.8)	21 (5.8)	46 (11.9)	40 (10.4)	34 (9.4)	46 (10.0)	49 (10.1)	48 (9.4)	52 (10.4)	35 (7.6)	39 (7.7)	55 (10.5)

Appendix D – Relevant research outputs from the Flux Study

Publications

M A Hammoud, A Grulich, L Maher, M Holt, L Degenhardt, F Jin, D Murphy, B Bavinton, T Lea, B Haire, A Bourne, P Saxton, S Vaccher, J Ellard, B Mackie, C Batrouney, N Bath, G Prestage. Physical distancing due to COVID-19 disrupts sexual behaviours among gay and bisexual men in Australia: Implications for trends in HIV and other sexually transmissible infections. 2020. Journal of Acquired Immune Deficiency Syndromes.

Presentations

G Prestage, M A Hammoud, S Philpot, D Storer. [Impacts of COVID-19 on gay and bisexual men in Australia: Changes in sexual behaviour, PrEP and mental health](#). July 2020. ACON Research Snapshot Forum.

M A Hammoud, A Grulich, L Maher, M Holt, L Degenhardt, F Jin, D Murphy, B Bavinton, T Lea, B Haire, A Bourne, P Saxton, S Vaccher, J Ellard, B Mackie, C Batrouney, N Bath, G Prestage. [Impact of social distancing due to COVID-19 on sexual behaviour among gay and bisexual men in Australia: Implications for trends in HIV and other sexually transmissible infections](#). July 2020. International AIDS Conference 2020, Virtual.

G Prestage, M A Hammoud, S Philpot. [Impacts of COVID-19 on gay and bisexual men in Australia: Changes in sexual behaviour, PrEP and mental health](#). May 2020. Kirby Institute Seminar Series.

Reports

D Storer on behalf of the Flux Study BRISE Reference Group. [Flux Study COVID-19 Diary: Monthly Report. Report 01: Reporting week ending 14 June](#). 2020. Kirby Institute, UNSW Sydney.

D Storer on behalf of the Flux Study BRISE Reference Group. [Flux Study COVID-19 Diary: Monthly Report. Report 02: Reporting week ending 12 July](#). 2020. Kirby Institute, UNSW Sydney.