

Appendices: Consumer Handwashing Research (Hand Hygiene in a Pandemic)

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Lockdown restrictions (England, Wales and Northern Ireland) in place at the time of data collection

Date or period	Event
23 rd March 2020	Start of first national (UK) lockdown and 'stay at home' order
10 th – 13 th April 2020	Wave 1 – Handwashing tracker survey
10 th May 2020	First national lockdown easing in England (return to work for those who cannot work from home)
18 th May 2020	First national lockdown eases in Northern Ireland
1 st June 2020	First national lockdown eases in Wales
4 th July 2020	First localised lockdowns come into force in UK.
10 th – 14 th July 2020	Wave 2 – Handwashing tracker survey
3 rd August 2020	'Eat out to Help Out' Scheme begins in the UK
7 th September – 9 th October 2020	Ethnographic app-research fieldwork
14 th September 2020	Rule of 6 introduced in England and Wales – banning indoor and outdoor gatherings of more than 6 people
17 th September 2020	Wales placed under lockdown restrictions
18 th September 2020	Almost 2m people under local lockdown restrictions in North East England
14 th October 2020	3 tier lock down system introduced in England
16 th – 20 th October 2020	Wave 3 – Handwashing tracker survey
23 rd October 2020	Welsh 17-day 'firebreak' national lockdown comes into force

28 th October – 7 th November 2020	Qualitative interviews fieldwork
5 th November 2020	Second national lockdown comes into force in England
9 th November 2020	Welsh 17-day ‘firebreak’ national lockdown comes to an end
27 th November 2020	Second national lockdown comes into force in Northern Ireland
2 nd December 2020	Second national lockdown ends after four weeks, England returns to three-tier system.
11 th December 2020	Northern Ireland lockdown eases
19 th December 2020	Tier 4 restrictions announced for London and South East England. Single-day Christmas restrictions announced in England (similar in Wales and Northern Ireland) Lockdown announced for Wales, with single day break for Christmas.
26 th December 2020	Northern Ireland enters a 6-week lockdown, rules were briefly relaxed for Christmas day
6 th January 2021	England enters third national lockdown
15 th – 18 th January 2021	Wave 4 – Handwashing tracker survey
8 th March 2021	Beginning of ‘Roadmap out of lockdown’. Step 1: Schools reopening in England
15 th March 2021	First stages of Welsh lockdown easing

21 st March 2021	'Roadmap out of lockdown'. Step 2: Outdoor gatherings of 6 people permitted in England, reopening of outdoor activities.
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Sample sizes - Handwashing tracker waves 1 - 4 (April 2020 – January 2021)

Survey Wave Number	Data collection dates	Sample Size
Wave 1	10-13 April 2020	2,039
Wave 2	10-14 July 2020	2,068
Wave 3	16-20 October 2020	2,067
Wave 4	15-18 January 2021	2,062

Survey questions – Quarterly handwashing tracking survey

The list of survey questions provided is based on the most recent collection (Survey wave 4, January 2021). Some small changes were made to the survey between survey waves 1 (April 2020) and survey wave 2 (July 2020), these are denoted in footnotes. Since survey wave 2, the questions have remained consistent. Full survey scripts for each wave are available on request.

1) Thinking about when you are at home at the moment. How often, if at all, do you wash your hands? Please select one answer for each statement.

- a) Before cooking a meal or preparing food
- b) Before eating
- c) After contact with animals, including pets
- d) After handling rubbish
- e) When you get home, for example, after a trip out of your home
 - i. Never
 - ii. Sometimes
 - iii. Most of the time
 - iv. Always
 - v. Not applicable

2) Thinking about when you are at home at the moment, how often do you wash your hands in each of the following ways? Select only one per statement

- a) With water on its own
- b) With soap/handwash and warm water
- c) With soap/handwash and cold water
- d) With hand sanitising wipes or gel
 - i. Never
 - ii. Sometimes
 - iii. Most of the time

- iv. Always
- v. Prefer not to say¹

3) Thinking about when you are at home at the moment. How many seconds do you spend washing your hands each time?² Please type your answer using whole numbers (whole numbers only no ranges)

4) Thinking about eating outside of your home at the moment. How often, if at all, do you wash your hands, or use hand sanitising wipes or gels before eating in the following situation?³ Please choose one per situation.

- a) a picnic outside of the home
 - b) eating in a restaurant
 - c) consuming a take-away outside of the home
 - d) eating snacks (like crisps, nuts, raisins or an ice cream) with your hands outside of the home
- i. Never
 - ii. Sometimes
 - iii. Most of the time
 - iv. Always
 - v. I am not doing this activity at the moment

5) Does frequently washing your hands result in you having sore hands? Please select only one

¹ 'Prefer not to say' option was added in Wave 2. In wave 1, this option was 'Not applicable'.

² In wave 1, question 3 was: 'When you are at home, typically how many seconds do you spend washing your hands each time?'

³ In wave 1, question 4 was: 'When eating outside of the home, how often, if at all, do you wash your hands, or use hand sanitising wipes or gels, before eating?. The question in wave 1 did not ask about specific situations, and response options were: 'Never, Sometimes, Most of the time, Always, Only when eating food without cutlery, Don't know'

- a) Yes – to go Q6
- b) No – skip to Q7

6) [Only ask if 'yes' at Question 5] What impact, if any, does getting sore hands have on the frequency with which you wash your hands? Please select only one

- a) I wash my hands a lot more often
- b) I wash my hands a little more often
- c) It makes no difference to how often I wash my hands
- d) I wash my hands a little less often
- e) I wash my hands a lot less often
- f) I avoid washing my hands
- g) Don't know

7) At the moment, how often, if at all, do you wash your hands ...?⁴ Please select one answer for each statement.

- a) After blowing your nose, sneezing or coughing into your hands
- b) After using the toilet
 - i. Never
 - ii. Sometimes
 - iii. Most of the time
 - iv. Always
 - v. Prefer not to say⁵

⁴ In wave 1, question 7 was: 'How often, if at all, do you wash your hands... a) After blowing your nose, sneezing or coughing into your hands? b) After using the toilet?'

⁵ 'Prefer not to say' option was added in Wave 2. In wave 1, this option was 'Not applicable'.

8) At the moment what action, if any, do you usually take if handwashing facilities are not available?⁶ *Please select one answer for each situation*

- a) after using public transport
 - b) before drinking in a pub
 - c) attending a sports event
 - d) attending a social event
-
- i. I don't take any action and live with it
 - ii. I carry and use hand sanitising gel
 - iii. I carry and use wet wipes or tissues
 - iv. I wash my hands at the next available opportunity
 - v. I am not doing this activity at the moment

9) How often, if at all, do you find handwashing facilities are not available, or not usable, in the following places at the moment?⁷ *Please select one answer for each place*

- a) takeaways
- b) cafes and restaurants
- c) pubs/clubs
- d) sports and music events
- e) cinema and theatre venues

⁶ In wave 1, question 8 was: 'If you find yourself in a place where handwashing facilities are not immediately available (For example, after using public transport, drinking in a pub, attending a live sports event), what action, if any do you usually take?'. In wave 1, question 8 did not ask about specific situations in turn, and answer options were: 'I don't take any action and live with it, I carry and use hand sanitising gel, I carry and use wet wipes or tissues, I wash my hands at the next available opportunity, Don't know, Other (text box to write in)'

⁷ In wave 1, question 9 was: 'Typically, how often, if at all, do you find handwashing facilities are not available or not usable in the following places?'

f) public toilets

- i. Never
- ii. Sometimes
- iii. Most of the time
- iv. Always
- v. I am not doing this activity at the moment⁸

10)As part of your current job role, do you handle open food? (This might be a voluntary or paid role). By open food, we mean food products or ingredients that will be consumed by other people which are not protected by packing. ⁹ Please select only one

- a) Yes – I am currently in a role that handles food
- b) Yes - but I'm not working due to furlough
- c) No

11)Do you have any pets at home?¹⁰ *Please select only one*

- a) Yes
- b) No

⁸ 'I am not doing this activity at the moment' option was added in Wave 2. In wave 1, this option was 'Not applicable'.

⁹ Question 10 was added from Wave 2

¹⁰ Question 11 was added from Wave 2

Sample – ethnographic app research

The sampling aimed to capture a diverse range of participants in terms age, gender, location and household composition. Two participants who work in medical and/or food industries were also included in the sample as they are more likely to have received training on hand hygiene and may have different attitudes or behaviours reflecting this. The achieved sample demographics and household compositions are outlined in the tables below.

