Testing when symptomatic, and staying at home with influenza-like illness, during autumn and winter 2021 [30.09.2021]

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Summary

1. The UK Government's 'COVID-19 Response: Autumn and Winter Plan 2021' proposes that existing NHS Test and Trace strategies will continue largely unchanged, with additional encouragement for employees to stay at home if they have non-COVID influenza-like illness.
2. At present, among people who take a polymerase chain reaction (PCR) test for COVID-19, rates of adherence to self-isolation are good [**Moderate to High Confidence**]. However, most people do not take a PCR test when symptomatic. [**Moderate to High Confidence**].
3. Whether people test when symptomatic partly depends on how they interpret their symptoms, particularly if these are mild, non-specific, occur in isolation, have lasted only a day or two, or occur in the absence of an obvious transmission event [**Moderate Confidence**].
4. A resurgence of seasonal respiratory viruses is likely to increase the absolute number of tests for COVID-19 that are requested [**High Confidence**]. However, a resurgence may also reduce the likelihood of someone with mildly symptomatic COVID-19 requesting a test as it provides a ready alternative explanation for their symptoms [**Moderate Confidence**].
5. The ubiquity of lateral flow tests has altered testing behaviour among people with symptoms [**Moderate Confidence**]. Around 45% of people with symptoms who have taken a test report having used a lateral flow test rather than a PCR, while 12% report having used both a lateral flow test and a PCR. There are trade-offs between the lower sensitivity of lateral flow tests and the greater likelihood that more people will use them earlier in their illness. Whether these trade-offs lead to a net beneficial or detrimental effect is unclear.
6. Multiple factors affect whether someone attends work when experiencing influenza-like illness, including the absence of sick leave, organisational culture, lack of cover for work, a sense of professional obligation, not feeling sufficiently ill and financial worries [**Moderate Confidence**]. Many of these factors have been exacerbated by the pandemic. At the same time, ability to work from home and motivation to protect others from respiratory illness have become more common. Clear communication that it is important to stay at home when ill, even if a negative COVID-19 test result is obtained, may encourage more people to stay at home. This is particularly likely if communication comes from multiple sources. Support that enables people to take time off is also necessary [**Moderate Confidence**].

Recommendations

7. Communication about what symptoms necessitate a test should be explicit about the exact nature of these symptoms and the need to test immediately. This will become ever more relevant as seasonal respiratory viruses begin to circulate.
8. The benefits of using PCR for symptomatic testing, and the limitations of using a lateral flow test in this situation, should be made clear to the public. Modelling to understand the trade-offs between a greater uptake of lateral flow tests among people with symptoms and a reduced sensitivity compared to PCR would be useful.
9. Clear messages about the need to stay at home if you have influenza-like illness are needed. To be maximally effective, messages need to come from the Government, employers, universities and schools, and be accompanied by support for employees and businesses.

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Background

1. Several recommendations within the Government's Autumn and Winter Plan[1] relate to NHS Test and Trace (paragraphs 25-33). These recommendations are largely a continuation of existing policies. People are asked to take a polymerase chain reaction (PCR) test if they have one of the "main symptoms" of COVID-19 as described by the NHS [currently a high temperature, a new, continuous cough, or a loss or change to your sense of smell or taste[2]] or if they are notified that they have been a contact of someone with COVID-19, and to self-isolate if the test result is positive.
2. Regular use of lateral flow tests is also recommended among people who do not have symptoms, particularly among those who are not fully vaccinated, are in education, or are in higher-risk settings such as the NHS, social care and prisons. Current advice from the NHS is that everyone "should do a rapid [lateral flow] test twice a week[3]."
3. In order to reduce transmission of influenza, the Autumn and Winter Plan also recommends that people should "[try] to stay at home if you are feeling unwell" even in the absence of a positive COVID-19 test, while businesses are "encouraged to ask employees to stay at home if they are feeling unwell" (paragraphs 50, 56d and 60a).
4. While none of these recommendations is new, the context in which they are being made may be different in Autumn and Winter 2021 than previously. We therefore consider several key changes in context and their implications for each of these recommendations.

A resurgence of seasonal influenza and common colds will complicate testing

5. Although not everyone who receives a positive PCR test subsequently adheres fully to self-isolation instructions, several lines of data from NHS Test and Trace suggest that most people do. For example, surveys of cases and contacts conducted by the Office for National Statistics suggest that 88% of contacts[4] (data collected 9 to 16 August 2021) and 79% of cases[5] (5 to 10 July 2021) who are known to NHS TT report being fully compliant. While the low response rates for this work (14% for cases) and the use of self-report to assess whether people are adhering to something which is legally required of them are limitations, other lines of data within NHS TT support the conclusion that there is generally good adherence among people who have entered the system. The key challenge faced by NHS TT, as it has been throughout the pandemic, is to encourage more people to enter the system, beginning with taking a test if symptomatic.
6. Rates of testing among people who have COVID-19-like symptoms have always been low. Since December 2020, regular polling commissioned by the Department of Health and Social Care and analysed by the CORSAIR project has asked respondents to report whether they have recently experienced any from a list of 13 physical symptoms and what, if anything, they have done in response. Possible responses include "I requested [from 1 June 2021: "took"] a test to confirm whether I have coronavirus." Figure One shows the percentage of

