The Optimise Study: COVID-19 testing, test positivity and contacts over time

Report 15 | May 2022

Optimise

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The Optimise Study is a partnership between Burnet Institute and Doherty Institute in collaboration with University of Melbourne, Swinburne University of Technology, Monash University, La Trobe University, Murdoch Children's Research Institute, the Centre for Culture Ethnicity and Health, the Health Issues Centre and collaborators (Coelho Networks).

Optimise is a longitudinal cohort study. Recruitment of participants commenced in September 2020 with completion of recruitment in September 2021. Optimise follows approximately 700 participants who complete surveys and diaries every month. Regular reports are prepared for the Government and community, with the focus of each report varying based on topical or critical issues arising related to COVID-19. Past reports can be found at https://optimisecovid.com.au/ . The focus of this report is on COVID-19 testing patterns, test positivity, and trends in physical contact participants had with other people from February to April 2022.

Study participants were not intended to be representative of the broader population but instead have been intentionally recruited from key groups who are:

- at risk of contracting COVID-19,
- at risk of developing severe COVID-19 or,
- at risk of the adverse consequences of the restrictions.

At recruitment, participants were asked to nominate people who play a key role in their lives, and where permission is given, these people were invited to participate in the study. Establishing a map of social connections is important because it can be used to examine the influence of the social network on an individual or key groups including: 1) adherence to government directions on COVID-19; 2) attitudes and level of engagement in key COVID-19 interventions such as testing and vaccination; and 3) experience of the consequences of COVID-19 or the government restrictions imposed due to COVID-19. The resulting social map increases our understanding of the interplay between the individual, social, and community-level impacts of COVID-19.

COVID-19 testing, positivity, and contacts over time

Focussing on the past three months, this report explores participants'

- COVID-19 testing patterns
- Test positivity
- Changing contacts over time

614

SURVEY & DIARY PARTICIPANTS

1

COMMUNITY ENGAGEMENT GROUP MEETING

This report draws on the findings from several Optimise research activities including:

- Responses from 614 participants who completed the Optimise baseline survey, follow up surveys, and contact diaries between 14 September 2020 and 1 May 2022.
- A Community Engagement Group meeting facilitated by the Centre for Health Communication and Participation at La Trobe University on 17 May 2022. The Community Engagement Group was comprised of participants representing healthcare workers, people who have had COVID-19, people with chronic disease and living in social housing, and people who are culturally and linguistically diverse (including Afghan, Fijian and Pasifika, Indian and South Asian communities).