Table 1: Sample demographics by age group

Demographic	16-25	26-45	46-69	70+
England	2	1	1	2
Wales	1	1	1	-
Northern Ireland	1	1	1	-
All locations	4	3	3	2

Table 2: Sample demographics by gender

Demographic	Male	Female
England	3	3
Wales	1	2
Northern Ireland	1	2
All locations	5	7

Table 3: Sample demographics by Household composition

Demographic	Single person household	Multi-person household	Living with dependent children
England	2	2	2
Wales	1	1	1
Northern Ireland	-	2	1
All locations	3	5	4

Ethnographic app research – Warm up interview topic guide

Note: some elements of this topic guide have been redacted

Welcome and intro (5 minutes)

You should have received an information sheet about this study from the recruiter you spoke to? No problem if not, we will talk through the research today and answer any questions you have. We'll also ask [recruiter] to follow up with the information sheet in case it's useful to refer back to later on.

Ipsos MORI is working with the Food Standards Agency, on a research study which aims to understand more about people's handwashing behaviours.

This telephone call will help us get to know a bit more about you, understand your experiences and give us the chance to explain your role in the research. The call shouldn't take longer than 30 minutes – is now still a good time?

To give you a bit of background, Ipsos MORI is an independent market research organisation and we are going to be speaking to a range of people across the UK about their handwashing experiences and habits.

In this first call, we've got a few questions about you, your job and your current living situation, as well as some of the things you did during the lockdown and in the period after, when some of the restrictions were lifted.

After this call, we'd like you to complete an online app diary about your experiences for two weeks, and then we'd like to speak with you again over the phone in about a three weeks' time. We will talk more about the diary later in the call.

You will be given [an incentive] for participating in the research as a thank you for your help after this final follow up interview.

I also want to assure you that all the information we collect will be treated confidentially and that it won't be possible to identify any individual in the report we write at the end of the study. The only time we may have to tell someone about something you say, is if you tell us something which suggests that someone, or yourself is at risk of serious harm.

Throughout the research, there are no right or wrong answers and we are just interested in hearing about your own experiences and views. You do not have to share anything that you do not want to share. You can stop the interview at any point, and you are under no obligation to take part.

You should have an information sheet with you which explains in more detail about this research and your involvement. Do you have any questions about the research?

Can I check that you are happy to participate? Thank you.

[Get permission to digitally record and transcribe for analysis, and turn on recording]

Lifestyle and Background (15 minutes)

We have a few questions about you and your lifestyle, to help us better understand who we're talking to and give us some more context when you're filling out the app.

Firstly, tell me a bit about yourself and your living situation?

- Probe on: age, employment, family, etc

What kind of home are you currently living in? And who, if anyone, do you live with at the moment?

- Probe around type of home: house, flat, bungalow etc
- Do you have any caring responsibilities (for children, or others)?
 - IF YES: Would you be able to tell me more about that?

You mentioned that you work as [insert employment response]. Can you tell me a bit more about your role and your day to day responsibilities?

If job is in a medial/caring industry or food industry (whether preparing or handling food for others) probe on:

- Have you received any hygiene in the workplace training as part of your role?
 - How long ago was this training?
 - What did this cover?

- (If not mentioned before) What about any handwashing training?

During the lockdown period, were you part of a “shielded” group?

- What about someone else in your household?

How often did you leave the house during the lockdown period (March – June)?

- What were your reasons for going out?
- Probe on: work, shopping, socialising, exercising, helping others etc.

How did that make you feel?

- What makes you say that?

Did you take any steps to protect yourself/others in the household?

- Probe on: wearing a mask, carrying hand sanitising gel with you, wearing gloves, avoided touching things, washing your hands on your return, etc?

What, if anything, has changed since the easing of the lockdown restrictions?

- For example, the kind of activities you are doing etc.
- Are you leaving the house more or less than before?
- Are you seeing more people, or seeing people more often?

(Moderator to probe on any mention of changes in behaviour)

General hand hygiene behaviour (5 minutes)

The focus of this study is to better understand how people clean their hands – that is to say, handwashing or using other products such as hand gel or sanitiser etc.

How do you feel about cleaning your hands in general? How often do you think about this?

- What type of products do you usually use? For example, soap, hand gel etc.?
- Has this changed at all as a result of COVID-19? Or during/since the lockdown?

Notes for the study

- Throughout the 2 weeks we will refer to “cleaning your hands” and “washing your hands”. Cleaning your hands can refer to either washing your hands with water; or using hand gel or another product – so generally any way in which you have cleaned your hands. When we refer to washing your hands specifically, we’d like you to think about when you use water for example, at a sink. This should be clear in the questions throughout, though, so don’t worry too much about the definitions.
- Everyone forgets to wash their hands sometimes, and people have different views on how and when to clean their hands, so there are no right or wrong answers in this study. We are not here to judge – we simply want to understand the range of behaviours people are doing on a typical day; so please be as honest as you can. As mentioned before, everything will be anonymised.
- Where we suggest taking a photo or video, if this is not possible, then written responses are fine.

Final 10 minutes of interview are used to explain how to access and use Ipsos MORI’s Applife platform [redacted]

For the next couple of weeks, we will send you regular questions asking about various topics to do with washing your hands. [participants are shown how to do this on the app]

We’re really interested in hearing from you, so please remember you don’t need to wait to respond to our questions if there is anything you’d like to tell us! Please share pictures and videos too. If you have any queries or difficulties with the app, please contact [redacted]

Do you have any questions before we end?

Ethnographic app research – app diary question schedule

Note: some elements of this topic guide have been redacted

Day	Time	Question Header	Prompts	Follow up prompts	Who to ask
0	9am	Welcome and hello!	<p>Welcome and hello!</p> <p>Ipsos MORI is an independent research company.</p> <p>We have been asked by the Food Standards Agency to explore people’s handwashing experiences and habits both inside and outside of the home.</p> <p>We would like you to keep a diary over the next two weeks, telling us about your handwashing in different situations.</p> <p>This is a space for you to share your experiences and feelings: we all forget to wash our hands sometimes so feel free to be as open and honest as possible. Nobody outside of the research team will know who you are or what you’ve told us as part of the diary.</p> <p>You don’t have to write lots of text, and you can send us pictures instead if you’d prefer, but we’d like you to complete at least 5 entries each week (or more if you feel like it!) Each task will not take longer than 15 minutes a day to complete. You will have the chance to take photos and</p>		All

Day	Time	Question Header	Prompts	Follow up prompts	Who to ask
			<p>record videos of yourself or your surroundings if you feel comfortable doing this. The best way to do this will be in a quiet place with no background noise, and where you are not directly in front of a light source, so that we can see you!</p> <p>You have agreed that the videos and pictures you send to us can be shared with the Food Standards Agency and they may be able to identify you through these if we can see your face or hear your voice. However, we won't share any videos or pictures which are identifiable beyond the research teams involved in the project at Ipsos MORI and the Food Standards Agency, who will also not share the information. Please do not take pictures of your family members that might be identifiable to others.</p> <p>So, welcome to the diary! We look forward to hearing all about your views and experiences!</p>		
1	10am	Tell me about the last time you washed your hands?	<p>Please describe the last time you washed your hands with water. Including where you were, what you did, what you used, and how long it took.</p> <p>Share a video describing it or type it out!</p>	<p>Did you use hot or cold water?</p> <p>Did you dry your</p>	All

Day	Time	Question Header	Prompts	Follow up prompts	Who to ask
			<p>Why did you decide to wash your hands then?</p> <p>What had you been doing before and after you washed your hands?</p>	<p>hands?</p> <p>Did you use soap?</p>	
1	6pm	Share a picture of your sink!	<p>Show us a picture or video of the sink you used when you last washed your hands.</p> <p>How often do you use this sink?</p> <p>How does it compare to other places you wash your hands?</p>		All
2	10am	Daily activities	<p>Think about the last time you took out the bins.</p> <p>Did you clean* your hands before or after this?</p> <p>For what reasons?</p> <p>If you cleaned your hands, how did you do this?</p> <p>*remember, by clean we mean wash or sanitise</p>		All
2	6pm	Tell me about the last time you left the house	<p>What were you doing? Who were you with?</p> <p>Did you clean (wash or sanitise) your hands whilst you were out? Why/why not?</p> <p>If you did clean your hands, how did you do this?</p> <p>Do you clean your hands differently at home and out and about?</p>		All

