

Research Summary

Research on Hospital cleaners' use of Respiratory Protective Equipment (RPE)

■ Research conducted by Kantar Public UK

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Background and objectives

Commissioning

This report is a summary of research conducted by Kantar Public UK in 2022. The research was commissioned by the Health and Safety Executive (HSE). The content of the report, including any opinions and/or conclusions expressed, are the views of the agency alone and do not necessarily represent the views of HSE.

Context

HSE has identified hospital cleaners as a group at risk of breathing or lung problems caused by work, with increased levels of asthma and respiratory symptoms¹. This risk is linked to exposure to chemical disinfectants, particularly chlorine-related products, which are used widely in hospitals to control and prevent hospital acquired infections (HAIs). HSE is the regulator responsible for ensuring that employers are aware of the respiratory risks and are taking steps to reduce the risks to their employees. One of these measures is the provision and use of respiratory protective equipment (RPE), once possible exposure has first been controlled by other [measures](#), such as increasing ventilation.

Objectives

This study builds on previous research¹ by engaging directly with hospital cleaners to understand the barriers and drivers to using RPE. This research sought to:

- Understand how, and in what situations, hospital cleaning staff are currently making use of RPE, and the extent to which they are using it appropriately;
- Explore the contextual factors in which this behaviour is taking place, including current risk management processes and metrics;
- Investigate if, and how, the Covid-19 pandemic has impacted cleaners' use of RPE, and the extent to which any changes are likely to be permanent or temporary;
- Illuminate the specific drivers and barriers influencing whether hospital cleaning staff are making appropriate use of RPE, and whether these are located at an individual, workplace or sector level;
- Identify what kind of messages, messengers and interventions have the potential to influence the appropriate use of RPE.

¹ Robinson, E., Sumner, J., Gyte, A., & Evans, G.S. (2017). A literature review of evidence on cleaning products and occupational risks for asthma.

Methodology

This research began with a scoping stage comprising a document review and 10 online qualitative depth interviews with stakeholders from HSE, professional associations, cleaning companies and NHS trusts. Following the scoping stage, Kantar Public conducted 30 online qualitative depth interviews with frontline cleaners, supervisors, and managers (see Table 1). Due to the low incidence of hospital cleaners in the overall population, no hard quotas were placed on demographic characteristics. Consequently, the sample is skewed towards young, white females, and staff employed by NHS hospitals or Trusts. As we did not have quantitative data on the population characteristics of hospital cleaners, we cannot say how representative this is of the wider population, and findings should be taken as indicative.

Table 1: Sample Table

		Total Recruited
Employee type	Cleaning/domestics/housekeeping managers or supervisors	10
	Frontline cleaners/domestics/housekeeping	20
Hospital type	NHS hospital	28
	Independent hospital	5
Employment status	NHS Trust – I am a direct, in-house employee	20
	Separate cleaning company owned by the NHS Trust	2
	Staffing agency	2
	Cleaning company contractor	4
	Other	2
Region	London	2
	East Midlands	6
	West Midlands	4
	Yorkshire and the Humber	4
	East of England	0
	North West	2
	South East	9
	South West	1
	North East	0
	Scotland	2
	Wales	0
Ethnicity	White	24
	Mixed / Multiple Ethnic	0
	Asian or Asian British	4
	Black or Black British	1
	Other	1
Gender	Male	6
	Female	24
	Non-Binary	0
Age	16-24	2
	25-34	11

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	35-44	10
	45-54	6
	55-64	1
	65+	0
Total		30

Main Findings

Current context and the impact of Covid-19

Cleaning roles and responsibilities

Though organisational structures varied across interviews and hospital settings, there was a fairly consistent hierarchy and division of labour among cleaning staff within hospitals. Managers were responsible for completing risk assessments, allocating budgets, and coordinating with supervisors. Supervisors' day-to-day responsibilities included briefing cleaners, assigning tasks and shifts, and looking after training. Cleaners' tasks included sweeping, mopping, dusting, and clearing the bins, as well as cleaning toilets, clinical spaces, staff and common areas.

Cleaning tasks were often routine and repetitive, and cleaners generally felt they knew how to carry out their assigned tasks. They typically worked on their own without direct supervision. Additional cleaning responsibilities and staff shortages arising from the response to Covid-19 meant that cleaners often felt pressured for time and needed to work quickly.

Training and guidance

Cleaners had inductions combining live sessions and online modules, covering cleaning protocols, health and safety, GDPR and patient safeguarding. Supervisors usually led practical training about how to complete cleaning tasks. A common method of delivering training was shadowing, where new cleaners observed an experienced cleaner to learn what to do.