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[1] https://www.gov.uk/government/publications/covid-19-response-autumn-and-winter-plan-2021

[2] https://www.nhs.uk/conditions/coronavirus-covid-19/symptoms/main-symptoms/

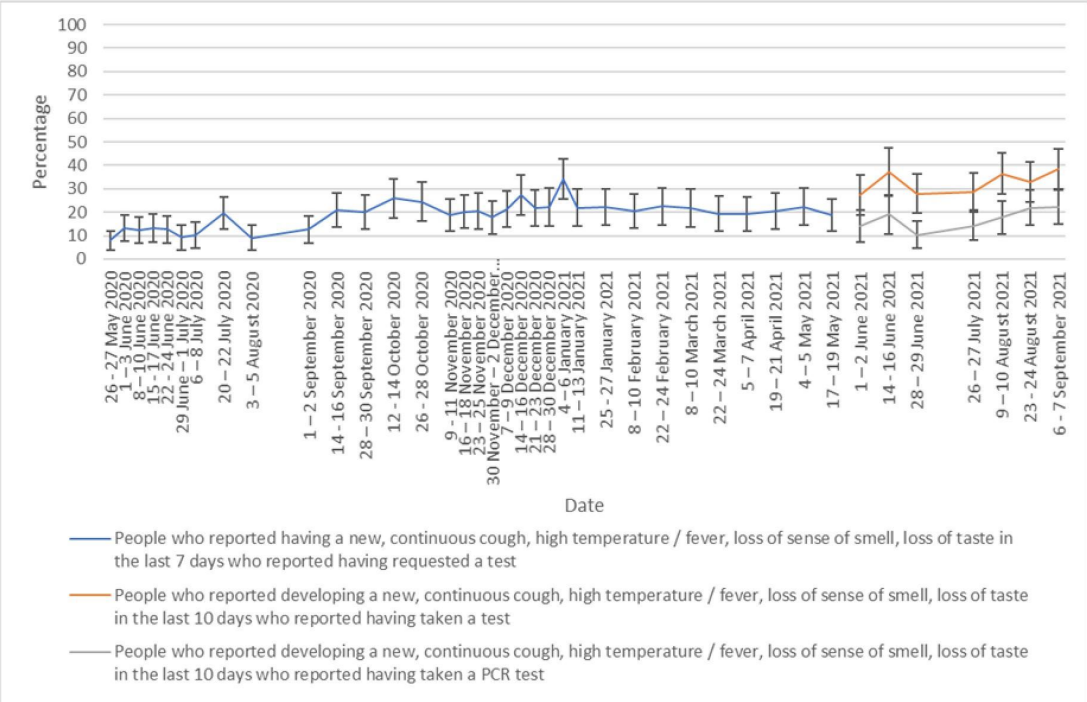
[3] https://www.nhs.uk/conditions/coronavirus-covid-19/testing/regular-rapid-coronavirus-tests-if-you-do-not-have-symptoms/

[4] https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronavirusandselfisolationafterbeingincontactwithapositivecaseinengland/9to16august2021

[5] https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/bulletins/coronavirusandselfisolationaftertestingpositiveinengland/5julyto10july2021

respondents who reported having requested or taken a test for coronavirus among those people who reported having experienced a high temperature, a new continuous cough, or a loss or change to your sense of smell or taste. Details of all CORSAIR analyses not otherwise referenced are presented in the Appendix.

Figure one: Rates of self-reported testing among adults in the UK with one of the "main" symptoms of COVID-19: Updated data from CORSAIR



7. A pre-print from the Zoe App team has reported higher rates of testing among people who have qualifying symptoms in the UK, rising from less than 20% in April to 2020 to more than 70% in January 2021[6]. One explanation for the discrepancy between the CORSAIR and Zoe data is that participants who have actively downloaded and regularly provide their data to the Zoe App are presumably more highly motivated to combat the pandemic, better informed about pandemic-related issues and more adherent to official guidance than either the general population or CORSAIR participants who have signed up to receive market research-style surveys about a range of different topics. There is also evidence that the very act of regularly tracking your symptoms using an app makes you more likely to notice and report symptoms[7]. In line with these possible explanations, the Zoe App pre-print noted that in a large Facebook survey, participants who reported using any symptom-tracking app were more likely to have taken a test than those who did not use such an app.

