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# Consumer Handwashing Research: Handwashing in a Pandemic

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**Published: October 2021**

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**<https://doi.org/10.46756/sci.fsa.uny803>**

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# Executive Summary

Between April 2020 and January 2021, the Food Standards Agency (FSA) collected data on handwashing using quantitative and qualitative research methodologies to understand how and why people wash their hands and the impact the pandemic has had on their handwashing behaviour. This research explored a range of settings, both inside and outside the home and considered key facilitators of and barriers to good hand hygiene<sup>1</sup>. This report combines the findings from the qualitative and quantitative research conducted by the FSA alongside other literature available on the topic of hand hygiene to provide a comprehensive overview of consumer handwashing behaviour during the pandemic. A summary of key findings from this report are:

## Knowledge, skills, and preferences

- Most participants knew the most effective method for handwashing was to use soap, warm water, and a thorough technique for approximately 20 seconds. They also gave examples of when a thorough handwashing technique was appropriate. Despite this, according to the handwashing tracker survey, the proportion who reported washing their hands for 20-24 seconds was just 35% in April 2020, declining to 31% in January 2021.
- The COVID-19 pandemic had encouraged participants to wash their hands for longer, and more thoroughly than before the pandemic.

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<sup>1</sup> For the purposes of this report, the terms 'handwashing' and 'hand hygiene' are used interchangeably. During data collection participants were asked about different types of hand cleaning, such as handwashing with soap and water, and use of hand sanitiser gel. Where the method of hand hygiene is integral to the findings, this is specified within the report (for example, 'handwashing with soap and water').

- Participants preferred using soap and warm water to wash their hands, but also utilised hand sanitiser when no handwashing facilities were available. Participants generally disliked the sensation of hand sanitiser on the skin.

## Handwashing inside the home

- During the pandemic, participants considered their home to be a 'safe space' which led them to believe that it was not necessary to wash their hands as regularly, unless carrying out specific activities such as handling rubbish, preparing food or when cleaning. However, participants had developed a new routine since the pandemic of washing their hands when arriving home to reduce their risk of COVID-19.
- Participants showed good handwashing practices whilst preparing food, particularly to avoid cross-contamination from food considered to be 'high risk' for food poisoning such as raw meat, fish, and eggs. Participants were less likely to wash their hands when handling food they considered to be 'lower risk' such as salads or fruit.
- Hand hygiene behaviours could be improved in some scenarios inside the home, particularly after handling dry rubbish, before eating and after handling or feeding pets. Our research shows lower adherence to hand hygiene in these scenarios.

## Handwashing outside the home

- Settings once considered 'safe' such as supermarkets, restaurants/cafes, and the workplace had become places where people felt at risk of contracting COVID-19. Many participants had developed a new routine of carrying hand sanitiser when outside the home to ensure they could carry out hand hygiene in places where handwashing facilities were unavailable.
- The reported use of hand sanitiser before eating when outside of the home was relatively low (just 40% of participants reported 'always' washing their hands before eating in a restaurant in January 2021). A smaller proportion reported washing their hands before eating picnics, takeaways, or snacks outside of the home.

## Personal health and hygiene

- Most participants (over 80%) reported 'always' washing their hands after using the toilet in each wave of the handwashing tracker survey (April 2020 – January 2021) and only 1% or less reported 'never' doing so. Participants also emphasised the importance of hand hygiene in this scenario during qualitative research.
- A much smaller proportion (40% in January 2021) reported 'always' washing their hands after coughing, sneezing into their hands, or blowing their nose, even though participants showed a good awareness of the importance of handwashing to prevent the spread of disease. This highlights a potential knowledge-behaviour gap for hand hygiene in this scenario.

## Physical Influences on handwashing behaviour

- A lack of suitable facilities, including access to sinks and running water, was a common barrier for handwashing outside the home. Other common barriers included inadequate, crowded, or unclean facilities and a lack of time/feeling rushed.
- Barriers sometimes led to participants rushing their handwashing or prevented them washing their hands at all.
- The presence of hand sanitising stations (for example, when entering a shop) acted as a cue for participants to carry out hand hygiene behaviours at times when they may not have considered doing so automatically. Participants noted the increase of these hygiene stations since the pandemic, which facilitated hand hygiene practices.

## Social influences on handwashing behaviour

- Handwashing was a civic duty for many, in-light of the COVID-19 pandemic. This often resulted in more thorough handwashing routines to protect vulnerable relatives.
- Those who considered themselves to be vulnerable reported little change in their hand hygiene regimes during the pandemic as they had already developed strong hygiene routines to protect themselves.

- Our research shows there are social norms around hand hygiene which are enforced through social pressure and judgement. Participants wanted to avoid being considered 'irresponsible', 'dirty' or 'unclean' by others.
- Handwashing behaviours are influenced by family, cultural background, the media, the workplace, and education systems (such as schools and nurseries)
- For participants in caring, medical or food related professions there had been an increased focus on hand hygiene during the COVID-19 pandemic, but there was little change to actual handwashing behaviours, as rigorous hand hygiene was required before the pandemic began.

## **Motivation for handwashing behaviour**

- Hand hygiene was related to both a personal, and professional sense of identity.
- Hand hygiene was typically associated with positive emotions – participants enjoyed the sensation of washing their hands and conversely felt distressed and anxious when they were unable to wash their hands.
- Becoming a parent, working with children and the COVID-19 pandemic were 'moments of change' for hand hygiene behaviour; often leading to increased frequency and thoroughness of hand hygiene.
- Some participants anticipated changing their current hand hygiene routines when the pandemic ends; whilst some had already reduced their handwashing in line with easing restrictions. Others wanted to maintain their newly formed handwashing routines beyond the end of the pandemic.

# Background and Methods

## Background

The main function of the Food Standards Agency (FSA) is to protect the interests of consumers in relation to food in England, Wales and Northern Ireland, including risks which may arise in connection with the consumption, supply and production of food.

The FSA has a vested interest in hand hygiene behaviours as poor hygiene can be a key contributor to foodborne disease (FBD), such as [E Coli](#) and [norovirus](#), whilst good hand hygiene can reduce the risks of cross contamination. As a result, hand hygiene is included in the [FSA's business guidance](#). Guidance on consumer hand hygiene is available from the [NHS](#), [Public Health England](#) (PHE) and [Centers for Disease Control and Prevention](#) (CDC), including information on when and how to wash the hands.

The outbreak of COVID-19 in the UK, resulted in a significant national focus on hand hygiene, summarised by the Government's '[Hands. Face. Space](#)' campaign (Figure 1) which focussed on the importance of regular hand washing, use of face coverings when social distancing was not possible (such as in shops or on public transport) and keeping distant to those in other households. Hand hygiene has been at the forefront of public health messaging during the pandemic with significant advertising campaigns reiterating the role of handwashing in preventing the spread of the virus. With such increased focus on hand hygiene, the FSA took the opportunity to research consumer hand hygiene behaviours throughout the pandemic, which provided a benchmark for 'high' handwashing behaviours. Continued monitoring of consumer hand hygiene behaviour as the pandemic subsides will help to determine if any observed changes in handwashing behaviours are sustained. The data captured during this research will be used to by the FSA to investigate whether there is any correlation with handwashing behaviour and rates of infectious intestinal disease (IID).



**Figure 1: Hands, space, face campaign poster**



## Research context

Between the 23<sup>rd</sup> March and 10<sup>th</sup> May 2020, the UK experienced a full national lockdown in response to the global coronavirus (COVID-19) pandemic. During this time, many businesses including cafes, restaurants, and pubs, were closed and people were encouraged to work from home where possible. This marked a dramatic change in daily life for many people living across the UK, which included changes to their daily activities and who they were able to meet and socialise with. Over the Summer of 2020 restrictions were gradually reduced as the number of COVID-19 cases declined. This included the reopening of hospitality businesses and increased socialising between households. However, as cases began to rise again in September 2020, local restrictions were put in place across the country. In November 2020, England, Wales and Northern Ireland all experienced a second national lockdown with varying measures of restrictions. Although these lockdowns were eased through December, all three countries experienced an additional lockdown after the Christmas period, dates of the third national lockdown vary by country.

Our research into consumer hand hygiene was carried out during this unprecedented time, when participant's experiences reflected changing rules and regulations governing daily life. This contextual background must be considered when interpreting the results of this data, as findings are specific to this pandemic. With rapidly changing national restrictions, the exact timing of each data collection period is also highly contextualised. The appendices include a summary of lockdown restrictions in place at the time of each data collection method.

## Methods

### Quarterly handwashing tracker survey

In April 2020, the FSA commissioned Ipsos MORI to conduct a quarterly tracking survey to measure consumer's self-reported handwashing behaviour over a period of two years (from April 2020 until January 2022). This tracking survey provides self-reported information on:

- The frequency of handwashing behaviours in different scenarios inside and outside the home
- Handwashing practices (for example, handwashing methods, and time spent handwashing)
- The actions taken by participants when handwashing facilities are not available in a range of scenarios
- Demographic differences in handwashing behaviours
- Trends in handwashing behaviour over time

The quarterly handwashing tracker survey was conducted using Ipsos MORI's online i: Omnibus. In each wave of the survey, Ipsos MORI surveyed a representative sample of approximately 2,000 adults aged 16-75 living in England, Wales and Northern Ireland<sup>2</sup>. This report summarises findings from the first four waves of data (April 2020, July 2020, October 2020, and January 2021). Where appropriate, comparisons between different demographic groups or variables found to be statistically significant at the 5% level<sup>3</sup> are presented, although it is not possible to provide commentary on all demographic differences. Survey data referenced in this report is available to download via the [FSA data catalog<sup>4</sup>](#), and a full list of survey questions is provided in the appendices. Survey questions were informed by handwashing guidance available from [NHS](#), [PHE](#) and [CDC](#). The quarterly handwashing tracker will continue until January 2022 (a total

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<sup>2</sup> Fieldwork dates and specific sample sizes available in appendices.

<sup>3</sup> The differences reported have no more than a five per cent probability of occurring by chance.

<sup>4</sup> Weighting is applied to the data tables, based on the overall profile of England, Wales and Northern Ireland with weights for region/nation, gender, age, social grade and working status.

of eight survey waves). A future report will be published upon completion of survey waves 5-8 in 2022, which will consider changes that have occurred over the two-year collection period.

## Qualitative handwashing research

To support the analysis of the quantitative tracker data and help to explain why and how people wash their hands, the FSA also commissioned qualitative research. The qualitative research involved an ethnographic app study, and in-depth interviews to explore the following research questions:

- How has COVID-19 affected handwashing behaviour, and how do consumers explain this?
- What do people understand constitutes a 'good' hand wash?
- What factors influence decision-making about when and how to wash hands? Does this vary in different scenarios?
- What barriers and levers influence effective handwashing inside and outside of the home?

The ethnographic app phase of research was led by Ipsos MORI. Twelve participants from England, Wales and Northern Ireland were recruited via telephone and were offered a financial incentive for their participation (see appendices for further details on sampling). A range of participants were selected according to gender, age, ethnicity, socio-economic status and disability to ensure the research was inclusive<sup>5</sup>. The app-based diary allowed participants to upload photographs, videos and written commentary about their daily handwashing. Participants took part in three research stages (each conducted virtually): a 30-minute initial warm-up interview to introduce the participant to the Applife platform and get information about the participant, a two-week online diary using the Ipsos Applife platform, and a 30-minute wrap-up interview designed to build a picture of handwashing behaviours. The research materials for each of these stages are included in the appendices. This longitudinal design allowed researchers to follow up on handwashing behaviours shared through the diary to

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<sup>5</sup> Due to sample size, it is not possible to make this research representative.

understand more about the reasons why participants did (or did not) wash their hands, probing further to understand the factors underpinning handwashing decisions.

Phase two of the qualitative research was led by the FSA's Social Science Team using in-depth semi-structured interviews (conducted virtually as video or telephone calls). A total of 15 adults (aged 16 or over) were recruited via telephone and offered a financial incentive for their participation in the research<sup>6</sup> including participants of different ages, genders, and household compositions. In-depth interviews were approximately 45 minutes to one hour in length and took place between 28<sup>th</sup> October and 7<sup>th</sup> November 2020 (in-depth interview topic guides are available in the appendices). The Theoretical Domains Framework (TDF)<sup>7 8</sup> was used to design the interview topic guides and was used during data analysis, to code the data into key themes. The TDF is a theoretical framework that helps to identify and describe factors that influence behaviour into 14 'domains', although only 13 domains were used in the design and analysis of this research (a copy of the TDF used is available in the appendices). Topic guides for each phase of qualitative research were informed by handwashing guidance available from [NHS](#), [PHE](#) and [CDC](#).

## Literature reviews

To inform the design of the qualitative research, the FSA first carried out two literature reviews. The first review explored the issue of social desirability bias in social research both generally and specifically in hand hygiene research. This review provided the FSA research team with a variety of techniques to reduce social desirability bias in the

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<sup>6</sup> The participants recruited to take part in the in-depth interviews were independent of those who participated in the ethnographic app research. There was no overlap between these samples.

<sup>7</sup> Cane, J., O'Connor, D. and Michie, S. (2012). Validation of the theoretical domains framework for use in behaviour change and implementation research. *Implement Sci*, 7(37).

<sup>8</sup> 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).

qualitative research (described in the 'Research considerations' section). The full literature review can be found in the appendices.

The second literature review explored existing handwashing research to determine the factors that influence hand hygiene behaviours, the key barriers that can prevent good hand hygiene, and to identify gaps in existing evidence. This literature review helped to inform the topic guides for interviews. Where possible, the findings from this literature review are referenced throughout this report and are used to corroborate or challenge the findings of the primary research conducted and commissioned by the FSA. Both literature reviews were conducted between June and July 2020.

## Research Considerations

When reading this report, or reviewing the associated data, potential limitations of this data should be considered. Some key considerations are discussed below.

### Sample limitations

Although efforts have been made to make this research representative of the population (quarterly handwashing tracking survey) or inclusive (qualitative research), the views expressed may not reflect the views of all consumers in England, Wales, and Northern Ireland.

### Self-reporting bias

Self-reported measures are subject to self-reporting bias because they rely on the participants to accurately report their own thoughts, feelings, and behaviours. White et al<sup>9</sup> notes that handwashing behaviour is particularly difficult to measure, and classifies evidence gathered through direct observation or monitoring as 'good evidence', proxy measures such as diaries and demonstrations as 'moderate evidence' and self-reported

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<sup>9</sup> White, S., et al. (2020). The determinants of handwashing behaviour in domestic settings: An integrative systematic review. *International Journal of Hygiene and Environmental Health*, 227(113512).

behaviour as 'weak evidence'. The FSA designed the handwashing research using a range of methodologies to tackle this concern. Whilst self-reported methods are used (in-depth interviews and surveys), the data also uses an ethnographic app, which focussed more on diaries and demonstrations (through photographs and videos). In the future, the FSA will also have access to handwashing data through the [Kitchen Life 2](#) study, which uses direct observation (cameras within domestic kitchens). Triangulation of these different methodologies provides a greater accuracy to real handwashing behaviours and reduces the impact of self-reporting bias.

## Recall bias

Recall bias occurs when participants do not accurately recall or omit details of events that occurred in the past. It is often associated with traditional methods of research, such as in-depth interviews and surveys, where participants must recall past behaviours. The ethnographic-app research reduced this bias by using interruptive questioning where participants are 'interrupted' throughout the day, via the app, to record behaviours and answer questions. This approach reduced the time between behaviour and self-reporting and relied less on participant memory. In all methods of research used, participants were only asked about recent behaviours to help reduce recall bias. However, it is not possible to completely remove this risk, as participants must still accurately record and communicate their behaviours.

## Social desirability bias

Social desirability bias (SDB) in social research means participants may change their answers to look better to others or to feel better about themselves<sup>10</sup>. This causes over-reporting of socially desirable attitudes or behaviours, and under-reporting of socially undesirable attitudes or behaviours<sup>11</sup>. SDB is more likely in social research designs that include self-reported measures, personal and sensitive topics, compromised anonymity

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<sup>10</sup> Larson, R. (2019). Controlling social desirability bias. *International Journal of Market Research*, 61(5), 534-547.

<sup>11</sup> Lavrakas, P. J. (2008). 'Social desirability', *Encyclopedia of survey research methods* (Vols. 1-0). Thousand Oaks, CA: Sage Publications.

and occasions when participants anticipate their responses may deviate from social norms and be judged negatively<sup>12</sup>. Each of these conditions apply to the handwashing research methods used by the FSA. However, SDB can be reduced by using a combination of prevention and detection strategies<sup>13</sup>. The strategies adopted by the FSA to minimise SDB were:

- As a result of the pandemic, all research was conducted virtually, giving participants the option to choose a comfortable setting for their interview including a preferred time and date. Participants could also specify a preference for audio-only or video interviewing. This helped to create a comfortable setting for the interviewee<sup>14</sup> and allowed participants to choose a setting away from observers or by-standers<sup>15</sup> to put them at ease.
- A semi-structured approach was utilised to improve consistency between interviewers, and to maintain professionalism<sup>16</sup>. The use of a semi-structured script also helped to standardise question phrasing to reduce judgement over participant responses during the interviews<sup>17</sup>. The topic guide for interviews was also designed to reduce SDB by informing participants about the importance and scientific nature

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<sup>12</sup> King, M. F. and Bruner, G. C. (2000). 'Social desirability bias: A neglected aspect of validity testing'. *Psychology & Marketing*, 17(2), 79-103.

<sup>13</sup> Nederhof, A.J. (1985). Methods of coping with social desirability bias: A review. *European Journal of Social Psychology*, 15(3), 263-280.

<sup>14</sup> 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.

<sup>15</sup> Krumpal, I. (2013). Determinants of social desirability bias in sensitive surveys: A literature review. *Quality & Quantity: International Journal of Methodology*, 47(4), 2025-2047.

<sup>16</sup> Nederhof, A.J. (1985). Methods of coping with social desirability bias: A review. *European Journal of Social Psychology*, 15(3), 263-280.

<sup>17</sup> Bryman, A. (2012). *Social Research Methods*. 4th ed. New York: Oxford University Press.

of the research<sup>18</sup>. It began with general open questions and gradually asked more specific or potentially embarrassing questions later in the interview<sup>19</sup>.

