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Public Health
England



Willing and Able
Building a crisis resilient
workforce



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This report sets out our findings from ground-breaking research supervised by King's College London (KCL), Department of War Studies and Public Health England (PHE) into the likely variations in human and organisational response to extreme crisis events and the steps organisations should take both before and during such events to create a more crisis resilient workforce.

1. Introduction

“Work would be the last thing on my list. I wouldn’t log on, I wouldn’t check to see what they are asking for, I probably wouldn’t even care, because it’s a job at the end of the day, my life is at risk.”

Employee – Finance Sector

It is increasingly understood that with the right preparation and planning, the impact of potential crisis events on your organisation can be minimised, and may even create unforeseen opportunities. However, to date, little research has been undertaken to consider the psychological and behavioural responses of employees to a crisis. Consideration of these issues is vital for an effective response.

Most crisis response planning assumes that people will turn up for work when they are needed, even during some of the most extreme events.

- Will this fundamental assumption really hold true?
- If so, what can you do to reinforce this behaviour and better enable your staff to respond?
- If not, what types of events may undermine it and why?
- And what steps can you take now, in your planning and preparation, and in response to such events, to improve the situation?

To help answer these questions, our research involved:

- Interviews with 21 senior professionals in resilience and crisis management.
- Online survey results from over 300 employees.
- 8 scenario-based employee focus groups to examine variations in response.
- A systematic literature review, identifying 65 related academic studies.

Our research focused on the core question: *If you are able to get to work during an extreme event, would you be willing to do so?* Employees from the public and private sectors in key national infrastructure segments, including financial services, energy, and health participated in the study.

The subsequent findings provide some of the first empirical evidence indicating that, in many instances of severe or more extreme events, staff from a variety of national infrastructure sectors may be unwilling to report to work. It has also identified a number of important factors that contribute to this potential absenteeism.

Based on these findings, Deloitte has worked with King’s College London and Public Health England to develop a model and recommendations to support organisations in developing a more crisis resilient workforce.

2. Building a crisis resilient workforce

2.1 Is your workforce as crisis resilient as it could be?

From natural disasters such as fire, flood, earthquake and tsunami; to health threats such as outbreaks of influenza, Ebola or smallpox; and man-made traumas such as chemical attacks and dirty bombs; there is no shortage of potential crises that can affect your organisation and the people who work for it.

Few organisations are blind to these facts. Many have crisis management plans in place. Yet for the most part they tend to focus on the structures, protocols, processes and technological aspects of an organisation's response, whilst leaving the human aspects of response to chance.

When planning for high impact extreme events organisations can make assumptions about staff behaviour that are based on little or no evidence. These assumptions are often based on conventional wisdom or the past experience of the decision makers.

Where the impact on employees has been considered, the organisation has typically looked at how **able** employees would be to respond or continue working. Very few have given much thought to how **willing** to return to work those people would be when faced with a significant threat during a major crisis.

Our findings suggest more focus is needed on situations where staff may not be willing to go to work during extreme events. The most startling figures to emerge from this in-depth research are that under certain severe, but realistic scenarios, over 50% of staff may be unwilling to return to work, and in some more extreme scenarios this figure may be much higher.

While the figures vary between types of crisis, employee absence at these levels could severely undermine an organisation's ability to respond and maintain critical services. If we use the general rule of thumb that employee attendance below 50% could cause major issues for organisations to operate even the most critical services, this is clearly an important issue. *So, would your employees turn up for work? And what can you do to encourage them to do so?*