Beyond training, if cleaners needed guidance, they would first ask other cleaners. They would also reach out to supervisors, who endeavoured to make rounds and check in, though they were often stretched for time, affecting their coverage on the floor. Cleaners working through an agency could also contact the agency if needed, though their on-site supervisors and managers were usually the first port of call.

Impact of Covid-19

Covid-19 greatly impacted the day-to-day experience of hospital cleaners. Stronger chemicals, such as bleach and chlorine, were used for more cleaning tasks, and these tasks were done more frequently, putting pressure on cleaners to do more cleaning within the same amount of time. Covid-19 also led to wider use of surgical masks among hospital staff. During peaks of Covid-19, or when entering Covid wards, cleaners also wore additional PPE, such as shoe covers, face shields, or coveralls.

Usage and understanding of chemicals

Usage of chemicals

Cleaners generally knew which chemicals and cleaning agents they used, and how they were supposed to use them (see Table 2). However, not all cleaners had a detailed understanding, and referred to the chemicals primarily by colour or smell. Supervisors tended to be better informed on chemicals and how they were meant to be used.

Regarding chlorine products specifically, the majority of cleaners could identify which products contained chlorine and knew to use these with care. Cleaners reported finding the smell unpleasant, though they accepted it as a part of the job.

Table 2: Chemical products used by participants

Product type	Examples	How used	Purpose
Chlorine-based disinfectants	<ul style="list-style-type: none"> Chlor-clean Acti-chlor Haz-Tab 	Tablet - diluted and used as a cleaning solution with cloths / mops	For "infectious cleans" but also general cleaning (esp. during Covid); bodily fluids, toilets
Other disinfectants	<ul style="list-style-type: none"> Hospec Sprint OdorBac 	Disposable wipes Concentrates mixed with water in spray bottles Foams - used with cloths	Bathrooms Toilets
General purpose detergents	<ul style="list-style-type: none"> Jontec Evans Sani Cid 	Concentrates diluted and used with trigger sprays / cloths	General cleaning (eg mopping)
Virucidal cleaners	<ul style="list-style-type: none"> Selgiene 	Sprayed on surface and wiped with cloth	Touchpoints eg doors, handles

Standard cleaning procedures

There were clear protocols in place for cleaning with chemicals, covered in onboarding training and reinforced by (annual/biennial) refresher training. Cleaners also had training booklets on working with chemicals. For guidance on chemical handling, cleaners could refer to the safety data sheet (SDS) for all products used, which were stored centrally in a Control of Substances Hazardous to Health (COSHH) folder. Cleaners typically did not mention HSE as a place they would go to for guidance. Cleaning procedures were also well signposted in the work environment via labels on cleaning products and on posters in the cleaners' cupboards.

Cleaners typically followed consistent processes for preparing, using and storing chemicals. Solutions were generally prepared in a cleaners' cupboard, usually described as small spaces, commonly with no windows. Cleaners typically prepared their own chlorine solutions, with cold water in large bottles with a cap or in large buckets with a lid.

Cleaners generally made solutions and let them dissolve while doing other tasks. The chlorine solutions were then applied with cloths or mops. When not in use, chemicals were locked in the cupboard or in a supervisor's office.

Use of PPE

Cleaners reported consistently wearing gloves and aprons whilst cleaning, which aligned to current safety guidance (eg SDS). They also reported occasionally wearing eye protection, in addition to surgical masks. Cleaners commonly cited discomfort when wearing surgical masks and PPE, but they appreciated the benefits and understood how it reduced the risk of transmission of Covid-19.

Drivers of bad practice

Though cleaners reported they followed procedures around the use of chemicals most of the time, many had seen examples of bad practice. Cleaners admitted to carrying out tasks (or being aware of colleagues carrying out tasks) in ways which contravened their training, such as using hot water to dissolve chlorine tablets more quickly or preparing a higher concentration solution believing it would clean more effectively. Supervisors were aware of other cleaners using chlorine in a spray bottle for convenience or even dropping chlorine tablets directly into toilets.

Convenience and a lack of understanding of potential consequences were the main drivers of bad practice. These drivers could be compounded by a lack of supervision leading to problems going unnoticed, and in some cases language barriers affecting comprehension. Cleaners also felt others may have developed bad habits, especially older cleaners, by relying on their own experience and habits, more than updated guidance, for example 'if you can smell the bleach, you know it's clean.'

Use of RPE and understanding of respiratory risks

Current RPE use

Though use of PPE was common, use of RPE was less common. RPE was not seen as part of cleaning protocols in the same way as other types of PPE like gloves and aprons, and RPE was not typically provided. Respirator-type RPE was rarely mentioned, but cleaners described a few situations where FFP2/3 masks² were provided. A few cleaners in private hospitals also reported being provided with FFP2 masks. Finally, cleaners on Covid wards reported being fit tested for FFP2/3 masks, which were worn in addition to other PPE. As with surgical masks, where cleaners had worn RPE, they commonly expressed it was uncomfortable and unpleasant to work with.