[6] Graham MS, May A, Varsavsky T et al. Knowledge barriers in the symptomatic-COVID-19 testing programme in the UK: an observational study. https://www.medrxiv.org/content/10.1101/2021.03.16.21253719v2.full.pdf
[7] MacKrill K, Groom KM, Petrie KJ. The effect of symptom-tracking apps on symptoms reporting. B J Health Psych 2020 doi: 10.1111/bjhp.12459

8. SPI-B has previously reported the range of factors that affect propensity to engage with NHS TT[8][9][10][11]. For brevity, we will not update those reviews, but refer the reader to the recent evidence summaries produced by the Behavioural Science and Insights Unit in Public Health England[12][13][14]. Many of the issues identified, such as the need for clear information and for emotional, practical and financial support remain true. One issue in particular may become more problematic over autumn and winter. Until now, influenza and common colds have been somewhat held at bay by the imposition of measures intended to reduce transmission of SARS-CoV-2[15]. Should these viruses resurge in autumn and winter, this may have implications for how people interpret and react to any symptoms that they experience.
9. Physical symptoms have always been common in the population. Several large studies have looked at recent symptom prevalence in the UK population, with a focus on symptoms that are relevant to infectious diseases. Even in the relative absence of seasonal illnesses, symptoms have still been common[16][17][18]. For example, the Office for National Statistics COVID-19 Infection Survey assessed presence of 12 symptoms in the past seven days among a large representative sample of children and adults. Among 457,215 people who did not have a positive PCR test or ongoing / long COVID-19, 21% reported symptoms at some point

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[8] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/952799/s1020-Reducing-within-between-household-transmission.pdf

[9] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/966941/S0899_SPI-B_Behavioural_effects_of_reducing_duration_of_quarantine_for_contacts.pdf

[10] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/952799/s1020-Reducing-within-between-household-transmission.pdf

[11] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/925133/S0759_SPI-B__The_impact_of_financial_and_other_targeted_support_on_rates_of_self-isolation_or_quarantine_.pdf

[12] Behavioural Science and Insights Unit (BSIU), Compliance with self-isolation: barriers and facilitators. Briefing Note, 28.04.2021, Public Health England.

[13] Behavioural Science and Insights Unit (BSIU), Test seeking behaviours; attitudes, barriers and facilitators. Briefing note, 22.03.2021, Public Health England.

[14] Behavioural Science and Insights Unit (BSIU), Recommendations for increasing the reporting of LFT results. Briefing note, 25.05.2021, Public Health England.

[15] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1018187/Weekly_Flu_and_COVID-19_report_w37.pdf

[16] Stephenson T, Pereira SP, Shafan R, et al. Long COVID- the physical and mental health of children and non-hospitalised young people 3 monts after SARS-CoV-2 infection; a national matched cohort study (The CLoCk) Study. https://doi.org/10.21203/rs.3.rs-798316/v1

[17] Vihta K-D, Pouwels KB, Peto T. Symptoms and SARS-CoV-2 positivity in the general population in the UK. https://doi.org/10.1101/2021.08.19.21262231

[18] Elliott J, Whitaker M, Bodinier B et al. Symptom reporting in over 1 million people: community detection of COVID-10. https://doi.org/10.1101/2021.02.10.21251480

during the study period. Other studies, from before the pandemic, have identified a much higher rate of symptom reporting[19][20][21].

10. Given how common symptoms are, it should be unsurprising that the onset of a new symptom does not generally result in any interaction with the healthcare system. Seeking help for a symptom is instead determined by a range of factors including whether people detect physiological changes, how they interpret them, and if and how they choose to respond[22]. SPI-B have previously highlighted that these processes also occur for symptoms linked to COVID-19[23]. In that report, we noted that several studies have suggested that people are more likely to respond to COVID-19-like symptoms if they seem somehow unusual (for example if the symptom is loss of smell or fever rather than a cough) or if they are severe. More recent qualitative studies have confirmed and extended these findings[24][25]. These studies have explored attitudes to testing among UK adults, including university students and parents of school-aged children. When asked to discuss why they would or would not seek a test when symptomatic, common themes have included perceptions that:
    a. **Cough is "vague"** and is less immediately recognisable as COVID-19 compared to fever or loss of taste. *"Coughing is the difficult one. You know if you've lost your sense of test... Cough is such a standard symptom of so many things."*
    b. **Mild symptoms are less likely to be COVID-19**. *"If it's mild, then I'd maybe wait a few days, but if it's severe then obviously get a test."*
    c. **Single symptoms are less likely to be COVID-19.** *"If you tick, I think, more than three or four I think, then I would definitely get the test done."*
    d. **COVID-19 lasts for a long time.** *"We left it a bit of time to see if it was just one of those things. Then obviously, it wasn't going away, so we just did the right thing."*
    e. **You know if you've been exposed.** *"We all went to this restaurant but it wasn't doing the social distancing... there were way too many people... three days later I started showing symptoms, so I was like 'we definitely have it from the restaurant.'"*
11. In line with this, in a qualitative study of people living in Denmark who had decided to take a PCR test, the difficulty of interpreting subjective symptoms was cited as a key motivating factor for seeking a test[26]. In a sample of people in Australia recruited in November 2020,

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[19] Ihlebaek C, Eriksen HR, Ursin H. Prevalence of subjective health complaints (SHC) in Norway. Scandinavian Journal of Public Health 2002; 30(1):20-29

[20] Eriksen HR, Svendsrod R, Ursin G, Ursin H. Prevalence of subjective health complaints in the Nordic European countries in 1993. European Journal of Public Health 1998;8:294-8

[21] Petrie KJ, Faasse K, Crichton F, *et al* How common are symptoms? Evidence from a New Zealand national telephone survey *BMJ Open* 2014;**4**:e005374. doi: 10.1136/bmjopen-2014-005374

[22] K. L. Whitaker, S. E. Scott and J. Wardle, "Applying symptom appraisal models to understand sociodemographic differences in responses to possilbe cancer symptoms: a research agenda," British Journal of Cancer, vol. 112, pp. S27-S34, 2015.