Day	Time	Question Header	Prompts	Follow up prompts	Who to ask
3	3pm	Daily activities	<p>Think about the last time you had a snack.</p> <p>Did you clean* your hands before or after this?</p> <p>For what reasons?</p> <p>If you cleaned your hands, how did you do this?</p> <p>*remember, by clean we mean wash or sanitise</p>		All
3	8pm	1. Tell me about the last time you washed your hands?	<p>Please describe the last time you washed your hands with water. Including where you were, what you did, what you used, and how long it took.</p> <p>Share a video describing it or type it out!</p>	<p>Did you use hot or cold water?</p> <p>Did you dry your hands?</p> <p>Did you use soap?</p>	All
3	8pm	2. Tell me about the last time you washed your hands?	<p>How thorough was this handwash? (rate on a scale of 1-10 where 1 is 'not at all thorough' and 10 is 'very thorough')</p> <p>What do you think you did well in that handwash?</p> <p>What do you think you could have done better? Please answer honestly!</p>	<p>SEPARATE POLLING EXERCISE</p>	All
4	10am	Your households' handwashing	<p>Think about other members of the household. Do they clean their hands differently to how you do? How?</p>		Those not in single-person households

Day	Time	Question Header	Prompts	Follow up prompts	Who to ask
4	8pm	Cooking and preparing food	<p>Do you wash your hands differently depending on what food you're preparing?</p> <p>Thinking about cleaning your hands, do you do anything differently when you are preparing food for others compared to when you make food for yourself?</p> <p>If you have caring responsibilities, does this affect how you wash your hands?</p>		All
5	10am	Tell me about the last time you were outside your home with other people	<p>What were you doing? Who were you with? (This might be people from your own household, or from another household)</p> <p>Do you remember if the people you were with cleaned their hands?</p> <p>If they did, do you remember how they cleaned their hands?</p> <p>How did you feel about this?</p> <p>Did you behave the same, or differently?</p>		All
5	6pm	Barriers to cleaning your hands	<p>Have there been any times recently when you have wanted to clean your hands but didn't? Or didn't clean them in the way you wanted to?</p> <p>Why did you want to clean your hands?</p>		All

Day	Time	Question Header	Prompts	Follow up prompts	Who to ask
			<p>What got in the way?</p> <p>How did you feel about not cleaning your hands?</p> <p>*remember, by clean we mean wash or sanitise</p>		
6	10am	Daily activities	<p>Think about the last time you ate a meal.</p> <p>Did you clean your hands before or after this?</p> <p>For what reasons?</p> <p>If you cleaned your hands, how did you do this?</p>		All
7	10am	Daily activities	<p>Think about the last time you coughed, sneezed, or blew your nose.</p> <p>Did you clean your hands before or after this?</p> <p>For what reasons?</p> <p>If you cleaned your hands, how did you do this?</p>		All
7	4pm	1. Tell me about the last time you washed your hands?	<p>Please describe the last time you washed your hands with water. Including where you were, what you did, what you used, and how long it took.</p> <p>Share a video describing it or type it out!</p>	<p>Did you use hot or cold water?</p> <p>Did you dry your hands?</p> <p>Did you use soap?</p>	All

Day	Time	Question Header	Prompts	Follow up prompts	Who to ask
7	4pm	2. Tell me about the last time you washed your hands?	How thorough was this handwash? (rate on a scale of 1-10 where 1 is 'not at all thorough' and 10 is 'very thorough') What do you think you did well in that handwash? What do you think you could have done better? Please answer honestly!	Separate Polling Exercise	All
8	10am	Thank you for all your contributions so far!	We're at the half way point in the diary and we've really enjoyed seeing all your messages so far. Thank you!		All
8	6pm	Handwashing information	Throughout the second week, we'd like to know where you get your handwashing information from. Please provide any screen-shots of information you find! You can upload this as and when you come across it. Has any information you have seen lately changed how you think about cleaning your hands?		All
8	8pm	Tell me about your children's handwashing	How often do your child(ren) wash their hands? How important is this to you? How have you explained handwashing to your child(ren)? What have you told them to do? What makes it difficult for your child(ren) to wash their hands? Are there certain situations where you would expect your		Those with children

Day	Time	Question Header	Prompts	Follow up prompts	Who to ask
			child(ren) to wash their hands? Why are these important to you?		
9	10am	Daily activities	Think about the last time you went to the toilet. Did you clean your hands before or after this? For what reasons? If you cleaned your hands, how did you do this?		All
9	8pm	Tell me about the last time you washed your hands?	Please describe the last time you washed your hands with water. Including where you were, what you did, what you used, and how long it took. Share a video describing it or type it out! Why did you decide to wash your hands then? What had you been doing before and after you washed your hands?	Did you use hot or cold water? Did you dry your hands? Did you use soap?	All
10	10am	Barriers to cleaning your hands	Have there been any times recently when you have wanted to clean your hands but didn't? Or didn't clean them in the way you wanted to? Why did you want to clean your hands?		All

Day	Time	Question Header	Prompts	Follow up prompts	Who to ask
			<p>What got in the way?</p> <p>How did you feel about not cleaning your hands?</p>		
10	6pm	Daily activities	<p>Think about the last time you touched a pet.</p> <p>Did you clean your hands before or after this?</p> <p>For what reasons?</p> <p>If you cleaned your hands, how did you do this?</p>		All
11	10am	Coronavirus	<p>Has the COVID-19 pandemic changed how you clean your hands?</p> <p>Has it changed the way you feel about cleaning your hands?</p>		All
11	8pm	Daily activities	<p>Think about the last time you prepared food.</p> <p>Did you clean your hands before or after this?</p> <p>For what reasons?</p> <p>Do you clean your hands differently depending on what food you're preparing?</p> <p>If you cleaned your hands, how did you do this?</p>		All
12	10am	What makes a "good" handwash?	<p>What are the elements of a "good" handwash?</p> <p>Are there situations in which you would do a more thorough or less thorough handwash?</p>		All

Day	Time	Question Header	Prompts	Follow up prompts	Who to ask
			Do you clean your hands differently at home and out and about?		
12	6pm	Video diary	Chose 3 words to describe how you feel about handwashing. Take a video to tell us about how you feel and what this means for how you wash your hands.		All
13	10am	1. Tell me about the last time you washed your hands?	Please describe the last time you washed your hands with water. Including where you were, what you did, what you used, and how long it took. Share a video describing it or type it out! Why did you decide to wash your hands then?		All
13	10am	2. Tell me about the last time you washed your hands?	How thorough was this handwash? (rate on a scale of 1-10 where 1 is 'not at all thorough' and 10 is 'very thorough')	SEPARATE POLLING EXERCISE	All
13	6pm	Reflections	We are coming to the end of the online diary phase of this research, which will end tomorrow. Before it closes, we'd love to know your reflections! Have you thought about cleaning your hands in any different ways over the last couple of weeks?		All

Day	Time	Question Header	Prompts	Follow up prompts	Who to ask
			Is there anything else you would like to tell us about your experience of taking part in this diary?		
14	10am	Thank you and goodbye	<p>Thank you very much for your contributions to this diary!</p> <p>We hope you enjoyed the experience. We will use your diary to help us understand how people wash and clean their hands.</p> <p>We will look at what everyone in the study has told us and write a report that summarises the main themes – this won't mention you by name or include details that could identify you.</p> <p>We are looking forward to speaking with you soon in the final interview phase of this research, to talk more about your experiences and what you've told us so far.</p>		All

Ethnographic app research – wrap up interview topic guide

Note: some elements of this topic guide have been redacted

Instructions for interviewers before the interview:

- Review app diary data and identify any specific situations where a participant cleaned their hands/ did not clean their hands. These situations can be probed on further during the interview to understand the reasons why a participant did/ did not clean their hands.

Welcome and intro (5 minutes)

Thank participant for taking part

Introduce self and explain that ...You may recall from our initial call, that Ipsos MORI is working with the Food Standards Agency on a research study which aims to understand more about people's handwashing behaviours. Soon after our initial call, you took part in the handwashing diary, and we'd like to take this opportunity to say thank you for your contribution to the research so far.

During our call today, we will go into some more depth about the things you told us during the app diary. The call shouldn't take longer than 30 minutes – is now still a good time?

You will be given [an incentive] for participating in the research as a thank you for your help after this interview.

I also want to assure you that all the information we collect will be treated confidentially and that it won't be possible to identify any individual in the report we write at the end of the study. The only time we may have to tell someone about something you say, is if you tell us something which suggests that someone, or yourself is at risk of serious harm.

Please know, that throughout this interview, there are no right or wrong answers and we are just interested in hearing about your own experiences and views. You do not have to share anything that you do not want to. You can stop the interview at any point, and you are under no obligation to take part.