2.2 A crisis resilient workforce model

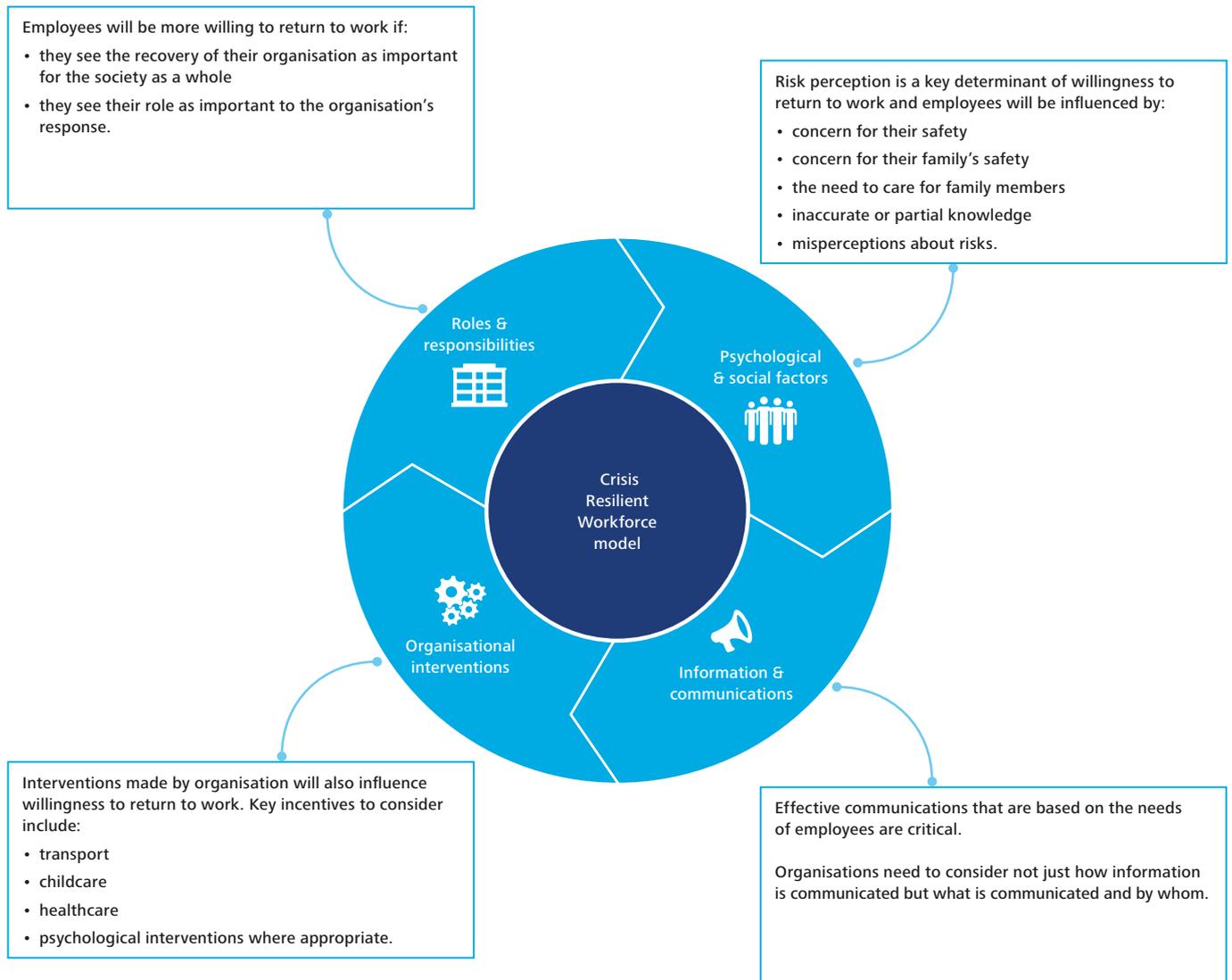
Our findings identify the barriers employees may face in returning to work and how to facilitate their timely return. We have developed a "Crisis Resilient Workforce Model" (see Figure 1), which provides a framework for addressing these challenges, together with a summary of our key findings and recommendations.

The Crisis Resilient Workforce Model indicates that there are a number of factors that need to be addressed. Some of these must be done in planning and preparation before an event; others are necessary during the response to an event.

For example, we are advocating that employees are involved in the planning process in order to ensure that their concerns or the issues they may face in the event of an incident that causes significant disruption are understood.

Additionally, those responsible for planning and ensuring that their organisation is crisis ready must know where to go for authoritative information and how it will be communicated, so that this is readily actionable in a crisis.

Figure 1. Crisis Resilience Workforce Model



In the next sections we expand upon the research and identify the steps you should consider taking in order to create a more resilient workforce.

3. Human factors – understand how people may respond and why

An organisation cannot assume that having the right structures, protocols, processes and technology will be enough to effectively cope in a crisis. After all, there is little that can be achieved without people.

The first step is to challenge the assumption that the people you need to keep your organisation functioning effectively will be available when and where you need them.

3.1 Remove assumptions about willingness

It is important to realise, and to make key people in your organisation aware, that even if employees are able to attend work during an extreme event, they may not be willing to do so. For those participants in our research who did consider that staff might be unwilling to work, it was usually thought of as being a very small number of people and not a widespread or long-term issue.

