Chartered Institute of Ergonomics & Human Factors

www.covid19.ergonomics.org.uk

Achieving sustainable change:

Capturing lessons from COVID-19

July, 2020. Version 1

Contents

Introduction

The purpose of this guide is to help people working in the health and social care ecosystem capture valuable practice and improvements made during their response to COVID-19. The aim is to contribute to organisational change at a policy, strategic and operational level. If left too late, there is a real danger that positive change is not documented and will be lost as the health system emerges from the pandemic.

While all organisations have the capacity to adapt, learn quickly and demonstrate agility in dealing with complexity and chaos, they can be equally good at forgetting good practice! As leaders change, systems evolve and technology and regulations advance, new operating procedures are adopted and corporate memory of good practice can be lost. As a consequence, organisations spend time and money reinventing the wheel.

The leadership and management of the impact of COVID-19 on the health system required people to work at pace in response to a rapidly changing environment. This affected all levels through to the clinical frontline.

This guide provides an explanation of how systems thinking and organisational learning can contribute to sustainable change. It makes links to the Chartered Institute of Ergonomics and Human Factors' recent White Paper on "Learning from Adverse Events" and explains the synergy between learning from good practice and from adverse incidents.

The guide explains the two key areas in achieving effective organisational learning: **mindset** and **action**. Templates are provided with this document to help capture this.

The guidance cannot catapult readers from novice to expert. However, it is hoped that it will inspire and challenge thinking.

Dr Noorzaman Rashid
Chief Executive
The Chartered Institute of Ergonomics and Human Factors

Please send examples of successful organisational learning to Prof Mark Sujan, mark.sujan@gmail.com
It is hoped to use these in future updates to this document.

Ergonomics and Human Factors

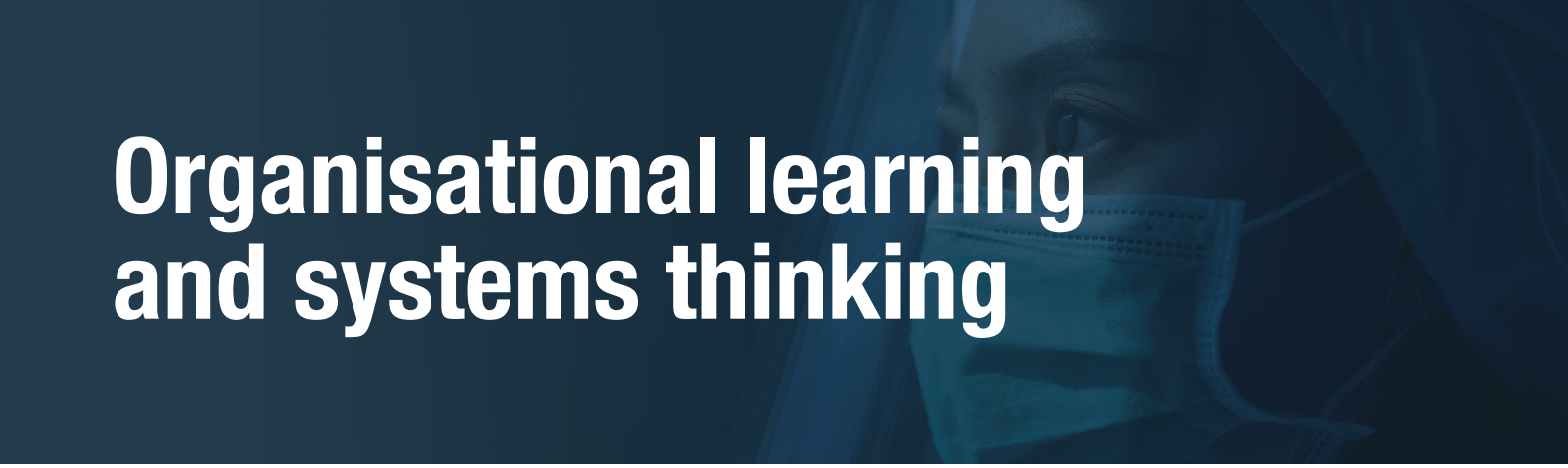
Ergonomics and Human Factors (EHF) has been a scientific discipline since the late 1940s and has evolved to become an activity embedded in many organisations throughout the UK and globally. It has impacted changes in, and improvements to, workplaces, technologies and systems. The terms ergonomics and human factors are used synonymously.

The CIEHF understands the need to identify clear messages to influence industry, policy makers, research funders and educators on why human factors is so important, how it adds value and what the priorities should be when considering how human factors should be implemented.

Applying human factors ensures that systems, products and services are designed to make them easier, safer and more effective for people to use.

Integrated human-centred design
The Institute focuses on integrated human-centred design and thinking to improve life, wellbeing and performance. This involves the disciplines of physiology, engineering, psychology and technology. Human factors experts are formally trained to design and improve work systems to maximise individual and team performance. This includes organisational change at a policy, strategic and operational level.