We are aware that you may have already told us about some of the things that we will ask you in this interview – that is fine, and do not worry about repeating yourself to us. We just want to make sure that we understand as much as possible about your handwashing experiences, how you feel and think about handwashing and if there have been any recent changes or likely changes in the future.

The findings from this research will help the FSA understand peoples' behaviour to inform government policies and future communication campaigns.

Can I check that you are happy to participate? [confirm consent]

Thank you.

[Get permission to digitally record and transcribe for analysis, and turn on recording]

Before we start, do you have any questions about the research?

Brief reflection on the Handwashing diary experience (5 mins)

To get us started, it would be great to hear about your experiences of keeping a diary on AppLife.

How did you find talking about your handwashing habits during the two weeks?

- Has anything surprised you?
- Was there anything you liked, or found difficult about it?
- Were some activities easier/harder than others?
- Was there anything you didn't feel comfortable sharing with us?

Did reflecting in this way make you feel any differently about your handwashing?

- In what way?
- Did questions from the app make you more aware of your handwashing behaviours? What was the impact of this?

- Have you done anything differently while keeping the diary? What about after finishing the diary?
- Will you do anything differently in the future, as a result of keeping this diary?

Factors influencing handwashing behaviours – motivations and barriers (15 mins)

How have you found the last two weeks in general? What kind of activities have you been doing?

- Have you done anything unusual or out of your normal routine?
- How often did you leave the house during the last two weeks? For what reasons?
- How did that make you feel? What makes you say that?

In general, how important would you say being clean or tidy is?

- Would you describe yourself as a clean or tidy person?
- What do you think your friends or family would say about you?

Influences on handwashing

During the app diary, you told us about the times you wash your hands inside and outside the house. We'd like to explore this further with you...

Thinking about the kind of activities you did during the two weeks you kept a diary, are there certain activities where you were more likely to wash your hands before or after completing them?

- For what reasons?

For example, you described wanting to wash your hands after [Insert activity from app diary - with a focus on examples of preparing food and eating a meal]. What made you want to wash your hands then?

- How did you feel at the time? PROBE: sensory and emotional
- What did you think might happen if you did not wash your hands then?

- PROBE: on routine, sense of safety, sense of control, upbringing, expectations for what might happen

In what ways did this activity change how you washed your hands?

- PROBE: thoroughness, frequency, product, technique, temperature etc.
- Have you faced any barriers to washing your hands while doing these kinds of activities? For what reasons?
- Has the COVID-19 pandemic affected what you do at all?
 - For example, are you more likely to wash your hands after certain activities now compared to before the pandemic?
 - For what reasons?
 - PROBE: Any changes as lockdown has eased/ been re-introduced?

If caring responsibility or nature of work comes up probe on: Is this different or the same to when you are washing your hands yourself at home? What makes you say that?

Does your location influence whether you wash/clean your hands? In what ways?

For example, you described wanting to wash your hands in/at [Insert location from App Diary]. What made you want to wash your hands then?

- PROBE: Home vs out? Work, shopping, dining, other people's homes etc. Refer to diary entries.
- Do you feel differently about washing your hands at home compared to outside of the home? In what ways? PROBE: safety, comfort, availability of products etc.
- Do you think it is more important to wash your hands in some places outside of the home than others? Why?

In what ways does your location change how you wash your hands?

- PROBE: thoroughness, frequency, product, technique, temperature etc.

- Have you faced any barriers to washing your hands in certain locations? Where? For what reasons? Refer to diary entries.
- Has the COVID-19 pandemic affected what you do at all?
 - For example, are you more likely to wash your hands in certain locations now compared to before the pandemic?
 - For what reasons?
 - PROBE: Any changes as lockdown has eased/ been re-introduced?

Do the people you are with influence whether you wash/clean your hands? In what ways?

- For example, you described wanting to wash your hands with [Insert social situation from app diary]. What made you want to wash your hands then? PROBE: family incl. children, older relatives, people with health conditions, friends, colleagues etc. (Moderator to refer to diary entries)

Do you wash your hands in the same way when you are on your own as when you are with other people?

- What do you do the same/ differently? For what reasons?

In what ways do the people you are with change how you wash your hands?

- PROBE: thoroughness, frequency, product, technique, temperature etc.
- Have you faced any barriers to washing your hands with certain people? For what reasons?
- Has the COVID-19 pandemic affected what you do at all?
 - For example, are you more likely to wash your hands in certain situations/ with certain groups of people now compared to before the pandemic?
 - For what reasons?
 - PROBE: Any changes as lockdown has eased/ been re-introduced?

[Ask those who live in multiple person households] You mentioned you live with other people in the house – does this have an impact on how often you wash your hands? In what ways?

- What about the thoroughness of the handwash? What makes you say that?

If not already mentioned above, probe on impact of handwashing for those living with a health condition/living with people in the house who have a health condition.

Barriers to handwashing

Can you think of any situations where you did not wash your hands?

- What was the situation? [Moderator to refer to relevant diary entries]
- How did that make you feel? PROBE: sensory and emotional
- What might have contributed to why you didn't wash your hands?
 - PROBE: mood/tiredness

During the diary, were there any situations where you didn't have access to a sink/could not clean your hands?

- What was the situation/ where were you?
- How did that affect your mood/make you feel? Probe: sensory and emotional
- What did you do?

[If no]: Can you think of a time in the past where you haven't had access to a sink/could not clean your hands?

- What was the situation/ where were you?
- How did that affect your mood/make you feel? Probe: sensory and emotional
- What did you do?

Probe on any differences between washing their hands and cleaning their hands/ if they feel differently when cleaning their hands with hand sanitiser/disinfecting products instead of washing with soap and water.

Can you think of any situations where you would always make sure to wash your hands?

- Why is washing your hands in this situation important to you?
- How would you feel if you weren't able to wash your hands in a similar situation?
What would you do?

Wrap-up (5 mins)

Thank you for sharing your thoughts with me and for taking the time to participate in this study. It's been really interesting talking to you and learning about the things you shared with us. We really appreciate your contribution to the study.

Do you have any questions about what we have discussed? Or about the research project overall?

As you know, the FSA is conducting this research to try and understand people's handwashing behaviours and how these have changed, if at all during the pandemic. This will help them understand consumer behaviour to inform government policies and future communication campaigns.

Is there anything else you would like to tell us about handwashing that we haven't already discussed today?

If we were to run this research again, what do you think we could do to improve it?

- Probe on:
 - Types of questions we ask in the diary and interview
 - The convenience of the app

Finally, the FSA are considering conducting further interviews as a separate part of this study on topics related to handwashing. This interview would be conducted by a member of the FSA research team and if you would be interested in taking part in this research, the recruiters may get in touch with you separately, and provide you with further details.

Thanks again. As a reminder, after this call, we will send you a [incentive amount] thank you note for your contribution to this research. [rest of interview script is redacted: contact details for participant are obtained, and contact details of Ipsos MORI are shared with participant should they have any further questions].

Social desirability bias literature review: ‘How can social desirability bias be reduced?’

Social desirability bias (SDB) in social research means participants may change their answers to look better to others (other-deception for impression management) or to feel better about themselves (self-deception for identity).¹¹ This causes over-reporting of socially desirable attitudes or behaviours and under-reporting of socially undesirable attitudes or behaviours.¹²

Conditions that make SDB more likely include: research designs that incorporate self-report measures; topics that are personal or socially sensitive; compromised anonymity; and occasions when participants anticipate their responses may deviate from social norms and be judged negatively.¹³ Several of these conditions apply to personal hand hygiene therefore there is a high risk of SDB.

No strategy eliminates SDB, but a combination of SDB **prevention and detection strategies** offers the best choice available.¹⁴

¹¹ Larson, R. (2019) ‘Controlling social desirability bias’. *International Journal of Market Research*. 61(5), 534-547. <https://doi.org/10.1177/1470785318805305>

¹² Lavrakas, P. (Ed.) (2008) ‘Social desirability’, *Encyclopedia of Survey Research Methods*, SAGE. <http://dx.doi.org/10.4135/9781412963947.n537>

¹³ King, M. and Bruner, G. (2000) ‘Social desirability bias: A neglected aspect of validity testing’. *Psychology & Marketing*, 17(2), 79103. [https://doi.org/10.1002/\(SICI\)1520-6793\(200002\)17:2<79::AID-MAR2>3.0.CO;2-0](https://doi.org/10.1002/(SICI)1520-6793(200002)17:2<79::AID-MAR2>3.0.CO;2-0)

¹⁴ Nederhof, A.J. (1985) ‘Methods of coping with social desirability bias: A review’. *European Journal of Social Psychology*, 15(3), 263-280. <https://doi.org/10.1002/ejsp.2420150303>

Starting with interview environment, interviews should be conducted in participants **homes** where possible to help put them at ease¹⁵ without bystanders.¹⁶ Playing background **music** can add environmental complexity and reduce SDB.¹⁷ Increasing the **cognitive load** of participants, by asking them to do a task while answering questions, may reduce SDB by making them more honest and less strategic.¹⁸

The **power** relationship between interviewer and interviewees should be minimised¹⁹ considering how SDB interacts with characteristics such as ethnicity, age, gender, and socio-economic status²⁰, perhaps by seeking commonalities. Interviewers should be **professional** and work-orientated rather than warm and person-orientated in order

¹⁵ Ananthram, S. (2016). HRM as a strategic business partner. In A. Nankervis, C. Rowley, N. M. Salleh, (Eds.). *Asia Pacific Human Resource Management and Organisational Effectiveness*. Chandos Publishing, 87-109.