OPTIMISE COHORT

SUMMARY

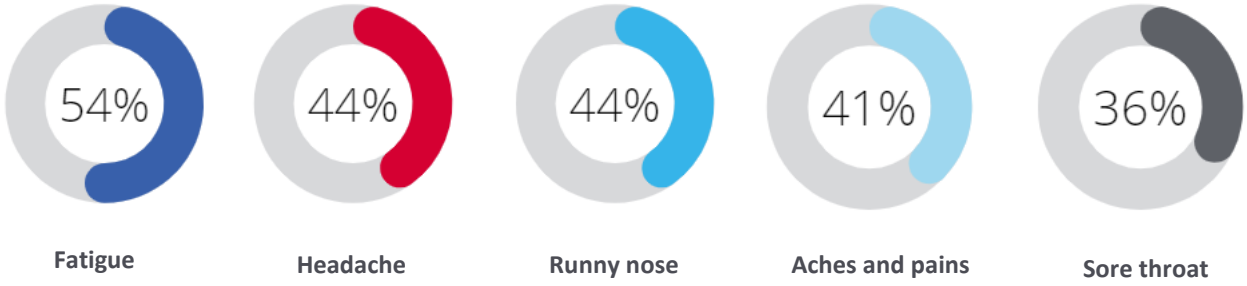
Key findings

- Almost half (48%, n=241) of participants reported having COVID-19-like symptoms in April 2022.
- The most common symptoms reported by participants in April 2022 were fatigue, headache, runny nose, aches and pains, and sore throat.
- Between February 2022 and April 2022, the proportion of participants reporting COVID-19-like symptoms who got tested each month increased from 51% to 63%.
- Over the past three months people aged 54 and under were more likely to get tested when they had symptoms than people aged 55 and over.
- In April 2022, of the 241 participants reporting COVID-19-like symptoms, 153 (63%) got tested. Of those who tested, 17% (n=26), tested positive. None of the participants who did not report symptoms but tested, returned a positive result. Based on the test positivity rate of 17% in our cohort in April, we estimate that there were likely a further 22 participants who had symptoms but did not test who may have had COVID-19. Therefore, an estimated 48 (10%) participants could have had a COVID-19 infection in April 2022*.
- The proportion of participants who have ever reported testing positive to COVID-19 has increased between February (18%, 116 of 641 participants who completed a survey or diary) and April 2022 (28%, 174 of 614 participants). Given the number of people with symptoms who did not test, this is likely to be an underestimate of the number of people in the cohort who have had a COVID-19 infection.
- The average number of people that participants had contact with — someone whom the participant reported having a face-to-face conversation with, shared a closed space with or had physical contact with in the day prior to completing a contact diary — was lower during periods of lockdown or when new variants emerged.
- Participants of the Community Engagement Group described how people have embraced Rapid Antigen Tests (RATs) and regularly used them prior to attending social gatherings. Participants also described how they were continuing to reduce their risk of contracting COVID-19 when socialising with others, especially those deemed 'high risk'. Participants expressed frustration at the lack of government guidance and concern about COVID-19 from other members of the community.

** This is the same method used to calculate COVID-19 infection in the Summer 2021-22 Snapshot Report.*

COVID-19-LIKE SYMPTOMS

Participants were asked whether they had experienced any COVID-19-like symptoms. Almost half (48%, n=241) of the participants reported at least one COVID-19-like symptom in April 2022. The most common symptoms reported by participants in this month were fatigue, headache, runny nose, aches and pains, and sore throat.*



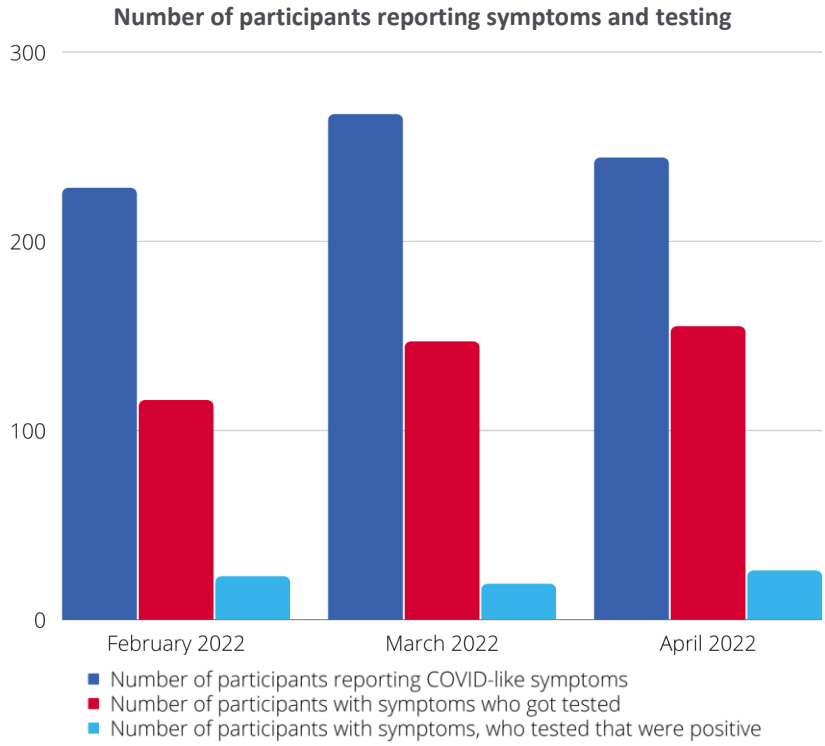
*Participants could select more than one response

