

## Final TraX mpox data report: Report period 10 October 2022 to 21 April 2024

This report summarises data collected as part of the TraX study from its launch on 10 October 2022 to 21 April 2024. Survey data were collected weekly on rates of mpox vaccine uptake, mpox infection, and sexual behaviours among people considered at high risk of mpox infection in Australia. Unless otherwise stated, data included in this report are from participants who provided at least one follow-up survey.

### Global mpox update <sup>1</sup>

- Three new locally acquired cases of mpox were reported in Victoria in April 2024.
- As of 31 March 2024, there have been 95,226 laboratory-confirmed mpox cases reported to the World Health Organisation (WHO) globally since 1 January 2022.
- In the last month, 10 countries reported an increase in cases, and in the past three months, 22 countries reported cases.
- As of March 2024, the number of monthly reported new cases has decreased by 37.4%, compared to February 2024. The majority of cases reported in the past month were notified from the African Region (38.8%) and the European Region (26.4%).
- There has been a 37.4% decrease in the number of new monthly reported cases globally in March 2024 compared to February 2024.
- Over the past six months (October 2023 - March 2024), the global monthly average of mpox cases was 685. The most affected region in this period was the Americas (1,357 cases, 12 deaths), followed by Europe (948 cases, 3 deaths) and Africa (911 cases, 3 deaths).
- While the reported numbers provide a snapshot of the global spread of mpox, there is a significant reporting bias that skews data towards high-income countries. This bias likely underrepresents the true burden of the disease in lower-income regions, particularly in the Democratic Republic of the Congo (DRC), which has historically been a hotspot for mpox outbreaks. It is reasonable to assume that the actual number of cases in Africa, including the DRC, is substantially higher than what is confirmed.

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#### <sup>1</sup> References

- Mpox Outbreak 2022-23: Global Trends. Geneva: World Health Organization, 2024. Available online: [https://worldhealthorg.shinyapps.io/mpx\\_global/](https://worldhealthorg.shinyapps.io/mpx_global/) (last cited: 24 April 2024).
- Department of Health, Victoria. Local transmission of mpox in Victoria. Available at: <https://www.health.vic.gov.au/health-alerts/local-transmission-of-mpox-in-victoria> (last cited: 24 April 2024).
- Centers for Disease Control and Prevention. (2024, April 25). 2023 Outbreak in Democratic Republic of the Congo | Mpox | Poxvirus | CDC. Available at: <https://www.cdc.gov/poxvirus/mpox/outbreak/2023-drc.html> (last cited: 10 May 2024).
- World Health Organization. Mpox (monkeypox) - Democratic Republic of the Congo. Available online: <https://www.who.int/emergencies/disease-outbreak-news/item/2023-DON493>. (Last cited: 10 May 2024).

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## TraX summary

- During this reporting period, 2,893 people across Australia participated in the TraX study and provided at least one follow-up response.
- Throughout the study, monthly rates of testing for mpox remained consistent at approximately 1.0%.
- At study entry, 22.2% of participants reported being unvaccinated against mpox (N=641), 50.1% (N=1448) had received one vaccination, and 27.8% (N=804) had received two mpox vaccinations.
- Among the 2,893 participants, based on the latest survey responses provided by participants, by 21 April 2024, the proportion reporting themselves as unvaccinated against mpox has decreased by more than half to 9.2%, leaving 265 participants unvaccinated. The proportion who reported having received only one mpox vaccination also fell to 10.5% (N=305), and the proportion who had received both mpox vaccinations increased to 80.3% (N=2323).
- At study entry, 12 participants reported prior mpox infection.
- No new mpox infections were reported in study participants throughout the study period.