Our research also revealed a number of assumptions that organisations are making about staff willingness to return to work during extreme events.

Many of these assumptions seem to be based on conventional wisdom, such as ‘people like normality’ or ‘Blitz spirit’ or on past experience of staff reporting to work during incidents like the July 7th bombings in London or flu pandemics. Few of these assumptions are grounded in evidence, and crucially, there seems to be little consideration of how employees’ responses would be different if the crisis involved some element of chemical, biological, radiological or nuclear threat.

Our study has revealed that although 41% of employees said they would be able to go to work during an incident involving a deliberate release of smallpox, only 29% said they would be willing to go to work. This finding is supported by previous academic research such as a US study of essential workers including hospital staff, police, and fire officers which found that although 80% reported they would be able to report to work in a pandemic, only 65% said they would be willing to do so.¹

There are three specific factors which need to be kept in mind when considering staff willingness to return to work during an extreme event:

- An individual’s perception of the risk to their own health and the health of their family.
- An individual’s understanding of the relevance and importance of their role in responding to a crisis.
- An individual’s understanding of their organisation’s role in society at large.

3.2 Recognise risk perception is a key determinant of willingness

Historically, *risk perception* research has shown the public evaluates risk by making use of emotions and ‘gut feelings’, which can often be based on inaccurate knowledge; something which could have a profound impact during a crisis.² Our research shows that people may have heightened concerns about events which potentially pose a lower risk to their health than events which are of equal or indeed higher risk, because the nature of the risk is not fully understood. This finding supports the conclusions of previous academic research in this area.³

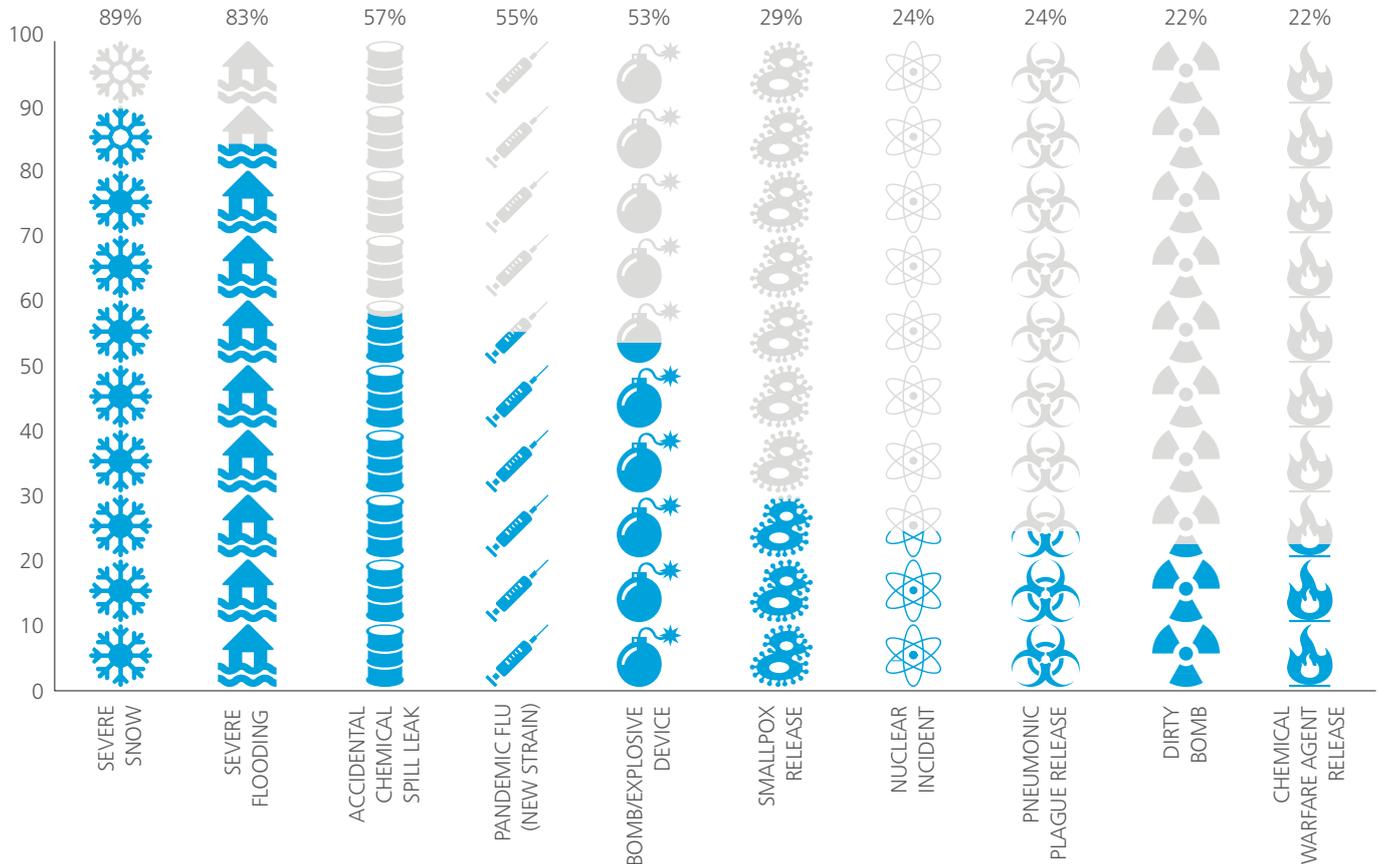
The willingness of employees to report for work is partly determined by the type of threat they face. Our web survey asked employees if they would be willing to report to their usual place of work in the event of a variety of hypothetical scenarios, or if they were ‘not willing’ or ‘not sure’. See Figure 2 on page 5, showing the percentage of employees ‘willing’ to report to work for each scenario.