TESTING WHEN SYMPTOMATIC

Between February 2022 and April 2022, the proportion of participants reporting COVID-19-like symptoms who got tested each month increased. In February 2022, 51% (n=116) of the 228 participants who reported symptoms tested for COVID-19. By April 2022, the proportion of those reporting symptoms and getting tested had increased to 63% (n=153 of 241 participants with symptoms). Of those who reported testing, in a diary completed in April, the vast majority (96%) used a Rapid Antigen Test (RAT).

There was an overlap between participants reporting symptoms who got tested for COVID-19 in February and April 2022. One hundred and fifty-three of the 228 participants who had reported symptoms in February, reported symptoms again in April, representing 63% (n=241) of the total participants who reported symptoms this month.

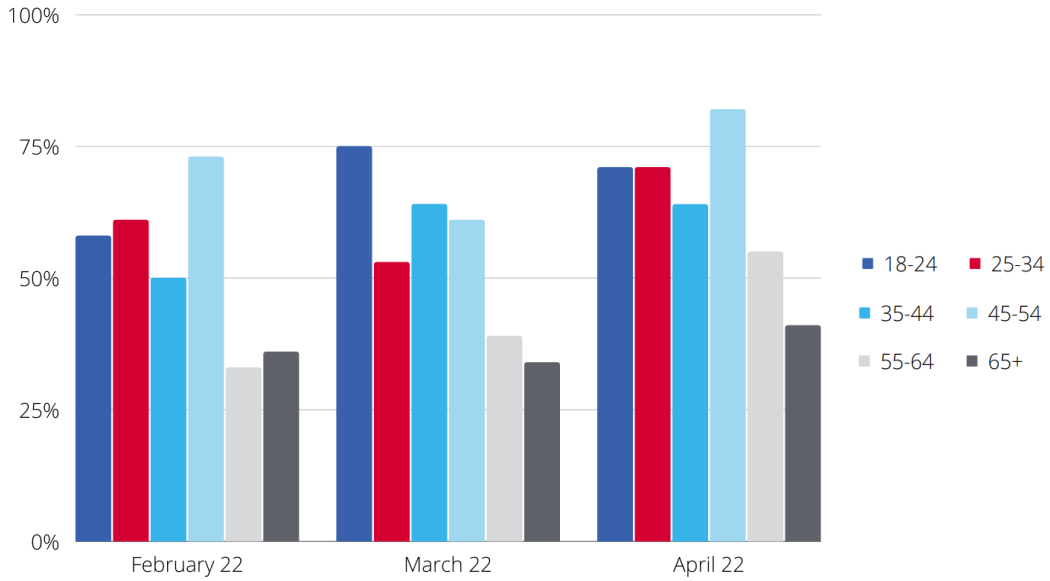
The proportion of people testing when they experience symptoms in 2022 was notably higher than has been reported in past Optimise reports. In report 11, published in October 2021, only 33% (n=80) of people who reported symptoms (n=240) got tested.



TESTING WHEN SYMPTOMATIC BY AGE GROUP

Over the past three months, people aged 54 and under were more likely to get tested when they had COVID-19-like symptoms compared to people aged 55 and over. The proportion of people aged 55–64 and 65+ who got tested has increased from 33% and 36% in February 2022 to 55% and 41% (respectively) in April 2022.

Proportion who tested when symptomatic within each age group by month



TEST POSITIVITY

In April 2022, of the 241 participants who reported at least one COVID-like symptom, 153 (63%) got tested. Of those with symptoms who tested, 17% (n=26), tested positive. There were a further 87 participants (36%) reporting symptoms who did not test. Applying the 17% test positivity to the 87 symptomatic participants that did not test, a further 15 participants may have had COVID-19 in April 2022.