## Recruitment source

Among the 2,893 people who provided data at baseline and at least one follow-up visit the largest proportion of participants were recruited through the NSW Ministry of Health expression of interest (NSW MoH EOI) list (34.4%). This list was compiled by the NSW MoH while awaiting the readiness of mpox vaccines and subsequent vaccine rollout. Almost as many participants (33.8%) were recruited through mpox vaccination clinics of whom over 90% were recruited in NSW. Crown Street Vaccination Clinic was the first clinic to commence recruitment and recruited most of the clinic-based sample. Victorian clinics began clinic-based recruitment in mid-November 2022. Just under one-quarter (23.3%) of participants were recruited through having given consent to participate in future research in a previous Kirby Institute/Centre for Social Research in Health study.

*Table 1. Recruitment source (N=2893).*

	N	%
NSW MoH EOI	995	34.4
Social media	29	1.0
Hook-up apps	56	1.9
NSW mpox clinics	898	31.0
Victoria mpox clinic	81	2.8
a[TEST]	12	0.4
Consent from other studies	675	23.3
Unpaid advertising	147	5.1

## Sample characteristics

The median age of participants was 41 years, and ages ranged from 19 years to 81 years. Approximately two-thirds (63.6%) of participants were born in Australia. The majority of participants identified as a cis male (94.4%) or a trans male (0.7%), and most (85.7%) identified as gay.

