

Engagement with daily testing instead of quarantine following possible exposure to SARS-CoV-2.

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Summary

Background

In December 2020 to January 2021, Public Health England carried out a pilot study (N = 1370) in which close contacts of people with COVID-19 had the option to take lateral flow device antigen tests for seven days as an alternative to quarantining. If the tests were negative, the participant could continue with their daily activities. This process may reduce the negative psychological and financial impacts of quarantine and limit the impact of quarantine on staffing levels within public and private sector organisations. As part of this study, we carried out a survey to assess the feasibility and acceptability of daily testing for contacts of confirmed COVID-19 cases, and the influence of test results on behaviour.

Objectives

- Estimate the proportion and demographic characteristics of people who would choose daily testing if offered;
- Investigate whether the offer of daily testing would motivate people who have COVID-19 to provide details about more contacts to NHS Test and Trace;
- Understand the reasons for accepting daily testing, any issues people have conducting daily testing, and levels of confidence in daily testing;
- Determine the proportion of contacts who reported close contact with other people or activities outside the home when they had a positive, negative or inconclusive test and when they were trying to quarantine or isolate.

Key findings

- Uptake of daily testing was 62.2% among those offered this option (excluding those who declined on the grounds that they had already accessed testing).
- Acceptability of daily testing was lower among participants who were quarantining and had not been offered the option of having it and among people from ethnic minority groups.

- 52% of participants reported that they would be more likely to share the details of people that they had been in contact with following a positive test result, if they knew that their contacts would be offered the option of daily testing instead of quarantine. Only 2% reported that they would be less likely to provide details of their contacts.
- The most common motives for taking daily tests were to find out if they had the virus, to help beat the virus, and to protect vulnerable people that they lived with or met regularly.
- 67% of participants reported having no issues with daily testing. The most common reported problems were IT/internet issues (6%), unclear instructions (4%) and finding the tests unpleasant (4%).
- 89% of participants reported that they did not leave the house for any reason on the days that they were trying to self-isolate, with no significant group differences.
- Following a positive test, seven participants (16%) reported contact with people they did not live with.
- 13% of respondents reported that they increased their contacts on the days they tested negative.

Recommendations

- To improve acceptability and uptake, there is a need to co-produce materials and campaigns to explain the daily testing rationale and procedures and address concerns, especially for people from ethnic minority communities.
- While the unpleasantness of tests is perhaps unavoidable, further work to clarify the instructions and provide alternative, non-internet-based routes to certify a test result may be beneficial.
- If obtaining the details of more contacts is a priority for NHS Test and Trace, our data suggests that understanding that daily testing may be offered as an alternative to self-isolation for contacts could improve the reporting of contacts by COVID-19 cases.
- While receiving a negative test result did not appear to lead to substantially increased activity in this study, this remains a risk that needs to be monitored and minimised as far as possible by appropriate messaging concerning the meaning of a negative test result.
- Future research should examine whether attitudes and behaviour change in a future context where infection levels are lower, testing is more familiar, much of the population has been vaccinated and government restrictions on activity have been reduced.

Background

Within the UK, as elsewhere, efforts to reduce the spread of SARS-CoV-2 have focussed on the isolation of people who display symptoms of COVID-19 and on the quarantine of those people they have had close contact with. This presents a substantial burden for the people involved, financially, socially and psychologically [1]. The quarantining of contacts, most of whom will not be infectious, also generates a wider impact on society and the economy, with sectors deprived of their employees, students, congregants and volunteers. To give an example of the scale involved, in a single week in February 2021 the UK's NHS Test and Trace service identified 191,242 people as having had close contact with someone infected with SARS-CoV-2 [2]. These people were required, by law, to quarantine for 10 days, meaning that they could not leave their home except for a limited number of reasons (e.g. for an essential medical appointment). Concern exists that even this number is too low, and that many people with COVID-19 do not provide NHS Test and Trace with details of all their contacts [3], perhaps out of concern about the burden quarantine would place on them.

The extent to which people adhere to the rules relating to quarantine is unclear. Quantitative estimates provided to date focus on "full adherence." These studies include people who commit a single minor transgression of the rules which poses a negligible risk to public health in the same

category as people who disregard the rules entirely [4-8]. Despite this limitation, some patterns have emerged from the literature regarding risk factors for non-adherence to isolation and quarantine. These include low income; inability to work from home; and being in insecure employment [4]. Periods of lockdown may be particularly challenging for those from lowest income backgrounds and individuals from Black, Asian and minority ethnic groups, who are less able work from home, more likely to be in insecure employment where furloughing is not offered, and more likely to experience financial concerns and anxieties than those from less deprived groups [9, 10]. Understanding and supporting adherence to mitigation measures among this population is critical.