² Filtering Facepieces (FFPs) are disposable Respiratory Protective Equipment (RPE) for protection against dusts, particles and aerosols. They are often referred to as 'disposable dust masks', are widely used, and generally require no cleaning or maintenance.

Awareness and understanding of respiratory risks

Cleaners did not see their jobs as risky, though they did recognise potential health and safety risks such as slips and trips (mopping), chemical burns to skin and eyes, heavy lifting, and picking up illnesses. However, cleaners felt if they followed protocols set by their employer, there would be little or no risk to them.

Cleaners did not bring up respiratory risks spontaneously, apart from occasionally focusing on short-term effects like headaches or a sore throat. Despite mentioning these symptoms, there was little understanding of the impact of long-term exposure to chlorine, with most cleaners not knowingly experiencing or expecting any persistent issues. Supervisors were a little more aware of the respiratory risks, and actively sought to reinforce safe practice, though these efforts did not usually include the use of RPE.

When presented with potential respiratory risks, cleaners were not particularly surprised, seeing it as a part of the job. In a few cases however, cleaners did express concern, especially those with pre-existing conditions like asthma.

Views on RPE

When presented with the potential respiratory risks, a few cleaners could see why RPE may be appropriate in some circumstances. However, most felt that RPE was disproportionate to the risk (particularly as they did not have a detailed understanding of the risks). Cleaners reacted negatively to the RPE presented as an example, as it was associated with high-risk work. Cleaners often worked near patients (and others in the hospital) and felt it could be alarming to others if they were wearing respirator masks. Cleaners also felt RPE would be tight, heavy and claustrophobic, compared to their experiences of wearing surgical masks for Covid-19. They felt other solutions, such as increasing ventilation, would be preferable.

When prompted, cleaners were more open to RPE where it felt proportionate to the risk. Specifically, RPE was considered more acceptable for higher-risk activities such as mixing chlorine solutions, but cleaners were opposed to wearing RPE during day-to-day cleaning, or for an entire shift.

Increasing use of RPE

The primary barrier to use of RPE was that it was not being provided to cleaners, which was largely out of the direct control of frontline cleaners and supervisors. There was little evidence that risk assessments were being undertaken at a frontline level to determine if or when RPE was appropriate. Risk assessments were likely to be carried out by more senior managers or health and safety leads rather than frontline cleaners and supervisors.

If RPE were to be provided, both cleaners and supervisors expressed the view that more education about RPE was needed alongside this. They felt this should explain the respiratory risks from working with chemicals and highlight when RPE may be appropriate,

with clear evidence provided. Case studies were also seen as an effective way to make the long-term respiratory risks salient. If the health benefits of wearing RPE were better understood, cleaners thought they would comply with this expectation from their managers and supervisors.

Summary

Supervisors, along with other colleagues, were key influencers and the main source of practical skills and knowledge for cleaners. Managers and upper management were not close to cleaners' day-to-day work and the processes that underpin these.

Covid-19 has had a large impact on the hospital environment and on cleaning activities, which has put pressure on staff and resources. This has led to the increased use of chemicals (used for more tasks, more often) and, notably, the requirement for all hospital staff to wear surgical masks.

The majority of processes for using chemicals (and therefore training) were driven by COSHH guidance from manufacturers. Although a few cleaners reported or admitted to unsafe practices, this research suggests cleaners have a relatively good understanding of general cleaning processes and how to use chlorine products. The interviews also indicated these processes are followed most of the time.

Where surgical masks, and more rarely RPE (e.g. FFP2/3), had been provided to cleaners, this had been driven by other respiratory risks, like Covid-19, rather than the risk posed by using chemicals.

The majority of cleaners were not aware of the long-term respiratory risks from using chemicals, although supervisors tended to be better informed. Respiratory risks and the need for appropriate RPE were not emphasised like other types of PPE in cleaning processes or practices. RPE was also not highlighted in the places where cleaners and supervisors look for guidance like manufacturer instructions, safety data sheets, or on the products themselves.

Although cleaners could appreciate the respiratory risks from working with chemicals, they prioritised the implementation of other risk mitigation strategies, such as adequate ventilation. Cleaners were amenable to wearing RPE for specific higher-risk activities (e.g. mixing solutions), but felt it would not be acceptable to wear RPE for the duration of their shifts. They felt the respiratory risks, and therefore the benefits of wearing RPE, needed to be made clearer to hospital cleaners.



Further information

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