[23] SPI-B How important is symptom recognition in leading people to seek a test for COVID-19? 1 December 2020.

[24] Mowbray F, Woodland L, Smith LE, Amlôt R, Rubin GJ. Is my cough a cold or covid? A qualitative study of COVID-19 symptom recognition and attitudes towards testing in the UK. Frontiers in Public Health 2021; 9:716421.

[25] Woodland L, Mowbray F, Smith LE, Webster RK, Amlôt R, Rubin GJ. What influences whether parents recognise COVID-19 symptoms, request a test and self-isolate: A qualitative study.

[26] Christensen SW, Dagyaran I, Bernild C, Missel M, Berg SK. Testing for COVID-19 regulates behaviour in the general population: A qualitative study of experiences of awaiting test result for COVID-19. Scandinavian Journal of Public Health doi.org/10.1177/1403494821993717

similar barriers to testing were identified[27]. Notably, the top barriers to intending to seek a test if symptomatic were "I know what symptoms I have and don't believe they are COVID-19 ones" and "it is unlikely I have COVID-19 because there aren't many cases in my area." Also common were "I'm not sure my symptoms are bad enough" and "I'm not sure this symptom is one that needs testing."

12. That difficulties in interpreting symptoms affect the likelihood of people taking a PCR test when symptomatic is supported by further data from CORSAIR. Symptomatic participants in the survey who do not report that they have taken a test are asked why. Out of a list of 20 options, three of the four most commonly endorsed are: "I didn't think my symptoms were due to coronavirus;" "my symptoms were only mild or improved;" and "I hadn't been in contact with anyone who had coronavirus recently." The other most commonly endorsed reason is "I have been vaccinated, so didn't see a reason to take a test." Also notable is that a higher percentage of participants with fever reported having requested a test (36.9%) than of participants with cough or loss or change to their sense of smell or taste but no fever (29.4%).
13. As influenza, common colds and other respiratory viruses begin to circulate, two effects may be observed. First, overall demand for testing is likely to increase as more people develop one of the three 'main symptoms' of COVID-19. This has happened before, with a return to school in Scotland in August 2020 causing an increase in demand for testing[28]. Second, because the resurgence of common colds and influenza provides people with a plausible alternative explanation for any symptoms they might be experiencing, rates of testing among people who have COVID-19 and who have only mild symptoms may decline, while the proportion of people who decide to 'wait and see' before eventually requesting a test may increase.
14. There have been calls by some to change the recommendations as to when people should take a test for COVID-19, so that a wider range of symptoms are taken into consideration[29]. The Autumn and Winter plan notes that "the data on symptoms associated with COVID-19 is continuously being gathered and kept under review." Whether to expand the case definition is an epidemiological question. However, it is worth noting that many of the additional symptoms that are under consideration (e.g. headache, fatigue and myalgia) are non-specific and common. Should these symptoms be included in the case definition, then in the absence of a very clear communication campaign, it seems likely that most people with these symptoms will not seek a test. In terms of symptom perception and attribution, some of the easiest common symptoms of COVID-19 to spot, such as cough (which is audible), fever (which can be objectively measured) and loss of taste or smell (which are unusual), are already included in the case definition.
15. Alternatives to expanding the existing list of symptoms have also been discussed, such as recommendations to take a test when "ill" or "unwell." Before any such change is made, it would be helpful to test how people who currently have symptoms interpret such terms. For

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[27] Bonner C, Batcup C, Ayre J et al. Behavioural barriers to COVID-19 testing in Australia: Two national surveys to identify barriers and estimate prevalence by health literacy level. https://www.medrxiv.org/content/10.1101/2021.08.26.21262649v1.full.pdf

[28] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/914391/Letter_from_PHE_and_NHS_Test_and_Trace_to_school_and_college_leaders.pdf

[29] Crozier A, Dunning J, Rajan S, Semple MG, Buchan IE. Could expanding the COVID-19 case definition improve the UK's pandemic response? BMJ 2021;374:n1625

many people, a mild symptom is often not construed as a sign of being ill or unwell, but rather is seen as the result of a psychological or environmental trigger[3031].