<http://dx.doi.org/10.1016/B978-0-08-100643-6.00005-1>

¹⁶ Krumpal, I. (2013) 'Determinants of social desirability bias in sensitive surveys: A literature review'. *Quality & Quantity: International Journal of Methodology*, 47(4), 2025-2047 <https://doi.org/10.1007/s11135-011-9640-9>

¹⁷ Larson, R. (2019) 'Controlling social desirability bias'. *International Journal of Market Research*. 61(5), 534-547. <https://doi.org/10.1177/1470785318805305>

¹⁸ Larson, R. (2019) 'Controlling social desirability bias'. *International Journal of Market Research*. 61(5), 534-547. <https://doi.org/10.1177/1470785318805305>

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<http://dx.doi.org/10.1016/B978-0-08-100643-6.00005-1>

²⁰ Lavrakas, P. (Ed.) (2008) 'Social desirability', *Encyclopedia of Survey Research Methods*, SAGE. <http://dx.doi.org/10.4135/9781412963947.n537>

to reduce SDB²¹, by not becoming overly friendly with participants and not being judgemental about their responses²².

Anonymity is key to reducing SDB.²³ Short confidentiality and data protection assurances help²⁴. One of the most consistent findings in the literature is that self-administrated modes of data collection such as online surveys reduce SDB, probably because the **absence** of the interviewer lessens the fear of receiving a negative evaluation.²⁵

Anonymity of responses can be strengthened using at least partially **self-administered** interviews²⁶. For example, interviewers can show participants self-complete or numbered cards then ask them to select or read aloud the number which corresponds to their answer²⁷, traditionally in person but could be done on screen. **Randomised response**

²¹ Nederhof, A.J. (1985) 'Methods of coping with social desirability bias: A review'. *European Journal of Social Psychology*, 15(3), 263-280.
<https://doi.org/10.1002/ejsp.2420150303>

²² Bryman, A. (2012). *Social Research Methods*. 4th ed. New York: Oxford University Press. Available at:
https://www.academia.edu/30520568/Social_Research_Methods_4th_Edition_by_Alan_Bryman.pdf

²³ Larson, R. (2019) 'Controlling social desirability bias'. *International Journal of Market Research*. 61(5), 534-547. <https://doi.org/10.1177/1470785318805305>

²⁴ Krumpal, I. (2013) 'Determinants of social desirability bias in sensitive surveys: A literature review'. *Quality & Quantity: International Journal of Methodology*, 47(4), 2025-2047 <https://doi.org/10.1007/s11135-011-9640-9>

²⁵ Lavrakas, P. (Ed.) (2008) 'Social desirability', *Encyclopedia of Survey Research Methods*, SAGE. <http://dx.doi.org/10.4135/9781412963947.n537>

²⁶ Krumpal, I. (2013) 'Determinants of social desirability bias in sensitive surveys: A literature review'. *Quality & Quantity: International Journal of Methodology*, 47(4), 2025-2047. <https://doi.org/10.1007/s11135-011-9640-9>

²⁷ Barton, A. J. (1958). 'Asking the embarrassing question'. *Public Opinion Quarterly*, 22(1), 67-68. <https://doi.org/10.1086/266761>

technique (RRT) ‘introduces uncertainty into the question-answer process, protecting respondents by obscuring their answer.

RRTs use a randomisation device (for example, dice) to determine how respondents answer a sensitive question. The researcher adjusts the results using the known probabilities of the dice outcomes that prompt a forced answer’.²⁸

When using introductory **appeals to honesty**, using a noun such as “please don’t be a cheater” may reduce dishonesty more than using a verb such as “please don’t cheat”.²⁹ SDB can be reduced by heightening participants’ subjective benefit of telling the truth, for example by emphasising the **importance** and scientific nature of the research.³⁰ Trust in the research **institution** may also moderate the effectiveness of strategies to reduce SDB.³¹

Only providing a brief research overview at the outset can help avoid priming participants towards SDB.³² Keeping research purpose **vague** may particularly reduce SDB related

²⁸ Jones, A. K. et al. (2017). ‘Estimating the prevalence of food risk increasing behaviours in UK kitchens’. *PLoS ONE*, 12(6), e017581.

<https://doi.org/10.1371/journal.pone.0175816>

²⁹ Larson, R. (2019) ‘Controlling social desirability bias’. *International Journal of Market Research*. 61(5), 534-547. <https://doi.org/10.1177/1470785318805305>

³⁰ Krumpal, I. (2013) ‘Determinants of social desirability bias in sensitive surveys: A literature review’. *Quality & Quantity: International Journal of Methodology*, 47(4), 2025-2047 <https://doi.org/10.1007/s11135-011-9640-9>

³¹ Krumpal, I. (2013) ‘Determinants of social desirability bias in sensitive surveys: A literature review’. *Quality & Quantity: International Journal of Methodology*, 47(4), 2025-2047 <https://doi.org/10.1007/s11135-011-9640-9>

³² Ananthram, S. (2016). HRM as a strategic business partner. In A. Nankervis, C. Rowley, N. M. Salleh, (Eds.). *Asia Pacific Human Resource Management and Organisational Effectiveness*. Chandos Publishing, 87-109.

to identity definition.³³ Interviewers can start with general questions connected to the topic of interest, then gradually **narrow the focus** to more specific behaviours,³⁴ asking more embarrassing questions nearer the end of the interview.³⁵

Interviewers should initially **avoid stating recommended practice** for hand hygiene. Instead of asking whether participants adhere to this, they can start by asking more open spontaneous questions about what they do, such as “**Talk through** what you did the last time you prepared a meal using raw meat”³⁶, then later asking more closed prompted questions, such as “The **last time** you handled raw meat, did you wash your hands afterwards?”.³⁷

Further question wording techniques can successfully reduce SDB, such as **assuming** participants have engaged in the socially undesirable behaviour before asking if they have³⁸, by loading a question with **reasonable excuses**³⁹ or leveraging social norms,

³³ Larson, R. (2019) ‘Controlling social desirability bias’. *International Journal of Market Research*. 61(5), 534-547. <https://doi.org/10.1177/1470785318805305>

³⁴ Krumpal, I. (2013) ‘Determinants of social desirability bias in sensitive surveys: A literature review’. *Quality & Quantity: International Journal of Methodology*, 47(4), 2025–2047 <https://doi.org/10.1007/s11135-011-9640-9>

³⁵ Barton, A. J. (1958) ‘Asking the embarrassing question’. *Public Opinion Quarterly*, 22(1), 67-68. <https://doi.org/10.1086/266761>

³⁶ Barton, A. J. (1958) ‘Asking the embarrassing question’. *Public Opinion Quarterly*, 22(1), 67-68. <https://doi.org/10.1086/266761>

³⁷ Barton, A. J. (1958) ‘Asking the embarrassing question’. *Public Opinion Quarterly*, 22(1), 67-68. <https://doi.org/10.1086/266761>

³⁸ Lavrakas, P. (Ed.) (2008) ‘Social desirability’, *Encyclopedia of Survey Research Methods*, SAGE. <http://dx.doi.org/10.4135/9781412963947.n537>

³⁹ Lavrakas, P. (Ed.) (2008) ‘Social desirability’, *Encyclopedia of Survey Research Methods*, SAGE. <http://dx.doi.org/10.4135/9781412963947.n537>

for example: “Previous research has found that **many people** sometimes forget to wash their hands after handling raw meat”.⁴⁰

Combining direct and **indirect questioning**, i.e. asking what “other people” think about a sensitive issue, decreases SDB by making questions less personal⁴¹. The nominative technique (NT) asks each interviewee to **nominate** someone they know well, who is kept anonymous, then describe their attitudes and behaviour.⁴²

Taking a different approach, using **proxy subjects** is one of the few approaches which tackles the self-deceptive side of SDB, because someone who knows the interviewee well is asked to describe their attitudes and behaviours.⁴³ Researchers can include **verifiable** questions to help avoid under-reporting and over-reporting⁴⁴, then cross check responses with **other data sources** less affected by SDB.