It seems reasonable that more people will be deterred by the prospect of pneumonic plague than by snow. Previous academic research supports these findings, suggesting that healthcare workers would be less willing to go to work during an incident with a risk of contagion or contamination than one without.^{4, 5, 6}

Our results also indicate that people may incorrectly perceive a greater risk from some events compared to others, most likely due to inaccurate knowledge. For example, in the days following an incident the threat to public health could potentially be higher for a smallpox release scenario than a dirty bomb, however in this study willingness levels are lower for a dirty bomb than a smallpox release.

Further consideration is given to how employee risk perceptions can be better managed in Section 4.1.

Figure 2. Percentage of staff willing to report to work under hypothetical scenarios



3.3 Make sure people understand the importance of their role and of the organisation

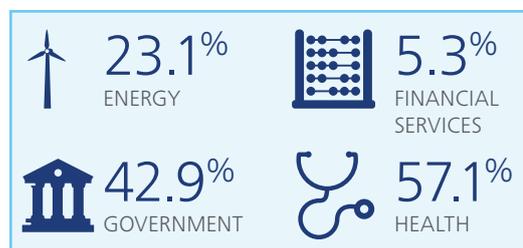
Employee job roles and the role of the organisation in a crisis will also help determine willingness to return to work. It comes as little surprise to learn that our study found those working in healthcare, who may feel a strong responsibility to attend work and help deal with the consequences of a crisis, are more willing to report for work than those working in other sectors.

This finding is further supported by a study of healthcare workers in Singapore, which revealed that although the majority perceived a great risk of falling ill with SARS, they also accepted the risk as part of their job.⁷ Similar findings were found with regards to GPs and physicians and their responsibilities during a pandemic.^{8, 9}

In our focus group study we investigated the percentage of employees willing to report to work during a deliberate release of pneumonic plague.

The proportion of employees willing to return to work varied by sector, even though the scenario was the same across all groups (see Figure 3). During discussions, workers in the health and Government sectors said that they considered their role to be important, they had a duty to go to work, and they were willing to help out in roles other than their normal role during the crisis. By contrast, workers in the financial services sector did not express the same sentiments.

Figure 3. Percentage of focus group employees willing to report to work during a deliberate release of the pneumonic plague by sector



“I saw a fantastic plan, not our organisation – however, nowhere in there were they assuming that any of their employees would be affected. Such optimism! Thousands of people were affected, but in the plan all the employees were at work.”

Resilience Professional – Energy Sector

3.4 Embed employees' concerns and behaviours into crisis planning

The best way to gain an accurate understanding of how your employees are likely to react in a crisis is to ask them directly. Yet very few of the organisations involved in our research said they had asked staff about their concerns or the issues they may face in the event of an incident that causes significant disruption.

Organisations should conduct extensive consultation to gain a clear picture of employees' concerns, likely behaviour and expectations of the organisation. A representative from HR should either be present at exercises or consulted beforehand so that policies and procedures for crisis situations are reflected in the scenario.