- During interviewing, interviewers did not disclose the recommended practice for hand hygiene and used open questioning, rather than using closed or leading questioning<sup>20</sup>. Interviewers also used 'reasonable excuses' to help participants feel more comfortable when asking questions that are likely to be influenced by social norms<sup>21</sup>. For example, using phrases like 'We all have times when we don't wash our hands thoroughly, or skip washing our hands altogether' before asking participants about times when they have not washed their hands.
- Indirect questioning techniques were also used during the in-depth interviews<sup>22</sup>. For example, we asked participants about friends or family, or 'people' generally rather than asking about personal behaviours and habits.
- Participants were assured that their anonymity would be maintained in any reporting<sup>23</sup>, and all data would be held securely in line with GDPR.

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<sup>18</sup> Krumpal, I. (2013). Determinants of social desirability bias in sensitive surveys: A literature review. *Quality & Quantity: International Journal of Methodology*, 47(4), 2025-2047.

<sup>19</sup> Barton, A. H. (1958). Asking the embarrassing question. *Public Opinion Quarterly*, 22(1), 67-68.

<sup>20</sup> Barton, A. H. (1958). Asking the embarrassing question. *Public Opinion Quarterly*, 22(1), 67-68.

<sup>21</sup> Lavrakas, P. J. (2008). 'Social desirability', *Encyclopedia of survey research methods* (Vols. 10). Thousand Oaks, CA: Sage Publications.

<sup>22</sup> King, M. F. and Bruner, G. C. (2000). 'Social desirability bias: A neglected aspect of validity testing'. *Psychology & Marketing*, 17(2), 79-103.

<sup>23</sup> Larson, R. (2019). Controlling social desirability bias. *International Journal of Market Research*, 61(5), 534-547.



- A mixed-methods approach was utilised (a quantitative tracker, ethnographic app research and in-depth interviews) which reduced SDB as the findings can be compared to one another to assess validity of findings (triangulation).
- The quantitative survey and ethnographic app provided distance between the interviewer and participant, which lessens the fear of receiving a negative evaluation<sup>24</sup>. The interviews conducted with app participants also helped to reduce SDB because participants were asked about behaviours they had reported through the app, helping the researcher to follow-up on specific activities or behaviours.

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<sup>24</sup> Lavrakas, P. J. (2008). 'Social desirability', Encyclopedia of survey research methods (Vols. 1-0). Thousand Oaks, CA: Sage Publications.

# Chapter 1: 'How to do hand hygiene'- Knowledge, skills, and personal preferences

## Chapter summary

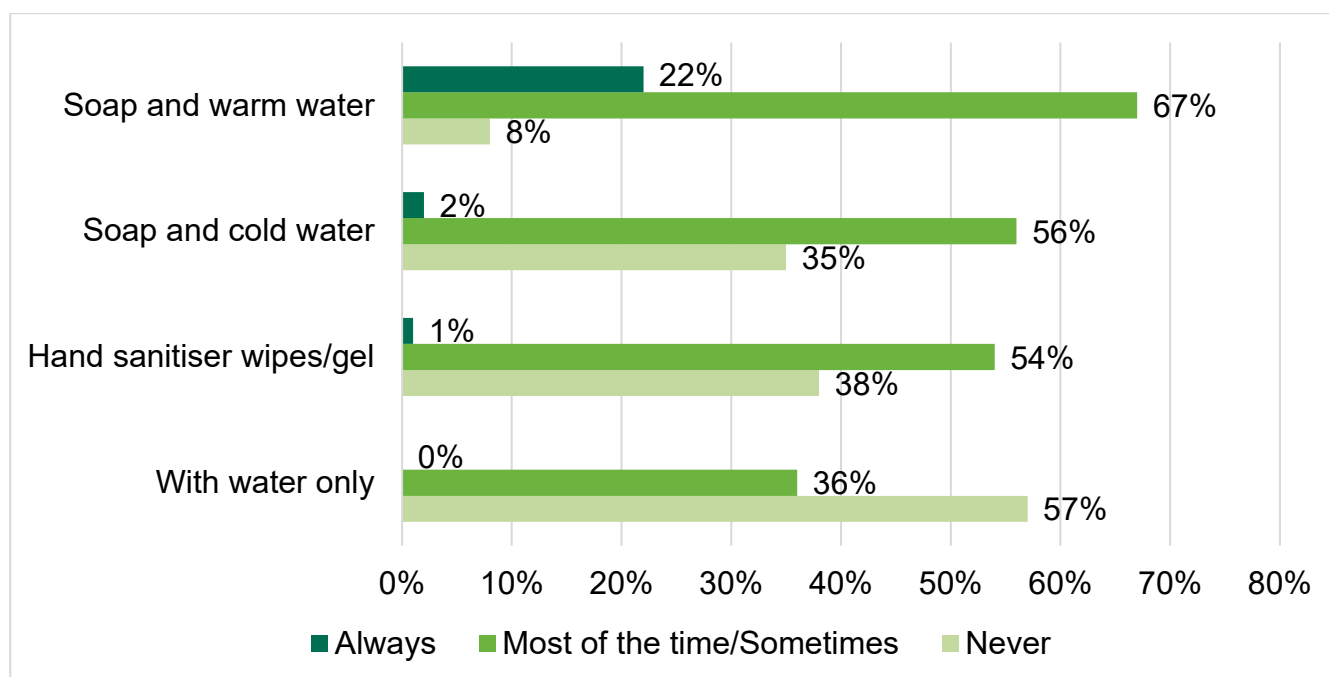
- Knowledge of a good handwashing technique was strong across all participants in qualitative research, and many were aware that handwashing for 20 seconds was recommended. However, our handwashing tracker shows that the proportion who report handwashing for 20-24 seconds has declined from 35% in April 2020 to 31% in January 2021.
- The COVID-19 pandemic had caused participants to wash their hands for longer, and more thoroughly than they did pre-pandemic.
- Soap and warm water were the preferred method for participants to wash their hands when at home across all waves of the handwashing tracker (April 2020-January 2021), a finding also corroborated by qualitative research
- Participants generally preferred the use of liquid/pump soaps as opposed to bars of soap because participants considered them to be more hygienic for handwashing.
- Participants generally preferred hand soap and warm water, as opposed to hand sanitiser. Some disliked the 'sticky' sensation that hand sanitiser left behind on the skin, whilst others were not sure of its efficiency to remove 'germs' from the hands. Despite this, most participants recognised hand sanitiser as 'a good in-between' for situations when they did not have access to handwashing facilities outside the home.
- Some myths, or confusion exists around hand hygiene. When prompted, most participants were unsure if 'anti-bacterial' soap was necessary, or whether their preferred products were truly effective for hand hygiene which indicates a gap in consumer knowledge. One participant also believed that hand sanitiser became ineffective after several uses.

Being unable to wash their hands in their preferred way left participants feeling uncomfortable or 'dirty' as handwashing helped participants to remove 'germs' from the hands or helped them to prevent an unpleasant sensation on the skin.

## Products and equipment

Our quantitative handwashing tracker shows that participants reported using soap and warm water more than any other method of handwashing when at home. In January 2021 for example, 67% of participants reported using soap and warm water ‘most of the time’ or ‘sometimes’ and a further 22% reported using this method ‘always’ when washing their hands at home (a consistent finding across all survey waves). Only 8% of participants said they ‘never’ washed their hands with soap and warm water when at home. Soap and cold water was a less common approach to handwashing, with 35% reporting they ‘never’ use this method, whilst 38% reported ‘never’ using hand sanitising wipes or gel when at home. Using water only (no soap) was the least common choice, with just 36% reporting they ‘sometimes’ or ‘most of the time’ used this method, and 57% reporting that they never did (Figure 2). These findings have been consistent since data collection began in April 2020.

**Figure 2: Reported handwashing methods - Quantitative handwashing tracker survey (Wave 4 only - January 2021)**



Base: Online England, Wales and NI adults 16-75, 15-18 January (2,062). Values may not add to 100% as the ‘Prefer not to say’ and ‘Not applicable’ options are not charted

Our qualitative research reflects similar findings to the quantitative tracker. Participants considered the use of soap and water as integral to an effective handwash in line with

handwashing guidance from the [NHS](#), [PHE](#) and [CDC](#), which all state that soap and water should be used. Some participants also thought that using a clean towel to dry the hands was important. Typically, participants specified that water should be ‘hot’ or ‘warm’, whilst none of the participants during the in-depth interviews included cold water in their description of an ‘ideal handwash’.

[Participant describing a thorough handwash] ‘A good lather of soap, and some nice hot water. And then a clean paper towel as well to dry your hands afterwards.’ – In-depth interview, aged 31, Female, living with dependent children

Nearly all participants in the in-depth interviews preferred the use of liquid soaps (‘pump soaps’) as opposed to bars of soap for handwashing. One participant suggested that liquid soaps were easier to use when wearing jewellery and another suggested that they didn’t have anywhere to store the bar soaps. However, most participants said their preference for liquid soap was because bar soaps were less hygienic and more likely to carry ‘germs’<sup>25</sup>, despite academic literature<sup>26</sup> indicating that bar soap is unlikely to transfer bacteria to the hands:

‘Nah bar soaps are like way less hygienic, because everyone is touching it with their hands whereas with the bottle you can squirt it on your hands, so the bottle is more hygienic.’ – In-depth interview, aged 17, Male, living with parents

In addition, participants had a strong preference for hand soap and warm water over hand sanitiser, as hand soap provided more reassurance of a thorough handwash, such as removing ‘germs’ from the hands. Some participants also considered hand sanitiser to be less hygienic because it remained present on the skin, whilst soap and water would be rinsed away:

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<sup>25</sup> Throughout the interviews, participants used words such as ‘bacteria’ and ‘germs’ when referring to pathogens. The wording in the report reflects the language used by participants.

<sup>26</sup> Heinze, J., & Yackovich, F. (1988). Washing with contaminated bar soap is unlikely to transfer bacteria. *Epidemiology and Infection*, 101(1), 135-142.

‘... although sanitiser just doesn’t make me feel very clean, it makes me feel like I’m just running germs all over my hands, just because it’s not water, it doesn’t make me feel as clean as washing my hands.’ – In-depth interview, aged 25, Female, living with partner

Hand sanitisers were also associated with chemicals and alcohol, which made participants feel ‘less natural’ compared to soaps and sometimes felt dehydrating. Many participants also expressed a dislike for the ‘sticky feeling’ that hand sanitiser left on the skin. However, most participants felt using a hand sanitiser was ‘a good in-between’ for situations without access to facilities – for example, when eating in the car or after touching a menu in a restaurant. This is in line with handwashing guidance from [CDC](#) and [NHS](#) who advise that hand sanitiser should be used when soap and water are not immediately available. In this way, hand sanitiser was a convenient alternative to soap and water while outside of the home.

‘The gel is more convenient because you don’t need a sink or need to wet your hands. The handwash, it would be more prevalent in getting rid of any bacteria on your hands.’ – Ethnographic app research, 25, Male, multi-person household

A small number of participants also expressed a preference for other hand hygiene practices including the use of a towel rather than hand dryers or the use of disposable gloves as an extra precaution in particular scenarios (such as changing cat litter). In most cases, these preferences were either related to comfort for the individual, or to avoid ‘germs’. For many participants, preferences were also associated with the tactile ‘feeling’ left on the skin, including a participant who did not like the feeling of hand creams, and another who did not like the feeling of cleaning beneath the nails. Many participants expressed discomfort when they were unable to wash their hands using their preferred method, with some describing that they would feel ‘dirty’ until they were able to wash their hands in their preferred way.

Despite showing clear preferences for hand hygiene products, many participants were unsure about the effectiveness of different products, including whether soap needed an ‘anti-bacterial’ label, or whether hot or cold water was more effective. One participant also mentioned a ‘rumour’ she had been told that hand gel becomes ineffective after 4 or 5 uses. These findings indicate that participant’s motivations for hand hygiene

are influenced by their beliefs. It also highlights a knowledge gap for consumers which could be improved by providing relevant information to consumers.

‘to be honest, I have no idea, I don’t actually know but I think it must be better to buy anti-bacterial soap than non- anti-bacterial [participant laughs] so I don’t actually know I just buy it and kind of hope that its better.’ – In-depth interview, aged 27, Female, living with partner

## Technique

Using an appropriate handwashing technique was also mentioned frequently by participants during the qualitative research. Participants described a process of rubbing the soap across the hands thoroughly, ensuring to wash the front and back of the hands as well as in between fingers. A few participants also talked about cleaning under their fingernails, around their wrists, thumbs, and a couple of participants even mentioned covering part of their arms. All of this aligns with the techniques recommended by [NHS](#), [PHE](#) and [CDC](#), which states that handwashing should include the backs of the hands as well as palms, thumbs and in between fingers before rinsing the soap away with water. Participants explained that this thorough process was to make sure all ‘germs’ were removed. White et al<sup>27</sup> also found that disgust (particularly a desire to avoid germs and contamination had a positive effect on hand hygiene, although had weak evidence to support this. Our research adds to the evidence that a desire to remove germs from the hands does impact on hand hygiene behaviour.

‘A good hand-wash is one using hot water, plenty of soap making sure you clean every part including backs of hands, nails and in-between the fingers.’ – Ethnographic app research, aged 54, Female, multi-person household, living with dependent children

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<sup>27</sup> White, S., et al. (2020). The determinants of handwashing behaviour in domestic settings: An integrative systematic review. *International Journal of Hygiene and Environmental Health*, 227(113512).

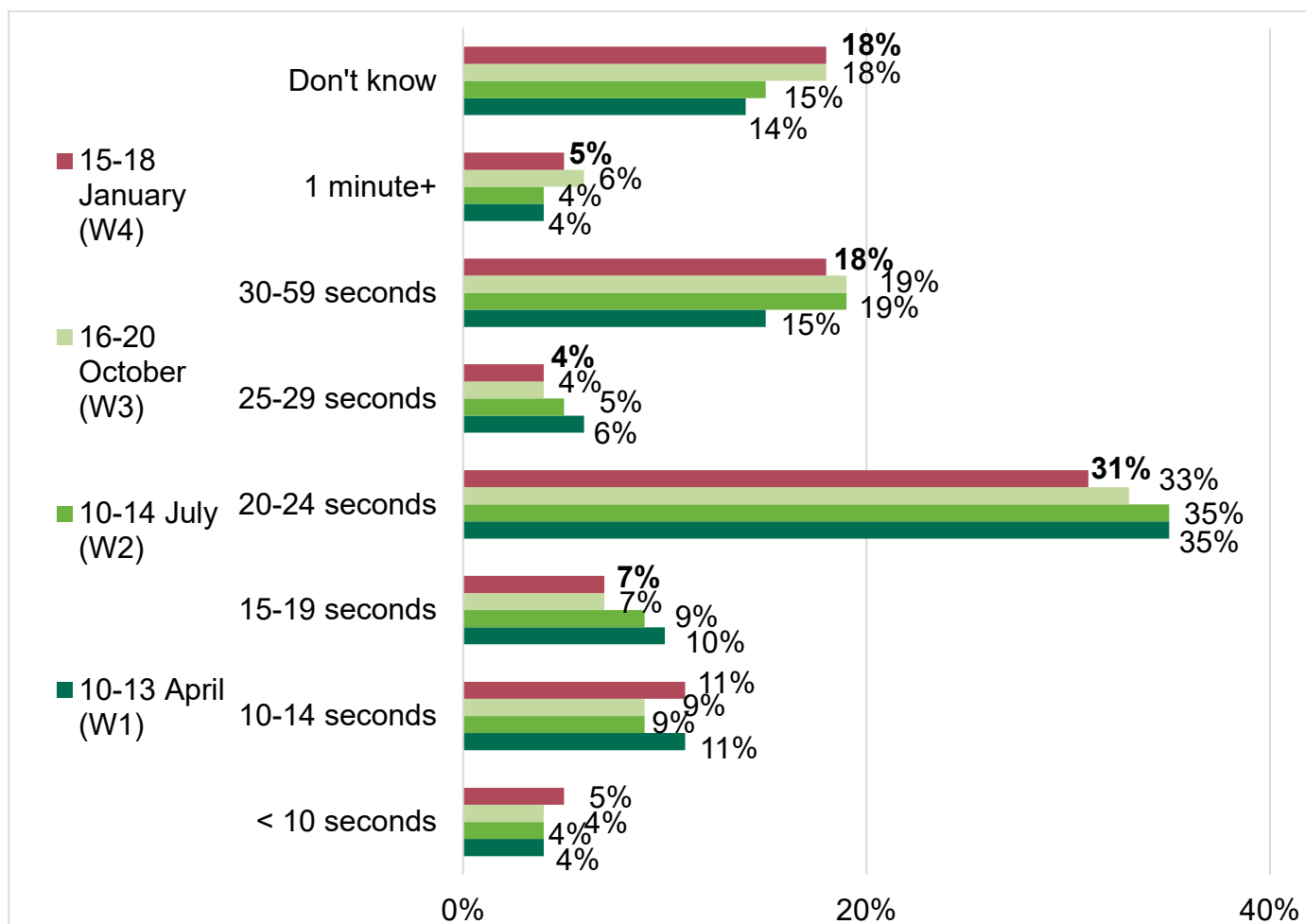
Although participants showed knowledge of the ideal handwashing technique, they did not always behave in this way. A thorough technique was considered important when carrying out specific activities, such as chopping high risk foods or going to the toilet (see Chapters 2 and 3). A less thorough technique, such as just rinsing the hands, or simply washing the palms and backs of hands, was often used by participants in other situations that were considered lower risk.

Although participants did not believe their views on an 'ideal' handwash had changed as a result of the COVID-19 pandemic, some participants did admit that their handwashing technique had changed. For some this was an increase in thoroughness including washing the hands more vigorously, using more soap or waiting for the water to get warm (rather than using cold water). Other participants had also added 'extra steps' to their handwashing such as an additional rinse.