SDB can also be reduced by increasing participants’ perceived likelihood of being caught lying, using the **bogus pipeline** procedure⁴⁵ where interviewees are told that an

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⁴¹ King, M. and Bruner, G. (2000) ‘Social desirability bias: A neglected aspect of validity testing’. *Psychology & Marketing*, 17(2), 79103. [https://doi.org/10.1002/\(SICI\)1520-6793\(200002\)17:2<79::AID-MAR2>3.0.CO;2-0](https://doi.org/10.1002/(SICI)1520-6793(200002)17:2<79::AID-MAR2>3.0.CO;2-0)

⁴² Krumpal, I. (2013) ‘Determinants of social desirability bias in sensitive surveys: A literature review’. *Quality & Quantity: International Journal of Methodology*, 47(4), 2025-2047 <https://doi.org/10.1007/s11135-011-9640-9>

⁴³ Nederhof, A.J. (1985) ‘Methods of coping with social desirability bias: A review’. *European Journal of Social Psychology*, 15(3), 263-280. <https://doi.org/10.1002/ejsp.2420150303>

⁴⁴ Larson, R. (2019) ‘Controlling social desirability bias’. *International Journal of Market Research*. 61(5), 534-547. <https://doi.org/10.1177/1470785318805305>

⁴⁵ Krumpal, I. (2013) ‘Determinants of social desirability bias in sensitive surveys: A literature review’. *Quality & Quantity: International Journal of Methodology*, 47(4), 2025-2047 <https://doi.org/10.1007/s11135-011-9640-9>

additional measure will be applied, such as a (fake) lie scale⁴⁶, a (fake) lie detector⁴⁷ or a microbiological hand contamination test.⁴⁸ However, informed consent is a key part of the Government Social Research ethics code.

Tendency towards SDB varies between individuals due to **personality**. Questionnaires have been developed to measure the SDB of individuals. The **Marlowe-Crowne scale** may be the most widely recommended⁴⁹. For a shorter version, the 16-item SDB scale called **SDS-17**⁵⁰ has been found by some researchers to be highly correlated with the Marlowe–Crowne Scale (MCS) and Balanced Inventory of Desirable Responding (BIDR), closely associated with impression management, and to have strong internal consistency and reliability.⁵¹

Controlling for personality using SDB scales is controversial in the literature, for example: ‘using self-reported measures with unknown statistical properties to adjust data with an unknown amount of bias could do more harm than good’.⁵² However, structural

⁴⁶ Larson, R. (2019) ‘Controlling social desirability bias’. *International Journal of Market Research*. 61(5), 534-547. <https://doi.org/10.1177/1470785318805305>

⁴⁷ Nederhof, A.J. (1985) ‘Methods of coping with social desirability bias: A review’. *European Journal of Social Psychology*, 15(3), 263-280. <https://doi.org/10.1002/ejsp.2420150303>

⁴⁸ Contzen, N. et al (2015) ‘Over-Reporting in Handwashing Self-Reports: Potential Explanatory Factors and Alternative Measurements’. *PloS ONE*, 10(8), e0136445. <https://doi.org/10.1371/journal.pone.0136445>

⁴⁹ Lavrakas, P. (Ed.) (2008) ‘Social desirability’, *Encyclopedia of Survey Research Methods*, SAGE. <http://dx.doi.org/10.4135/9781412963947.n537>

⁵⁰ Stöber, J. (2001) ‘The Social Desirability Scale-17 (SDS-17): Convergent validity, discriminant validity, and relationship with age’. *European Journal of Psychological Assessment*. 17. 222-232. <https://doi.org/10.1027//1015-5759.17.3.222>

⁵¹ Larson, R. (2019) ‘Controlling social desirability bias’. *International Journal of Market Research*. 61(5), 534-547. <https://doi.org/10.1177/1470785318805305>

⁵² Larson, R. (2019) ‘Controlling social desirability bias’. *International Journal of Market Research*. 61(5), 534-547. <https://doi.org/10.1177/1470785318805305>

equation modelling can be used to identify SDB.⁵³ Factor mixture models may also help identify which participants are most likely to provide biased responses, identify which items are likely to have biased responses, and identify which variables may predict SDB.⁵⁴

Looking beyond SDB, **recall bias** and **cognitive dissonance** may also explain handwashing over-reporting and need to be reduced. (Cognitive dissonance is individuals' mental discomfort due to their internally conflicting attitudes, or their behaviours contradicting their attitudes, leading them to explain away conflicts for example). A 'script-based covert recall', an alternative interview question intended to reduce recall bias and SDB, may reduce over-reporting compared to conventional self-reports.⁵⁵

Sources

Most of these sources are each underpinned by a list of references, but for speed the overarching textbook or review for example has been referenced instead.

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⁵³ Larson, R. (2019) 'Controlling social desirability bias'. *International Journal of Market Research*. 61(5), 534-547. <https://doi.org/10.1177/1470785318805305>

⁵⁴ Larson, R. (2019) 'Controlling social desirability bias'. *International Journal of Market Research*. 61(5), 534-547. <https://doi.org/10.1177/1470785318805305>

⁵⁵ Contzen, N. et al (2015) 'Over-Reporting in Handwashing Self-Reports: Potential Explanatory Factors and Alternative Measurements'. *PLoS ONE*, 10(8), e0136445. <https://doi.org/10.1371/journal.pone.0136445>

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[https://doi.org/10.1002/\(SICI\)1520-6793\(200002\)17:2<79::AID-MAR2>3.0.CO;2-0](https://doi.org/10.1002/(SICI)1520-6793(200002)17:2<79::AID-MAR2>3.0.CO;2-0)

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Stöber, J. (2001) 'The Social Desirability Scale-17 (SDS-17): Convergent validity, discriminant validity, and relationship with age'. *European Journal of Psychological Assessment*. 17. 222-232. <https://doi.org/10.1027//1015-5759.17.3.222>

In-depth interview topic guide

Welcome and intro (5 minutes)

Interviewer: 'Hello, my name is [INSERT NAME]. Thank-you for taking the time to speak to me today. As you know, we're going to be discussing handwashing. By being involved in this research, you're helping us to better understand how people clean their hands. This research will help us to inform policies to improve public handwashing, to help prevent the spread of foodborne disease, therefore it's really important that your answers are honest. There are no right or wrong answers and we are just interested in hearing about your own experiences and views.

Throughout this conversation, I'll ask questions about "cleaning your hands" and "washing your hands". Whenever I mention these phrases, I mean any type of hand cleaning such as washing your hands with water, using a cloth, napkin or tissue; or using hand gel or another product. So generally, I'd like to hear about any way in which you have cleaned your hands. I'm also interested to hear about your handwashing when you're at home, or when your outside of your home; so please talk about either of these as we go along.

As we go through, I might need to look down as I make notes – please don't be put off, I'll be listening throughout.

Before we start, I just wanted to let you know that all of the information you share with us will be treated confidentially. When we write the report from this study, anything you have shared will be presented anonymously. This means that in the report it won't be possible to identify you or anyone you mention. Thanks for signing the confidentiality form in advance of this call.

You do not have to share anything that you do not want to share. You can stop the interview at any point, and you are under no obligation to take part.

The call should take about an hour – are you in a quiet place, where you can speak freely, without anyone else listening? [If no- ask participant to find another place to sit, or arrange another suitable time for interview]

You will be given a small payment as a thank you for your help after this interview.

Can I check that you are happy to participate? [Confirm consent to proceed]

Thank you.

[Get permission to digitally record (audio and visual), and for transcription, in addition to written consent in the consent form. Turn on recording and obtain consent to proceed on the basis that the recording will be kept confidential]

Notes for interviewer: when working through the topic guide, start with all of the main questions (left column) before moving onto the prompts (right column) for each row.