Most participants (82.6%) reported an HIV negative status and 8.5% were living with HIV. A recent STI diagnosis in the last 6 months was reported by 23.7% of participants at study entry. Most participants (83.8%) resided in New South Wales, which was expected given most participants were recruited through the NSW MoH EOI list, NSW mpox clinics, or through consent from studies conducted by the Sydney-based Kirby Institute and Centre for Social Research in Health.

Table 2. Sample characteristics at study entry (N=2893).

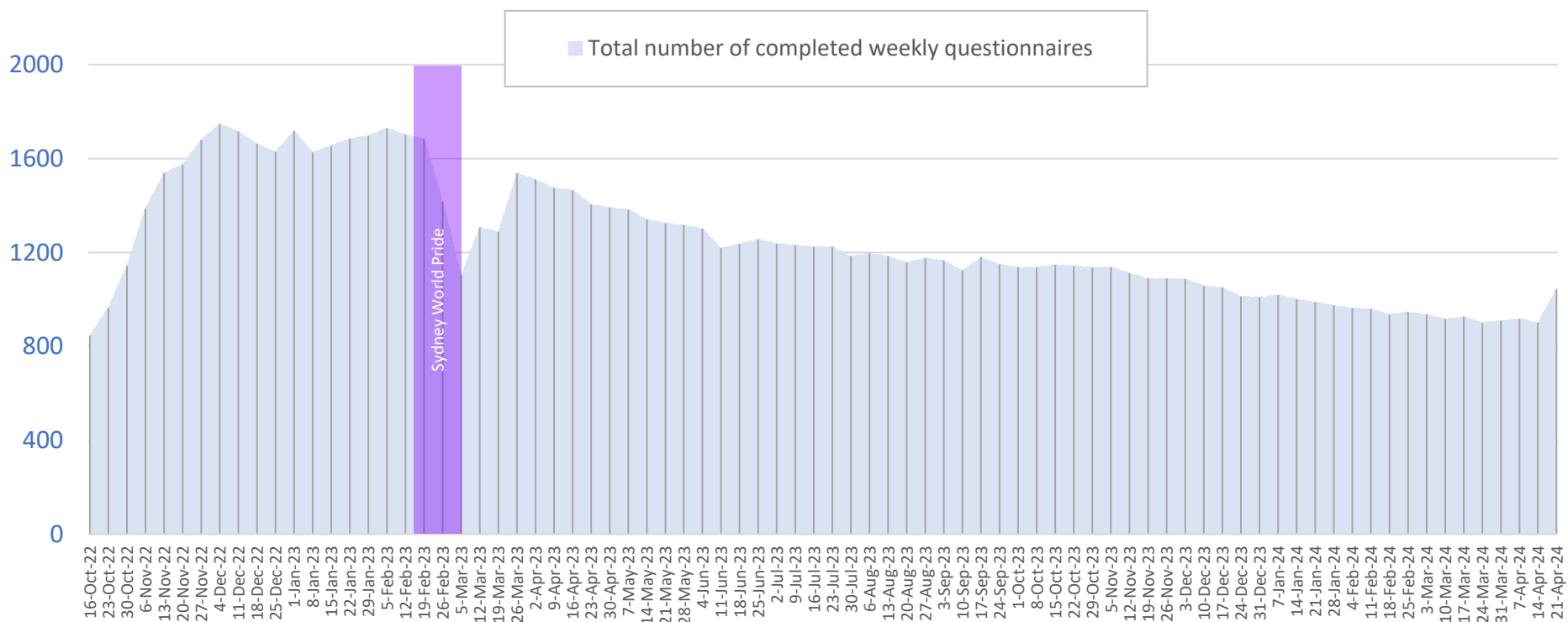
	N	%		N	%
<b>Age</b>			<b>Gender</b>		
19-29	357	12.3	Cis men	2730	94.4
30-39	964	33.3	Trans men	16	0.6
40-49	709	24.5	Cis women	41	1.4
50-59	520	18.0	Trans women	19	0.7
60+	335	11.6	Non-binary people	67	2.3
Did not answer	8	0.3	Other	20	0.7
<b>Country of birth</b>			<b>Sexuality</b>		
Australia	1839	63.6	Gay	2480	85.7
Elsewhere	1054	36.4	Lesbian	9	0.3
<b>State of residence</b>			Bisexual/pansexual	227	7.8
New South Wales	2423	83.8	Heterosexual	38	1.3
Victoria	254	8.8	Queer/other term	139	4.8
Queensland	94	3.2	<b>HIV status reported at most recent visit</b>		
Northern Territory	12	0.4	Positive	245	8.5
Western Australia	23	0.8	Negative	2389	82.6
South Australia	26	0.9	Unsure/tested more than six months ago	20	0.7
Australian Capital Territory	49	1.7	Never tested for HIV	239	8.3
Tasmania	12	0.4	<b>STI diagnosis in past six months at most recent visit *</b>		
<b>Aboriginal or Torres Strait Islander</b>			Gonorrhoea	397	13.7
Yes	73	2.5	Chlamydia	433	15.0
No	2820	97.5	Syphilis	137	4.7
			Unsure	10	0.3