## Time spent handwashing

The quantitative handwashing tracker asked participants how long they spend washing their hands each time they wash their hands. In this self-reported survey question, most participants reported washing their hands for between 20 and 24 seconds in each survey wave, although this proportion declined between April 2020 (35%) and January 2021 (31%). Some reported that they washed their hands for 30-59 seconds (15% in April 2020, 19% in January 2021), but only a small proportion reported washing their hands for 1 minute or more (4% in April 2020, 5% in January 2021), or less than 10 seconds (4% in April 2020, 5% in January 2021). A sizeable proportion of participants reported they 'don't know' how long they spend washing their hands each time (14% in April 2020, 18% in January 2021). Figure 3 provides a summary of this data, and where a statistically significant difference occurred between wave 1 (April 2020) and wave 4 (January 2021), the wave 4 figure is shown in bold. The increase of handwashing media campaigns in place at the time of data collection may result in over-reporting of handwashing for 20 seconds, however these findings indicate that many participants are knowledgeable about the recommended time to spend handwashing.

**Figure 3: Reported time spent washing the hands each time – Quantitative handwashing tracker survey (Waves 1-4, April 2020-January 2021)**



Base: Online England, Wales and NI adults 16-75, 10-13 April 2020 (2,039), 10-14 July 2020 (2,068), 16-20 October 2020 (2,067), 15-18 January 2021 (2,062).

During qualitative research, participants frequently mentioned that handwashing should last for 20 seconds in line with [NHS guidance](#) in place at the time, although in practice some participants said they spent less time washing their hands (5-10 seconds), and a couple mentioned doing so for longer (30 seconds to a few minutes), a finding corroborated by the quantitative tracker. When participants in the in-depth interviews were asked what an 'ideal handwash' should involve, the time spent washing the hands was frequently mentioned.

'...I usually do that not for 20 seconds, I'll be honest, it's not 20 seconds, it's probably about 10 seconds [I: ok] and then rinse, and then just dry my hands on a towel.' – In-depth interview, aged 27, Female, living with partner



As a result of COVID-19 and the associated media campaigns related to handwashing, participants in-depth interviews also reported washing their hands more frequently and for longer by consciously timing twenty seconds.

‘COVID-19 has changed how I clean my hands. It has made me so aware that I am touching things all the time. It has made me clean my hands over triple my norm.’ – Ethnographic app research, aged 54, Female, multi-person household, living with dependent children

‘Well, when you think about it, I never used to do that, I’d wash my hands - yes, but I wouldn’t wash them for 20 seconds, I would just wash them for 5 or 6 seconds, rinse them and dry them’ – In-depth interview, aged 73, Female, living alone

This reported increase in the frequency of handwashing indicates that participants are adapting their behaviour in line with hand hygiene guidance; a finding also corroborated by [Kings College London and Ipsos MORI](#) where 90% of consumers in May 2020 said they were handwashing more often, for 20 seconds, because they believed it may prevent the spread of COVID-19. These findings might also indicate a narrowing of the knowledge-behaviour gap for hand hygiene, at least during the pandemic.

## Chapter 2: Handwashing inside the home

### Chapter summary:

- Inside the home, participants felt safe because they were able to wash their hands when they liked and had control over what came inside their home. Participants did not feel that it was necessary to regularly wash their hands when at home unless they were carrying out specific activities such as going to the toilet, preparing food, cleaning or when handling rubbish.
- Participants in the qualitative research explained that handwashing when arriving home was a new habit to reduce the risk of COVID-19. Some participants also described wiping down food packaging for this reason.
- Most participants reported 'always' washing their hands before cooking or preparing food in the handwashing tracker, although this proportion declined slightly from April 2020 (72%) to January 2021 (68%).
- Our qualitative research shows that hand hygiene was particularly important to participants when handling raw meat, eggs, or fish as they were considered 'high risk' foods. Participants wanted to protect themselves and others from cross-contamination and food poisoning. Participants were less likely to wash their hands when handling food they considered to be 'lower risk' such as salads or fruit.
- Just 43% of participants reported 'always' washing their hands before eating at home in January 2021, and only a few participants mentioned the importance of handwashing before eating during qualitative research.
- Consistently across all waves of the handwashing tracker (April 2020 – January 2021), over 70% of participants reported 'always' washing their hands after handling rubbish. Qualitative research showed that participants were particularly concerned about handwashing after handling food waste, as opposed to dry waste or recycling. This indicates that participants may be unaware of the potential risks associated with handling dry food waste such as cardboard from frozen meat products.
- Just over a third of participants reported 'always' washing their hands after handling their pets (33% in January 2021). Participants in the qualitative research

considered their pets to be clean, so only considered handwashing necessary if the animal had licked them, if the pet was dirty, or after handling pet food or waste.

## Home as a 'safe space'

In the qualitative research, participants described washing their hands less frequently at home compared to being out of the home. Inside the home was considered a safe and clean space for participants because they were able to wash their hands when they arrived home (a newly formed habit for many since the pandemic) and control what came inside the home. At home, participants were also more confident they would always have access to handwashing facilities. Because of this, participants did not consider it necessary to wash their hands as often at home, unless carrying out specific activities that were considered unclean.

'But there isn't really anything which makes me feel I need to wash my hands as much at home than I am outdoors, because I know what's clean in my home and I know it's like a contained kind of, it's like a contained space.' – In-depth interview, aged 22, Male, living with parents

Participants also described how they would be less likely to wash their hands if they had recently done so, for example because they had recently been to the bathroom and washed their hands afterwards. This provided participants with a sense of reassurance their hands were clean and did not need to be continually washed when at home, which also emphasises a feeling of 'home as a safe space'.

'I had a pack of crisps. I didn't wash my hands. I hadn't long returned from the loo and washed with soap and water after going to the toilet so didn't feel the need to clean again.' – Ethnographic app research, aged 38, Female, living with dependent children

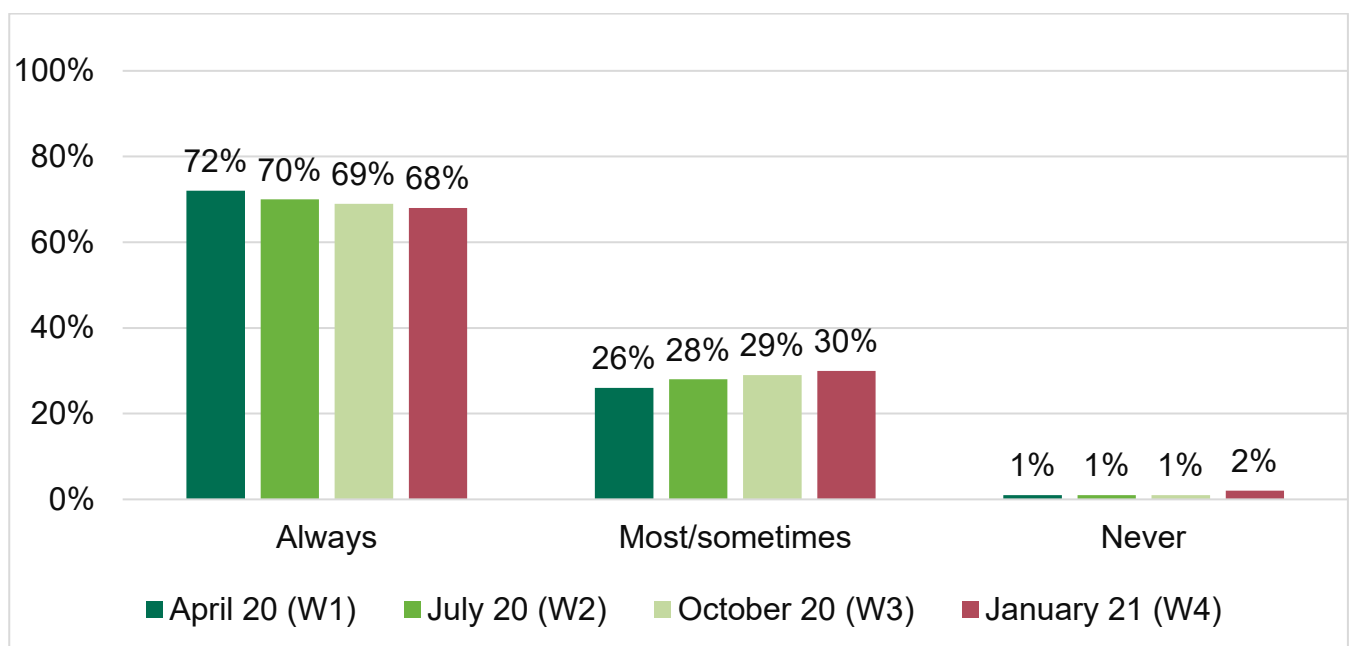
This sense of safety also reflected the way participants often had a clear hand hygiene routine they followed at home, including preferences for washing their hands at different sinks for different purposes. In some cases, this sense of safety extended to the homes of family and close friends, typically because participants considered their friends and family to be hygienic (a finding explored further in the Chapter 7). Despite the home being considered a safe space, there were several scenarios where participants reported

regularly washing their hands such as before they ate, after using the toilet, taking the bins out or gardening to avoid spreading germs when touching food or other surfaces in the house. These scenarios are explored further below.

## Food preparation at home

In our handwashing tracker, participants were asked about their handwashing habits before cooking or preparing food. Between April 2020 and January 2021, there was a small (but statistically significant) decline in the proportion of respondents who reported 'always' washing their hands before cooking or preparing a meal (Figure 4). This shows that handwashing before cooking/preparing food was important for most participants, as a high proportion reported doing this 'always' and very few reported 'never' doing this.

**Figure 4: Frequency of reported handwashing before cooking/preparing food – Quantitative handwashing tracker survey (Waves 1-4, April 2020 - January 2021)**



Base: Online England, Wales and NI adults 16-75, 10-13 April 2020 (2,039), 10-14 July 2020 (2,068), 16-20 October 2020 (2,067), 15-18 January 2021 (2,062). Values may not add to 100% as the "Not applicable" option is not charted.

In line with the findings from the quantitative tracker, most participants from our qualitative research reported washing their hands before and after cooking/preparing food, in line with [NHS](#) and [CDC](#) guidance. For many, this was considered a habitual behaviour; something they did automatically without thinking.

‘Yeah, well when I’m doing the meat, I wash my hands straight away [...] So basically while preparing a meal [...], I could wash my hands about four or five times.’ – In-depth interview, aged 70, Male, living alone

Hand hygiene was particularly important to participants when cooking or handling raw meats, eggs, or fish as these were often considered ‘high risk’ foods and they wanted to avoid cross-contamination and protect themselves and others from food poisoning. A few participants mentioned that they had previously experienced food poisoning, and had ‘learnt’ to be more careful with hygiene because of this:

‘I learnt my lesson, you know I’ve had norovirus numerous times, been out in restaurants when I’ve been out, I’ve got cold and flu quite a lot so yeah erm, I’ve learned my lesson.’ – In-depth interview, aged 42, Male, living with a partner and dependent children

Participants explained how they applied a more thorough technique to their handwashing after handling these foods, for instance using a nail brush on the hands or using ‘hot’ water and soap to add extra assurance. Aside from more thorough handwashing routines, participants also took additional precautions when cooking with different ingredients, such as using separate chopping boards, cleaning surfaces and chopping boards, or touching taps with their elbow after handling chicken. In contrast several participants explained that they did not consider handwashing to be necessary after handling ‘lower risk’ foods, such as fruit or vegetables:

‘If I’m doing stir-fry, I’ll open the packet, take the chicken out and put it out separately on the plate. I’ll wash my hands before going to the fridge to get the veg out... Whereas, if I’m just preparing a salad, I wash my hands before preparing it, but I wouldn’t then automatically wash my hands before doing anything else. Less likely to catch something from a salad.’ – Ethnographic app research, 36, Female, multi-person household, living with dependent children

For many participants in the qualitative research, the residue from some ingredients and the sensation of stickiness prompted them to wash their hands. This was regardless of the perceived risk of the food and was simply to get rid of the unpleasant sensation and to avoid accidents in the kitchen. For example, one participant mentioned wanting to

avoid cutting ingredients with 'slippery fingers'. Another described washing her hands after cooking with vegetables such as carrots and beetroot, to remove the colour stain, a finding consistent across all qualitative research methods.

'like you've, peeled carrots they can leave a stain on your hands, and just any vegetables really. Potatoes leave a sediment on your hands, so you know, you'd wash your hands after peeling potatoes.' –  
In-depth interview, aged 73, Female, living alone

These findings indicate that participants are most likely to wash their hands during food preparation when foods are perceived as 'high risk' or when they leave an uncomfortable sensation on the skin. This is also consistent with data captured in the FSA's Food & You 2 survey, where participants were more likely to report 'always' washing their hands after handling raw meat, poultry or fish (93%), than after general food preparation or cooking (77%)<sup>28</sup>. These qualitative findings may also help to explain why only 58% of respondents reported 'always' handwashing after handling frozen chicken products in a recent FSA survey<sup>29</sup>. If participants do not experience an unpleasant sensation after handling these products, or perceive these food products to be lower risk, hand hygiene compliance may be reduced. Risk perception was also identified as a determinant of handwashing behaviour by White et al<sup>30</sup>, specifically the belief that handwashing with soap and water is effective in reducing disease transmission.

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<sup>28</sup> Armstrong, B., King, L., Clifford, R. & Jitlal, M. (2021). Food and You 2: Wave 2 Key findings. Food Standards Agency.

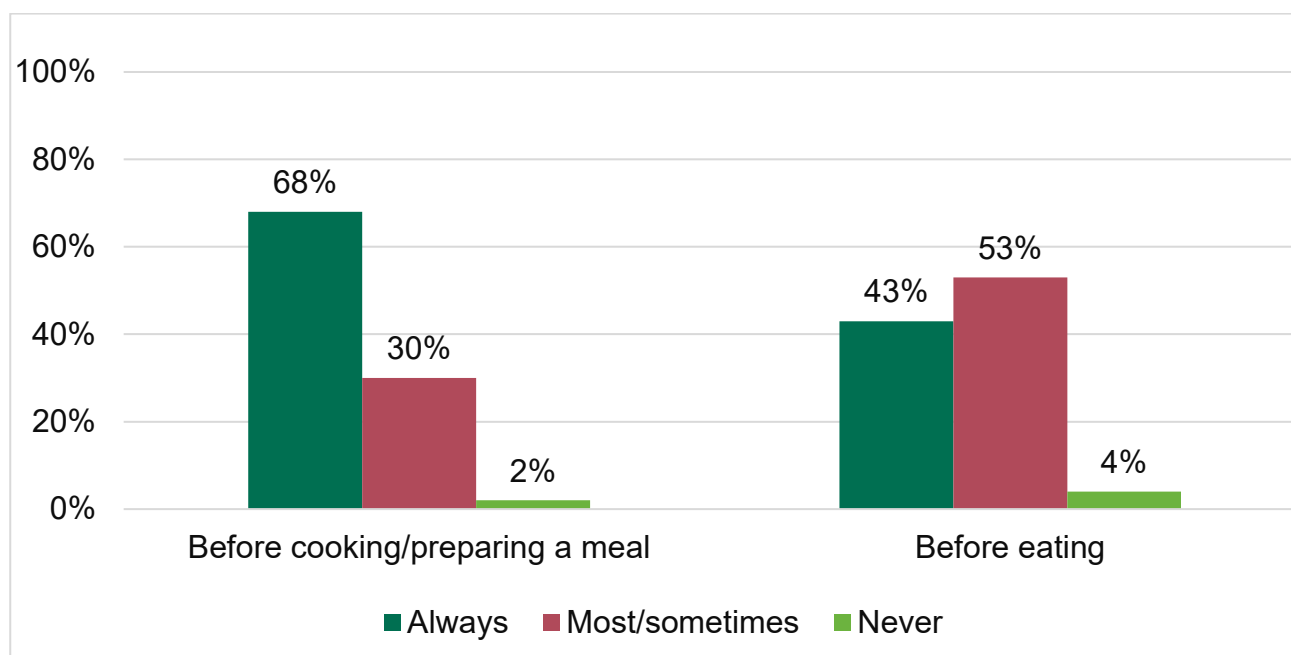
<sup>29</sup> Ipsos MORI. (2021). Survey of consumer practices with respect to coated frozen chicken products. Food Standards Agency.

<sup>30</sup> White, S., et al. (2020). The determinants of handwashing behaviour in domestic settings: An integrative systematic review. *International Journal of Hygiene and Environmental Health*, 227(113512).

## Eating at home

Our quantitative tracker also shows that participants were more likely to wash their hands before cooking or preparing food than before eating food. For example, in January 2021 68% of people reported 'always' washing their hands before cooking/preparing food, whereas only 43% reported 'always' washing their hands before eating (Figure 5). Over time, the proportion who reported 'always' washing their hands before eating remained broadly consistent (lowest at 43% in January 2021, and highest at 48% in April and October 2020). It has also remained consistently lower than those who reported handwashing before cooking/preparing a meal.

**Figure 5: Frequency of reported handwashing before cooking/preparing food and before eating – Quantitative handwashing tracker survey (Wave 4 only, January 2021)**



Base: Online England, Wales and NI adults 16-75, 15-18 January 2021 (2,062).  
Values may not add to 100% as 'Not applicable' options are not charted.

During in-depth interviews, a small number of participants mentioned that it was important to them to wash their hands before eating. Generally, it was more important for participants to wash their hands during food preparation or when eating outside the home (see Chapter 3) than handwashing before eating at home.