3.5 Adopt an inclusive approach to planning

Organisations that actively involve their employees in planning for disasters are likely to have a higher proportion of employees reporting for work in a real crisis. Contingency and emergency planners should help those staff to fully understand the importance of the role that they play in maintaining business continuity, and the effect this has on the organisation's response.

It is not only that this helps employees to feel involved in the response and educates them about the importance of responding appropriately, it also allows the organisation to tailor its preparation before, and actions during a crisis to individual employee needs. This will help the organisation to understand what matters to its staff.

For example, our research has shown that, when deciding whether or not to report for work, for many employees the likely impact on their family, friends and loved ones is a major concern. For them, the risk of catching an infectious disease such as pneumonic plague themselves may be tolerable, but the risk of passing it on to their families is far less acceptable.

By involving employees in your business continuity and crisis planning you can understand the specific actions you will need to take to reassure your employees about the safety of their significant others, and this could increase the likelihood of your employees going to work.

The particular role a person has in the organisation is also an important factor. If an individual is personally responsible for some aspect of crisis management, business continuity or emergency response then they will be more likely to report for work.

For example, one research study showed that while 95% of emergency responders said they would be willing to stay at work during a bioterrorist incident only 71% of local media workers said they would be willing to do so. The study also found that the media workers exhibited higher levels of fear and lower levels of understanding of the medical issues involved than the emergency responders. This outcome suggests that the difference in willingness to return to work is unlikely to be fully explained by media workers feeling that their roles are less vital than emergency responders.¹⁰ This outcome suggests that the difference in willingness to return to work is unlikely to be fully explained by media workers feeling that their roles are less vital than emergency responders and may indicate that those who work in a role which requires preparation for a crisis are more likely to have been educated on the actual risks and so can make a better informed judgement.

Organisations that actively involve their employees in planning for disasters are likely to have a higher proportion of employees reporting for work in a real crisis.

4. Information and communication – tell them what they need to know

Our research found that organisations should inform their employees and communicate with them about an incident as this has the potential to encourage staff to return to work. This information and communication should take place not only during the crisis – although that is of paramount importance – but also before any crisis occurs.

4.1 Educate employees on actual risk

Several decades of research into risk perception suggests that when a risk is deemed to be uncontrollable, unfamiliar, catastrophic, or potentially fatal, employees may experience higher levels of dread, and as such, may not turn up to work.¹¹ Unsurprisingly events that cause feelings of ‘dread’ could also cause people to stay away.

What is surprising is how often public perception of risk diverges from actual risk. This divergence of perceived risk from actual risk is to some extent mediated by knowledge and information. For example, in a study of student nurses it was found that their concerns for safety were based on the inaccurate assumption that they could infect their families after treating victims of inhalation anthrax.¹² Further, a study of public health workers in the US found that those who had read the pandemic influenza plan were more likely to report a willingness to work during a pandemic.¹³

It is important to make use of academic research on risk perception when preparing organisational communication. During a crisis you should enhance your employees’ understanding of the specific events, the risks involved, and steps that can be taken to manage and mitigate those risks to the point that it is safe for them to attend work.

4.2 Provide accurate, authoritative information during the crisis

It’s not just *how* you communicate, but *what* information you communicate and *who* communicates the information to your staff that is important.

For 64% of the employees we surveyed for this study, the communication and information from their employers during any crisis would have an effect on their willingness to return to work. When we examined responses to a pneumonic plague outbreak it was very clear that the lack of information in an early media report caused significant levels of mistrust amongst the employees. This caused them to question the motive and agenda of their organisations.

Recently academics have noted that some of the issues that lead to distrust, such as delays in communicating information or over-emphasis on reassurance, are caused by inaccurate assumptions about public behaviours.¹⁴ Specifically, the assumptions professionals make about public behaviour may lead them to design their risk communication materials based on the expectation that people will panic during an extreme event. We now know that this assumption of public panic is unfounded.¹⁵

The organisations we spoke to all recognised the importance of the provision of accurate information. However, while the communication methods were comprehensive and well-tested, there was little understanding of the actual information employees would want to receive. This is clearly a major gap for many organisations. It is, however, one that can be filled with practical advice – both verbal and in the form of printed and digital written material – on what is happening and what to do.

“If at any point I felt that (the organisation) were asking me to come in and didn’t have a particularly good reason, and weren’t necessarily putting my safety first, then I would definitely not come in.”