In April 2022, there were 260 participants (52%) who did not report COVID-19-like symptoms. Of these participants, 61 (23%) got tested and none tested positive. However, in February and March (see table 1) 3 and 4% (respectively) of participants without symptoms that tested, tested positive. Given that none of the asymptomatic participants tested positive in April 2022, we calculated the average of those without symptoms that tested and tested positive from February and March (3.5%). Applying this proportion (3.5%) to those without symptoms who did not get tested in April 2022 (n=198), we estimate that a further seven participants may have had COVID-19 in April 2022.

Thus, we estimate that in addition to the 26 participants who reported testing positive, a further 22 participants had COVID-19 in April 2022 (15 symptomatic and seven asymptomatic). Therefore, adding together the participants that reported testing positive (26) and the estimated 22 who may have been infected, a total of 48 (10%) participants could have been infected with COVID-19 in April 2022. This compares to the Summer Snapshot report (published in April 2022) which estimated that 19% of participants could have had COVID-19 in January 2022.

Estimated proportion of participants who could have been positive in April 2022

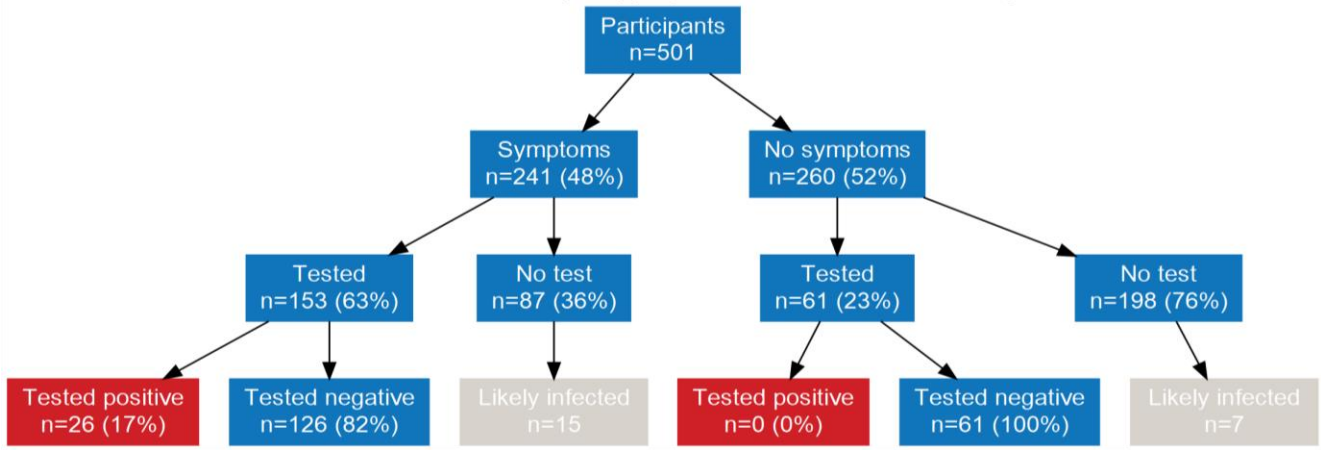


Table 1: Testing proportion from February 2022 to April 2022

Month*	February	March	April
Respondents	569	537	501
Respondents who reported symptoms	228 (40%)	240 (45%)	241 (48%)
Respondents who did not report symptoms	341 (60%)	297 (55%)	260 (52%)
Respondents with symptoms who tested	116 (51%)	131 (55%)	153 (63%)**
Respondents with symptoms who did not test	112 (49%)	107 (45%)	87 (36%)**
Respondents without symptoms who tested	71 (21%)	56 (19%)	61 (23%)
Respondents without symptoms who did not test	269 (79%)	239 (80%)	198 (76%)
Respondents with symptoms that tested and tested positive	23 (20%)	17 (13%)	26 (17%)
Respondents with symptoms that tested and tested negative	93 (80%)	114 (87%)	126 (82%)
Respondents without symptoms that tested and tested positive	2 (3%)	2 (4%)	0 (0%)
Respondents without symptoms that tested and tested negative	69 (97%)	54 (96%)	61 (100%)
Total who reported a positive COVID-19 test result***	25 (4%)	19 (4%)	26 (5%)
Respondents with symptoms that did not test and could have been infected***	22 (4%)	14 (3%)	15 (3%)
Respondents who did not report symptoms, did not test and could have been infected ***	8 (1%)	10 (2%)	7 (1%)
Total likely infected including those who received a positive COVID-19 test result***	55 (10%)	43 (8%)	48 (10%)