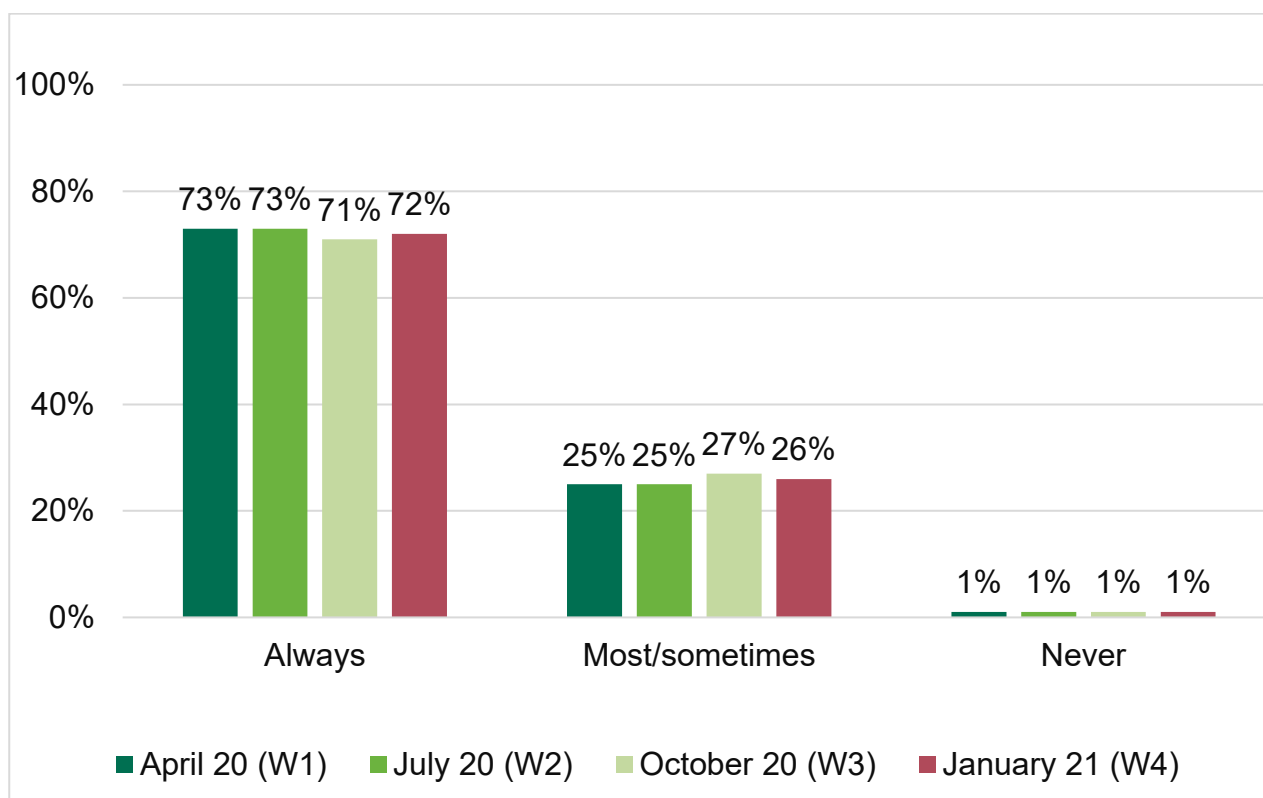
Typically, participants who reported doing handwashing before eating did so as a habit (an automatic behaviour, without thinking) or did so after cooking, depending on the food prepared, to avoid any cross-contamination which again indicates participants risk perception as a determinant of handwashing.

‘I just don’t think it that I could personally enjoy my meal I would think about how I’d prepare it or something like that, or anything I’d touched, I would just want to like erm make sure my hands are clean before I’m eating because it’s going like near my mouth.’ – In-depth interview, aged 20, Female, living alone

## Handling rubbish

Consistently across all waves of the quantitative handwashing tracker (April 2020 – January 2021) just over 70% of participants reported ‘always’ washing their hands after handling rubbish, and only 1% said they ‘never’ do this (Figure 6). The consistency of this data may indicate the hand hygiene in this scenario is an ingrained habit as it has not fluctuated over time.

**Figure 6: Frequency of reported handwashing after handling rubbish – Quantitative handwashing tracker survey (Waves 1-4, April 2020-January 2021)**





Base: Online England, Wales and NI adults 16-75, 10-13 April 2020 (2,039), 10-14 July 2020 (2,068), 16-20 October 2020 (2,067), 15-18 January 2021 (2,062). Values may not add to 100% as 'Not applicable' options are not charted.

Findings from our qualitative research also highlight the importance of handwashing after handling rubbish for participants. Most participants mentioned handwashing after emptying their bins, with particular emphasis on handwashing after handling 'food waste', as opposed to dry waste or recycling. Many participants acknowledged that the main reason for handwashing in this scenario was sensorial; they washed their hands to remove any unpleasant sensation on the skin. The feeling of dirt, grime or any other unpleasant sensation on the hands acted as a cue or prompt for participants to wash their hands. Handwashing to remove a smell from the hands was also another cue for hand hygiene, for example after opening a tin of tuna.

'If it was like cardboard or plastic that had like, if it got juices on, like on it, I would wash my hands, but I definitely don't think like with cardboard I'd be as concerned. [...] Whereas if it was like wet waste or like food waste, I would want to get the, like the smell or like the germs off...' – In-depth interview, aged 20, Female, living alone

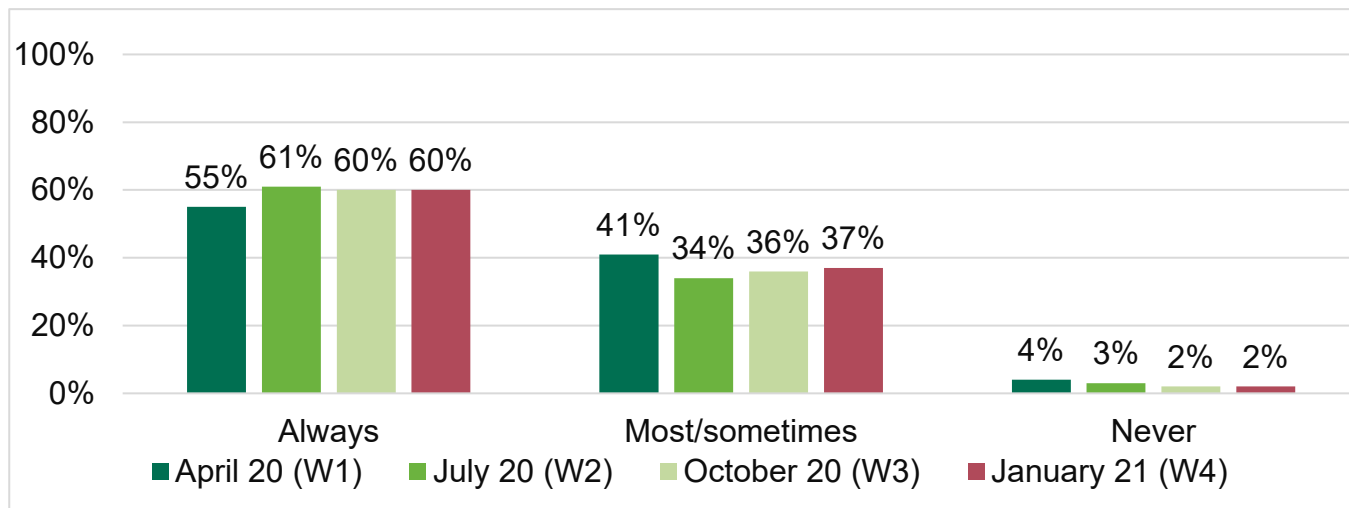
This finding indicates that participants may not be aware to the potential risks of handling cardboard waste. For example, 'dry' packaging may include cardboard from frozen meat products such as chicken nuggets. Although this packaging may appear clean to the touch, participants may be exposing themselves to risk of foodborne disease if they do not wash their hands.

## Returning home

The quantitative handwashing tracker asked participants how frequently they wash their hands when returning home, after a trip outside of their home. The data shows that there was a significant increase in participants who reported 'always' washing their hands when returning home between April 2020 (55%) and subsequent survey waves (61% in July, 60% in October and 60% in January 2021) (Figure 7). The proportion who reported 'always' washing their hands in this scenario was lower than those who reported 'always' washing their hands before preparing food (68% in January 2021) and after handling rubbish (72% in January 2021). These figures are similar to data collected more recently

by [ONS](#), where 58% of participants in September 2021 reported ‘always’ washing their hands with soap and water when returning home from a public place.

**Figure 7: Frequency of reported handwashing after a trip away from the home – Quantitative handwashing tracker survey (Waves 1-4, April 2020-January 2021)**



Base: Online England, Wales and NI adults 16-75, 10-13 April 2020 (2,039), 10-14 July 2020 (2,068), 16-20 October 2020 (2,067), 15-18 January 2021 (2,062). Values may not add to 100% as ‘Not applicable’ options are not charted.

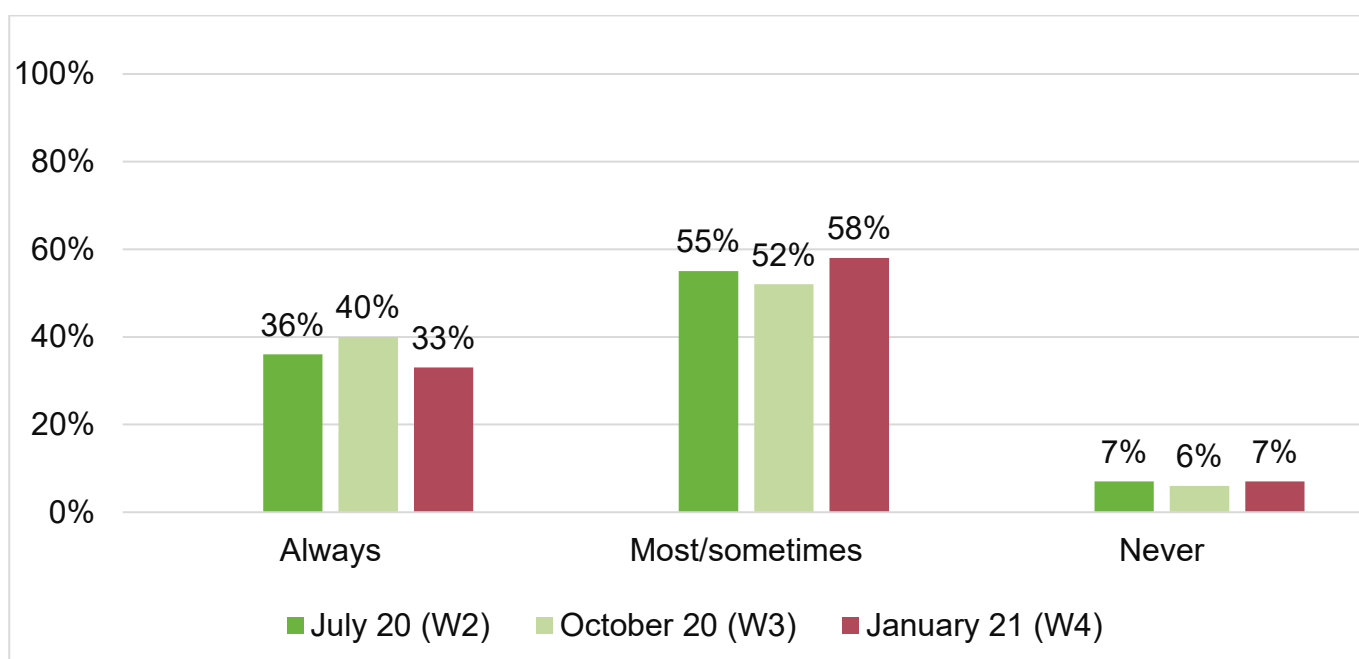
Like the quantitative tracker, many participants in the ethnographic app research described increased hygiene measures when returning home, or with items coming inside the home, as they saw this as a risk of contamination from the virus. For example, some participants described handwashing before touching food items because of the ‘germs’ that could be present on the packaging, whilst some described wiping food packaging down with disinfectant wipes after returning home from a shop or after accepting deliveries. These were routines they did not have before the pandemic and were a result of concerns about the potential for contracting the virus. Within the qualitative research, participants described developing a routine of washing their hands after entering their home in response to the pandemic.

## Interaction with pets

In the quantitative handwashing tracker, just over a third (33%-40%) of participants reported ‘always’ washing their hands after contact with animals (including pets) in each survey wave (July 2020 – January 2021), whilst the majority reported doing this ‘most of the time’ or ‘sometimes’ (52-58%) and a small proportion reported never doing this

(6-7%) (Figure 8). In comparison to the other reported scenarios (handling rubbish, before eating and before preparing food), the proportion who report handwashing 'always' washing their hands after contact with pets was much lower. Similar findings were also noted in FSA's Kitchen Life study (2013)<sup>31</sup>, where pets were considered by participants to be members of the household and participants would not always wash their hands after handling or feeding their pets. Handwashing after handling pets, pet food or pet waste is advised by [NHS](#) and [CDC](#) guidance.

**Figure 8: Frequency of reported handwashing after contact with animals (including pets) – Quantitative handwashing tracker survey (Waves 2-4, July 2020 - January 2021)**



Base: Online England, Wales and NI adults 16-75 who have a pet, 10-14 July 2020 (1,067), 16-20 October 2020 (1,017), 15-18 January 2021 (1,070). Values may not add to 100% as the 'Not applicable' options are not charted. Data available from July 2020.

Qualitative research showed that participants extended their feeling of safety in their own home to their pets, which resulted in more relaxed handwashing practices. Participants reported not having a habit of washing their hands after petting their own animals unless the animal had been outside or had dirty paws that needed cleaning.

<sup>31</sup> University of Hertfordshire. (2013). [Domestic Kitchen Practices: Findings from the 'Kitchen Life' study](#). Food Standards Agency. [Accessed: 4th October 2021].

‘we have an indoor cat I kind of feel like ‘Ok I know she’s been in the house all day’, erm you know I’m happy enough that she’s pretty clean.’ – In-depth interview, aged 27, Female, living with partner

Participants also described cleaning their hands after activities with their animals if:

- A substance was left on them such as fur or if an animal had licked them
- After specific activities associated with food and animal waste such as after touching water bowls, feeding them, cleaning litter boxes or picking up after them.

Participants also explained that they would wash their hands after cuddling their pets if they were about to prepare food or prior to eating. Familiarity and control over the grooming regimes of pets and knowing where they had been and who had touched them provided participants with reassurance that meant they felt they did not need to wash their hands.

‘When I am quite confident that my dog has been washed, I’m comfortable touching and cuddling my dog without me washing after. If the dog has just been for a crazy long walk ... loads of people have been touching her, I wouldn’t touch her until she was washed.’ – Ethnographic app research, aged 25, Male, multi-person household

## Handwashing after cleaning or using chemicals

A small number of participants during in-depth interviews mentioned the importance of hand hygiene after cleaning and household chores, particularly those that involved chemicals. This was important for participants to ensure they removed any dirt or chemical from the skin.

‘...if I was cleaning the bathroom, or erm any room really, I would make sure, if I wasn’t wearing gloves, I’d want to wash my hands erm after [...].’ – In-depth interview, aged 20, Female, living alone

# Chapter 3: Handwashing outside the home

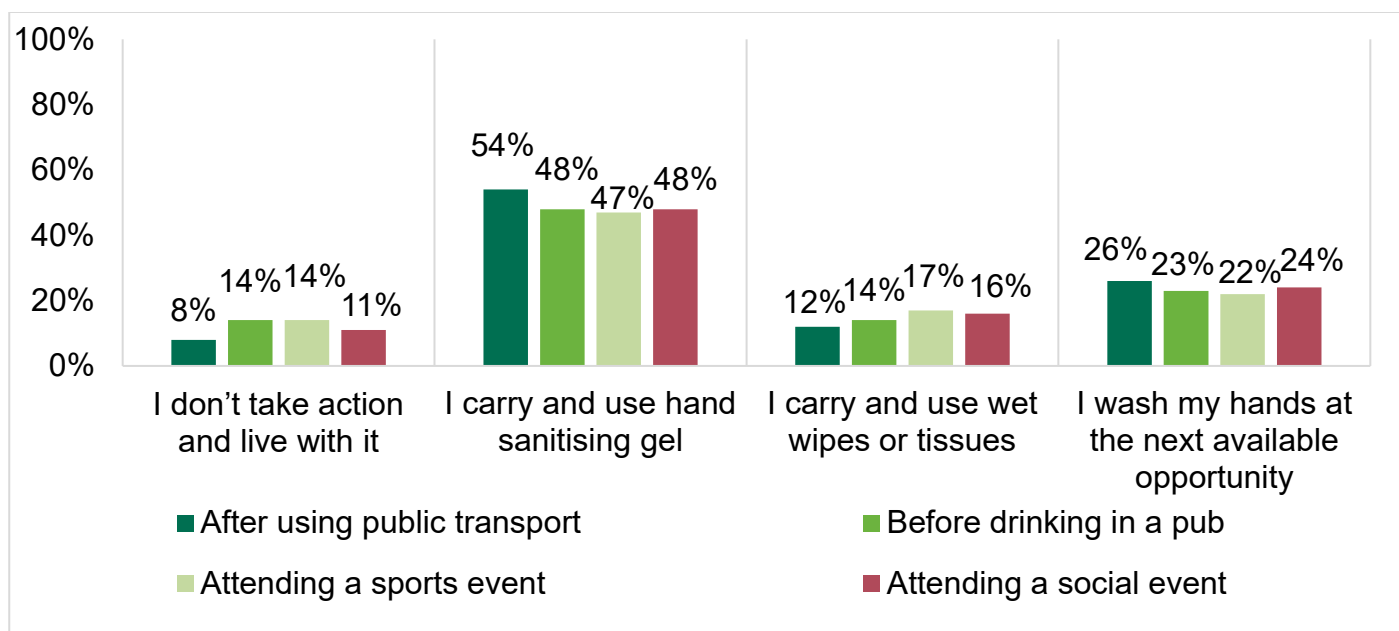
## Chapter summary:

- Participants felt most at risk of COVID-19 when outside the home, often leading to more frequent hand hygiene routines. Places previously perceived as safe - such as supermarkets, public transport, restaurants, pubs and the workplace became possible risk areas for contracting the virus. Many participants had adopted the use of hand sanitiser when outside the home since the COVID-19 pandemic to reduce their risk of contracting the virus.
- When handwashing facilities were unavailable outside of the home, participants in the handwashing tracker survey were most likely to report using hand sanitiser or washing their hands at the next available opportunity, rather than taking no action at all.
- Despite this, the handwashing tracker shows that reported use of hand sanitiser before eating when outside of the home in a range of settings is still relatively low. For example, 40% of participants reported 'always' washing their hands before eating in a restaurant in January 2021 and 11% reported 'never' washing their hands in this scenario. This finding was corroborated by qualitative research, where some participants considered handwashing when eating outside the home to be important, but others did not consider this to be a priority.
- For some participants in the qualitative research, handwashing before eating out was more important for foods that were eaten with the hands (as opposed to cutlery). However, this finding was not corroborated by the handwashing tracker, where participants were more likely to report 'always' washing their hands before eating in a restaurant (40% in January 2021) than when eating snacks with the hands (30% in January 2021).