One alternative to quarantine for contacts that has recently been suggested is to ask people to undertake a daily test using a lateral flow device. If the test result is negative, the individual can continue with their daily activities for a 24 hour period, including leaving their home, provided that they adhere to the government-imposed restrictions that apply for their local area [11]. If the result is positive, the individual must enter 10 days of isolation immediately. If used correctly, this system would dramatically reduce the overall number of days that people spend in quarantine across the population. Testing of contacts could be particularly important for maintaining confidence and adherence to the test, trace and isolate system as infection levels decline, since the proportion of false positives in index cases is likely to increase. However, there are several uncertainties about this proposed system that need to be clarified before it can be used with confidence. Many of these relate to how people use lateral flow devices and whether they adhere to guidance on how to respond to a positive or negative result. Specific challenges include whether people: adhere to guidance to quarantine while waiting for their test kit to arrive in the post; find the tests easy to use; reduce their adherence to local guidance in the event of a negative result (for example, as a result of false reassurance); and adhere to guidance to isolate in the event of a positive result. [12-16]

In December 2020, Public Health England initiated a pilot study in which close contacts of confirmed cases of COVID-19 were given the option to either enter a 10-day quarantine period as normal or to undertake lateral flow device antigen tests for seven consecutive days. A preliminary report on the overall uptake of the scheme has been provided elsewhere. In this study, we tested the feasibility and acceptability of daily testing and assessed levels of adherence to the rules relating to behaviour following a positive and negative test result. Our specific objectives were to:

- estimate the proportion and demographic characteristics of people who would choose daily testing if offered;
- investigate whether the offer of daily testing would motivate people who have COVID-19 to provide details about more contacts to NHS Test and Trace;
- understand the reasons for accepting daily testing, any issues people have conducting daily testing, and levels of confidence in daily testing;
- determine the proportion of contacts who reported close contact with other people or activities outside the home when they had a positive, negative or inconclusive test and when they were trying to quarantine or isolate.

Method

Design

We conducted a service evaluation, involving an online cross-sectional survey of adult contacts of confirmed COVID-19 cases who were invited to participate in seven days daily testing as an alternative to 10 days isolation.

Lateral flow test procedure

Participants who agreed to daily testing were posted a study testing pack consisting of 6 lateral flow devices, a PCR self-sample postal swab kit and study documentation. A text message was sent to all participants with a valid mobile number to inform them that their kit had been sent, and to provide

participants with the hyperlink to a “results portal” where they were required to submit daily test results, a digital image of the test, identifiers (name, date of birth, postcode, NHS number), a record of any symptoms experienced and the date the kit arrived. Participants were asked to complete up to 6 tests and report results to PHE each day using the results portal.

Survey recruitment

We recruited participants between 11 and 23 December 2020 and 4 to 12 January 2021. All participants were asymptomatic adult contacts of confirmed COVID-19 cases. We recruited participants in three groups: those offered daily testing and who accepted it, those offered daily testing but who declined it, and those not offered daily testing. Given limited capacity within the team for recruitment, a sample frame of eligible participants was initially identified by NHS Test and Trace as a convenience sample from their much larger weekly list of contacts and transferred to our team for recruitment. All people within this sample frame were then sent a link to the survey if they had a mobile phone number.

Figure one shows the flow of participants through the study. Of the 1760 individuals offered daily testing, 882 agreed to it and 878 declined. A total of 923 individuals consented to further contact from NHS Test and Trace for the purposes of our service evaluation. As a non-randomised, unmatched comparison group, 857 individuals who were eligible for inclusion in the daily testing trial but who were not offered it for capacity reasons, and who had agreed to further contact from NHS T&T were also sent a link to the evaluation questionnaire.

A total of 668 surveys were returned. Although the survey could be completed anonymously, participants had the option to provide identifiable information (names and NHS Test and Trace identifying number). Where participants provided these details, we checked if they had answered the correct sections of the questionnaire (checking, for example, if participants not offered testing had completed items suggesting they had taken tests). We could not confirm group allocation for 40 participants, and these participants were excluded. A total of 21 participants completed the survey on multiple occasions (e.g., after reminder emails were sent to all respondents). For these participants, we retained only their first set of answers for the analyses. We also excluded 72 participants who did not receive a testing kit in time to participate. Finally, we excluded 34 participants who did not report a lateral flow test result as it was not possible to assign them to testing group.

Only 12 participants out of 142 who provided consent (1.4%) provided usable data in the “declined testing” group. We therefore excluded this group from all analyses. Usable data were included from 319 people who had agreed to daily testing (out of 781 who provided consent, 36.2%) and 205 who were not offered daily testing (24.0%).

Study materials

All those consenting to further contact were sent a link to an electronic evaluation questionnaire, developed in Snap Survey. Survey questions were filtered depending on participants’ self-selected group allocation (accepted, declined or not offered daily testing). Full survey materials are available in Appendix 1.

Demographics

We asked participants to report their age, gender, highest educational qualification and ethnicity.

Preference for daily testing and sharing contacts

We asked participants to rate their preference for daily testing on a five-point item (strongly prefer testing to strongly prefer self-isolating). We asked them to rate how likely they would be to share contact details of close contacts if the option of daily testing (instead of quarantine) was available to their contacts (much more likely to much less likely).

Perceptions of daily testing

We asked participants who had accepted daily testing to select from prescribed options their reasons for daily testing and any problems that made it hard to complete the tests and submit the results, more than one option could be selected. Participants were also asked if they had to repeat tests (yes or no).

We asked these participants to rate on five-point items how confident they were that they had taken the tests correctly, and how confident they were in the test results (very confident to not at all confident).

Activities and contacts

Participants who completed daily testing were asked to report a test result (positive, negative, unclear) on each day that they took a test. They were also asked to report the number of times that they came into close contact with someone that they did not live with (0 times, 1 time, 2-4 times, 5-10 times, and 11 or more times) on each day during the seven day testing period.