The easy accessibility of lateral flow tests is affecting testing

16. Lateral flow tests are readily available in the community. Up to 26 May 2021, over 435 million had been dispatched and were ready for use in England[32]. Asymptomatic testing is credited with detecting around a quarter of all cases reported per day[33]. Despite recommendations that people should generally use a lateral flow test every three to four days[34], it is clear that this is not happening. Since 1 June 2021, 25% of CORSAIR respondents reported having taken a COVID-19 test at least once in the past week, excluding those whose last test was a PCR. Improving this rate would require a concerted effort from Government and employers. While lateral flow tests remain free for the public for the time being, from 4 October 2021, a "collect code" is required in order to receive packs from the pharmacy[35]. The introduction of any barrier to distribution seems likely to reduce the number of people who access testing.
17. Rates of use are likely higher (though not necessarily 'high') in specific sectors (including care homes[36] and universities[3738]) or where required for specific purposes (such as an alternative to self-isolation[39] or as a requirement to entry for a large event[40]). However, while most people are not using lateral flow tests at regular intervals, this does not mean that they are not using them at all. In particular, although NHS guidance is clear that lateral flow tests are "only for people who do not have symptoms,"[41] presence of symptoms is associated with

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[30] Robbins JM, Kirmayer LJ. Attributions of common somatic symptoms. Psychological Medicine 1991; 21: 1029-1045

[31] Van den Bergh O, Witthoft M, Petersen S, Brown RJ. Symptoms and the body: Taking the inferential leap. Neuroscience and Biobehavioral Reviews 2017; 74: 185-203.

[32] https://www.gov.uk/government/publications/management-information-on-lfd-test-registration-rates-22-july-2021/management-information-on-lateral-flow-device-lfd-test-registration-rates-22-july-2021#estimated-proportion-of-lfd-tests-dispatched-which-have-been-registered

[33] https://www.gov.uk/government/publications/covid-19-response-autumn-and-winter-plan-2021/covid-19-response-autumn-and-winter-plan-2021

[34] https://www.nhs.uk/conditions/coronavirus-covid-19/testing/regular-rapid-coronavirus-tests-if-you-do-not-have-symptoms/

[35] https://www.nhs.uk/conditions/coronavirus-covid-19/testing/regular-rapid-coronavirus-tests-if-you-do-not-have-symptoms/

[36] Tulloch SP, Micocci M, Buckle P et al. Enhanced lateral flow testing strategies in care homes are associated with poor adherence and were insufficient to prevent COVID-19 outbreaks: results from a mixed methods implementation study. *Age and Aging* https://doi.org/10.1093/ageing/afab162

[37] Blake H, Knight H, Jia R, Corner J, Morling JR, Denning C, et al. Students' views toward SARS-CoV-2 mass asymptomatic testing, social distancing and self-isolation in a university setting during the COVID-19 pandemic: a qualitative study. Int J Environ Res Public Health. (2021) 18:4182. doi: 10.3390/ijerph18084182

[38] Wanat M, Logan M, Hirst JA, et al Perceptions on undertaking regular asymptomatic self-testing for COVID-19 using lateral flow tests: a qualitative study of university students and staff BMJ Open 2021;11:e053850. doi: 10.1136/bmjopen-2021-053850

[39] Martin AF, Denford S, Love N, Ready D, Oliver I, Amlot R, Rubin GJ, Yardley L. Engagement with daily testing instead of self-isolating in contacts of confirmed cases of SARS-CoV-2. BMC Public Health 2021; 21(1): 1067

[40] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/998312/ERP_Phase_I_Report__accessible_.pdf

[41] https://www.nhs.uk/conditions/coronavirus-covid-19/testing/get-tested-for-coronavirus/

higher likelihood of using a lateral flow test[42]. Since 28 June 2021, among all CORSAIR respondents who reported developing main COVID-19 symptoms and taking a test, 40.8% reported using a PCR test only, 45.3% reported using a lateral flow test only, and 11.9% reported using both (2.0% did not know which test they had used).

18. There are likely multiple explanations for the tendency to use lateral flow tests while symptomatic, many of which are linked to the immediacy of the results. People may perceive that this helps them to reduce uncertainty, allows them to adjust their behaviour immediately so as to reduce risk to others, and allows them to avoid self-isolation while awaiting a PCR result[4344]. Confusion may also be a factor: in June 2021, 10% of CORSAIR respondents believed they should only take a lateral flow test if symptomatic, 18% thought they should only take a PCR test, and 60% selected both options as appropriate[45].
19. It is not clear to us what the net effect of the ready availability of lateral flow tests is on NHS TT. Any decline in the number of cases detected as a result of people using less sensitive lateral flow tests instead of PCRs will be at least partially off-set if people who would not otherwise have tested at all are now willing to use a lateral flow test at home and adapt their behaviour in response to the result. This issue may benefit from a joint behavioural science / modelling approach.