## Taking extra precautions outside the home

Our quantitative tracker monitored the use of hand sanitising gel and other approaches to hand hygiene when outside the home, if facilities were unavailable after using public transport, before drinking in a pub, after attending a sports event and after attending a social event. Figure 9 shows the results for January 2021, where a significant minority reported ‘taking no action’ for each of the scenarios (8% after using public transport, 11% when attending a social event, and 14% before drinking in a pub or when attending a sports event). A much larger proportion (the majority for each scenario) reported carrying and using hand sanitising gel, particularly after using public transport (54%), or attending a social event or before drinking in a pub (48%). Between 22% and 26% reported waiting until the next available opportunity to wash their hands in each of these scenarios.

**Figure 9: Actions taken by participants when handwashing facilities are unavailable in scenarios outside the home – Quantitative handwashing tracker survey (Waves 4 only, January 2021)**



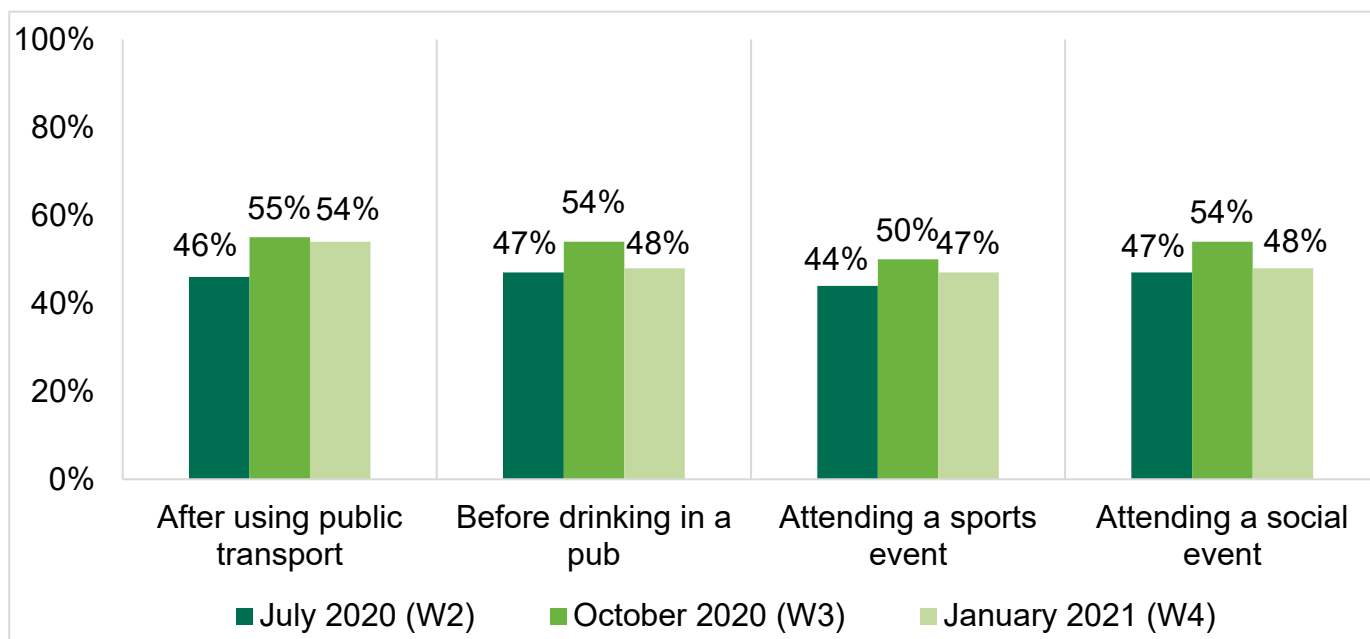
Base: Online England, Wales and NI adults 16-75 who reported carrying out these activities at the time of data collection<sup>32</sup>. 15-18 January 2021, ‘after using public transport’

<sup>32</sup> Participants who reported ‘I am not doing this activity at the moment’ are excluded from the base.

(1,031), 'before drinking in a pub' (734), 'attending a sports event' (695), 'attending a social event' (845).

When comparing this data over time, the use of hand sanitising gel has remained relatively stable across all survey waves (July 2020 – January 2021) in each scenario outside the home (Figure 10). For each scenario, the proportion of participants who reported using hand sanitiser did increase slightly from July to October 2020, and this may represent a relaxation of lockdown restrictions over the summer period where participants were more likely to be outside of their home (see appendices for further details about restrictions in place at the time of data collection). These findings are corroborated by [Brandwatch](#), who found that 49% of participants reported using hand sanitiser as a precaution against COVID-19 in February 2020 (with 62% of consumers saying that they were washing their hands with soap and water as a precaution). Further monitoring through our handwashing tracker survey will be necessary to determine any significant changes in these hand hygiene habits when outside of the home, as the pandemic subsides.

**Figure 10: Participants who report carrying and using hand sanitising gel – Quantitative handwashing tracker survey (Waves 2-4, July 2020-January 2021)**



Base: Online England, Wales and NI adults 16-75 who reported carrying out these activities at the time of data collection<sup>33</sup>: ‘after using public transport’ (953, 10-14 Jul-21), (1,123, 16-20 Oct-21), (1,031, 15-18 Jan-21), ‘before drinking in a pub’ (767, 10-14 Jul-21), (950, 16-20 Oct-21), (734, 15-18 Jan-21), ‘attending a sports event’ (669, 10-14 Jul-21), (673, 16-20 Oct-21), (695, 15-18 Jan-21), ‘attending a social event’ (912, 10-14 Jul-21), (1,014, 16-20 Oct-21), (845, 15-18 Jan-21). Data is only comparable from July 2020 onwards.

In contrast to being inside the home, our qualitative research shows that participants felt most at risk of COVID-19 in places outside of their home. This often led to more frequent hand hygiene routines when ‘out and about’. Participants spoke of places they previously perceived as safe - such as supermarkets, restaurants, pubs, and the workplace – which became possible risk areas for contracting the virus. In contrast to their home, participants felt they lacked control of the outside environment and thus felt less safe. In general, this encouraged participants to take extra precautions when outside the home, with many choosing to carry hand sanitiser to allow for better hand hygiene when outside; this had become an important habit for many participants since the pandemic.

<sup>33</sup> Participants who reported ‘I am not doing this activity at the moment’ are excluded from the base.



A smaller number also reported carrying tissues, wipes (antibacterial or baby wipes) or gloves as extra measures of precaution. A small number of participants in the in-depth interviews said that they did not carry hand gel when leaving the house, instead they relied on other family members to do this or would wash their hands at the next available opportunity rather than carrying hand gel.

‘If I didn’t have running water for example, I’d still go out of my way to try, so I’d use antibacterial gel for example.’ – In-depth interview, aged 22, Female, living with partner

Our qualitative research also shows that some participants also developed strategies to minimise contact with dirty or contaminated surfaces that would have been touched by others and used hand sanitising gel or wipes to keep surfaces and contact points clean. For example, participants described sanitising gym equipment, tables in cafes and their steering wheel. Some also reported wearing rubber gloves when doing food shopping and avoiding touching anything when using public transport. For many, these were new behaviours because of the pandemic which shows deliberate action planning to improve hand hygiene and to introduce new habits when outside the home:

‘I’ve always got alcohol gel on me. There’s a bottle in the car, there’s a bottle in my son’s backpack that we take out with us. Erm I think now more than ever I think everybody is more self-aware and conscious of handwashing so it’s pretty much the norm now isn’t it.’  
– In-depth interview, aged 31, Female, living with dependent children

## Handwashing when eating out

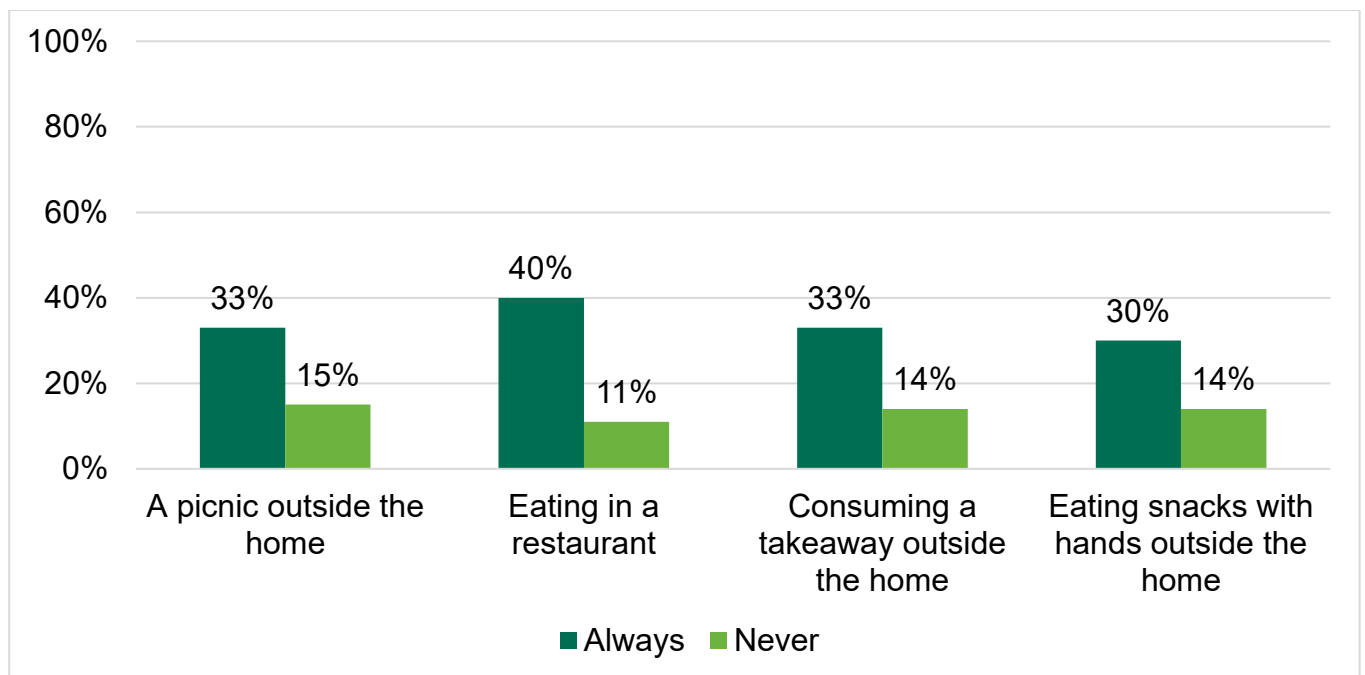
The quantitative handwashing tracker asked participants how often, if at all, they washed their hands (or used hand sanitising gels/wipes) before eating in each of the following scenarios:

- A picnic outside the home
- Eating in a restaurant
- Consuming a takeaway outside the home
- Eating snacks with hands outside the home

40% of participants reported ‘always’ washing their hands or using hand sanitising gel before eating in a restaurant in January 2021, whilst 33% reported doing so before eating

a picnic or when eating a takeaway outside of their home. Just 30% of participants reported washing their hands or using hand sanitising gel before eating snacks with their hands (Figure 11). These findings have remained relatively stable across all survey waves (July 2020 – January 2021), although the proportion who reported ‘always’ washing their hands before eating in a restaurant increased in October 2020 (49%). Figure 11 also shows the smaller proportion who reported ‘never’ washing their hands in each of these scenarios, which have also remained consistent overtime. This implies that there may be a small minority of consumers who do not utilise hand hygiene practices when outside the home in these scenarios, despite the increased government guidance to do so.

**Figure 11: Participants who reported 'always' and 'never' washing their hands in a range of scenarios outside the home – Quantitative handwashing tracker survey (Waves 4 only, January 2021)**



Base: Online England, Wales and NI adults 16-75 who reported carrying out these activities at the time of data collection<sup>34</sup>. 15-18 January 2021, ‘a picnic outside the home’ (1,034), ‘eating in a restaurant’ (1,080), ‘consuming a takeaway outside the home’ (1,125), ‘eating snacks with hands outside the home’ (1,272). Only ‘always’ and ‘never’ responses shown.

<sup>34</sup> Participants who reported ‘I am not doing this activity at the moment’ are excluded from the base.

During qualitative research, participants were asked to provide spontaneous responses about handwashing when eating outside the home. Some participants did not mention handwashing when eating out, which indicated that it was not a priority. Participants who did mention handwashing when eating out generally considered it to be of lesser importance, particularly compared to other scenarios discussed during the interviews. The ethnographic app research showed that some participants preferred washing their hands with soap and water before eating in a restaurant or cafe. Where this was not possible, they used hand sanitiser before starting their meal.

‘The last time I was outside my home with other people we met for lunch and sat outside at a pub. I had washed my hands when getting ready to go and I assumed the others did the same. After our meal we all passed the hand sanitiser round and used it. It’s become a habit when we’re out, often sanitising after passing items across the table.’ – Ethnographic app research, aged 72, Female, single person household

Our qualitative research also found that the type of food eaten also seemed to influence hand hygiene behaviour. For example, one participant explained how handwashing before eating was particularly important for foods eaten with the hands, whilst food eaten with utensils or cutlery would not require handwashing. However, this finding was not corroborated by the handwashing tracker, where participants were more likely to report ‘always’ washing their hands before eating in a restaurant (40% in January 2021) than when eating snacks with the hands (30% in January 2021):

‘yeah, I would, a hundred percent, like if I was eating with my hands I would have to erm always wash my hands before, but if I was eating with utensils and I knew say my hands were clean or if I didn’t prepare it for example, I would erm, I wouldn’t maybe be as concerned with then washing my hands before.’ – In-depth interview, aged 20, Female, living alone

# Chapter 4: Personal health and hygiene

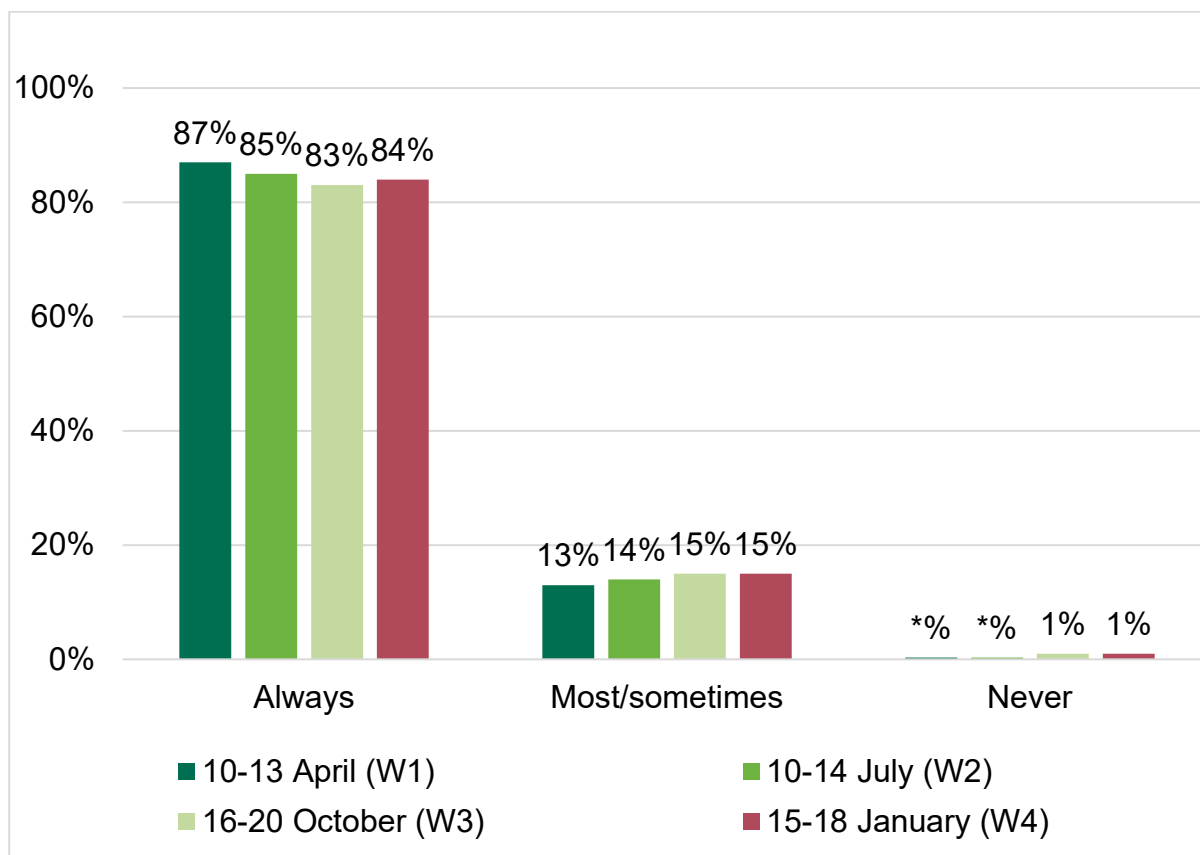
## Chapter summary:

- Most participants (over 80% in each of the four waves of the handwashing tracker survey) reported 'always' washing their hands after using the toilet, whilst 1% or less reported 'never' doing this. This finding is corroborated by our qualitative research, where participants also considered handwashing after using the toilet, changing nappies, or assisting elderly relatives in the bathroom to be extremely important.
- A much smaller proportion (40% in January 2021) reported 'always' washing their hands after coughing, sneezing into their hands or blowing their nose. This proportion had increased from 34% in April 2020, to 43% in October 2020 but is still less than half of those surveyed. Despite showing an awareness of the importance of handwashing to prevent the spread of disease, participants in qualitative research did not commonly report handwashing after coughing or sneezing. This highlights a potential knowledge-behaviour gap for hand hygiene in this scenario.

## Handwashing after using the toilet

In the quantitative tracking survey over 80% of participants reported 'always' washing their hands after using the toilet in each survey wave (84% in January 2021) and 1% or less reported 'never' washing their hands in this scenario (Figure 12). More participants reported 'always' washing their hands in this scenario compared to any other scenario asked in the tracker (such as handling rubbish or before eating), which implies that this scenario is particularly important, and likely an ingrained habit, for participants.

**Figure 12: Frequency of hand hygiene after using the toilet – Quantitative handwashing tracker survey (Waves 1-4, April 2020-January 2021)**



Base: Online England, Wales and NI adults 16-75, 10-13 April 2020 (2,039), 10-14 July 2020 (2,068), 16-20 October 2020 (2,067), 15-18 January (2,062). \*% = less than 1%. Values may not add to 100% as the “Prefer not to say” option is not charted.