We asked participants to state whether or not they had left their home, 1) on days that they were trying to self-isolate (which should have included days spent waiting for the test kit to arrive and any days after testing positive), and 2) on days that they had a negative test result. For both of these, participants could select from: 1) to go to the shops for groceries, toiletries or medicine; 2) to go to the shops for other items; 3) to go to work, school or university; 4) to help or provide care for someone; 5) to spend time indoors and in close contact (less than a meter apart and for more than 15 minutes) with friends or family that they did not live with; 6) to go out for a meal or to an entertainment venue; 7) to take a child to or from school; 8) to exercise; 9) to attend a medical appointment; 10) or for any other reason. Participants could also select 11) 'did not go out for any reason' as an option.

Finally, we asked participants to rate on a five point item the frequency of close contacts (with people you do not live with, indoors and for more than 15 minutes; much more contact to much less contact) on the days when they were trying to self-isolate, and on the days when they had a negative test result.

Ethics

Ethical approval for this study was granted by Public Health England's Research Ethics and Governance Group (Reference NRO235).

Data analysis

We split the sample into those who accepted testing and received at least one positive result from a lateral flow device (PosTest N = 54), those who accepted testing and did not receive a positive result (NegTest N = 265), and those who were not offered daily testing (Not Offered N = 205). As we had low group sizes and because we were interested in examining those with lower levels of education and those from an ethnic minority background, we created two binary groups. Education was collapsed into secondary education (did not complete school or finished education after School; N = 289) and higher education (completed university or postgraduate degree; N = 163). Ethnicity was collapsed into ethnic minority (N = 42) and White (N = 440). Age was collapsed into five categories (18-24; 25-34; 35-44; 45-54; 55+ years).

To explore acceptability of daily testing, we present proportions of respondents selecting each option for items on their preference for daily testing or quarantine and the likelihood of providing details of contacts item by testing groups and by demographic group.

To explore behaviour, we used three measures. First, we coded behavioural activities as higher risk non-essential contacts (items 1-6, 10), lower risk non-essential contacts (items 7-8), or no non-essential contacts (items 9 and 11) and report proportions when self-isolating and following a

negative test result. Second, we report whether people had more or less close contact when self-isolating or following a negative test result. Third, we present the frequency of contacts overall and on each day following a positive test result.

Finally, we present proportions of respondents selecting each option of the two confidence items, proportion of participants who had to repeat tests, and proportion of participants selecting each option regarding motives for accepting daily testing.

Chi square tests were used to examine differences in proportions between the groups. Data were analysed using R version 3.4.3 [17]

Results

Demographics

Demographic breakdowns are presented in Tables 1 and 2. In the Not Offered group there was a higher proportion of participants in the higher education category and a higher proportion of women than in the PosTest and NegTest groups. In the PosTest group, there was a higher proportion of participants from ethnic minority groups than in the NegTest or Not Offered groups. and a higher proportion of participants in the secondary education category.

Preference for daily testing and sharing contacts

Of the 1760 participants offered daily testing, 882 accepted. Of the 878 who declined, 343 (39.1%) reported that this was because they already had access to testing. Adjusting for this, of the 1,417 people who had not accessed testing, 882 (62.2%) accepted daily testing.

Participants' preferences for daily testing or self-isolation are presented in Figures 2 and 3. Individuals who were not offered daily tests appeared most divided of the groups, with 46% preferring or strongly preferring testing and 41% preferring or strongly preferring isolation. Participants from ethnic minority communities were similarly divided, with 48% preferring or strongly preferring testing and 48% preferring or strongly preferring isolation (compared with participants identifying as white, with 70% preferring or strongly preferring testing and 23% preferring or strongly preferring isolation).

Participants also reported that the availability of daily testing would encourage sharing of contact details, with 52% of the sample reporting that they would be more likely to share the details of people that had been in contact with following a positive test result, and 44% reporting that it would make no difference (Table 3). Only nine people across the whole sample (2%) reported that it would make them less like to share contact details.

Perceptions of daily testing

The most commonly given reasons for accepting daily testing were: I wanted to know if I had the virus (22%); To help beat the virus in my area (20%); It sounded easy to do (17%); and I needed to know if I was infected so I could protect vulnerable people that I live with or meet regularly (13%). This was broadly similar between ethnicity groups and education categories, however, participants from ethnic minority communities also reported: I was concerned that I might have coronavirus (11%).

Two thirds (67%) of participants reported that they had no problems with daily testing. Of those who did report any issues, the most frequent responses were: Internet/technology access (6%); The testing procedure was unpleasant (4%); and Instructions were not clear (4%). Only 2% of those in the daily testing groups had to repeat tests due to inconclusive results.

Of the participants in the daily testing groups, 88% were completely or very confident that they did the test correctly, and 68% were completely or very confident that the test was accurate (Table 4).

Activities and contacts

Most participants reported engaging in no non-essential activities on days when they were trying to isolate (80% PosTest, 82% NegTest and 83% Not Offered; Table 5). There were no differences between the groups ($\chi = 1.64, p = .199$).

As expected, participants engaged in more non-essential activities following a negative test result than on the days that they were trying to self-isolate (Table 6). Participants in the PosTest group were less likely to engage in non-essential activities following a negative test result than those in the NegTest group. They also reported significantly fewer lower contact activities following a negative test result than those in the NegTest group (15% versus 49%, $\chi = 21.89, p < .001$).

Among those who tested negative, only 20 people (13%) reported engaging in more high-risk activity (i.e. indoor close contact for more than 15 minutes) than prior to testing, and most (58%) reported having fewer risky contacts.