* Since participants complete surveys once every 4 weeks, responses in March and April were limited to responses submitted in the last 4 weeks of the month to avoid repeated measures.
** One participant responded 'prefer not to say' when asked if they got a test.
*** Calculated as a percentage of all respondents that month.

REASONS FOR NOT TESTING

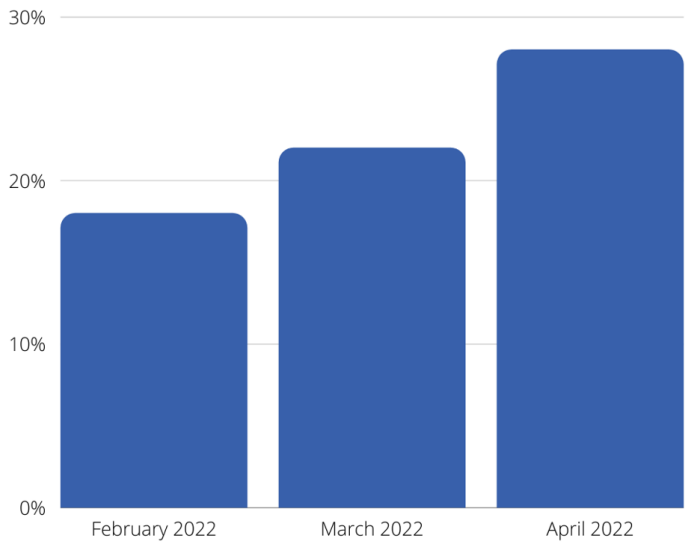
In April 2022, amongst those reporting COVID-19-like symptoms who did not get tested (n=88) the most common reason for not testing, reported by 86% (n=76) of participants, was having symptoms they considered to be unrelated to COVID-19. Three percent (n=3) of participants considered their symptoms to be too mild, while a further three percent (n=3) of participants used the text field of 'other' option to explain they did not need to get tested because they had recently been infected with COVID-19.

EVER REPORTED COVID-19 INFECTION

Participants are asked each time they complete a survey (every four weeks) or diary (twice a fortnight) whether they have tested positive to COVID-19 since they last completed a survey or diary. The graph below shows the proportion of participants who completed a survey or diary in that month who had ever reported testing positive to COVID-19 since the start of the pandemic (this only counts the number of individuals who tested positive to COVID-19, i.e. if someone has been reinfected they are only counted once).

The proportion of participants who have ever reported testing positive to COVID-19 has increased from February (18%, 116 of 641 participants who completed a survey or diary in February) to April 2022 (28%, 174 of 614 participants who completed a survey or diary in April). It is likely this is an underestimation given our analysis above suggests that more people were likely infected with COVID-19 than those who reported a positive COVID-19 test result. Further, based on our analysis above (see Table 1), it is reasonable to assume that an additional 5% of the cohort each month (February to April 2022) may have had COVID-19, which is the equivalent of an additional 76 respondents (see Table 1) in the last three months who have ever had COVID-19.

Percent of Optimise survey/diary respondents who have ever tested positive to COVID-19



CONTACTS OVER TIME

Since the beginning of the study in October 2020, participants have been completing frequent contact diaries where they are asked how many people they had contact with on the previous day. A contact was defined as someone that participants reported having either a face-to-face conversation with, shared a closed space with (e.g., room, car, bus, lift, train carriage), or had physical contact with (e.g., handshake, hug, kiss, contact sport). This could include people they lived with, people who visited their home, and people they were in contact with when they left their home and could include both intentional or unintentional contacts with people whom they may or may not know.