Capturing resilient forms of behaviour (anticipating, monitoring and responding) and reflecting on them will be key to improving the performance of the NHS in the future and to ensuring better outcomes for patients and for staff. It is crucial to understand what worked and under what circumstances, and what adaptations under pressure might have created new risks or unintended consequences within the system.



Organisational learning and systems thinking

Organisational learning
Organisational learning is essential for improving the safety of patients, staff wellbeing and for making processes of care more productive, efficient and effective. The relevance of organisational learning for the NHS was acknowledged in 2000 in the report "An organisation with a memory", and was subsequently reaffirmed in the "Berwick review" (the actual title is "A promise to learn – A commitment to act") following the inquiry into the deaths at Mid Staffordshire NHS Foundation Trust. The Berwick review called on the NHS to aspire to become a system devoted to continuous learning and improvement.

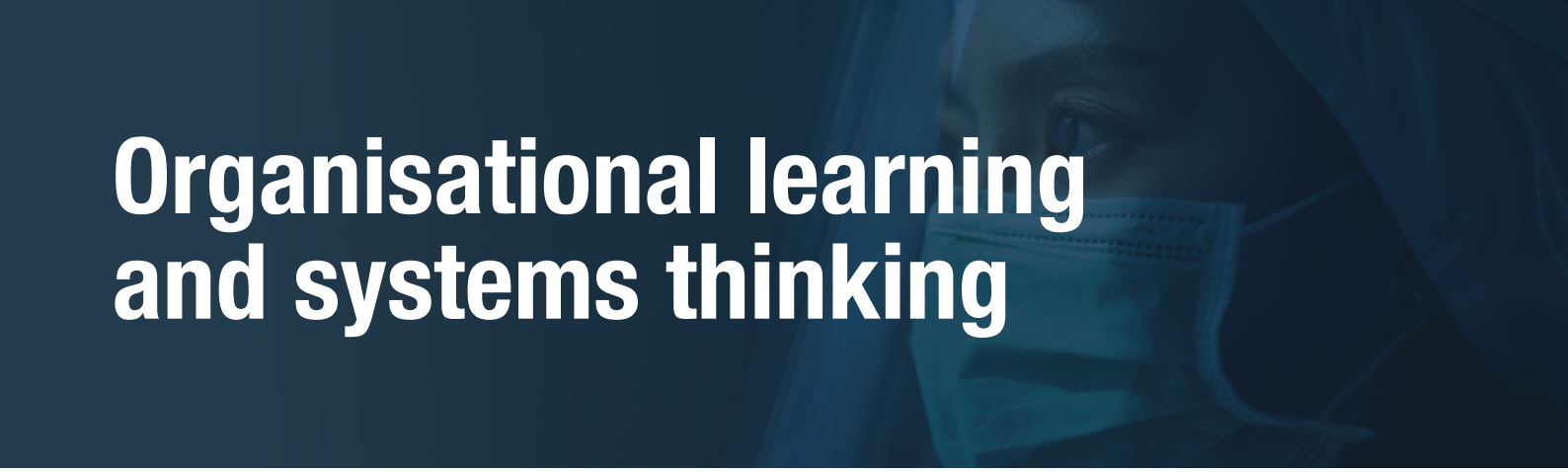
Organisational learning in practice has often been reduced to the investigation of serious untoward incidents or cataloguing of frequently occurring harms, e.g. patient falls, and this has limited its effectiveness to bring about positive organisational change. Organisational learning is not owned by, or limited to, a specific department or function, such as risk management or clinical governance. It is a continuous cycle of action and reflection, which takes place at different levels, including the individual, the team or department, the organisation and the NHS as a whole.

Like any learning activity, organisational learning is essentially a social process where we take a step back, collectively make sense of our experiences, and reflect on and challenge our assumptions in order to trigger change and improvement. This is sometimes referred to as double-loop learning to distinguish it from the focus on quick fixes, or single-loop learning.

Systems thinking
Systems thinking is a process of understanding how things influence one another within a whole. In nature, systems thinking examples include ecosystems in which various elements such as air, water, movement, plants and animals work together to survive or perish. Healthcare organisations are made up of interconnected complex systems and processes important to improving the quality of care delivered. Systems thinking draws on a number of disciplines and enables sight of the improvements that are achieved by systematic or holistic approaches to change that take account of this complexity.

Understanding and applying systems thinking is a fundamental human factors concept and forms the basis for successful organisational learning.