Employee – Central Government

Employees expect frequent and accurate updates containing enough technical or safety information for them to make their own personal risk assessments. They also desire information about their organisation's contingency plans and specific reasons for being asked to come to work.

Employees also expect to hear information from a range of sources, including from Government, health experts (both independent and from their own organisation), and from line management. Wherever possible, organisations should use their existing networks for communication. Ideally, employees want to hear from a figurehead at the top of the organisation, but also from someone they know such as their line manager.

They want specific information such as, in the event of an infectious disease outbreak, the number of confirmed cases per day, whether that is increasing or decreasing, and how rapidly. In the focus groups, the knowledge that pneumonic plague was treatable with antibiotics was reassuring to some employees. Although being told it was 'fatal if not treated' shocked participants, it also prompted some individuals who had previously been reluctant to leave the house to say that they would actively seek treatment.

Organisations need to be consistent in their recommendations to staff and give clear reasons for those recommendations. So, rather than simply announcing that it is business as usual, articulate the reasoning behind the message and give staff clear justifications as to why their presence is required and why they cannot work from home.

It is important to communicate executive level decision-making throughout the organisation. In the event of an incident, communicate with staff about the organisation's response and also the organisation's long term contingency plan. Inform staff that their safety is the priority and provide evidence-based information on how their safety will be addressed.

Organisations should embrace and disseminate appropriate media sources. Suggest accurate sources of information for staff to look at, and potentially the sources that they should view with greater scepticism.

In our research, employees viewed social media as an inaccurate source of information, but one that would be used to look at general trends or to keep in contact with friends and family. Even though they might question the authenticity of what they see on social media, it still has the potential to affect their perceptions and behaviour in response to an incident. Organisations should therefore advise staff on how to use social media effectively during an incident, for example encouraging them to use it to contact their friends and family to let them know they are safe, helping them understand how to judge the validity of a post, and also informing them what they can and cannot post on social media about the incident or about their employer.

Organisations need to be consistent in their recommendations to staff and give clear reasons for those recommendations. So, rather than simply announcing that it is business as usual, articulate the reasoning behind the message.

5. Organisational interventions – provide practical support

In addition to understanding human factors and principles of effective risk communication, organisations need to offer a range of practical support to their employees. Our research indicated that these interventions are vitally important. There are few organisations that would not benefit from a regular review of their plans to offer practical support in the event of a crisis.

5.1 If remote access is key to your contingency planning, make sure it will work when you need it

Many organisations assumed that the majority of staff who can work from home will take their laptops and/or remote access tokens home with them at the end of each day. In reality however, our findings suggest this may not be the case.

We found that 62% of our survey respondents said they would have needed to have taken some equipment home with them the previous day to be able to work from home, but of those employees, 44% said they did not take the necessary equipment home with them each day.

Employees in our focus groups also admitted to not always taking their laptops home with them. They either leave them on their desks or in their lockers at work, and they said that they would not be willing to go back into work to collect them during an incident where they thought travelling might put their health at risk.

Organisations need to ensure that staff either have the technology they need permanently at home, or are taking what they need home with them each day. They must clearly communicate the importance of maintaining the ability to work remotely and may wish to consider putting a contingency plan in place, such as a courier service, in order to get equipment to essential staff if they do not have it with them.

And of course, organisations should make sure that they stress test remote access working as part of an overall crisis response plan.

5.2 Provide medical incentives to attend the workplace

Offering medication – especially medication that is not available elsewhere – can be a significant incentive for employees to report to work. Although some individuals we interviewed raised concerns around the capability of their employers to do so, the costs involved, the practicality of prescribing medication, and moral concerns if the medication is in short supply, broadly speaking it was seen as a positive step.

Certainly, staff will expect commonplace preventative measures such as hand gels, overnight cleaning of desks and communal areas, hand washing instructions, antibacterial wipes and masks. If there are good reasons for your organisation not to provide these, for example masks might not be recommended by health officials or providing antibiotics for everyone could mean the bacteria become resistant, you need to explain this reasoning clearly and openly.