Participants in the qualitative research also considered it very important to wash their hands after any activities involving faeces or urine, including use of the toilet, changing nappies or helping children or elderly relatives to use the bathroom. This is in line with [NHS](#) and [CDC](#) guidance. For most participants this was an ingrained habit, as it was typically done ‘automatically’ or ‘without thinking’. Only one participant, during in-depth interviews, did not consider hand hygiene after using the toilet to be of great importance, because the participant felt that her own bathroom was clean:

I’d say I think when I’m like it depends on the toilet you would use.  
 If I were to use my own toilet, like upstairs where I know that, like it’s clean I wouldn’t feel as like erm as important to wash my hands after I go to the toilet, I would, but I wouldn’t feel it’s as important to say

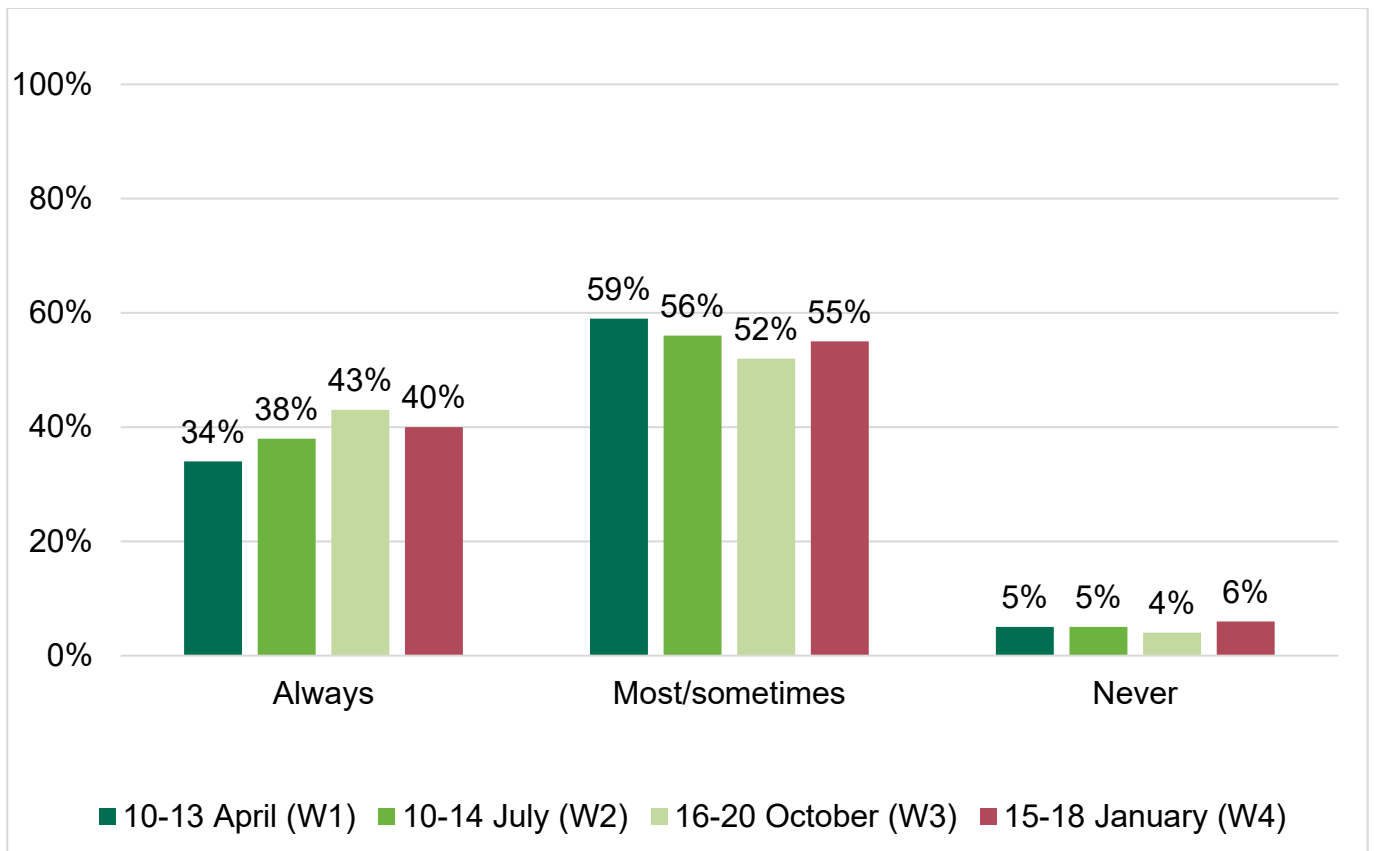
if I was coughing or sneezing.’ – In-depth interview, aged 20,  
Female, living alone

## Handwashing after coughing and sneezing

In the quantitative tracker survey, the proportion of participants who reported ‘always’ washing their hands, or using hand gel after coughing, sneezing into their hands or blowing their nose was much lower than the proportion who reported handwashing after using the toilet. In April 2020, the proportion who reported ‘always’ washing their hands in this scenario was 34%, rising to 43% in October 2020 and declining again in January 2021 to 40% (a statistically significant increase between April and October).

The proportion who reported ‘never’ doing this remained stable between 4-6% across all survey waves (April 2020 – January 2021) (Figure 13).

**Figure 13: Frequency of handwashing after blowing your nose, coughing, or sneezing into your hands – Quantitative handwashing tracker survey (Waves 1-4, April 2020-January 2021)**



Base: Online England, Wales and NI adults 16-75, 10-13 April 2020 (2,039), 10-14 July 2020 (2,068), 16-20 October 2020 (2,067), 15-18 January (2,062). Values may not add to 100% as the “Prefer not to say” option is not charted.

In line with findings from the quantitative tracker, participants in the qualitative research did not reference the importance of hand hygiene after sneezing or coughing, despite the pandemic and [NHS](#) guidance which encourages handwashing in this scenario. Where participants did discuss this topic, they did not emphasise this as a particularly important time to wash their hands, neither did they consider it to be a time when handwashing should be particularly thorough. A couple of participants mentioned handwashing after coughing or sneezing when in the company of others as ‘the polite thing to do’ but did not consider this to be important when at home.

‘I definitely don’t go and wash my hands if I’ve just blown my nose at home. I don’t really get a cough, if I’m ill I tend to be a bit sneezy but won’t consciously go and wash my hands.’ – In-depth interview, aged 25, Female, living with partner

Despite this, during qualitative research, participants did show a strong awareness of the effectiveness of hand hygiene in disease prevention (often described as ‘germs’, ‘bacteria’ and ‘infections’). Evidence of consumer awareness is also evident from [ONS data](#) (September 2021), where 92% of respondents considered handwashing to be ‘important’ or ‘very important’ in slowing the spread of COVID-19. Despite this, our research shows that many participants did not report handwashing after coughing or sneezing. This highlights a potential knowledge-behaviour gap for consumer handwashing, where participants are aware of the importance of hand hygiene for disease prevention, yet do not regularly admit to thorough hand hygiene practices after coughing or sneezing. These findings are similar to those identified by [GlobalWebIndex](#), where in early March 2020 84% of consumers knew ‘washing your hands frequently or using hand sanitiser is a recommended precaution to keep healthy’, yet only 57% said that they were washing their hands more frequently since the COVID-19 pandemic. Using our research alone, it’s not possible to identify the reasons for this knowledge-behaviour gap, however, participants may be less likely to wash their hands after coughing, sneezing, or blowing their nose if handwashing facilities are unavailable or inconvenient to access.

This would contrast with handwashing after using the toilet, for example, where these facilities are readily available. Barriers to hand hygiene are discussed further in Chapter 5.



# Chapter 5: Physical Influences on handwashing behaviour

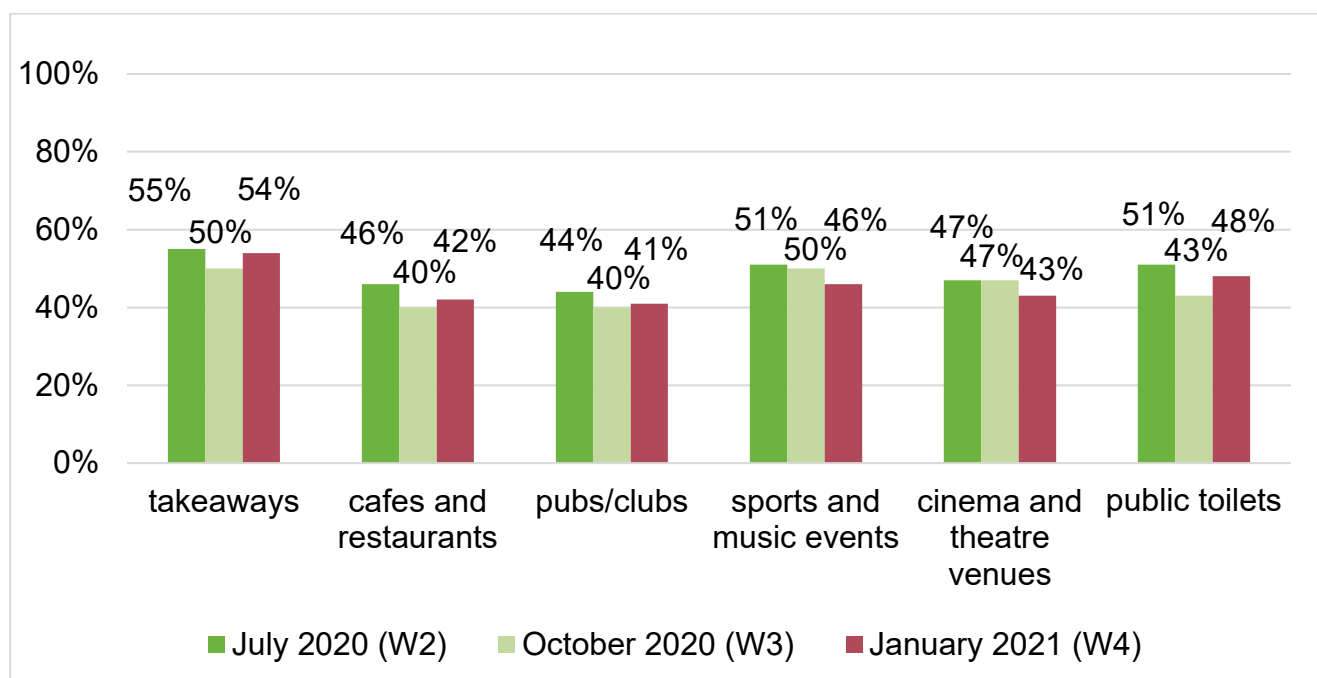
## Chapter summary:

- According to the handwashing tracker, handwashing facilities were likely to be unavailable in takeaways (54% in January 2021) and public toilets (48% in January 2021) 'most of the time' or 'always'.
- A lack of suitable facilities including access to sinks and running water was the most common barrier to handwashing mentioned during the qualitative research. Inadequate facilities often left participants feeling anxious about being unable to clean their hands properly.
- If public toilets were considered unclean by participants, some would rush their handwashing or not wash their hands at all (with some opting for hand sanitiser as an alternative). Some participants reflected on the benefits of touchless technology to reduce the number of contact points in public toilets.
- Another key barrier for participants was a lack of time or feeling 'in a rush' to wash their hands.
- The presence of hand sanitising stations (for example, when entering a shop) acted as a cue to encouraged participants to carry out hand hygiene behaviours at times when they may not have considered doing so automatically. Participants noted the increase of these hygiene stations since the pandemic, which facilitated hand hygiene practices.
- Although sore hands were a common side effect from handwashing (43% in January 2021), this did not seem to impact on handwashing frequency. 59% of those who reported having sore hands reported no difference in their handwashing behaviour, and 19% reported they washed their hands more, despite having sore hands, in January 2021.
- During qualitative research, some participants also reflected on other physical barriers that impacted their hand hygiene, including health conditions which made it difficult to wash their hands.

## Presence and availability of handwashing facilities

In the quantitative handwashing tracker participants were asked if they ever noticed that handwashing facilities were unavailable in a range of locations outside their home. Across all survey waves (July 2020 – January 2021), takeaways were most likely to be reported as having handwashing facilities unavailable<sup>35</sup> ‘most of the time’, or ‘always’ (50-55%). In all settings, at least 40% of participants reported handwashing facilities to be unavailable or unusable ‘most of the time’ or ‘always’ across all waves (Figure 14). This indicates that a lack of handwashing facilities outside the home is a common issue for participants.

**Figure 14: Participants who report handwashing facilities being unavailable or unusable ‘most of the time’ or ‘always’ in a range of scenarios outside the home – Quantitative handwashing tracker survey (Waves 2-4, July 2020-January 2021)**



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<sup>35</sup> Due to the phrasing used in this question it's not possible to determine participants who are reporting handwashing facilities being permanently or temporarily unavailable (such as a bathroom being out of order or closed due to the pandemic).

Base: Online England, Wales and NI adults 16-75 who reported carrying out these activities at the time of data collection<sup>36</sup>: ‘takeaways’ (889, 10-14 Jul-21), (1,000, 16-20 Oct-21), (977, 15-18 Jan-21), ‘cafes and restaurants’ (790, 10-14 Jul-21), (1,222, 16-20 Oct-21), (821, 15-18 Jan-21), ‘pubs/clubs’ (668, 10-14 Jul-21), (852, 16-20 Oct-21), (685, 15-18 Jan-21), ‘sports and music events’ (523, 10-14 Jul-21), (493, 16-20 Oct-21), (613, 15-18 Jan-21), ‘cinema and theatre venues’ (554, 10-14 Jul-21), (547, 16-20 Oct-21), (654, 15-18 Jan-21), ‘public toilets’ (866, 10-14 Jul-21), (1,083, 16-20 Oct-21), (997, 15-18 Jan-21). Data is only comparable from July 2020 onwards.

A lack of suitable facilities was the most common barrier to handwashing mentioned during the qualitative research. Participants described a lack of access to handwashing facilities, like sinks and running water, hindered their ability to perform hand hygiene. This issue occurred exclusively outside the home, for example when eating food from takeaways or on the go.

‘if you imagine going out into the public world there’s not a lot of places you can wash your hands, I mean our local town I think you’ve got two places that’s all for the public without going into a public house.’ – In-depth interview, aged 70, Male, living alone

Our qualitative research found that even when handwashing facilities were available outside the home, they were often inadequate. For example, participants described a lack of running water, access to cold water (rather than warm), or a lack of soap hindered their ability to wash their hands properly. Where these inadequate facilities existed, participants often felt anxious or unsafe at being unable to wash their hands properly. Participants also disliked using public toilets for handwashing because they considered them to be less hygienic than their own toilet at home, particularly public toilets with a lot of contact points (such as door handles or taps). Participants reflected on the benefits of touchless technology that allows individuals to wash their hands without the need to touch soap dispensers or taps. This was especially important for those suffering from conditions involving stiffness of the limbs or mobility difficulties as touchless technology allowed them to clean their hands without causing pain or discomfort.

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<sup>36</sup> participants who reported ‘I am not doing this activity at the moment’ or ‘not applicable’ are excluded from the base.

‘It’s the one place where everything is touchless... I come out of that toilet probably feeling cleaner than anywhere else that I would use publicly.’ – Ethnographic app research, aged 38, Female, multi-person household, living with dependent children

Unhygienic public toilets were a reason for some participants not to carry out hand hygiene in the normal way. Some participants preferred to use hand sanitiser or wipes than to use unclean sinks, or spent less time washing their hands so they could leave the facilities quickly. Some participants also felt this way about particularly crowded toilets.

‘some of the toilets wouldn’t really be, very nice, I suppose the word is [...] and I would wash my hands but then I’m thinking I couldn’t wait to get out so I probably wouldn’t do it as thorough and wouldn’t dry them either.’ – In-depth interview, aged 58, Female, living with dependent children

Participants were encouraged and reminded to carry out hand hygiene by the provision of hand sanitiser before entering, or when exiting shops or restaurants. The presence of these stations acted as a cue for participants to carry out hand hygiene behaviours at times when they may not have considered doing so automatically. Participants reflected on the increased presence of these facilities since the pandemic. Similarly, hand hygiene posters or advertising in public places acted as prompts to remind participants to wash their hands. These findings are also corroborated by White et al<sup>37</sup>, who found that access to suitable, clean, easily accessible, and user-friendly handwashing facilities had a positive effect on handwashing behaviour.

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<sup>37</sup> White, S., et al. (2020). The determinants of handwashing behaviour in domestic settings: An integrative systematic review. *International Journal of Hygiene and Environmental Health*, 227(113512).

## Time

Despite awareness of the government recommended 20 seconds for handwashing (see Chapter 1), having enough time to wash the hands was a key barrier for effective handwashing. During qualitative research participants described situations where they were rushing to get back to an activity and therefore did not wash their hands, did not wash them thoroughly, or avoided washing them altogether. For example, one participant described using a quick handwashing technique when in a rush to get to work. In some cases, participants wanted to return to a group setting and therefore did not spend as long as they felt they should on handwashing.

‘I don’t know, if I’ve changed my son’s nappy for instance and he was crying or he’s fallen over and hurt himself and I’m, you know, trying to get my hands done as quickly as possible so I can go and attend to him.’ – In-depth interview, aged 31, Female, living with dependent children

Since the COVID-19 pandemic, most participants reported that they were generally more focused, mindful, or aware of hand hygiene than in the past; hand hygiene had become a purposeful activity for participants. However, some participants also reported incidents of becoming distracted and not completing sufficient hand hygiene. This was usually because they had their attention drawn to another activity or had other things on their mind. Being too busy, tired, distracted or lazy to focus on handwashing were noted as ‘discounts’ i.e., factors likely to reduce hand hygiene by White et al<sup>38</sup>, although these were considered to have only moderate evidence to support them. Our qualitative provides further evidence to support that distractions and other cognitive affects can result in reduced hand hygiene.