- Systems range from an individual performing a single task, through to people working in teams, and on to complex socio-technical systems, or how people, social processes and technology fit together to produce desired workplace outcomes.
- Examples include an anaesthetist using a medical device (micro system), the hospital pharmacy providing drugs to wards and to patients (meso system), and ambulance services, emergency departments and hospital services jointly delivering emergency care services (macro system).
- Different parts of the system interact continuously in order to provide a service.
- Interactions can be complex, especially when they involve people from different organisations, and cannot always be clearly described or predicted.
- Important organisational outcomes, such as patient safety, the experience of patients and their relatives and staff wellbeing, emerge as a result of these interactions.



Organisational learning and systems thinking

A frequently used and practical example of systems thinking applied to healthcare is the Systems Engineering Initiative for Patient Safety (SEIPS) model, which takes as a starting point the patient's journey through the health system and describes this as a series of encounters with different work systems, e.g. hospital, GP practice, physiotherapy practice, etc, that together deliver health services. Each work system is made up of people, the equipment and technologies they use, the work procedures and guidelines they follow, and the organisational culture that binds them together. Systems thinking reminds us to consider the interconnectedness of these elements.

The organisational learning principles described in this guidance are based on thinking around complex adaptive systems and resilient healthcare. The main driver behind the development of this type of thinking is the recognition that standard management principles that break down a system into well-defined and fairly static parts are not well suited for dealing with modern systems. This is because many of the approaches that are commonly in use today, for example, for the management of safety, have been developed between the 1940s and 1980s when systems were less complex and more tractable than those of today. For example, the popular Failure Modes and Effects Analysis (FMEA) technique was developed in 1949 to address problems with the reliability of military aircraft.

More recent thinking places emphasis on the ability to successfully navigate the stresses and tensions present in any modern-day complex system. Health and social care services are provided by a system that includes many different sectors, organisations, departments and professions (think of the SEIPS model above), each of which has their own priorities, cultures and ways of working. Such systems require considerably more flexibility and coordination than, for example, the early automotive moving assembly line of Henry Ford installed in 1913.

Mindset

The approach to organisational learning is described here through two inter-connected structures; **Mindset** and **Action**. There are five key elements to each. The objective is to examine and change mindset and follow this with the actions that are required to embed and deploy the achieved learning.

1. Learning goals

Learning goals express the purpose of organisational learning and reflect an organisation's belief of how practice can be improved. Often, the goal of organisational learning is framed very narrowly around learning from incidents in order to prevent bad safety outcomes. It does not have to be that way.

A lot more can be achieved with organisational learning, especially when considering the rapid and flexible response to COVID-19. Managing COVID-19 is not just about preventing adverse events but more about keeping the NHS going and providing good levels of care in a time of crisis. Naturalistic decision making pioneer, Dr Gary Klein, likens this to a ship sailing in dense fog, navigating by identifying and responding quickly to obstacles and opportunities.

From a resilient health care perspective, successful organisations are able to anticipate opportunities and challenges and quickly implement strategies for change to adapt to novel situations. The importance of resilience became very clear during COVID-19 where organisations underwent radical change affecting every area of care. Organisational learning can help make sense of how the delivery of care has changed, what helped to make change happen and where potentially new risks were introduced.

The purpose of organisational learning should be to strengthen abilities that provide resilience, improve patient outcomes and enhance staff wellbeing.

The learning goals determine:

- Who is going to be involved
- How deep the learning process is
- The types of situations an organisation tries to learn from
- How learning is managed.

Mindset

2. Learning is for everyone

Learning can involve the individual, a team or department, an organisation or the entire health sector. Organisations need to consider who should be involved, but importantly organisations also need to consider how people can be involved.

The learning processes should be democratic and ownership should be as distributed as possible. Organisational learning should not be the responsibility of a few dedicated individuals or of a risk management or governance department who then push out information about lessons learned to others. Some of the key challenges that come with the narrow focus on learning from incidents in healthcare are the disengagement of staff and the negative connotations of human error and blame.

The response to COVID-19 demonstrates that everyone – nurses, doctors, cleaners, porters, lab staff, equipment maintenance staff, managers, retired staff and many more – all helped to adapt health and social care services during a period of great uncertainty. Everyone has gained experience and can potentially contribute to change and improvement.

The need to include and to empower staff across the NHS is increasingly being recognised, for example in the national patient safety strategy that sets out plans for a national patient safety curriculum to be delivered to all of the 1.3m staff in the NHS. Organisational learning needs to reflect this commitment to an approach that champions inclusivity and active participation.

Mindset

3. Learning speed and depth

Organisational learning should address both immediate issues as well as longer-term strategic changes. Fast changes are not the only goal but they are important if there is a specific need or risk, for example, something that requires immediate consideration. Fast changes can also be useful to demonstrate commitment to change to staff and show that their concerns are being taken seriously. In this way, quick wins can help avoid participation fatigue.

However, organisational learning should not degenerate into a find-and-fix approach where deeper seated problems are seemingly fixed through quick, simplistic solutions. This is sometimes referred to as single-loop learning.