Some employees in our focus groups thought that their organisation would go as far as setting up a treatment centre in the office, or a treatment stand at an alternative location where members of staff could go to get antibiotics, although some participants wanted these to be delivered to their houses so they didn't have to put themselves at risk by going outside. Equally, some employees also expected that their employers would provide diagnostic testing for the infection concerned. These findings are supported by previous academic research, with one study reporting that 77% of media workers would expect their employers to provide protective measures, necessary medication and treatment if going to work put them at risk.¹⁰

“That would actually be an incentive to come into work instead of working from home, if they said we could cut you out of the public queue (for antibiotics).”

Employee – Finance Sector

“...should we buy a stock of Tamiflu? Shall we distribute that? How do we distribute that? We're a bank not a pharmacy you know.”

Resilience Professional – Finance Sector

For essential staff it may also be necessary to provide medication for their family to reassure them that they will not be putting their family at risk by coming to work. Past research has shown this to be an influence on the willingness of healthcare workers to report to work, with one study finding that providing antiviral medication and vaccinations to the nurses themselves and also to their families resulted in the highest levels of willingness to work during a hypothetical influenza pandemic.¹⁶

5.3 Focus on practical support and appropriate psychological care

Many organisations involved in our research reported that they were able to provide psychological interventions after an incident; however they generally had not considered what type of intervention would be most appropriate. Most said they would be advised by a third-party organisation, usually their private healthcare provider, about which intervention to use. Often this would be the provision of trauma counselling to all staff involved in an incident.

The general consensus among academics is that blanket trauma counselling or conducting single session psychological debriefing with everyone involved in an incident provides little benefit, and in fact has the potential to do more harm than good.¹⁷ It can make individuals believe they should be experiencing psychological symptoms or force them to relive an incident unnecessarily, instead of allowing them to deploy their own personal coping strategies.

A better approach is to help staff understand that it is okay to feel stressed or anxious in the aftermath of a major incident, and provide conspicuous and easy access to further support services for those who may need it in the months or years that follow.

It has been suggested in the academic literature that organisations should facilitate the social cohesion that naturally occurs during an incident by enabling staff to get involved and take ownership of the organisation's response and recovery.¹⁸ This can be achieved by including staff in planning the organisation's response to a crisis which can give them not only the knowledge they need to respond effectively, but also a sense of ownership and of having done something to help, which can in turn help them to feel better in the aftermath of an incident.

5.4 Focus on logistical support for essential staff

The final piece of the jigsaw is to ensure that all of the logistical arrangements are in place to enable employees to get to work. 'Transport problems' were the most frequently cited barrier to reporting to work during a serious incident in our study. Many employees said that a fear of contagion or of a secondary attack on the network would make them reluctant to travel by public transport. Others would simply refuse to do so.

Some of the organisations we spoke to had strategies in place to help employees get to or from work if there was disruption on public transport, but it was unclear if this would also be offered to those employees who were not willing to travel by public transport due to a perceived risk to their health. Given the responses from employees in this study, it may be wise to extend these provisions to that group.

Another practical consideration is the commitments employees have to family or significant others, which may prevent them from reporting to work. In our web survey 96% of employees with children under the age of five reported that a need for childcare could potentially prevent them from reporting to work in the event of a serious incident. To maximise the likelihood of those employees attending work, employers could make provision to offer or support childcare.

"I think I'd be more worried about my children. It wouldn't necessarily be about me coming into work, it would be about putting my children into school, because I've no idea where other parents were the day before or the week before."

Employee – Energy Sector

6. Conclusion

Our research has shown that staff may expect more from their employers than many organisations currently plan to offer. This could result in a significant gap between the number of people expected to report to work during a disaster, and the number of people who actually report to work.

Fundamentally you must address the human factor in crisis response; building a crisis resilient workforce is paramount to an organisation’s ability to respond to, and recover from, disasters or extreme events.

There is of course a limit to what organisations can do to close this gap. To some extent, whether or not people turn up for work will be determined by the nature of the threat, the sector in question, and the job role of the individual. However, the findings and recommendations from our research summarised in Table 1, below, have shown that there are things that you can do to inform the responses of your employees and encourage them to return to work at a time when you will need them most.