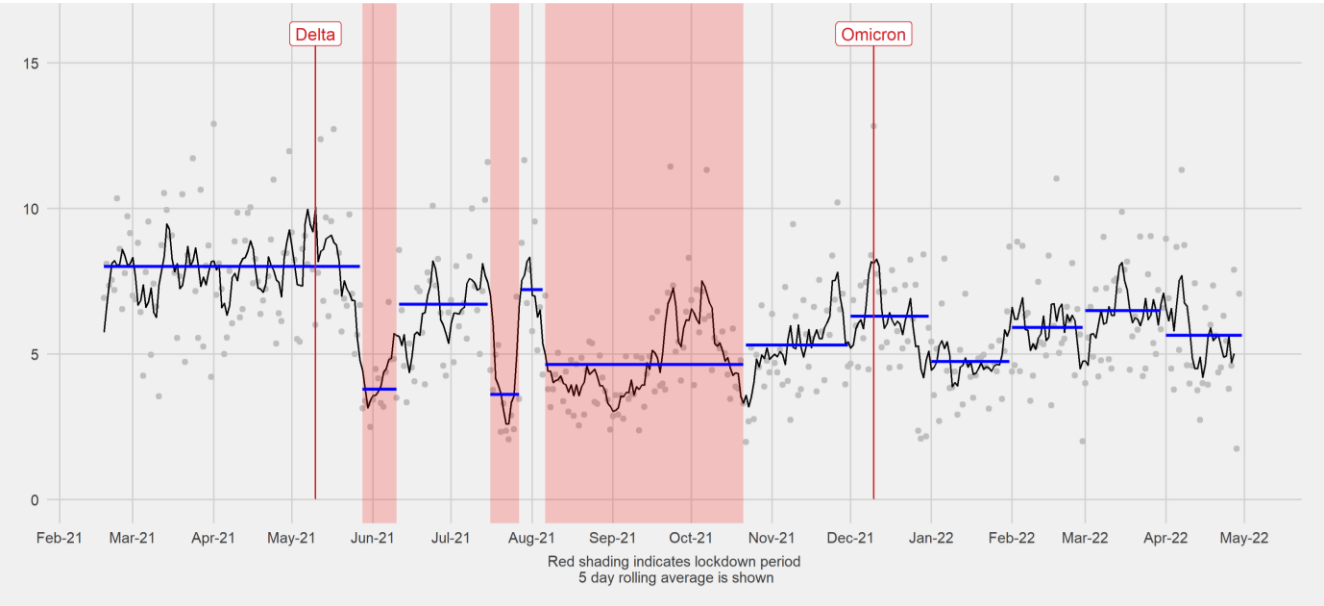
The graph below shows the average daily contacts for Optimise participants living in Metropolitan Melbourne, who are not healthcare workers, since February 2021 (daily contacts over 100 were considered to be outliers and were excluded from the average calculation).

The average daily contacts fluctuated between February 2021 and April 2022, largely between four to eight contacts per day (see Table 2 for more detail). Average daily contacts were highest (eight) between the February 2021 snap lockdown and the 2021 Delta outbreak, and have not returned to this level since.

Despite minimal restrictions in January 2022, average daily contacts (five) was the same as the average during Victoria's 6th lockdown (between 6 August and 21 October 2021), indicating participants voluntarily limited their contacts in response to the Omicron wave, otherwise described as a 'shadow lockdown'.

In March and April 2022 average daily contacts remained around six.

Average contacts under 100 per day for non-healthcare workers in Metropolitan Melbourne.*



*Lockdown periods indicated by red shading, average contacts for that day represented by grey dots, five-day rolling average indicated by black line and blue lines are the average for the period (see Table 2 for further detail).