Ensuring people with influenza stay at home

20. The need for people to self-isolate if they have COVID-19 is the subject of a public health information campaign, legislation, provision of financial and other support, and engagement through community champions. The need for people to stay at home if they have influenza-like illness has not been discussed or supported in this way.
21. Prior to the pandemic, a systematic review of factors associated with presenteeism among people with an infectious illness identified a range of relevant contributory factors, although the evidence base for many was weak[46]. Factors that might contribute to people attending work, university, school or other settings when ill included:
    f. Organisational policy, such as the provision of sick leave;
    g. Organisational culture, including perceived pressure from co-workers or supervisors;
    h. Fear of disciplinary action or losing your job;
    i. A lack of cover for your work if you took time off;
    j. A sense of "work ethic" or "professional obligation" to turn up to work;
    k. A sense of job demands, for example fear of work building up in your absence;
    l. A concern that your absence might give your co-workers extra work;
    m. Concern about being seen as "weak" by co-workers;

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[42] Smith LE, Potts HWW, Amlot R, Fear NT, Michie S, Rubin GJ. Who is engaging with lateral flow testing for COVID-19 in the UK? The COVID-19 Rapid Survey of Adherence to Interventions and Responses (CORSAIR) study. https://osf.io/529g7/

[43] Christensen SW, Dagyaran I, Bernild C, Missel M, Berg SK. Testing for COVID-19 regulates behaviour in the general population: A qualitative study of experiences of awaiting test result for COVID-19. Scandinavian Journal of Public Health doi.org/10.1177/1403494821993717

[44] Denford S, Martin AF, Love N, Ready D, Oliver I, Amlot R, Yardley L, Rubin GJ. Engagement with daily testing instead of self-isolating in contacts of confirmed cases of SARS-CoV-2: A qualitative analysis. Frontiers in Public Health 2021;9:714041

[45] Smith LE, Potts HWW, Amlot R, Fear NT, Michie S, Rubin GJ. Do members of the public think they should use lateral flow tests (LFT) or polymerase chain reaction (PCR) tests when they have COVID-19-like symptoms? The COVID-19 Rapid Survey of Adherence to Interventions and Response study. Public Health 2021; 198: 260-262.

[46] Webster RK, Liu R, Hall I, Amlot R, Rubin GJ. A systematic review of infectious illness presenteeism: Prevalence, reasons and risk factors. BMC Public Health 2019;19: 799

n. Not feeling your illness is serious enough to require sick leave;
o. Financial concerns, such as a lack of sick pay or losing out on pre-paid nursery places.

22. The effects of the pandemic have exacerbated many of these issues. These include a substantial impact on the finances of many families, a perception for some that they have already placed a burden on their employers or co-workers by self-isolating during the "pingdemic," a feeling that children / young people have already missed out on a lot of education, pressure from employers given the absence of other workers who are self-isolating and, potentially, a feeling that influenza is not a serious enough reason to remain at home compared to COVID-19.
23. Preventing people with influenza-like illness from attending work, school or university may have productivity benefits. People who have influenza tend to be less efficient in their work[47] and encouraging them to stay at home (for example by providing sick pay) can result in net overall reductions in leave-taking as a result of reduced transmission[48].
24. If curbing the transmission of influenza by encouraging people with influenza-like illness to remain at home is a priority, a communication campaign conveying this as a clear recommendation is likely to be required from both Government, employers, schools, universities and other relevant sectors. This should include messaging to people who are given a negative PCR test result via NHS Test and Trace (see Figure Two for current messaging). As with self-isolation for COVID-19, communication alone is likely to be insufficient, however, and practical and financial support is also likely to be required[49]. Monitoring behaviour among people who receive a negative COVID-19 test result and assessing attitudes and behaviour around influenza-like illness in the general public should also be explored.

[47] Keech M, Scott Aj, Ryan PJJ. The impact of influenza and influenza-like illness on productivity and healthcare resource utilization in a working population. Occupational Medicine 1998; 48: 85-90.
[48] Stearns J, White C. Can paid sick leave mandates reduce leave-taking? Labour Economics 2018;51:227-246.
[49] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/925133/S0759_SPI-B__The_impact_of_financial_and_other_targeted_support_on_rates_of_self-isolation_or_quarantine_.pdf

Figure 2: Current messaging to people who receive a negative PCR result. Note the only advice to people about non-COVID-19 symptoms is to take action if they "do not go away."

Test date: 18 September 2021

Your coronavirus PCR test (or other lab test) result is negative. It's likely you did not have the virus when the test was done.

Keep following coronavirus advice including:

- regular handwashing
- social distancing
- wearing a face covering where recommended

You may need to self-isolate, despite this negative result. Go to https://www.nhs.uk/coronavirus and read 'Self-isolation and treating symptoms'.

If you're going into hospital for a procedure, continue to self-isolate until the date you go in.

If you have symptoms that do not go away, contact 111 or see your GP. In an emergency dial 999.