Out of the 54 people who reported a positive test, 7 (13%) reported having close contact with people that they did not live with following the positive test. Of these seven, two reported contacts with only a single person on one day. The other five reported multiple contacts.

Discussion

To the best of our knowledge, this is the first study to investigate the feasibility and acceptability of daily testing of confirmed COVID-19 cases, and to attempt to understand the impact of testing on activities and contacts. Among those offered testing and who were eligible to take it up, nearly two thirds chose to take part in daily testing instead of self-isolating. Participants from White backgrounds reported a strong preference for daily testing over 10 days isolation. However, participants who were not offered the option of daily testing and those from ethnic minority groups were more divided. These findings suggest that if daily home testing is offered there is a need to develop materials and campaigns to explain the rationale and procedures and address concerns, especially among BAME communities.

In addition to exploring whether or not daily testing is preferable to self-isolation, we also explored whether the option of daily testing would encourage positive cases to share the contact details of their close contacts. Contact tracing is dependent on the willingness of positive cases to share the details of those they have been in contact with, and individuals may be reluctant to cause disruption to their friends and family [18]. Over half the participants who completed this survey reported that knowing that their contacts would have the option of daily testing would make them more likely to provide their details, and most other participants reported that it would make no difference. Very few participants reported that it would make them less likely to share contact details of close contacts. If obtaining the details of more contacts is a priority for NHS Test and Trace, or other agencies around the world, the offer of daily testing may go some way towards achieving this.

Overall, participants were confident in their ability to perform the tests correctly and two-thirds of participants were very or completely confident in the accuracy of the lateral flow test results. At the time this study was carried out there was considerable public debate in the media about the accuracy of lateral flow tests, which may have contributed to concerns. In future, further explanation of the benefits and limitations of testing could be provided.

The most common motives for taking daily tests were to find out if you had the virus, to help beat the virus, and to protect vulnerable people that they lived with or met regularly. Participants also reported that they wanted to take daily tests because it sounded easy to do. In addition, those from ethnic minority groups reported wanting to take part in daily testing because they were concerned that they may have the virus. Two thirds of participants reported having no issues with daily testing. The most common problems reported by participants included unclear instructions, tests being unpleasant, and IT/internet issues. While the unpleasantness of tests is perhaps unavoidable, further

work to clarify the instructions and provide alternative, non-internet-based routes to certify a test result may be beneficial.

Most participants in the survey reported that they either had less close contact, or about the same amount of close contact, with people outside of their household than before they were contacted by NHS Test and Trace. In contrast to previous research [5], the majority of participants who completed the survey reported that they did not leave the house for any reason on the days that they were trying to self-isolate (either in response to a positive test result, or whilst waiting for testing kits to arrive). This may be in part because participants were recruited for daily testing when infection rates were extremely high, and many participants will have had their daily activities limited by the restrictions in place in their local areas. Nonetheless, it was notable that those with a positive test result during the seven-day testing period reported engaging in fewer contact activities compared to those who only had negative tests. Seven (13%) reported contact with people they did not live with, although it is not clear what the reasons for this were. In future research, it will be important to examine reasons for non-adherent behaviour following a positive test.

This study has several limitations. First, the overall response rate was low. It is possible that those who completed the survey are not representative of the general population and may have been more adherent than those who declined to take part in the survey. In particular, the response rate of participants who declined to take part in daily testing was very low, and as a result this group had to be excluded from the analyses. Comparisons between those who accepted daily testing and the comparison group who were not offered testing are problematic as the comparison group was non-randomised and unmatched, and had a lower uptake, with a higher proportion of women and those with higher education levels participating. Second, all data were self-reported and may therefore have been susceptible to social desirability bias. Third, the fact that participants were invited to take part in daily testing over the Christmas may have had an impact on the study. For example, testing kits may have been delayed due to Christmas post and activity patterns may have been unusual. Finally, daily testing was introduced so that individuals who have a negative test result do not have to isolate. At the time that daily testing was introduced, many areas of the UK were in Tiers three or four, meaning that substantial restrictions were in place. On the 5th January 2021, the government introduced a third national lockdown and all non-essential businesses had to close. It is possible that participants were less willing to take daily tests during lockdown if the need to leave the home was reduced.

Overall, our data suggested that daily testing has the potential to be a feasible and acceptable alternative to self-isolation. However, there is a need to develop materials and campaigns to explain the rationale and procedures and address concerns, especially among BAME communities. Our data also suggests that daily testing may facilitate sharing contact details of close contacts among those who test positive for COVID-19, and could promote adherence to self-isolation. While receiving a negative test result did not appear to lead to substantially increased activity in this study, this remains a risk that needs to be monitored and minimised as far as possible by appropriate messaging. Further research is now needed to explore the uptake and efficacy of daily testing among a wider range of individuals outside of lockdown.