Main interview (45mins)

Main question	Prompts
<p>‘Tell me about your day so far, and what you’ve been up to?’</p> <p>[For morning interviews]: Tell me about your day yesterday, what did you get up to?</p> <p>When have you washed your hands today (yesterday), or used hand gel?</p> <p>(If participant is nervous, or not very talkative, ask them to start from the moment they woke up and describe their day until they went to sleep that night)</p>	<p>Why did you wash your hands or use hand gel then?</p> <p>How did you wash your hands? Did this vary at different times?</p> <p>Is this a typical day for you, in terms of handwashing? How does it vary on other days?</p>
<p>Can you show me how you normally wash your hands and talk me through it? [ask participant to visually demonstrate]</p> <p>(If participant doesn’t have video enabled, still ask them to physically act out the process and describe to you). Reassure</p>	

Main question	Prompts
<p>participant that this is not a test and we just want to see what they typically do.</p>	
<p>Thinking about a typical day - What prompts you/reminds you to wash your hands?</p>	<p>Is there anything about your surroundings that prompt you to wash your hands? [probing on setting, and presence of others]</p>
<p>We all have times when we don't wash our hands thoroughly, or skip washing our hands altogether.</p> <p>Can you talk me through the occasions when this has happened to you?</p> <p>Why didn't you wash your hands on those occasions?</p> <p>(If participant says they haven't experienced this, then use hypothetical scenarios: "What would you do if you were unable to wash your hands, For example, due to not being able to access soap straight away?")</p>	<p>What prevents you from being able to wash your hands when you'd like to?</p> <p>Are there times when you don't have access to the facilities you need to wash your hands? When does this usually happen, and what do you do instead (if anything)?</p> <p>Does not being able to wash your hands concern you? Why/why not?</p> <p>What are the consequences of not washing your hands?</p> <p>What are the disadvantages of handwashing?</p>
<p>I'd now like to look at different situations in turn, to understand how important or unimportant handwashing is to you. For each scenario, please tell me whether handwashing would be important/unimportant to you personally, and why?</p>	<p>Probe on (before and/or after, depending on scenario) and why it is/isn't important to them. [Probe for each: length of time spent washing, methods and equipment used]</p> <p>Personal hygiene:</p> <ul style="list-style-type: none"> - going to the toilet

Main question	Prompts
	<ul style="list-style-type: none"> - coughing or sneezing/blowing your nose - wound treatment (for you or others) <p>Caring for others</p> <ul style="list-style-type: none"> - changing a nappy - seeing or caring for a vulnerable/elderly relative - after caring for someone who is ill <p>Going out of your home</p> <ul style="list-style-type: none"> - using public transport <p>Other times</p> <ul style="list-style-type: none"> - handling rubbish - Handling pets (pet food and pet waste)
<p>Can you think of any situations where you would always make sure to wash your hands?</p>	<p>Why is washing your hands in this situation important to you?</p> <p>How would you feel if you weren't able to wash your hands in a similar situation?</p> <p>What would you do?</p>
<p>What about cooking, or preparing food? Do you ever wash your hands then? If not, why not?</p> <p>[Probe: before and/or after</p>	<p>Does this vary depending on the types of food that you prepare or cook? Why?</p> <p>Please talk me through what you did the last time you prepared a meal using raw eggs/meat/fish?</p>

Main question	Prompts
preparing/cooking] How would you typically wash your hands then?	What about when you prepare food for others? Why?
And what about before eating food, do you ever wash your hands then? If not, why not? Can you tell me about your handwashing then?	<p>Probe on eating at home, and eating outside of the home.</p> <p>Probe on eating on the go and snacks compared to at restaurants, and with cutlery/chopsticks compared to with hands</p>
<p>How do you think your handwashing compares to others?</p> <p>(If participant struggles to think of someone: “Think about someone you know well, this might be someone you live with. How do they wash their hands compared to you?”)</p>	<p>How thoroughly do you think you wash your hands compared to other people?</p> <p>Why do you think this?</p>
<p>[For participants with children]</p> <p>Tell me more about the handwashing your children do. Do your children need support for washing their hands?</p>	<p>How do they wash their hands? (Probe: methods used and supervision For example, water, wet wipes etc)</p> <p>How does it differ to your handwashing? How is it the same?</p> <p>Do your children ever find it difficult to wash their hands? If Yes, why? If No, why not?</p> <p>How important or unimportant is it to you, to teach your children about handwashing? [probe: (if they emphasise importance) how do you communicate this to your children?]</p>

Main question	Prompts
	<p>What role do your children’s nursery or school play in teaching handwashing, if any?</p> <p>When, if at all, would you typically wash your hands as part of your role as a parent? Why? [probe on: changing a nappy, or helping children use the toilet]</p>
<p>[For participants with caring responsibilities]</p> <p>You told us as part of the recruitment for this interview that you are a carer for someone else. If you feel comfortable talking about that, I’d be interested to know about your handwashing before, during, or after these caring tasks. Could you tell me about that?</p>	<p>Does your handwashing differ when done as part of your caring role (compared to normal)? Why?</p> <p>How do you feel about handwashing as part of your caring role? Probe if needed: Do your emotions or mood ever influence your handwashing when caring for someone else?</p>
<p>What do you think makes an ideal handwash? Can you show me [if video is enabled], and describe the process?</p> <p>Can you describe the main differences between your normal handwash and an ideal handwash?</p>	<p>What equipment or materials are involved for a normal handwash vs an ideal handwash</p> <p>How much time does an ideal handwash take compared to a normal handwash?</p> <p>How often do you wash your hands in the ideal way?</p> <p>When is a thorough handwash more important? When is it less important?</p>

Main question	Prompts
<p>What do you think the recommended guidance is for handwashing?</p>	<p>If participants struggle, probe on frequency of handwashing, length of time to spend on each handwash, methods to use. [What do you think is the most important part of the handwashing? (For example, Is it the friction? Is it the soap? Is it the hot/cold water? Drying?)]</p> <p>Where have you seen or heard of this information? Allow participant to respond with multiple answers – where else?</p> <p>What is the purpose of these guidelines do you think?</p> <p>[if mentions Covid guidelines] – were you aware of any handwashing guidance before the Covid-19 pandemic?</p> <p>Do you always follow these guidelines? When do you do things differently?</p> <p>How confident are you that others follow the guidelines?</p> <p>What do you think are the consequences of not following the guidelines? Do you think it is always necessary to do so?</p>
<p>Which methods (of handwashing) do you think are most effective?</p>	<p>Why do you think this?</p> <p>What is your preference? Why?</p>

Main question	Prompts
<p>Which do you think is more effective: handwashing with soap or using hand sanitiser/gel?</p>	
<p>[For participants who have had handwashing training at work]</p> <p>You told us during the recruitment for these interviews that you have received handwashing training as part of your job. Could you tell me more about that?</p> <ul style="list-style-type: none"> - What type of training/guidance have you received? - Does this affect how you wash your hands at work? How? - Does this affect how you wash your hands at home? How? 	<p>What is the purpose of these guidelines do you think?</p> <p>Do you always follow these guidelines? When do you do things differently?</p> <p>How confident are you that others follow the guidelines?</p> <p>What do you think are the consequences of not following the guidelines? Do you think it is always necessary to do so?</p>
<p>Thinking about everything we've discussed so far, how does handwashing, or not being able to wash your hands, make you feel?</p>	<p>Do your emotions or mood ever influence whether and how you wash your hands?</p> <p>How do you feel about other people washing or not washing their hands? [probe different situations: before serving you food, or in a public washroom]</p>
<p>What do you think influences when you wash/clean your hands?</p>	<p>What makes you say that? For what reasons?</p> <p>Why do you think this has an impact on how you behave?</p>

Main question	Prompts
<p>Do the people you are with influence whether you wash/clean your hands?</p>	<p>In what ways? (probe: family, children, friends, colleagues or strangers in a public washroom)</p> <p>Do you wash your hands in the same way when you are on your own as when you are with other people?</p> <p>In what ways do the people you are with influence how you wash your hands? (probe: thoroughness, frequency, product, technique)</p>
<p>To what extent do you think your handwashing is a habit? (By habit we mean something you do without thinking)</p>	<p>[If they suggest handwashing is somewhat habitual] How do you think that habit was formed, and is maintained?</p> <p>What do you remember being taught about handwashing when you were young? Can you tell me more about that. [Probe: being taught at school/nursery or by parents/carers, peer-to-peer or social settings/influence]</p>
<p>How has your upbringing or personal background influenced how you wash your hands? This could include your culture or religious beliefs.</p>	
<p>In general, how important would you say being clean or tidy is to you?</p>	<p>Would you describe yourself as a clean or tidy person?</p> <p>What do you think your friends or family would say about your cleanliness and tidiness?</p>

Main question	Prompts
<p>Has anything about your handwashing changed as a result of the Covid-19 pandemic? If so, how?</p>	<p>Probe on:</p> <ul style="list-style-type: none"> • [Location/place]: Do you wash your hands in different locations or situations as a result of the Covid-19 pandemic? • [Methods]: How has the Covid-19 pandemic affected your handwashing with soap/water? How has the pandemic affected your use of hand-sanitising gel/hand sanitiser? • [Social impact]: What about when you're with certain groups of people, or around others? Is this different now, to before the pandemic? Why?/why not? <p>Have you seen any changes in your handwashing relating to lockdown (either easing, being reintroduced, or both)? If yes, in what ways has it changed?</p> <p>Do you think you'll return to your previous behaviours in the future? Why/why not?</p> <p>To what extent do you think handwashing is effective in reducing transmission of diseases such as Covid-19? [prompt if not spontaneously mentioned: handwashing method/quality and frequency and importance compared to other measures]</p>

Main question	Prompts
<p>Apart from the Covid-19 pandemic, has anything else made you think about hand washing differently or change the way you wash your hands? This could be at different times in your life, or more recently.</p>	<p>Examples might include, becoming a parent or carer, changes in mental health or physical health, allergies etc</p> <p>Probe as needed on methods of handwashing before and after these life events.</p>

That's all the questions I have to ask. Is there anything else that you'd like to mention that we haven't covered?