\* Items are not mutually exclusive

## Follow-up and participation over time

Study participation fluctuated, with the most engagement in weekly surveys occurring prior to Sydney World Pride in February 2023. The reduction in completed surveys observed in February 2023 corresponded with Sydney World Pride events. A mean of 1,246 participants have completed the questionnaires each week since study launch. Following Sydney World Pride, there was generally a steady decline in the number of weekly surveys completed except for an increase for the final survey.

Figure 1. Follow-up and participation over time (N=2893).

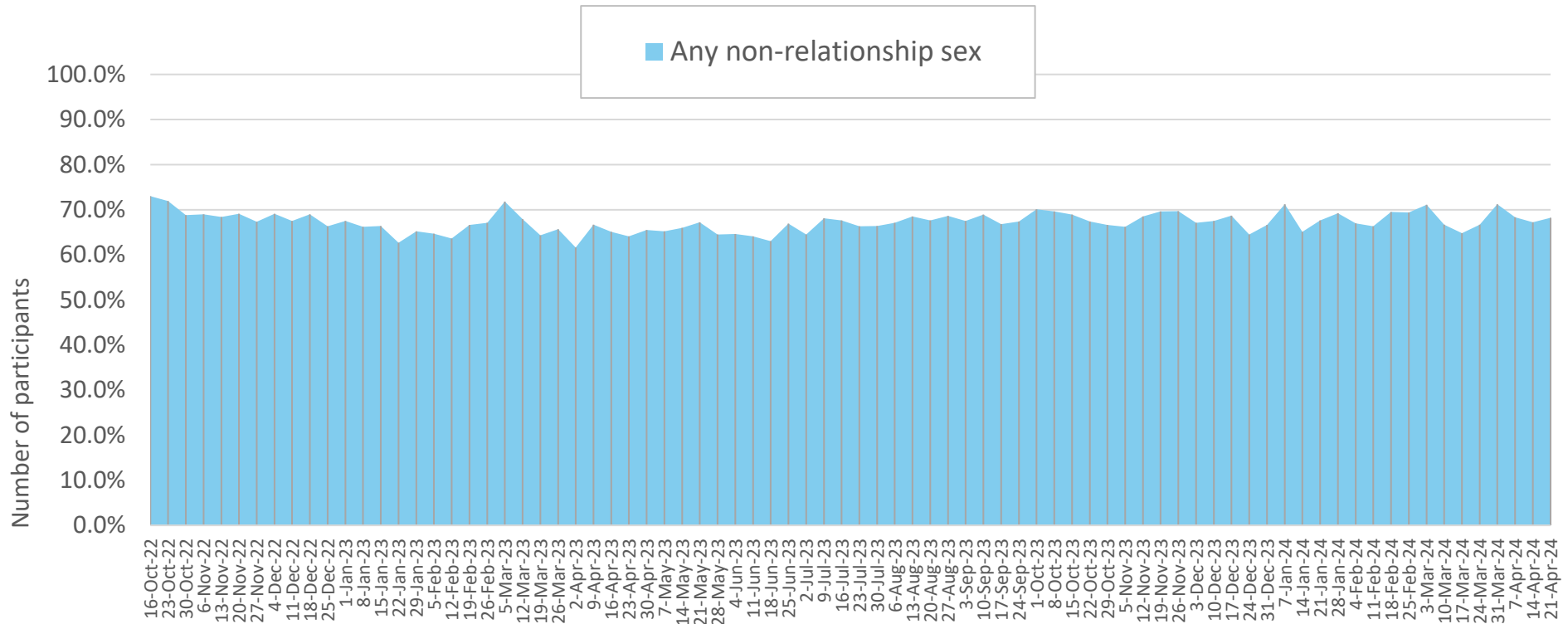


Note: Study launched on 10 October 2022. Sydney World Pride commenced on 16 February 2023 and ended 5 March 2023.

## Mpox sexual risk behaviours

Except for countries in West and Central Africa, among those nations where cases of mpox exposure have been documented, the current mpox outbreak predominantly impacts men who engage in sex with other men (MSM), accounting for 82.0% of all mpox transmission instances.<sup>1</sup> The number of sexual encounters with non-relationship cis or trans male partners reported by individuals remained consistent throughout the TraX study period, with about 70% of people reporting sex outside of a regular relationship each survey.

Figure 2. Non-relationship sex with cis or trans men over time among people who reported sex non-relationship partners (N=2893).