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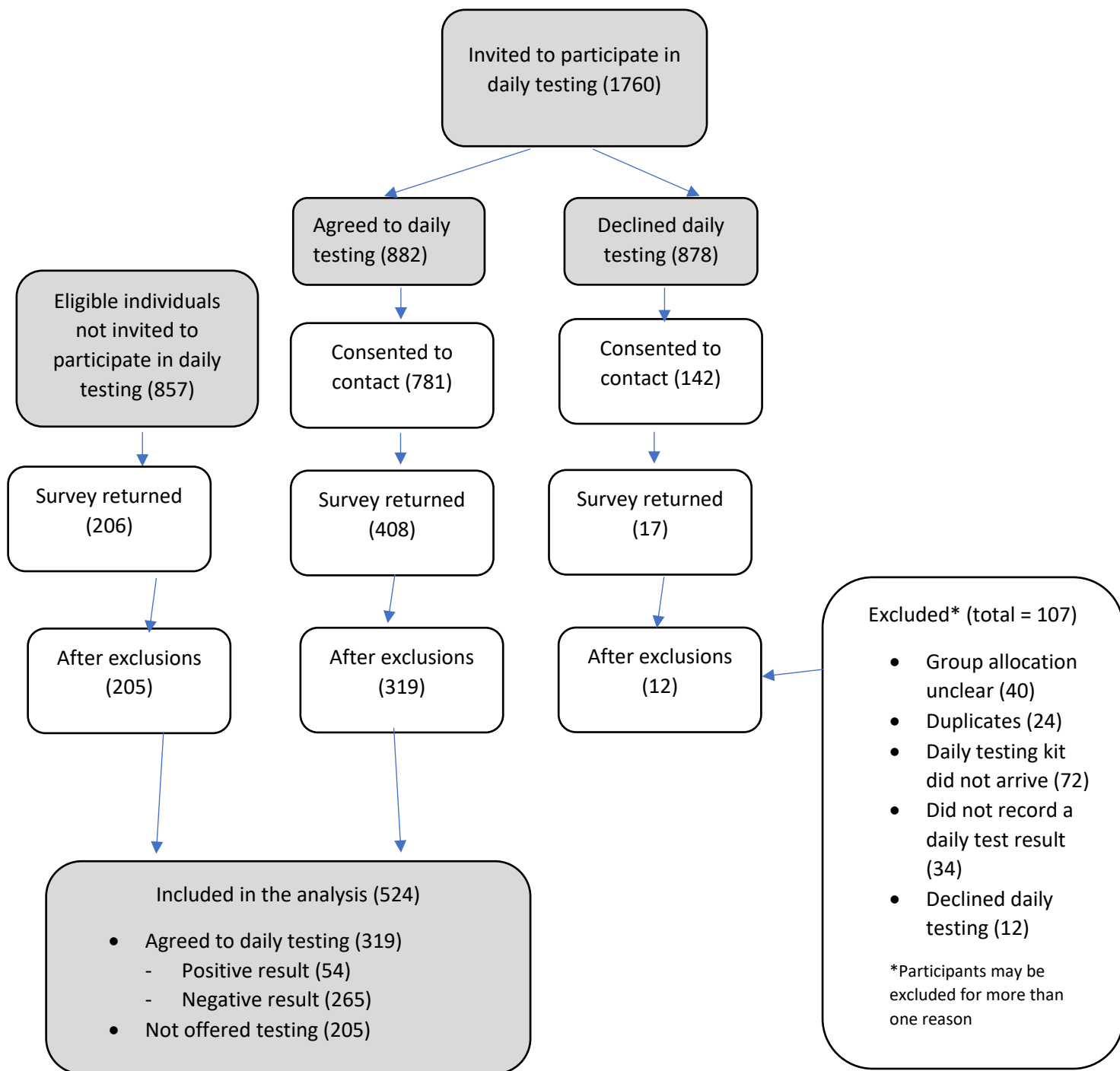


Figure 1. Flow chart showing participants invited to take part, consenting to take part in the study, responding to surveys, exclusions, and final group count