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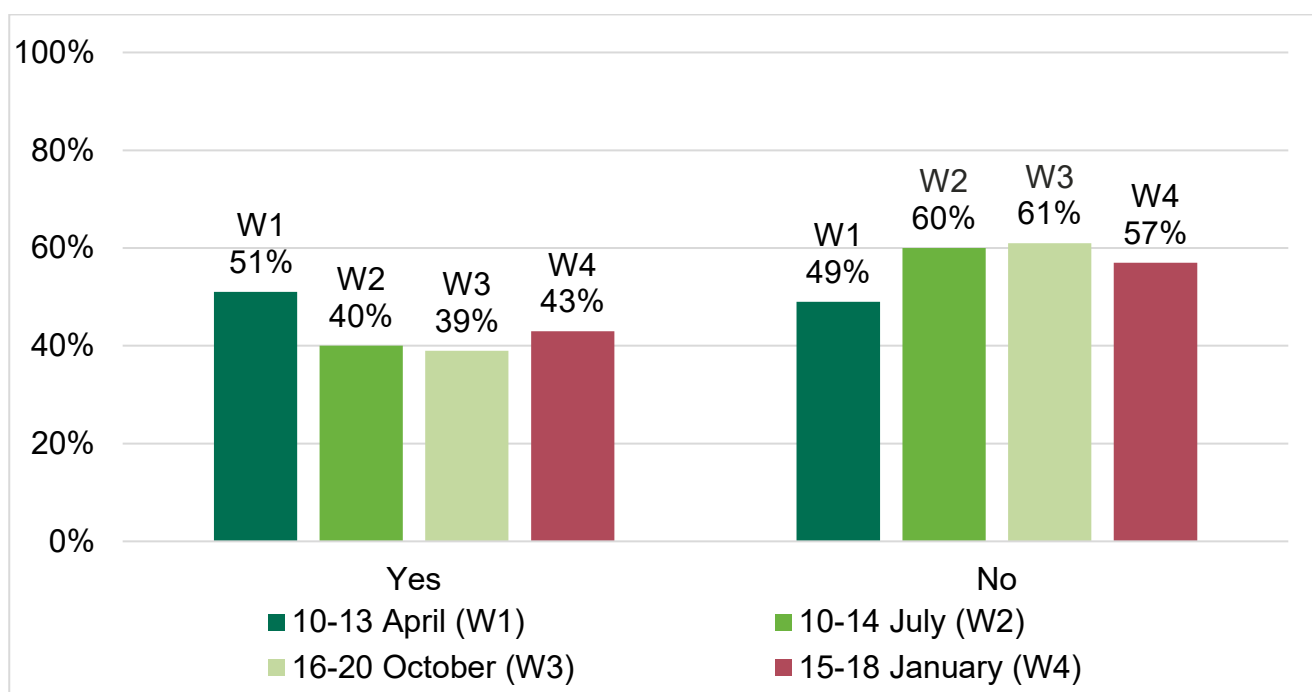
<sup>38</sup> White, S., et al. (2020). The determinants of handwashing behaviour in domestic settings: An integrative systematic review. *International Journal of Hygiene and Environmental Health*, 227(113512).

## Physical barriers

### Sore hands as a result of handwashing

Across all waves of the handwashing tracker (April 2020 – January 2021), a reasonable proportion of respondents have reported having sore hands because of handwashing (ranging between 39% and 51%). The proportion was at its highest in April when the tracker began (51%). Since then, it declined (39% in October 2020) but rose again in January 2021 (43%) (Figure 15).

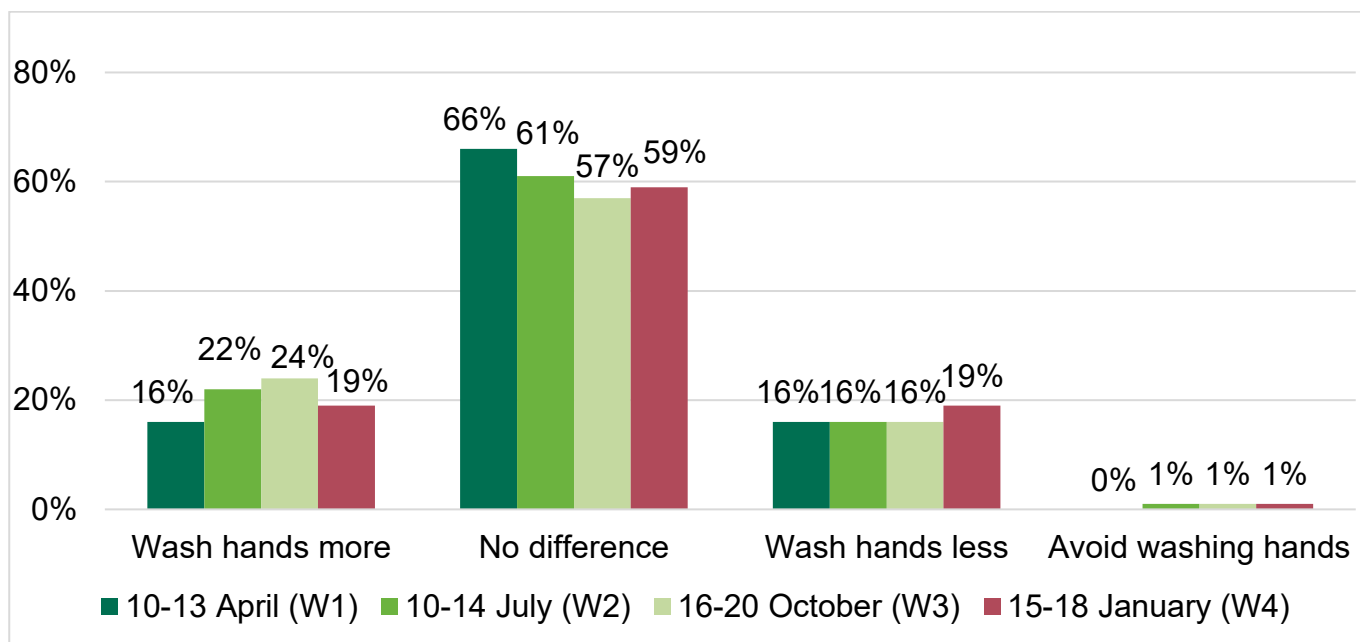
**Figure 15: Participants who report having sore hands as a result of handwashing – Quantitative handwashing tracker survey (Waves 1-4, April 2020-January 2021)**



Base: Online England, Wales and NI adults 16-75, 10-13 April 2020 (2,039), 10-14 July 2020 (2,068), 16-20 October 2020 (2,067), 15-18 January 2021 (2,062).

Despite having sore hands as a result of handwashing, the majority of respondents reported that it made no difference to the frequency of their handwashing, and this is a consistent finding across all waves (April 2020-January 2021) (Figure 16). One percent or less of respondents reported that having sore hands meant that they avoided washing their hands, and between 16-19% reported that they washed their hands less often. This indicates that although sore hands are a disadvantage to some participants, it is not necessarily a barrier to good hand hygiene for the majority of those effected.

**Figure 16: Impact of sore hands on frequency of handwashing – Quantitative handwashing tracker survey (Waves 1-4, April 2020-January 2021)**



Base: Online British adults 16-75, with sore hands from washing 10-13 April 2020 (1,044), 10-14 July 2020 (835), 16-20 October 2020 (803), 15-18 January 2021 (913).

Values may not add to 100% as 'don't know' responses not charted.

Similar findings were also evident during qualitative research, where a few participants mentioned dry hands, exacerbated by handwashing, as a barrier to handwashing. Participants disliked the discomfort of dry hands and the associated inconvenience of applying moisturiser. Although this did not prevent them from washing their hands, it did cause distress and, in some cases resulted in participants changing the cleaning products they used. Some participants explained that handwashing also exacerbated existing skin conditions such as eczema.

‘Using the gloves and the gels, your hands get really sore - you're constantly handwashing.’ – Ethnographic app research, 36, Female, living with dependent children, care industry

During the ethnographic app research, participants also mentioned other barriers to handwashing such as health conditions, which can make it more difficult to turn on taps and therefore more difficult for participants to wash their hands. These participants reflected on the benefits of touchless technology to ensure good hand hygiene.

'Fibromyalgia<sup>39</sup> can be a barrier. When my hands are stiff and sore, I sometimes cannot turn on taps or squeeze soap! I love touchless technology because this resolves my issue.' –  
Ethnographic app research, 38, Female, multi-person household,  
living with dependent children

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<sup>39</sup> Fibromyalgia, also called fibromyalgia syndrome (FMS), is a long-term condition that causes pain all over the body. For more information on fibromyalgia, please visit the [NHS website](#).



# Chapter 6: Social influences on handwashing behaviour

## Chapter summary:

- For many participants handwashing was a civic duty in-light of the COVID-19 pandemic. This included a duty to protect others, particularly those more vulnerable than themselves. Some participants had taken on more thorough hand hygiene routines to protect vulnerable relatives during the pandemic.
- Those who considered themselves to be vulnerable reported little change in their hand hygiene regimes during the pandemic as they had already developed strong hygiene routines to protect themselves.
- Participants also experienced a 'social pressure' from others to adhere to official guidelines, particularly in public places. This pressure was also reinforced by perceived judgement from others.
- Almost half of those interviewed could recall times when they were influenced by others or behaved differently because other people were present during their handwashing. In most cases, participants wanted to avoid being labelled as 'irresponsible', 'dirty' or 'unclean' by adhering to social norms on hand hygiene.
- During qualitative research, participants reflected on the role their family, the media, their workplace, and education systems (such as schools and nurseries) had on their hand hygiene behaviours by teaching them the correct techniques, and appropriate scenarios to wash their hands.
- Participants could easily recall specific handwashing advice from media campaigns used during the COVID-19 pandemic including techniques and length of time needed for an effective handwash.
- For participants in caring, medical or food related professions there had been an increased focus on hand hygiene during the COVID-19 pandemic, but participants recognised that there was little change to their handwashing behaviours as they had maintained a rigorous level of hand hygiene since before the pandemic.

## Civic duty: Protecting other people

For many participants in our ethnographic app research, handwashing in public places was expressed as a civic duty in-light of the COVID-19 pandemic. They described a range of motivations for handwashing in public including to protect others, to feel safe and to do the 'right thing'. The wider implications of flouting handwashing guidance and contributing to the spread of COVID-19 was also noted, considering the pressure, including the financial pressure, this could put on the NHS. Although, they acknowledged that similar motivations predated COVID-19, participants felt these influences had intensified since the start of the pandemic. Many participants recognised that good hand hygiene reduced the risks of catching or passing on COVID-19. They saw hand hygiene as a positive action to protect themselves, their family and to generally reduce spread of the virus through the community. Similar findings were also shown in data from [YouGov](#), where a high proportion of respondents (93% in April 2021, 96% in April 2020) reported washing their hands with soap and water frequently in the week prior to protect themselves or others from COVID-19.

'Um yeah I do because a lot of people are coughing and going places where you can catch COVID easily and obviously COVID is like on our bodies, on our hands on our mouths so washing your hands could probably prevent you and other people from getting COVID.' –  
In-depth interview, aged 17, Male, living with parents

The sense of 'duty to protect others' was intensified for participants who lived with people with long-term health conditions or in a shielded group. These participants reported more frequent and thorough handwashing routines since the pandemic. One participant also described using a nail brush to remove 'bacteria' whilst another described getting undressed at the front door when they arrived home so that the clothing could be washed. These participants were more concerned about bringing the virus inside the home compared to participants living on their own or those living in households without vulnerable people. Adopting a thorough handwashing routine was a way to protect those they lived with.

'If I don't wash my hands maybe I get sick and if I get sick my girlfriend will get sick. I will be okay, but my girlfriend can't get really sick.' – Ethnographic app research, aged 25, Male, multi-person household, partner in vulnerable health group

Participants also emphasised the importance of caring for and protecting the vulnerable even if they did not live together. Participants considered people to be vulnerable due to their age (particularly old or young) or if they had existing health conditions that made them more susceptible to illness. By washing their hands thoroughly, participants felt that they were reducing the risk of passing on illness to their loved ones.

‘I usually see my grandad so as soon as I go into his house, I wash my hands and as soon as I leave, I wash my hands so I’m not putting him at risk of anything.’ – In-depth interview, aged 17, Male, living with parents

‘My sister she went through some erm treatment for cancer recently and she was obviously more susceptible to disease while she was going through her chemo, and I found myself being extremely cautious about handwashing, hand gel erm anytime I was around her.’ – In-depth interview, aged 27, Female, living with partner

Handwashing to protect and care for others was also identified by White et al<sup>40</sup> as a determinant of handwashing behaviour, although this was typically associated with a desire to care for children. Our research shows that desire to care for the elderly, vulnerable and young children are all determinants of handwashing behaviour.

Those personally living with long-term health conditions reported little change in their hand hygiene regimes during the pandemic. These participants considered themselves to be vulnerable before the COVID-19 pandemic, which meant they had already developed strong hand hygiene routines. However, they also reflected on other ways that the pandemic had changed their lives, such as reduced time spent outside their house, limited contact with others and general anxiety about the uncertainty of a future with COVID-19.

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<sup>40</sup> White, S., et al. (2020). The determinants of handwashing behaviour in domestic settings: An integrative systematic review. *International Journal of Hygiene and Environmental Health*, 227(113512).

## Social pressure and judgement

Along with an increased sense of civic duty, participants in our qualitative research reported new social pressures in response to COVID-19; where they needed to be seen to adhere to official guidelines, particularly in public places. Our qualitative research also uncovered feelings of judgement if participants did not wash their hands thoroughly or did not adhere to the guidelines, which again indicates a form of social pressure to comply.

‘I did kind of feel a kind of added pressure to make sure I’m washing my hands for long enough. Social pressure from people, you don’t know if they are going to judge you or not. In normal circumstances I probably wouldn’t care. But because it is more of the health of society kind of thing, it is in a heightened spotlight.’ – Ethnographic app research, aged 24, Male, multi-person household

In addition, some participants also admitted to judging others where they felt the people around them had not washed their hands correctly. Some participants explained how their perceptions of a person’s character would be tarnished if they were seen to not wash their hands, whilst others described a sense of disgust. Some participants could also recall specific occasions where they had commented on the handwashing behaviours of others; for instance, one participant recognised that they had been ‘nagging’ their family to wash their hands more often since this pandemic. Another participant recalled a time when they had challenged others in a public toilet about their lack of hand hygiene:

‘Yeah I notice people’s lack of handwashing, especially like if I’m in a toilet that is unisex or other people using it like a public toilet. The amount of times I see people I see come out the cubicles and not wash their hands I think it’s disgusting, I think its poor, poor practice. [...] A couple of times I’ve called people out on it because I think it’s disgusting, it’s nasty.’ – In-depth interview, aged 37, Male, living with dependent children

Our qualitative research also found that participants make other judgements about the handwashing behaviour of others. Most participants expressed concern, or doubt that other people washed their hands effectively, and generally assumed that other people did not follow government guidelines on handwashing related to COVID-19 pandemic.

‘Oh, well other people are not always very good at obeying rules are they.’ – In-depth interview, aged 85, Female, living alone

## Social norms

Participants generally felt that they were not influenced by others to wash their hands. During in-depth interviews, many participants explained that they would wash their hands in the same way if they were alone, or in the presence of others (such as in a public toilet). However, almost half of those interviewed could also recall times when they were influenced by others or behaved differently because other people were present. In most cases, participants avoided being labelled as ‘irresponsible’, ‘dirty’ or ‘unclean’ by adhering to social norms on hand hygiene:

‘... if I’m in somebody else’s house then I don’t want them to think that I’m not erm, responsible [...] just as a matter of like its courtesy, not, you know to wash your hands but if I was in my own house I don’t think I would.’ – In-depth interview, aged 27, Female, living with partner

‘Throughout school and things like that, would have maybe they were ingrained in you to like, you like wanted to be the one, like you didn’t want to be someone that like smelt bad or had poor hygiene’ – In-depth interview, aged 20, Female, living alone

These quotes illustrate how appropriate hand hygiene is a socially motivated activity. White et al<sup>41</sup> also noted there was good evidence that being in the presence of others or being observed by others has a positive effect on hand hygiene which supports these qualitative research findings.

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<sup>41</sup> White, S., et al. (2020). The determinants of handwashing behaviour in domestic settings: An integrative systematic review. *International Journal of Hygiene and Environmental Health*, 227(113512).

## Family and cultural influence

During our qualitative research, many participants could attribute their handwashing behaviours to habits they had developed from a young age. Many felt that they had learnt about handwashing during childhood, particularly washing hands before eating and before preparing food. Some could recall specific memories or occasions when these lessons had occurred, whilst some participants reflected on their cultural or ethnic background more generally.

‘My parents, they just said to wash your hands before you eat, when you get up in the morning you wash your hands and face immediately, they didn’t tell me why, I was little at the time.’ – In-depth interview, aged 85, Female, living alone

‘Erm I think, erm, we as black people take cleanliness and hygiene very importantly and that’s something that’s been embedded into me from a youngster.’ – In-depth interview, aged 37, M, living with dependent children

Parents reflected on the importance of instilling good hand hygiene in children to set a positive example or acting as role model. One participant explained being in the process of teaching her son a handwashing routine including washing his hands after using the toilet and before eating. She described exaggerating the hand washing process and singing the ‘happy birthday song’ twice as a way of role modelling behaviours she wanted him to follow. Being thorough with a handwash in front of children was also seen as a way of enforcing good behaviours and this was more important during the COVID-19 pandemic.

‘I’m more thorough with kids [around] because if they learn from early, they are more likely to pick up a life habit. With COVID, they hear about it.’ – Ethnographic app research, aged 54, Female, multi-person household, living with dependent children

A few participants could also remember times when they had modelled other people’s handwashing behaviour and learnt from others. One participant described how she watched others when entering an unfamiliar setting (a care home) to learn the hand hygiene etiquette.

These findings are somewhat supported by White et al<sup>42</sup>, who also found a positive association between habit formation (specifically being taught hand hygiene from a young age) and good hand hygiene. However, White et al also noted there was inconsistent evidence that personal handwashing practice was influenced by the handwashing practices of friends and family, although our research does provide some evidence towards this.

## Media and Government influence

During our qualitative research, many participants referred to specific media campaigns about handwashing (TV, radio, social media, adverts, posters), and in the most part these related to the COVID-19 pandemic. Many participants specifically mentioned posters from the UK Government, the NHS and Public Health England, which were frequently seen in public spaces such as public toilets, on public transport and in doctor's surgeries. Participants reported that these posters told them to wash their hands, and sometimes included instructions on the steps of how to wash their hands (Figure 18). Tips such as singing the 'Happy Birthday' song while washing your hands also resonated with participants and was frequently recalled.