Table 2: Average contacts from February 2021 to April 2022*

Start date	End date	Period	Mean daily contacts
18 February 2021	27 May 2021	Restriction free	8
28 May 2021	10 June 2021	The 4th lockdown in Melbourne	4
11 June 2021	15 July 2021	Between the 4th and 5th lockdown in Melbourne	7
16 July 2021	27 July 2021	The 5th lockdown	4
28 July 2021	5 August 2021	Between the 5th and 6th lockdown in Melbourne	7
6 August 2021	21 October 2021	The 6th lockdown in Melbourne	5
22 October 2021	30 November 2021	November 2021	5
1 December 2021	31 December 2021	December 2021	6
1 January 2022	31 January 2022	January 2022	5
1 February 2022	28 February 2022	February 2022	6
1 March 2022	30 March 2022	March 2022	6
1 April 2022	30 April 2022	April 2022	6

*Healthcare workers were excluded because their activity is unlikely to change during a lockdown due to their essential worker status. People living in Regional Victoria were excluded because some lockdown dates applied to Metropolitan Melbourne only.

COMMUNITY ENGAGEMENT GROUP INSIGHTS

The findings above were presented and discussed at a Community Engagement Group meeting facilitated by the Centre for Health Communication and Participation at La Trobe University on 17 May 2022. The Community Engagement Group was comprised of participants representing healthcare workers, people who have had COVID-19, people with chronic disease and living in social housing, and culturally and linguistically diverse communities (including Afghan, Fijian and Pasifika, Indian and South Asian communities).

Participants were asked to reflect on reasons for testing and what influences their decisions about socialising. A summary of the discussion is presented below.

KEY REASONS FOR INCREASED TESTING

1. "People have embraced RATs"

Most participants reported RATs were an important component of their "living with COVID" strategy. RATs were routinely used by participants to check their COVID-19 status prior to intergenerational family gatherings. Ensuring family members were COVID-19 free helped all feel more relaxed about attending gatherings, particularly older members who were more vulnerable to the virus.

Participants outlined how RATs had also become a key part of cultural and social gatherings. The representative of the Afghan community said people with symptoms had recently used RATs prior to attending the Nowruz Festival and Eid celebrations. The representative for the senior Indian community also reported RATs were used after community gatherings if one of the participants later tested positive.

RATs had also reduced the stigma associated with COVID-19 testing in the Afghan community because people could now test in their own homes. Although some people were still reluctant to report their positive result, they were motivated to do so to avoid a fine.

Having RATs in addition to PCR tests was also perceived as useful. One participant who has previously had COVID-19, caught the virus again recently. Her initial PCR test was negative but she was given RATs at the testing centre, which showed positive results as her symptoms worsened. She then re-tested with a PCR and it was positive. The participant found the use of RATs between PCRs much more convenient.

2. Free RATs

When prompted about the impact of the cost of RATs on testing, the participants regarded the tests as expensive. One commented that the cost of a single test could grow exponentially if multiple tests were required. Additionally, RATs would become even more expensive as costs of living increased.

Free RATs were perceived as a facilitator for testing. Several of the participants either received or knew about services that provided free RATs. The representative for the senior Indian community said his organisation received free RATs from IPC Health and IndianCare, which they distributed to members in need.

The representative of healthcare workers said that having access to free RATs at the hospital was useful for staff. She kept some in her office for colleagues to access when needed. As a person also living with long COVID, she said that regular free RATs from school helped reduce her daughter's anxiety about contracting long COVID.

The representative who lives in community housing was aware of free RATs being distributed through soup kitchens, outreach workers and high-rise accommodation support teams. He also felt having free tests available for pensioners and healthcare card holders facilitated testing. He believed that having free tests available for

everyone would further increase testing rates: “There is a lot being done but personally I think it would be more successful if they were available for free for everybody”.

3. PCR testing sites are less crowded

Participants reported it was both easier and harder to access PCR tests now than previously. It was easier because testing centres were less busy, but harder because there were fewer testing centres open. One participant had secured an in-home PCR test for her grandmother and felt these are preferable for older people who are particularly vulnerable to the virus.