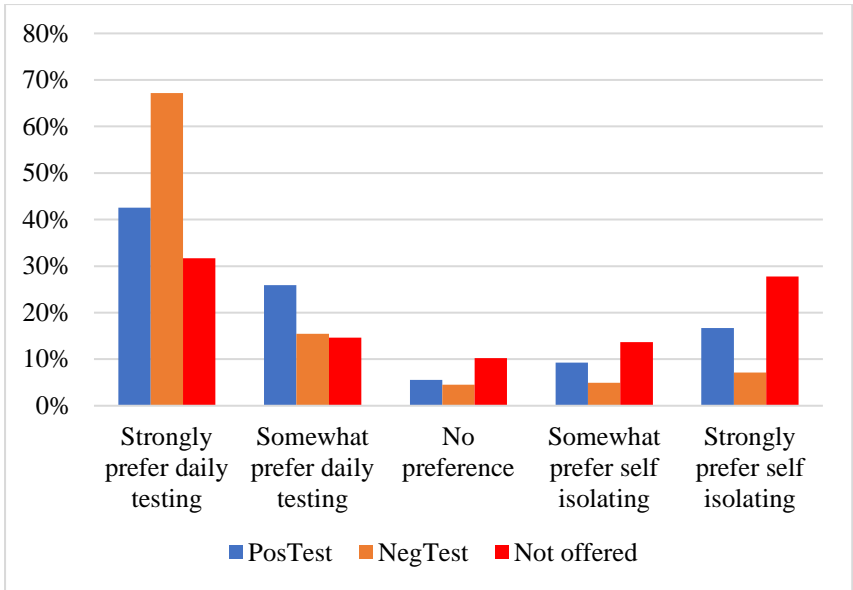


Figure 2. Preference for daily testing or self-isolating, by isolation group

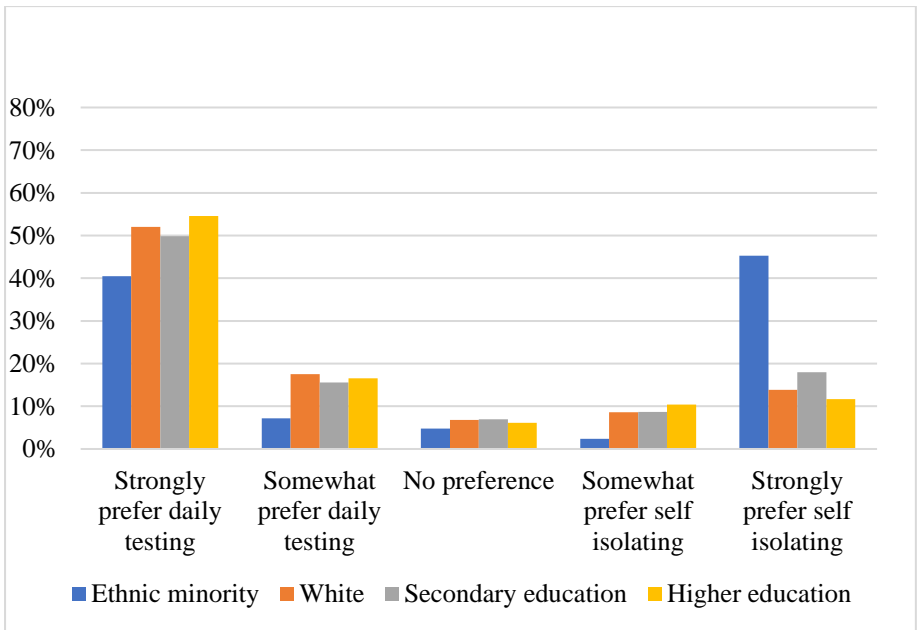


Figure 3. Preference for daily testing or self-isolating, by demographic group

Table 1. Demographic characteristics of the whole sample and by group

	Whole sample		Pos Test		Neg Test		Not offered	
		%		%		%		%
Group N	524	-	54	10%	265	51%	205	39%
Ethnicity								
BAME	42	8%	8	15%	18	7%	16	8%
White	440	84%	40	74%	229	86%	171	83%
No response	42	8%	6	11%	18	7%	18	9%
Sex								
Female	266	51%	21	39%	116	44%	129	63%
Male	170	32%	16	30%	90	34%	64	31%
No response	88	17%	17	31%	59	22%	12	6%
Education								
Secondary education	289	55%	28	52%	85	32%	62	30%
Higher education	163	31%	16	30%	145	55%	116	57%
No response	72	14%	10	19%	35	13%	27	13%
Age								
18-24 years	33	6%	0	0%	20	8%	13	6%
25-34 years	94	18%	7	13%	51	19%	36	18%
35-44 years	107	20%	16	30%	59	22%	32	16%
45-54 years	126	24%	16	30%	68	26%	42	20%
55+ years	146	28%	14	26%	55	21%	77	38%
No response	18	3%	1	2%	12	5%	5	2%

Table 2. Likelihood of sharing contacts if daily testing was available

	Whole sample		Pos Test		Neg Test		Not offered	
		%		%		%		%
Much more likely	224	43%	22	41%	135	51%	67	33%
Somewhat more likely	49	9%	9	17%	24	9%	16	8%
It would make no difference	228	44%	21	39%	100	38%	107	52%
Somewhat less likely	4	1%	0	0%	1	0%	3	1%
Much less likely	5	1%	0	0%	1	0%	4	2%
Don't know	14	3%	2	4%	4	2%	8	4%

* Item: "If you had a positive test in the future and you knew that your contacts would be able to have daily testing (instead of self-isolating), would you be more or less likely to give their contact details?"

Table 3. Confidence in tests (daily testing groups)

	Did test correctly		Test was accurate	
		%		%
Completely confident	163	51%	101	32%
Very confident	119	37%	117	37%
Fairly confident	32	10%	79	25%
Not very confident	5	2%	5	2%
Not at all confident	0	0%	14	4%
Don't know	0	0%	4	1%

Item: "How confident, if at all, are you that your test results were accurate?"

Table 4. Contact activities when self isolating, by group

	Whole sample	N	Pos Test	%	Neg Test	%	Not offered	%	*Chi ²	p
Contact activities										
Higher contact activity	49	10%	6	11%	28	11%	15	7%	1.66	.436
Lower contact activity	53	11%	5	9%	30	11%	18	9%	0.87	.648
No non-essential activity	429	89%	43	80%	216	82%	170	83%	0.36	.835
Testing groups combined										
Contacts										
Much more	1	1%	0	0%	1	1%	na	na	na	na
Slightly more	2	2%	0	0%	2	2%	na	na	na	na
About the same	23	18%	4	13%	19	20%	na	na	0.00	.951
Slightly less	5	4%	1	3%	4	4%	na	na	0.01	.909
Much less	94	75%	25	83%	69	73%	na	na	8.86	.003

* Note. All pairwise chi square tests were also non-significant

Item: Contact activities: "On the days that you were trying to self-isolate, did you do any of the following..."

Item: Contacts: "Thinking about the days you did not take a test or had a positive/inconclusive test result, did you have more or less close contact with people you do not live with (indoors and for more than 15 minutes) than you had before you were contacted by NHS Test and Trace?"