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<sup>42</sup> White, S., et al. (2020). The determinants of handwashing behaviour in domestic settings: An integrative systematic review. *International Journal of Hygiene and Environmental Health*, 227(113512).

**Figure 17: Poster seen in a local restaurant**



‘This one I have seen before in a local restaurant and I found it very interesting as it details the exact steps on how to wash our hands.’—  
Ethnographic app research, aged 33, Female, multi-person household, living with dependent children

Many participants reflected on how increased media focus on hand hygiene (through posters, television and radio advertising) had increased their focus and awareness of good hand hygiene techniques. For example, this participant explains how they did not know what a ‘perfect handwash’ was before COVID-19, but is now aware due to advertising campaigns:

‘I think before COVID-19 I didn’t really know what the perfect handwash was, and I didn’t know that you had to wash your hands for 20 seconds, erm, and based on the guidance that’s been released that’s kind of the only way that I know what the perfect handwash is.’  
— In-depth interview, aged 27, Female, living with partner

Generally, participants in the in-depth interviews thought that the guidance around handwashing was important during the pandemic, and necessary to follow to prevent the spread of disease.



## Organisational influence

During qualitative research some participants referenced specific training or education they had received about hand hygiene in the workplace, for many this training had been introduced since the pandemic. Training typically included how to wash hands (technique, products, and time spent handwashing). Soap and water were taught to be used in preference to hand sanitiser and timings were no less than 20 seconds. Good hygiene practises were also taught, such as sneezing into your elbow rather than your hands and washing your hands regularly, especially when handling food. Advice and information were circulated to participants via emails, posters, managers or in demonstrations, with one example shown in Figure 19.

**Figure 18: Photo of a hand sanitising station shared by a participant**



‘Here’s [right] a touchless sanitising station in the foyer of my workplace, I use this regularly throughout the day and at every opportunity.’ – Ethnographic app research, aged 38, F, multi-person household, living with dependent children

Similarly, participants with children noted this increased focus on handwashing in schools and nurseries. Increased procedures had been introduced to encourage children to wash their hands more often as this participant explains:

‘Yeah so now when he goes nursery, because of COVID you have to clean his hands before he goes into the nursery so they have like a little, little baby sink and you administer the soap and you help him

wash his hands.’ – In-depth interview, aged 37, Male, living with dependent children

Participants who had previously received handwashing training at work, even before the COVID-19 pandemic, noted changes and updates to their training. For instance, during the ethnographic app study, a participant who worked in the care sector reported that when she received a package with personal protective equipment (PPE) it included a factsheet on handwashing. This participant also emphasised the heightened handwashing vigilance in her industry and the importance of wearing more PPE to limit the risk of contamination. Despite this extra focus on hand hygiene, for participants in these professions there was little change in their handwashing behaviours compared to before the COVID-19 pandemic, due to the rigorous nature of these practices in general.

These procedures had always been in place in industries related to care and food preparation. These participants described their routine handwash at work as a combination of scrubbing the hands with soap, covering them in lather and rinsing under water, followed by disinfecting their hands, and occasionally also wearing gloves.

‘I believe that is because when we’re in the kitchen we have to wear hair nets, wash our hands regularly, keep the place sanitised, so, the things that the Government has been telling people to do, we’ve been doing that anyway. That’s just normal for us.’ – Ethnographic app research, aged 54, Female, multi-person household, living with dependent children

# Chapter 7: Motivation for handwashing behaviour

## Chapter summary:

- Hand hygiene is related to a personal sense of identity. Some participants considered themselves to have a high standard of hygiene, whilst others considered themselves to be more relaxed.
- Some participants also related their hand hygiene to a sense of professional identity as good hand hygiene was an integral part of their profession.
- Most participants associated hand hygiene with positive emotions and enjoyed the sensation of washing the hands and conversely felt distressed, anxious, or worried when they were unable to wash their hands.
- Participants showed biases towards their own family and friends – believing that their hand hygiene and cleanliness was of a high standard, leading participants to feel relaxed when in the homes of family and friends.
- A few participants doubted the hygiene practices of specific groups of people, or professions, illustrating possible stereotypes that exist. For example, some participants presumed that men, people from lower socio-economic backgrounds, and people who serve food as part of their profession would have poor hand hygiene.
- Our handwashing tracker survey did indicate some demographic differences in hand hygiene practices. Men, younger age groups and participants who self-reported as ‘food handlers’ were less likely to report ‘always’ washing their hands in a range of scenarios inside the home. However, the self-reported nature of this survey and the definition used to define ‘food-handlers’ may contribute towards biases in this data.
- Becoming a parent, working with children and the COVID-19 pandemic were ‘moments of change’ for hand hygiene behaviour. These were times in participants’ lives that resulted in more considered hand hygiene practices, such as increasing the frequency and thoroughness of hand hygiene.
- Some participants anticipated changing their current hand hygiene routines when the pandemic ends; with some already acknowledging that their hand hygiene practices had eased in line with the easing of national lockdowns. Others had a desire to maintain their newly formed handwashing habits.

# Handwashing and identity

## Personal identity and emotion

Our qualitative research found that participants related their handwashing behaviours to their identity. In some cases, participants described cleanliness as being ‘paramount’ to how they saw themselves and that they could feel ‘a bit off’ if they did not consider their home as clean. All participants associated hand hygiene with positive emotions, and associated it with cleanliness, comfort, and reassurance; generally enjoying the pleasant feeling of the soap and water and the olfactory sensation of pleasant odours from soap. In contrast, as explored throughout this report, participants experienced distress, anxiety, and discomfort when they were unable to wash their hands in their preferred way when facilities leave them unable to wash their hands. These feelings were exacerbated by COVID-19 as participants were fearful of transmitting the virus:

‘with everything that’s been going on at the moment, it is um – it makes you quite scared [...] you know are you gonna transmit this virus onto your steering wheel in the car? Or as you’re picking your son up and out of the trolley, have you got it on your hands?’ –  
In-depth interview, aged 31, Female, living with dependent children

For most participants good hand hygiene was part of a wider sense of cleanliness and order and many believed they held a high standard for hand hygiene; often describing themselves as ‘thorough’ or ‘particular’. Most participants considered their hand hygiene to be ‘above average’, which shows a type of illusory superiority<sup>43</sup>.

‘My mum says that I um, I’m very particular. [...] Erm I like everything to be clean and tidy and put back into its right place. So yes, I can be very particular, but that is just me, I know where everything is, everything has a home and, my home is clean and tidy and just how I like it.’ – In-depth interview, aged 31, Female, living with dependent children

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<sup>43</sup> A type of cognitive bias where a person overestimates their abilities, in relation to the abilities of others.

Some participants described their level of hygiene as more of an obsession or compulsion, which for some was a source of embarrassment or resulted in perceived judgement from friends or family for being 'over the top'.

'I like everything in order, can't stand clutter. I think they [friends/family] would agree. Some might say I'm a little bit over the top.' – Ethnographic app research, aged 54, Female, multi-person household, living with dependent children

Conversely, a small number of participants accepted that their level of hand hygiene was likely a 'lower standard' than others. Typically, these participants were content with their personal level of hygiene, but also considered themselves to be more relaxed about 'germs' and cleanliness in general:

'other people might come into my house and think it's not to their standard, but for me it's my version of clean.' – In-depth interview, aged 25, Female, living with partner

Participants' attitudes and general outlook affected their views towards hand hygiene. Those with a more relaxed attitude tended to describe cleaning their hands less frequently and did not feel as anxious about the need to wash their hands to protect their health. In this way, beliefs about hand hygiene were intertwined with a person's sense of identity, beliefs about cleanliness, tidiness and about staying healthy. For example, one participant during the in-depth interviews expressed the belief that they did not need to wash their hands often because they believed they had a high resilience to illness, because they could not recall a time when they had experienced serious ill-health due to a lack of hand hygiene. Perceptions such as this might lead individuals to have a more relaxed approach to hand hygiene, potentially resulting in unnecessary risk to illness.

'I feel like my body's pretty resilient to anything like just like dirt that you get from the outdoors. In fact maybe if I get ill one day my thought on it will change'. – In-depth interview, aged 22, Male, living with parents

## Professional identity

Aside from the increased guidance and training in the workplace, some participants also saw hand hygiene to be an important part of their professional identity, or sometimes part of their workplace culture. Participants who considered hand hygiene to be part of their professional role tended to be in medical, caring roles or in the food industry. They saw thoroughly washing their hands as a key part of their job and habits they practiced regularly both in and outside of work. Participants in these professions considered handwashing to be an integral part of their professionalism and was imbedded into their workplace culture.

‘In my work my handwashing is constant. Before and after patient contact. Erm, before or after any procedures, pretty much all the time really’. – In-depth interview, aged 31, Female, living with dependent children

A small number of participants outside of medical or food roles also considered good hand hygiene to be part of their professional identity. For example, one participant who worked in a gym described sanitising surfaces and thorough handwashing as an act of good customer service.

## Beliefs about others

Participants typically had greater confidence in the hygiene practices of people they knew personally (such as family or friends) compared to the hygiene practices of ‘strangers’. This bias led participants to believe that the homes of their friends and family were ‘safe’, often resulting in the belief that they did not need to wash their hands as often when visiting friends or family. For example, one participant described feeling comfortable in a close relative’s house because they knew they cleaned it very rigorously and felt reassured that whatever they touched in the home would be safe.

‘I don’t know. In my circle of friends, I’d feel comfortable eating at their house knowing they’re as clean as I am. Would I eat at any random person’s house, probably not.’ – In-depth interview, aged 25, Female, living with partner

During qualitative research, a few participants also doubted the hand hygiene of specific groups of people, or professions, illustrating possible stereotypes that exist. For example,

during the qualitative interviews a few participants referenced that men, people from lower socio-economic backgrounds, and those in poor health due to old age have poor hand hygiene (in comparison to women, individuals with a high socio-economic status and younger/healthier people). Some participants also doubted the hand hygiene of those serving or preparing food, for example in restaurants or takeaways. Often, participants had made these assumptions based on observation.

‘I think boys are a bit less conscious, I say that because I have three little brothers, I’m not generalising – well I am generalising but I’m generalising with experience! (laughs).’ – In-depth interview, aged 25, Female, living with partner

‘I am confident when I’m around my family. Um, confident about anywhere else, as in sort of takeaways and things like that, I’m not overly confident no. I don’t believe that they wash their hands like I would like them to.’ – In-depth interview, aged 58, Female, living with dependent children

The quantitative tracker does indicate some differences in hand hygiene according to demographics. Table 1 illustrates that in January 2021 men, those aged 16-24 and participants who self-identified as ‘food handlers’ were significantly less likely to report ‘always’ washing their hands in a range of scenarios, in comparison to the total surveyed population. These significant differences have been evident across most waves of the tracker.

**Table 1: Significant differences, by demographic, in Handwashing tracker survey (January 2021)**

Handwashing scenario	Total survey population	Men	Aged 16-24	Food handler
‘Always’ wash hands before cooking a meal /preparing food	68%	64%	60%	58%
‘Always’ washes hands before eating	43%	39%	39%	No SD
‘Always’ washes hands after handling rubbish	72%	66%	61%	64%
‘Always’ washes hands when returning home from a trip outside the home	60%	53%	46%	53%

'Always' washes hands after coughing/sneezing or blowing their nose	40%	34%	No SD	No SD
'Always' washes hands after using the toilet	84%	81%	75%	69%

'No SD' signifies that no significant difference was found between this group and the total surveyed population.

Some of the demographic differences identified in the handwashing tracker survey reinforce some of the stereotypes identified during the qualitative research. However, our tracking survey found no differences in reported handwashing behaviours in relation to socio-economic group or household income. Whilst many studies report associations between good handwashing practices and higher income/education, these findings are typically reliant on self-reported measures only, which are considered 'weak evidence' (White et al<sup>44</sup>). Some of the identified differences are also corroborated by other handwashing literature, for example [Brandwatch](#) noted that 71% of women, but only 53% of men said they were washing their hands with soap and water as a precaution against COVID-19. White et al<sup>45</sup> also found that women were more likely to wash their hands in comparison to men. However, caution should be applied when comparing demographic groups in the tracking survey as the data is subjected to self-reporting and recall biases and the extent of these biases may vary between groups. When considering the differences between food handlers it's also important to note the broad definition that was used to identify this cohort, which includes all participants who reported handling 'open food products' (i.e., food products or ingredients without protective packaging) as part

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<sup>44</sup> White, S., et al. (2020). The determinants of handwashing behaviour in domestic settings: An integrative systematic review. *International Journal of Hygiene and Environmental Health*, 227(113512).

<sup>45</sup> White, S., et al. (2020). The determinants of handwashing behaviour in domestic settings: An integrative systematic review. *International Journal of Hygiene and Environmental Health*, 227(113512).



of either a paid or voluntary role<sup>46</sup>. It is also important to note that most survey questions quoted in Table 1 ask participants about handwashing behaviours in a home environment, and not in the workplace, which is likely to impact on the responses provided.

## Moments of change for handwashing behaviours

As explored throughout the respective sections of this report, there were many scenarios where participants considered handwashing to be a habitual behaviour. This report has also explored the various ways that participant's 'usual' handwashing habits had been impacted by the COVID-19 pandemic. For most participants, the pandemic was the only significant life event that had resulted in notable changes to their hand hygiene. However, a few participants also noted an increased effort to improve hand hygiene when becoming parents, or when working with children. This finding is also supported by White et al<sup>47</sup> who found that having a young child in the family was positively associated with good hand hygiene practices. These 'moments of change' (significant or sudden changes in circumstances or context)<sup>48</sup> had often resulted in more considered hand hygiene practices, such as increasing the frequency and thoroughness of hand hygiene. This was typically because participants saw children as more vulnerable.

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<sup>46</sup> Exact question phrasing to identify 'food handlers' in the survey was: '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. [Yes – I am currently in a role that handles food, Yes - but I'm not working due to furlough, No]

<sup>47</sup> White, S., et al. (2020). The determinants of handwashing behaviour in domestic settings: An integrative systematic review. *International Journal of Hygiene and Environmental Health*, 227(113512).

<sup>48</sup> Nash, N., Whittle, C., Whitmarsh, L. (2020). [Rapid Review of 'Moments of Change' & Food-Related Behaviours](#). Food Standards Agency. [Accessed: 4th October 2021].

‘Yeah now that I’m a father, erm you know, it’s important to be clean and hygienic for my son cos he’s still young, so he’ll be prone to picking up bugs and stuff.’ – In-depth interview, aged 37, Male, living with dependent children

## Handwashing post-pandemic

As part of the in-depth interviews, participants were also asked how they anticipated their newly formed hand hygiene habits and routines would change as the pandemic and lockdown restrictions eased. Some participants anticipated a decline in their handwashing behaviours overtime, whilst a few explained that their hand hygiene had already relaxed in line with national lockdown restrictions<sup>49</sup> (washing the hands less frequently and less thoroughly).

‘Erm, but, probably has dropped off, as I say as you start getting a bit blasé about it and get back to work. But with the rise now in COVID numbers maybe we’ll get back to how we were and start being more careful.’ – In-depth interview, aged 58, Male, living with dependent children

The decline in hand hygiene practices in line with national lockdowns was also noted in the [YouGov COVID-19 behaviour changes tracker](#) where, on 16<sup>th</sup> June 2020, 59% of UK consumers said they were improving their personal hygiene, for example, washing their hands more frequently and using hand sanitiser. This had declined from its highest at 77% in April 2020 during the first national lockdown. Similar, but less exaggerated trends, were also noted by [Ipsos Mori](#). [YouGov](#) also noted a slight decline in the proportion of UK respondents who washed their hands ‘frequently’ or ‘always’ to protect themselves and others from COVID-19 between April 2020 (96%) and April 2021 (93%). These measures indicate that handwashing may be declining overtime.

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<sup>49</sup> At the time of data collection, most of the UK was easing from the first national lockdown. See Appendices for further information.

Despite this, some participants expressed a desire to keep their newly formed handwashing habits as they had developed a higher standard of cleanliness that they wished to maintain. A few participants also thought it would be difficult to change their habits again, as they had become so ingrained as part of their daily lives.

# Conclusions and reflections

The COVID-19 pandemic led to significant changes in consumer's usual handwashing habits, particularly an increase in the amount of time spent handwashing, the thoroughness of handwashing and the scenarios in which participants wash their hands or use hand sanitising gel. The pandemic also led to an increased awareness of the link between handwashing and health, resulting in an increased sense of civic duty to protect themselves and others.

Participant awareness and knowledge of effective handwashing techniques was strong; many knew that handwashing should last for at least 20 seconds, should use a thorough technique, should use soap, warm water, and a clean towel. This knowledge was aided by the recent handwashing media campaigns related to the pandemic. In addition to knowledge, participants also had strong preferences with regards to hand hygiene, particularly a preference for soap and water (as opposed to hand sanitiser) and a preference for liquid soaps (as opposed to bars of soap).

Our research provides evidence that consumer handwashing behaviours are learnt from a young age – influenced by family, friends, educational settings, and cultural background. When handwashing behaviours become habitual, they stay with consumers for long periods of time. The COVID-19 pandemic, becoming a parent and working with children were all 'moments of change' for participants, allowing the potential for new habits to be created<sup>50</sup>, particularly with influence from the media and other training and education.

Inaccessible, unhygienic, and crowded facilities were all barriers to good hand hygiene. Participants were also less likely to perform hand hygiene when they were in a rush, or when distracted. In contrast the presence of hand sanitising stations, for example on entry to shops, acted as a cue for hand hygiene behaviour.

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<sup>50</sup> Nash, N., Whittle, C., Whitmarsh, L. (2020). [Rapid Review of 'Moments of Change' & Food-Related Behaviours](#). Food Standards Agency. [Accessed: 4th October 2021].

Participants showed good adherence to handwashing whilst preparing food, particularly to avoid cross-contamination from raw meat, fish, and eggs and due to a fear of food poisoning. However, hand hygiene behaviours could be improved in some scenarios, particularly after handling dry rubbish, before eating, after handling and feeding pets and after coughing and sneezing.

Overall, this research has shown that handwashing is a complex activity consisting of a range of behavioural factors and influences. As such, it is important to consider a wide range of motivations for handwashing when designing policy interventions to encourage long-term behaviour change.

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