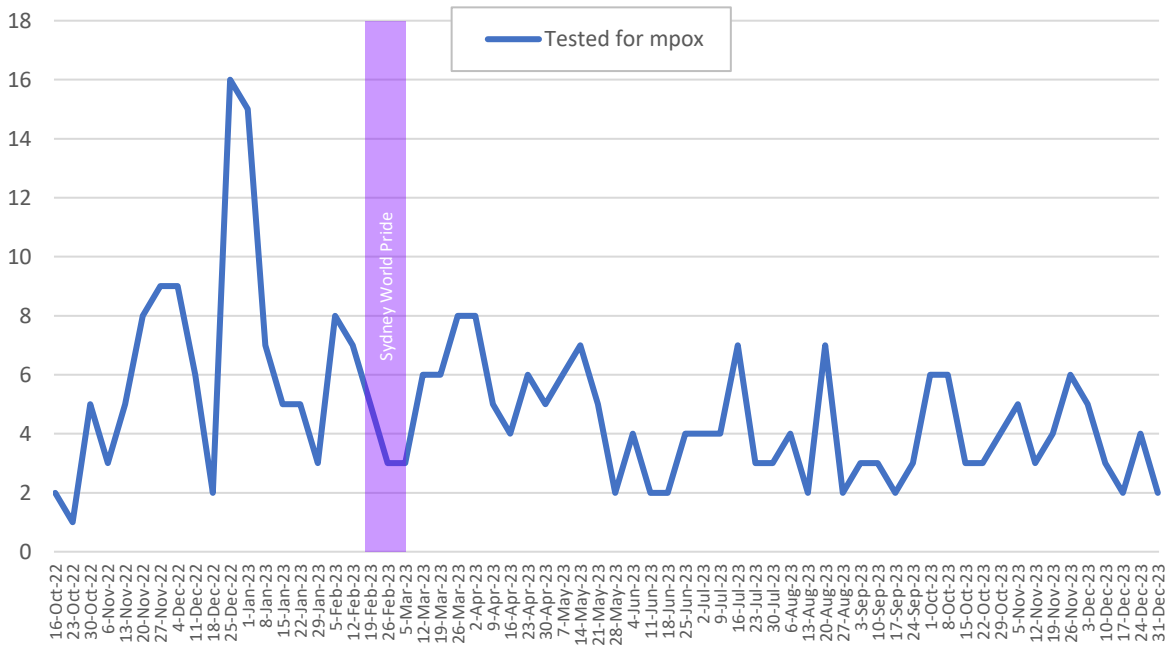


Note. The proportions above combine sexual behaviours reported with both cis and trans men.

## Mpox testing

Throughout the study period, the rates of testing for mpox have remained mostly consistent, except for a spike in late 2022. A total of 158 (5.5%) participants reported having ever had an mpox test in the previous week.

Figure 3. Number of participants reporting an mpox test in the previous week (N=2893).



Note: Study launched on 10 October 2022. Sydney World Pride commenced on 16 February 2023 and ended 5 March 2023.

## Mpox vaccination

At study entry, 22.2% of participants reported being unvaccinated against mpox. Half (50.1%) reported having received one mpox vaccination and 27.8% had received two mpox vaccinations. Given that recruitment into this study also occurred at mpox clinics, many participants received their vaccination upon joining the study.

*Table 3. Mpox vaccination at study entry (N = 2893).*

Recruitment source	None	First dose	Second dose
NSW MoH EOI	216 (21.7)	576 (57.9)	203 (20.4)
Mpox clinics	30 (3.1)	551 (56.3)	398 (40.7)
Other	395 (43.0)	321 (34.9)	203 (22.1)
Total	641 (22.2)	1448 (50.1)	804 (27.8)