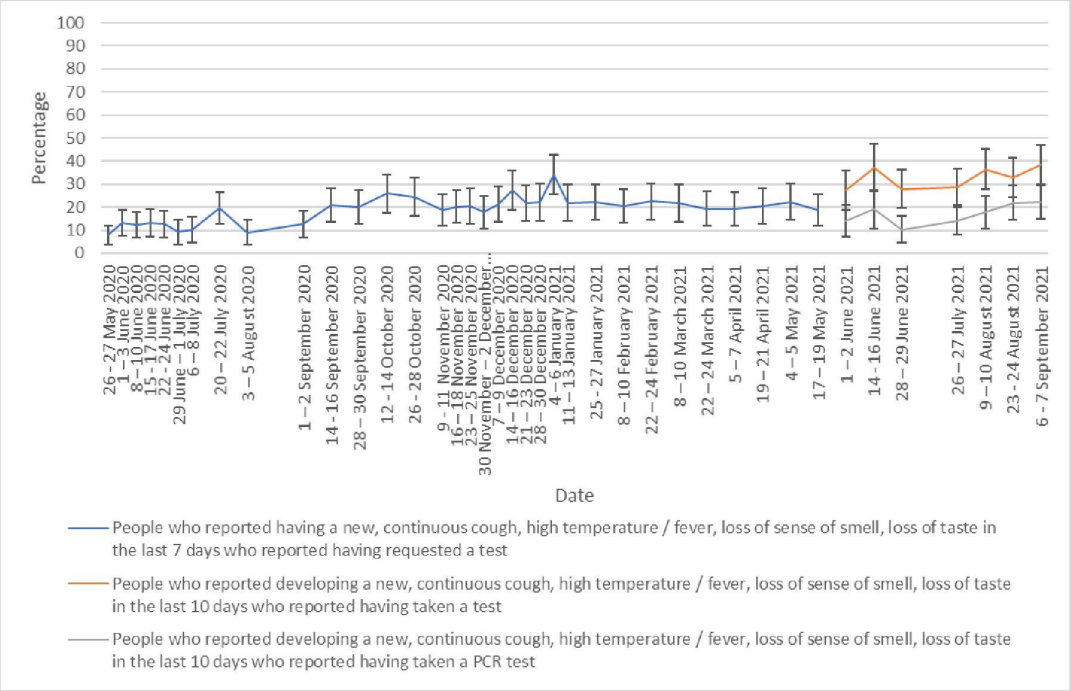
As someone who has had a negative test, your help will be valuable in finding coronavirus treatments. Sign up to take part in coronavirus studies on the National Institute for Health Research (NIHR) website: https://bepartofresearch.nihr.ac.uk/campaigns/COVID-19-research-studies/

Appendix: CORSAIR analyses of uptake of testing in people with symptoms and in the general population

Uptake of testing in people with key COVID-19 symptoms

Since 18 May 2020, everyone in the UK with COVID-19 symptoms has been eligible for a polymerase chain reaction test (PCR).(1) UK Government and NHS guidance states that everyone with a high temperature, a new, continuous cough, or a loss or change to their sense of smell or taste should take a PCR test, even if their symptoms are mild. Figure 1 shows the percentage of people with key COVID-19 symptoms who report having requested or taken a test to see if they had COVID-19. Note that the questions were slightly amended on 1st June 2021. This may explain the slight jump in the percentage reporting having taken a test. From 1st June 2021, participants were asked what type of test they took (PCR or lateral flow test [LFT]). Not all of those who reported having taken a test took a PCR test (Figure 1). Since 28 June 2021 (wave 53) among all CORSAIR respondents who reported developing key COVID-19 symptoms and taking a test, 40.8% (82/201) reported using a PCR test only, 45.3% (91/201) reported using an LFT only, and 11.9% (24/201) reported using both (2.0% [4/201] did not know). Data collected in waves 51 and 52 did not have a "both" response option. Uptake of testing in people with key COVID-19 symptoms (up to January 2021) has previously been reported in Smith et al 2021.(2)

Figure 1. Percentage of people with COVID-19 symptoms who have requested a test in the last week.



Since 1 June 2021, people who reported having developed key COVID-19 symptoms in the last 10 days (who should have requested and taken a PCR test according to NHS guidance) were asked why they did not take a test where relevant. The most common reasons were thinking that your symptoms were not due to COVID-19 and because your symptoms were mild or improved. Full responses are given in Table 1. Note that people could select more than one response to this question, so percentages do not sum to 100.

Table 1. Reasons given by participants who had developed key COVID-19 symptoms for not having taken a test.

Reason	Percent (n) who selected this reason [total n=543]
I didn't think my symptoms were due to coronavirus	17.9 (97)
My symptoms were only mild or improved	16.8 (91)
I have been vaccinated, so didn't see a reason to take a test	16.0 (87)
I hadn't been in contact with anyone who had coronavirus recently	15.7 (85)
I was worried about how colleagues/ my employer would react if I tested positive	13.8 (75)
I didn't want to use a test that could have gone to someone else who needed it more	13.3 (72)
I thought the test would be uncomfortable or painful	12.5 (68)
I thought I only needed to self-isolate (not leaving the home at all)*	12.5 (27)
I didn't think I was eligible to get a test	12.3 (67)
I didn't know how to request a test	12.3 (67)
I didn't think the test would be accurate	11.4 (62)
I was sure I had coronavirus, so I didn't see a reason to take a test	11.4 (62)
I thought it would take too long to get a test result	10.7 (58)
I didn't want to increase the case numbers in my local area*	10.6 (23)
I was worried what friends or family would think about me if I tested positive*	9.3 (20)
I didn't want to have to ask the people who I live or who I have met with to self-isolate *	8.3 (18)
I have already had coronavirus, so didn't see a reason to take a test*	7.9 (17)
I didn't want to know the results of a test*	7.9 (17)
I didn't want to have to self-isolate	6.8 (37)
I didn't think tests were available near me*	5.1 (11)

* Only asked in Waves 51 to 53, so total n = 216.