We're really keen to improve our interviews for others. Is there anything you think we could do to improve the style of interview? Can you think of any other questions that we should ask as part of this interview?

I really appreciate your time today, thank-you for being so honest with me. The recruiter will be in touch soon to arrange the 'thank-you' payment. If you have any further questions after we leave the call, please feel to get in touch.

Thank and close.

Theoretical domains framework used in qualitative research design and analysis

The Theoretical domains framework (TDF) used during qualitative research (available in the table below) was adapted from: Atkins, L., Francis, J., Islam, R. et al. (2017). A guide to using the Theoretical Domains Framework of behaviour change to investigate implementation problems. *Implementation Sci*, 12(77). <https://doi.org/10.1186/s13012-017-0605-9>

TDF Domain	TDF Domain	Major code	Minor code	What to look for		
Social influences	Social influences	1	Social influences and environmental factors	1	Subjective norm	Perceived social pressure from the view of the respondent.
				2	Organisational culture	Things related to behaviour and beliefs of the organization as a collective, but not rules or policies: for example, positive attitudes towards hand hygiene, feeling supported in organization to perform hand hygiene, organization places value on hygiene.
				3	Factors external to organisation	Media, family influence, community, etc.
Memory, attention and		2		1	Attention	The ability to remain focused on doing hand hygiene. Codes would

TDF Domain	TDF Domain	Major code	Minor code	What to look for		
decision processes	Memory, Attention, and Decision Processes		Attention, memory, cues, cognitive affect and decision making		be related to distractions or remaining focused.	
				2	Memory (recall)	Related to remembering to do something without an external stimulus.
				3	Cues for memory (recognition)	Remembering to do something following a cue to trigger that memory. Without the cue, the memory would not have occurred. Cues should be direct reminders to do hand hygiene. Cues that are a part of a 'routine' that lead to hand hygiene, but are unrelated, should be categorized as habits.
				4	Cognitive affect	Cognitive stress or overload that leads to forgetfulness/general lack of hand hygiene. Or, alertness. (Can be positive or negative states.)

TDF Domain	TDF Domain	Major code		Minor code		What to look for
				5	Decision-making	Where a response involves knowing to do hand hygiene but choosing not to.
Environmental context and resources	Environmental Context and Resources	3	Resources Resources can be seen as organizational commodities such as staff, hand hygiene products, and gloves. Individual level commodities can be time to complete tasks or the number of tasks assigned.	1	Workload	Number and difficulty of tasks assigned. May include household/childcare tasks as well.
				2	Personnel	Similar to workload but may be affected by the number of personnel available. Not limited to co-workers, may include family/ household members.
				3	Handwashing facility nearly/ easily accessible	Access to be able to perform hand hygiene is limited.
				4	Supplies for washing hands available/ functioning	Facilities are available, but the supplies to operate (perform hand hygiene) are unavailable.

TDF Domain	TDF Domain	Major code		Minor code		What to look for
				5	General time-related	Any quote of time without specific examples that would fit into other codes.
				6	Supplies for hand care/ moisturising hands	Any moisturizer statements.
				7	Environmental context	Items related to environmental surfaces or objects.
Knowlegde	Knowledge	4	Knowledge	1	How to do hand hygiene	This category is very specific to knowledge about how to perform hand hygiene and when to perform hand hygiene. This can also include availability of training/education on how and when to perform hand hygiene, or policies or guidelines related to how and when to perform hand hygiene. The latter could involve availability fact sheets. Knowledge of when should be broad. Specific statements related
				2	When to do hand hygiene	
				3	Training/ education for hand hygiene	

TDF Domain	TDF Domain	Major code	Minor code	What to look for
			4 Knowledge of guidance documents or policies or other fact sheets	to duties as a part of job should be categorized in Major code 6. Knowledge statement about consequences should be categorized into beliefs about consequences.
		5 Hand hygiene performance data (information) Direct information about compliance within the organization.	1 Feedback	may be offhand observations by co-workers/managers. Distinguished from formal training or social influence of directives from others.
Social/ Professional role and identify	Social/professional role and identify	6 Social/professional role and identity	1 Duties required by role/job	Respondents believe it is a part of their job.
			2 Duties required by organization	Respondents perform an action in their work role because it is

TDF Domain	TDF Domain	Major code		Minor code		What to look for
						mandated by the organization (For example, policies).
				3	Duties beyond their job For example, in home/ personal life	A worker may be a part of a voluntary working group on hand hygiene.
				4	Acting as role model	Often those in higher positions, but can be anyone that wants to be an exemplary health care provider.
Skills	Skills	7	Skills	1	Gives example of good technique	Demonstration of hand hygiene skill: description of how to wash hands, how long to wash hands.
				2	Gives example of washing hands when appropriate	
Intentions Goals	Intentions Goals	8	Behaviour Anything aimed	1	Self-monitoring	Anything related to keeping track of when and how hand hygiene is performed.

TDF Domain	TDF Domain	Major code	Minor code	What to look for	
Behavioural regulation	Behavioural Regulation		at managing or changing objectively observed or measured actions. Also, habits.	2 Habit changing	Anything that identifies efforts to correct a behaviour so that it is a correct habit.
			3 Habit	Lack or presence of a habit.	
			4 Action planning	Anything related to steps taken to setting up strategies for improving hand hygiene. Differs from habit changing as there may or may not already be a habit in place and the goal is superficially not to change habit.	
Reinforcement	Reinforcement	9	Reinforcement	1 Rewards and Incentives	This section is related to incentives or disincentives. While consequence is listed here it does not mean consequences for spread of germs and the like. Instead, it is consequences related to punitive action/rewards.
				2 Punishment, Consequence, Sanctions	
				3 Contingencies	

TDF Domain	TDF Domain	Major code	Minor code	What to look for	
Beliefs about capabilities	Beliefs about consequences	10	Beliefs about consequences	1	Any consequences related to self
				2	Any consequences related to family
				3	Any consequences related to co-workers
				4	Any consequences related to residents / household members
				5	Any consequences related to community/society
				6	General consequence statement without
				<p>Beliefs, outcome expectancies, characteristics of outcome expectancies, consequences.</p> <p>General consequence statements are often 'why' one does hand hygiene. Although not all 'why' statements will fall here, we expect most will be under this category (For example, If hand hygiene is done, then 'x' occurs)</p>	

TDF Domain	TDF Domain	Major code	Minor code	What to look for	
			explicit reference to its effect on self or others		
			7 Statements involving consequences that reference an effect on a broad category of people not fitting minor codes 1-5 (for example, 'people', 'everyone', 'us', 'them', 'others').		
Emotion	Beliefs about capabilities Optimism Emotion	11	Personal factors	1 Personal preference	A choice made based on personal feelings.
				2 Emotion	Positive, negative or neutral. For example, fear, anxiety, affect, stress, depression.
				3 Personal belief	A thought or idea that is based on factual/non-factual information.

TDF Domain	TDF Domain	Major code		Minor code		What to look for
		12	Unable to define	1	Incomplete message unit	Where the message unit does not hold enough meaning to be coded.
				2	Cannot be assigned as a single code	Where a message unit contains an ambiguous meaning and could be assigned multiple codes.
				3	Not related to hand hygiene	

TDF Domain	TDF Domain	Major code		Minor code		What to look for
		13	<p>Other</p> <p>This code is reserved for anything that cannot be coded AND could be assigned to a rationalized or theory-based concept, domain or construct that was not defined a priori.</p> <p>Message units coded here should be described in the results of the survey, but will not be coded post-hoc.</p>	1	<p>Novel code for consideration</p>	

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