Table 5. Contact activities with a negative test result, by group

	Whole sample	N	Pos Group	%	Neg Group	%	Not offered	%	*Chi ²	p
Contact activities										
Higher contact activity	88	26%	10	19%	78	29%	na	na	2.68	.102
Lower contact activity	139	41%	8	15%	131	49%	na	na	21.89	< .001
No non-essential activity	111	33%	30	56%	81	31%	na	na	12.35	< .001
Testing groups combined										
Contacts										
Much more	7	3%	0	0%	7	4%	na	na	na	na
Slightly more	15	7%	1	4%	14	7%	na	na	1.18	.278
About the same	63	30%	6	24%	57	30%	na	na	3.06	.080
Slightly less	20	9%	1	4%	19	10%	na	na	2.19	.142
Much less	108	51%	17	68%	91	48%	na	na	0.16	.686

* Note. All pairwise chi square tests were also non-significant

Item: Contact activities: "On the days that you had a negative test result, did you do any of the following ..."

Item: Contacts: "Thinking about the days you had a negative result, did you have more or less close contact with people you do not live with (indoors and for more than 15 minutes) than you had before you were contacted by NHS Test and Trace?"

Appendix

Table 1. Survey questions and answers

Quarantine/testing evaluation questionnaire

Thank you so much for taking part in this study of the views of quarantine and testing.

It would be very helpful if you could complete this brief survey about your views, so we can improve the service.

The survey only takes around 10-15 minutes to complete and it is anonymous - you do not need to give your name or any details about yourself.

Many thanks for sharing your views with us

The COVID Study Team

Please complete this questionnaire in one sitting

Use the arrows to go through the survey. The reset option clears answers from the current page.

To submit your answers click 'Submit' on the final page.

The COVID study team.

1. If you have been in contact with someone testing positive for coronavirus the usual option is to self-isolate by staying at home for 10 days.
A new option is to carry out daily home tests for up to 7 days, which means that every day you have a negative test you can carry on with your normal activities and do not need to self-isolate.
Which option do you prefer?
 - Strongly prefer 10 day self-isolation option
 - Somewhat prefer 10 day self-isolation option
 - No preference for either option
 - Somewhat prefer daily testing option
 - Strongly prefer daily testing option
 - Don't know
2. If you had a positive test in the future and you knew that your contacts would be able to have daily testing (instead of self-isolating), would you be more or less likely to give their contact details?
 - Much more likely
 - Somewhat more likely
 - It would make no difference
 - Somewhat less likely
 - Much less likely
 - Don't know
3. Some people are being offered a daily testing kit by NHS Test and Trace. Did NHS Test and Trace offer a daily testing kit to you?
 - Yes, and I agreed that they could send one to me - go to Q4
 - Yes, but I did not agree that they could send one to me – go to Q5
 - No, I was not offered a daily testing kit – go to Q15
4. Did you receive a testing kit in time for you to complete some daily testing rather than self-isolation?
 - Yes – go to Q6
 - No - go to Q5
5. Why did you decide not to take part in daily testing?
(tick all reasons that you agree with)
 - I don't believe in the threat of coronavirus
 - Daily testing seemed too difficult

- I felt the testing process could be unpleasant
- I don't want to share data about myself with government bodies
- I feel unsure about the accuracy of the test results
- I couldn't afford to have time off work if I tested positive
- I am probably immune, as I have already had coronavirus
- I don't mix enough with others to be a risk to them
- It is easy, or easier for me to self-isolate
- I had symptoms, so I wanted to just take the usual test and self-isolate right away
- I believed I would test positive at some point, so it was easier to self-isolate from start
- I don't want to take any risk of spreading the virus to others
- I had already tested positive
- None of these reasons
- Other reason

On all answers move to Q15

6. Why did you decide to complete daily tests rather than self-isolate for 10 days? (tick all reasons that you agree with)

- I felt it was compulsory / I had no choice
- It sounded quite easy to do
- It would be difficult to self-isolate/ did not want to self-isolate
- I needed to go out to work
- My friends and family wanted me to do it
- My employer wanted me to do it
- I wanted to know if I had the virus
- I wanted to meet up with friends/family
- I know other people who were getting tested
- To help beat the virus in my area
- I was concerned that I might have coronavirus
- I needed to know if I was infected so I could protect vulnerable people that I live with or meet regularly
- None of these reasons
- Other reason

7. How confident, if at all, are you that you did the tests correctly?

- Completely confident
- Very confident
- Fairly confident
- Not very confident
- Not at all confident
- Don't know

8. How confident, if at all, are you that your test results were accurate?

- Completely confident
- Very confident
- Fairly confident
- Not very confident
- Not at all confident
- Don't know

9. Did you have to repeat any home tests?

e.g. due to an inconclusive result or invalid test

- Yes
- No

10. Did any of these problems make it hard for you to do the tests and submit your results?

(tick all reasons that you agree with)

- Instructions not clear

- I was not sure how to take the tests
- The testing procedure was unpleasant
- Daily testing was too much hassle
- I forgot to take one or more tests
- Internet / technology access
- I did not have any problems
- Don't know
- Other

11. Starting from the day you first spoke to NHS Test and Trace, please tick the option that best describes the result of your daily test.

Please select an answer for each day.

	Positive	Negative	Inconclusive	I don't know	I didn't do a test
1					
2					
3					
4					
5					
6					
7					

12. On the days that you had a negative test result, did you do any of the following

(tick all reasons that you agree with)?