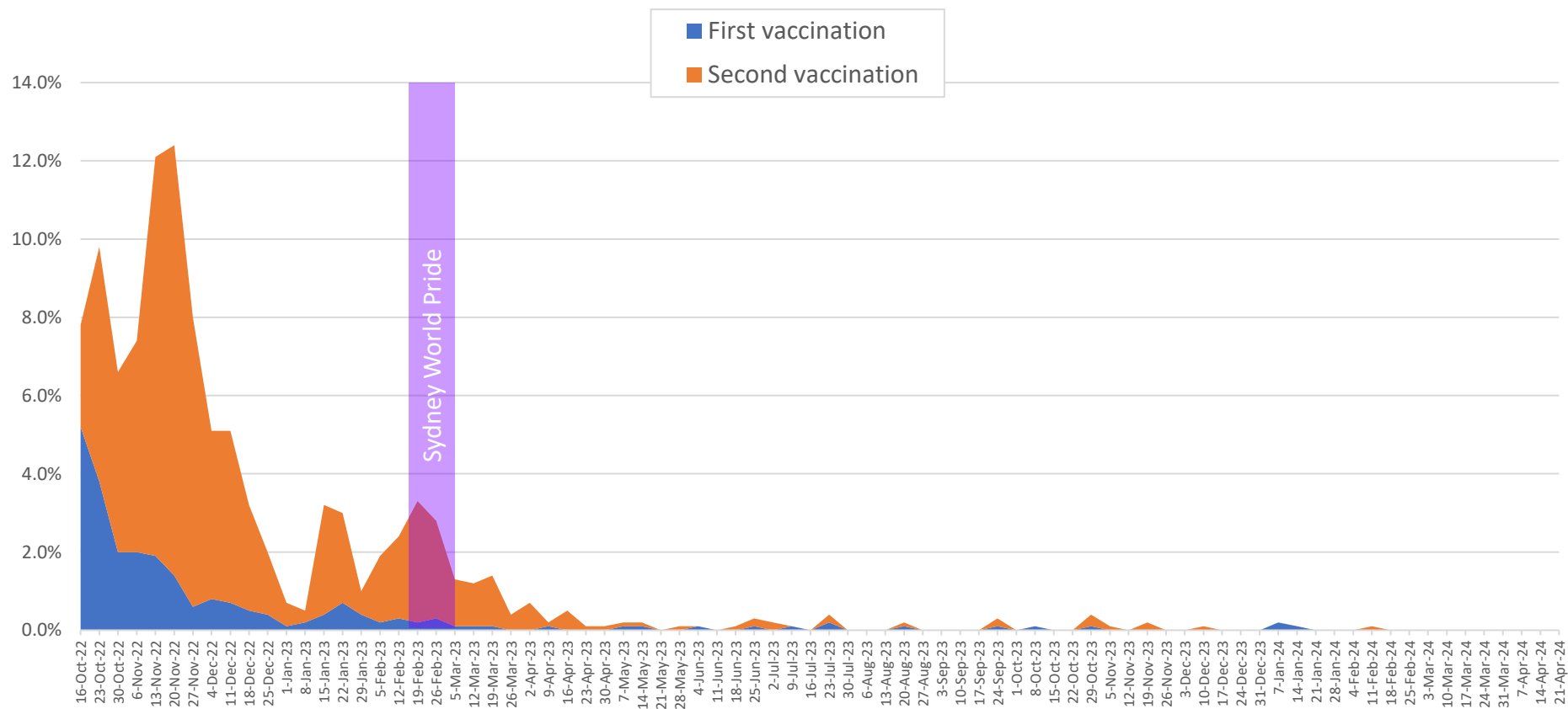
Among the 2,893 participants, based on the latest survey responses provided by participants, by 21 April 2024, the proportion of study participants who reported being unvaccinated against mpox had reduced by more than half to 9.2%, leaving 265 participants unvaccinated. The proportion who reported having received only one mpox vaccination also fell to 10.5%, and the proportion of participants who had received both mpox vaccinations increased to 80.3%.

*Table 4. Mpox vaccination at 21 April 2024 (N = 2893).*

Recruitment source	None	First dose	Second dose
NSW MoH EOI	40 (4.0)	98 (9.8)	857 (86.1)
Mpox clinics	3 (0.3)	124 (12.7)	852 (87.0)
Other	222 (24.2)	83 (9.0)	614 (66.8)
Total	265 (9.2)	305 (10.5)	2323 (80.3)

Most participants had received two vaccine doses before the beginning of Sydney World Pride. High vaccination rates prior to Sydney World Pride may have contributed to zero mpox cases being reported throughout the study.

Figure 4. Trends in receiving first and second vaccinations in the previous week among all participants (N=3597<sup>†</sup>)



<sup>†</sup> These trends include participants who responded at study entry only.

Note: Study launched on 10 October 2022. Sydney World Pride commenced on 16 February 2023 and ended 5 March 2023.



## Vaccine effectiveness

All 12 cases of mpox reported among this cohort were diagnosed prior to study entry. No mpox cases were reported among participants during follow-up. As such, we cannot calculate vaccine effectiveness. However, the absence of any cases of mpox during follow-up likely reflects high vaccine efficacy.