4. People with lived experience of COVID know they can catch it again

Compared with earlier in the pandemic, there is now a growing awareness among people who have had COVID that you can catch it again. This is leading more people in this group to get tested.

KEY REASONS FOR NOT TESTING

One participant felt that the loss of work and income related to a positive COVID-19 diagnosis continued to be an issue making people reluctant to get tested. This participant felt that the Victorian Human Rights and Equal Opportunity Commission should be advocating for more clarity regarding sick leave entitlements and isolation requirements. Some in the group echoed sentiments about inadequate supports for people who test positive to COVID-19 including healthcare workers. Participants felt there was a lack of policies and protection of the surge workforce brought in to fight the pandemic. One participant who recently caught COVID-19 while working in a hospital described the lack of financial support available for casual support. The participant said:

> "Because I’m a casual employee, even though they’ve noted that I caught it at the hospital, there is no support... Even though they’re relied heavily on casual people, there is only COVID-19 support if you’re a part-time or full-time employee. So they’re saying ‘sorry you caught it here, best of luck, you’re out a couple of grand while we won’t let you work’. So that’s been disheartening."

Participants also described people being “over” the pandemic. This attitude was also reported to decrease people’s willingness to wear masks and social distance.

FACTORS INFLUENCING DECISIONS ABOUT SOCIALISING

1. High-risk populations were being more cautious

Participants reported that older people were often being more cautious about socialising but were also trying to balance the benefits of social interaction. Risk minimisation approaches were reportedly common in this group with many continuing to wear masks when in public or socialise in small groups only. Both representatives of older Victorians felt their communities were more likely to follow public health guidelines than other community members.

The representative of South Asian communities reported that people awaiting surgery were also being very cautious because they did not want COVID-19 to delay their procedure. Participants also reported that people with long COVID are wary of catching COVID-19 again.

2. Other populations reported engaging in at least some risk mitigation strategies

Participants described how people who are not considered “high risk” are still engaging in behaviours such as mask wearing, using sanitiser, social distancing, socialising outdoors or in well-ventilated spaces and staying away from people who appeared unwell. The potential severity of a COVID-19 infection, as well as the threat of long COVID, motivated some to engage in risk minimisation behaviours. Another motivating factor was the increasing evidence that even people who were triple vaccinated could still catch COVID-19.

One participant with lived experience of COVID-19 felt more people were socialising now because current strains were less severe and many had accepted they would eventually contract the virus. She said: “I have seen a shift in people who were [previously] following the rules, just thinking ‘I’d rather get it now and get it over with.’”

3. Influence of new variants

The representative of the Afghan community said his community initially reduced their social contacts when a new variant emerged, however when they discovered the variant was less severe than previous strains, they returned to their previous social activities.

4. Frustration about lack of government guidance

The representative of South Asian communities relayed the need for a national COVID-19 strategy. She said "we didn't adapt [the previous] strategy, we just abandoned it". The representative believed the government should emphasise "that living with COVID doesn't mean ignoring [the virus], it means still being cautious." The representative for older people said data about the high number of COVID-19 deaths was difficult to access and the issue was being ignored.

Some participants also expressed frustration with the lack of enforcement of remaining public health restrictions, such as wearing masks on public transport. As one participant said: "The remaining rules aren't too imposing, so they are disappointed by the lack of enforcement of those."

5. Frustration about other people's lack of concern

Some were frustrated by the lack of concern about the pandemic shown by other people. For example, some continued to wear masks at indoor events (such as the theatre) and felt disappointed that others did not do the same. Another cause for frustration was people who had symptoms but did not isolate.

6. The influence of flu season

The threat posed by the flu season was not raised as a factor in decreasing people's contacts. One representative of older people said that her community was less concerned about flu than COVID-19 because COVID-19 posed a new and unknown risk. The representative of senior Indian community members said people were motivated to get the flu shot to avoid needing telehealth rather than a face-to-face doctor's appointment for other health problems.

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