Since 1 June 2021, of all those with key COVID-19 symptoms, 43.1% reported high temperature / fever (n=347/806). People who reported developing high temperature were more likely to test than those who did not report developing high temperature (p=.03; Table 2).

Table 2. Percentage of people who took a test, by presence of high temperature / fever.

		Took a test, % (n)	
		No	Yes
Developed high temperature / fever	No	70.6 (324)	29.4 (135)
	Yes	63.1 (219)	36.9 (128)

Uptake of asymptomatic testing

Since 9 April 2021, everyone in the UK has been able to access free, regular, rapid lateral flow COVID-19 testing for use when asymptomatic.(3) At the time of writing, the English and Scottish Governments recommend twice weekly lateral flow testing for all adults.

We used data collected from 1 June 2021 onwards in participants living in England and Scotland who were aged 18 years or over, who reported not having developed key symptoms (cough, temperature, loss of sense of taste or smell) in the last ten days (n=12,194). One quarter of people (25.2%, n=3074/12,194) had taken a COVID-19 test in the last week (Table 3). Of these, 60.4% (1856/3074) reported taking two or more tests (15.2% of sample, n=1856/12,194). Uptake of lateral flow testing has also been reported in Smith et al (2021).(4)

Table 3. Uptake of testing in people who had no key COVID-19 symptoms.

When was the last time you had a test for coronavirus? We're interested in your most recent test, even if you didn't have symptoms [Total N=12,194]		*Asked to people who reported having a covid test in the last seven days.* And how many times have you taken a test for coronavirus in the last seven days? [Total N=3074]	
	% (n)		% (n)
Within the last 24 hours	5.3 (650)	Once	39.6 (1218)
1-3 days ago	10.4 (1273)	Twice	38.0 (1168)
4-7 days ago	9.4 (1151)	Three times	11.8 (364)
One to two weeks ago	8.8 (1079)	Four to five times	4.6 (140)
Two to four weeks ago	9.8 (1190)	Six to seven times	2.4 (75)
One month to three months ago	10.6 (1288)	Eight to nine times	0.6 (18)
Three months to six months ago	6.1 (742)	Ten times or more	1.6 (50)
More than six months ago	6.6 (802)		
I've never had a coronavirus test	30.9 (3773)		
Don't know	2.0 (246)	Don’t know	1.3 (41)

Since 28 June 2021, respondents have been asked why they took their most recent COVID-19 test. Across all participants, the most common reasons for taking a COVID-19 test were because you were taking regular COVID-19 test, and to check whether you had COVID-19 before going to meet people from another household (Table 4).

Table 4. Reasons given for having taken a test in the last week.

Reason	Percent (n) who selected this reason [total n=2689]
I am taking tests on a regular basis	40.6 (1091)
I wanted to check whether I had coronavirus before going to meet friends or family I do not live with	18.3 (491)
I had to take a test in order to go to my place of work or place of study	17.9 (481)
I wanted to check whether I had coronavirus before going to see a vulnerable person (e.g., in a care home)	10.8 (291)
I was told I had been in close contact with someone who tested positive for coronavirus*	9.1 (149)
I felt generally unwell but didn't have classic coronavirus symptoms	8.0 (216)
I was told I had been in close contact with someone who tested positive for coronavirus so wanted to check whether I had caught coronavirus†	7.2 (75)
I was told I had been in close contact with someone who tested positive for coronavirus and I am double vaccinated so took a test instead of self-isolating†	6.6 (69)
I had to take a test in order to attend an event	6.2 (167)
I had to take a test before having a medical procedure	4.9 (131)
I had symptoms of coronavirus	4.5 (122)
I had to take a test in order to travel abroad or when returning from abroad	4.2 (114)

* Only asked in Waves 53 to 55, so total n = 1373.
† Only asked in Waves 56 to 57, so total n = 900.

References

1. Everyone in the United Kingdom with symptoms now eligible for coronavirus tests [press release]. 2020.
2. Smith LE, Potts HWW, Amlôt R, Fear NT, Michie S, Rubin GJ. Adherence to the test, trace, and isolate system in the UK: results from 37 nationally representative surveys. BMJ. 2021;372:n608.
3. Department of Health and Social Care. New campaign urges public to get tested twice a week 2021 [updated 9 April 2021]. Available from: https://www.gov.uk/government/news/new-campaign-urges-public-to-get-tested-twice-a-week.
4. Smith LE, Potts HWW, Amlot R, Fear NT, Michie S, Rubin GJ. Who is engaging with lateral flow testing for COVID-19 in the UK? The COVID-19 Rapid Survey of Adherence to Interventions and Responses (CORSAIR) study. OSF. 2021.

Please note that this work has been conducted rapidly and has not been peer reviewed or subject to normal quality control measures.

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