Table 1. Summary of recommendations

	Summary of findings	Summary of recommendations
Roles & responsibilities 	Employees will be more willing to return to work if: <ul style="list-style-type: none"> • they see their organisation as important to society as whole • they see their role as important to the organisation’s response. 	<ul style="list-style-type: none"> • Make sure people understand the importance of their role and of their organisation • Adopt an inclusive approach to planning.
Psychological & social factors 	Risk perception is a key determinant of willingness to return to work and employees will be influenced by: <ul style="list-style-type: none"> • concern for their safety • concern for their family’s safety • the need to care for family members • inaccurate or partial knowledge • misperceptions about risks. 	<ul style="list-style-type: none"> • Challenge and address assumptions about employee willingness to return to work • Recognise risk perception as a key determinant of willingness • Embed employees’ concerns and behaviours into crisis planning.
Information & communications 	Effective communications that are based on the needs of employees are critical. Organisations need to consider not just how information is communicated but what is communicated and by whom.	<ul style="list-style-type: none"> • Educate employees on actual risk • Provide accurate, authoritative information during the crisis.
Organisational interventions 	Interventions made by organisations will also influence willingness to return to work. Key incentives to consider include: <ul style="list-style-type: none"> • transport • childcare • healthcare • psychological interventions where appropriate. 	<ul style="list-style-type: none"> • If remote access is key to your contingency planning, make sure it will work when you need it • Provide medical incentives to report to work • Provide practical support and appropriate psychological care • Focus on logistical support for essential staff.

7. About the research

We created a unique public-private partnership between King's College London, Public Health England and Deloitte to conduct in-depth research at PhD level into the likely behaviour of staff during extreme events.

The PhD research, undertaken by Lorna Riddle, involved organisations from a range of sectors including financial services, energy, transport, government and health. Several private and public organisations from those sectors generously contributed with their time and employees. The research included:

- A systematic review identifying 65 academic studies and real incident case studies.
- Interviews with 21 resilience professionals who had either current or former responsibilities for resilience or business continuity at a national infrastructure organisation in the UK.
- A web survey of over 321 UK employees of any industry or sector in the UK.
- Eight scenario-based focus groups with employees of organisations from a range of national infrastructure sectors in the UK. The scenario for the focus groups was a deliberate pneumonic plague release at a mainline train station.

Appendix: Data Collection Methods

Interview Study Method:

Semi-structured expert interviews were conducted with 21 industry professionals (20 males and 1 female) who had either current or former responsibilities for business continuity, crisis management or resilience for a national infrastructure organisation. Sectors included in the study were: finance, energy, water, food, transport, communications, health, emergency services and local and central government. The discussions focused on incident planning methods and assumptions, expectations of staff during and after an incident and any experience the interviewees had of previous incidents during their careers. Interviews lasted between 30 and 90 minutes and were recorded, transcribed and then subject to full qualitative analysis using Interpretative Phenomenological Analysis (IPA).

Web Survey Study Method:

A total of 321 employees (of any industry) currently working in the UK completed an anonymous web survey hosted on SelectSurvey.net.

The average age of respondents was 38 (with a range of 19 to 69yrs), with 162 male and 159 female respondents. The web survey contained questions related to their likely willingness and ability to report to work in a range of different scenarios, and their ability and willingness to work from home during a serious incident and demographic questions. Please note that for the purposes of the statistical analysis the total sample was $n = 312$ after removing the responses of 9 participants who said they worked from home every day and so did not have to leave their house to 'report to work'.

Focus Groups Study Method:

In addition to one pilot focus group ($n=5$), a total of 8 focus groups were completed ($n=53$) in national infrastructure organisations in the UK. The participants were employees of organisations operating within the following sectors: Energy (2 groups, $n=13$), Finance (3 groups, $n=19$), Government (1 group, $n=7$) and Health (2 groups, $n=14$). Participants had an average age of 34, with 22 males and 31 females.

To help participants visualise the scenario (a deliberate pneumonic plague release at a mainline train station) and to add a sense of reality, participants were presented with 3 media injects. The first, a 5 minute video of a news broadcast was used to set the scene on the day the terrorist device was discovered; the second a news website article which was used to give more specific information about the incident and pneumonic plague on day 5 of the scenario; and lastly a social media page containing a series of posts from other members of the public about the incident on day 16 of the scenario which was used to gauge participants' feelings about the use of social media during an incident. After being presented with each inject participants were asked to make some notes about their 'first thoughts' on a piece of paper before the group discussions began. These notes were used in the analysis of the focus groups along with the recordings of the verbal discussions.

The scenario used in the focus groups was adapted from a scenario used in a Department of Health field exercise led by the Health Protection Agency's Centre for Emergency Preparedness and Response in 2009 ('Exercise Black Crocus') and the DVD inject used was developed for a Home Office funded study conducted by King's College London and the Health Protection Agency in 2007.

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