- Go to the shops for groceries, toiletries, medicines or other items
- Attend a medical appointment (e.g. an outpatient appointment)
- Go to the shops for non-essential items
- Go to work, school or university
- Give help to, or provide care for, someone else (e.g. delivering food to them)
- Take a child to or from school
- Go for outdoor exercise (e.g. for a walk or run)
- Spend time indoors and in close contact (less than a meter apart and for more than 15 minutes) with friends or family you do not live with
- Go out for a meal or to an entertainment venue
- Go out for any other reason
- I did not do any activities

13. Thinking about the days you had a negative result, did you have more or less close contact with people you do not live with (indoors and for more than 15 minutes) than you had before you were contacted by NHS Test and Trace?

- Much more contact
- Slightly more contact
- About the same
- Slightly less contact
- Much less contact

- Does not apply
14. Thinking about the days you did not take a test or had a positive/inconclusive test result, did you have more or less close contact with people you do not live with (indoors and for more than 15 minutes) than you had before you were contacted by NHS Test and Trace?
- Much more contact
 - Slightly more contact
 - About the same
 - Slightly less contact
 - Much less contact
 - Does not apply

15. Thinking about the whole period from when you spoke to NHS Test and Trace to now, how many days, if any, did you self-isolate for? Please include any days before the daily tests arrived.

- 1 – 14 days

16. Why did you self-isolate?

(tick all reasons that you agree with)

- I was complying with Government guidelines
- I was waiting for my test kit to arrive
- I performed daily testing and had a positive/inconclusive result
- I had symptoms
- Someone in my household had symptoms/ tested positive
- I stopped taking the daily tests or skipped some tests
- None of the above
- Other reason

17. Starting from the time you first spoke to NHS Test and Trace, how often did you come into close contact (indoors and for more than 15 minutes) with someone that you do not live with?

For example, selecting the option 0 times would mean that you had no close contact, indoors and for more than 15 minutes, with anyone that you do not live with on that day.

	0 times	1 time	2-4 times	5-10 times	11 times or more
1					
2					
3					
4					
5					
6					
7					

18. On the days that you were trying to self-isolate, did you do any of the following

(tick all reasons that you agree with)?

- Go to the shops for groceries, toiletries, medicines or other essential items
- Attend a medical appointment (e.g. an outpatient appointment)
- Go to the shops for non-essential items
- Go to work, school or university
- Give help to, or provide care for, someone else (e.g. delivering food to them)

- Take a child to or from school
- Go for outdoor exercise (e.g. for a walk or run)
- Spend time indoors and in close contact (less than a meter apart and for more than 15 minutes) with friends or family you do not live with
- Go out for a meal or to an entertainment venue
- Go out for any other reason
- I did not do any activities

19. Please provide your age (optional)

20. Please provide your ethnicity (optional)

- Asian - Indian
- Asian - Pakistani
- Asian - Bangladeshi
- Asian - Chinese
- Asian - Other
- Black - African
- Black - Caribbean
- Black - Other
- White British
- White Irish
- White - Other
- Mixed - White and Black Caribbean
- Mixed - White and Black African
- Mixed - White and Asian
- Mixed - Other
- Other ethnic group

21. Please state when you left full time education

(if you are still in education, please select the stage you are at now)

- Before finishing school
- After finishing school
- After finishing university
- After finishing post graduate studies

22. Please provide your name (optional)

23. Please provide the ID provided by NHS Test and Trace (optional)

24. Are there any other comments or suggestions you have to improve the daily self-testing service?

Thank you for taking the time to complete this survey.

Your responses will help to improve the NHS Test and Trace service.

For more information about COVID-19, please visit: <https://www.gov.uk/coronavirus>

Table 2. Issues with daily testing	N	%
Instructions not clear	12	4%
I was not sure how to take the tests	1	0%
The testing procedure was unpleasant	50	15%
Daily testing was too much hassle	4	1%
I forgot to take one or more tests	2	1%
Internet / technology access	18	6%
I did not have any problems	220	67%
Don't know	3	1%
Other	16	5%

Item: "Did any of these problems make it hard for you to do the tests and submit your results?..."

Table 3. Why did you decide to complete daily tests rather

Item	Whole sample		Ethnic minority		White		Secondary education		Higher education	
		%		%		%		%		%
I felt it was compulsory / I had no choice	3	0%	2	3%	1	0%	1	0%	1	0%
It sounded quite easy to do	175	17%	13	16%	151	17%	54	16%	97	17%
It would be difficult to self-isolate/ did not want to self-isolate	81	8%	5	6%	72	8%	36	10%	41	7%
I needed to go out to work	38	4%	5	6%	31	3%	8	2%	26	5%
My friends and family wanted me to do it	16	2%	2	3%	14	2%	7	2%	6	1%
My employer wanted me to do it	3	0%	0	0%	2	0%	2	1%	1	0%
I wanted to know if I had the virus	226	22%	15	19%	195	22%	80	23%	122	22%
I wanted to meet up with friends/family	21	2%	0	0%	21	2%	7	2%	11	2%
I know other people who were getting tested	10	1%	3	4%	7	1%	5	1%	4	1%
To help beat the virus in my area	206	20%	11	14%	180	20%	66	19%	117	21%
I was concerned that I might have coronavirus	91	9%	9	11%	76	9%	32	9%	46	8%
could protect vulnerable people that I live with or meet regularly	133	13%	11	14%	113	13%	38	11%	73	13%
None of these reasons	2	0%	0	0%	1	0%	0	0%	2	0%
Other reason	28	3%	3	4%	25	3%	9	3%	13	2%

Item: "Why did you decide to complete daily tests rather than self-isolate for 10 days?..."