Organisations need to encourage critical reflection, possibly challenging underlying assumptions. This type of learning is called double-loop learning and is typically longer-term.

Double-loop learning allows for critical reflection on underlying assumptions and can contribute to changes required for dealing with complex problems.

In time, COVID-19 will provide many examples of where lessons can be learned about the fundamental change needed to deal with many of the complex interdepartmental and interorganisational issues involved in delivering care. Examples might be the accelerated uptake of digital technology for remote triaging of patients that we have witnessed and the role of digital health in the NHS more widely.

Mindset

4. Learning from everyday work

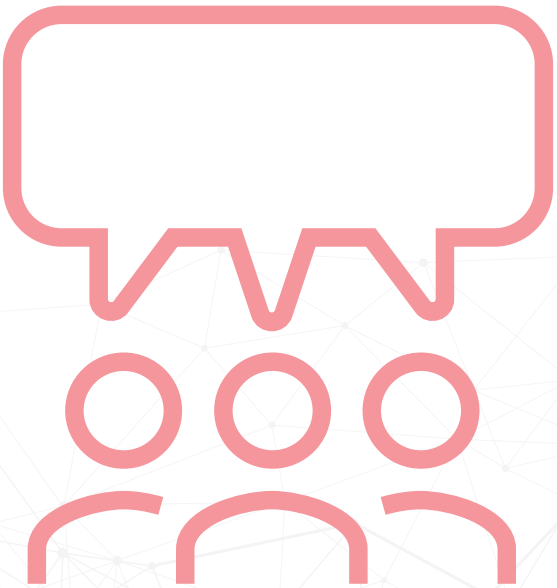
Traditionally, the focus has been on learning from incidents and adverse events in order to prevent similar issues from happening again. The CIEHF's recent White Paper on Learning from Adverse Events, outlines the principles and best practice for learning in, and from, such situations. http://bit.ly/CIEHFAdverseEventsWP

However, the focus of learning does not have to be exclusively on what goes wrong and how barriers, safeguards and protocols can be introduced to prevent repetition. This is especially true in complex systems like healthcare where people have to deal with many unforeseen situations and have to negotiate multiple, often competing, priorities with finite resources. Through their ability to anticipate and to adapt to surprises and conflicts, staff ensure that things go right most of the time. The organisation exhibits resilience.

Learning from what goes right supports organisational resilience by strengthening the ability to anticipate, to monitor and to adapt to changing demands and surprises.

The response to COVID-19 provides so many opportunities to learn from. It would be counterproductive to focus only on incidents and negative outcomes. Staff are keen to capture what worked well, to learn the right lessons and to ensure that good innovations are not lost.

The Learning from Excellence initiative, initially set up in the West Midlands and now a national movement, is an example of a community of practice that engages in learning from what goes well.



Mindset

5. Learning is formal and informal

Some aspects of organisational learning are managed formally, e.g. incident reporting systems are usually owned and operated by risk management, clinical governance or quality improvement departments. Such formal processes for organisational learning are supported by an organisational infrastructure, i.e. people and resources, and are institutionalised through procedures and work requirements.

Organisations can enhance their potential for learning by focusing not only on formal contexts, such as incident reporting systems, but also by investing in informal contexts of learning.

For example, members of staff will often form local communities of practice around specific concerns or issues. Such communities of practice might be lunchtime working groups or similar. They depend on the initiative and goodwill of staff. Organisations should encourage the formation of communities of practice and support this informal learning context through adequate resources. An example might be the introduction of a weekly “improvement time”, which staff members can use to engage in improvement activities and to share learning with others.

Experience shows that such investment pays dividends because it helps to improve staff wellbeing and patient experience and it can make the health and social care system more efficient.

Action

1. Capture work-as-done

The way people work is usually slightly different rather than what is specified in work procedures and protocols. This is because work situations are usually more complex than what was assumed when the procedures and protocols were developed. To acknowledge and to highlight that there is often a difference between work procedures and everyday work, people sometimes refer to the former as work-as-imagined by those who design and plan work, and work-as-done by those with the operational duties.

Organisations can capture the way work is actually carried out (work-as-done) in different ways using a wide range of data sources. Adaptations and changes to work are frequently discussed informally within relevant communities of practice, which can be a rich source of information. Interviews and improvement workshops with staff are also frequently a good starting point for collecting data, as well as staff feedback surveys.

Most organisations have access to staff with research or evaluation experience who can help collect this type of important data and who can also train other colleagues.

Some organisations might find structured tools such as task analysis, e.g. Hierarchical Task Analysis (HTA), or functional descriptions such as Functional Resonance Analysis Method (FRAM), helpful. The great majority of health and social care staff will be unfamiliar with these important and very useful methods for better understanding and learning about complex care systems which require training and practice. Human factors specialists can provide support with the application of these tools and help upskill key staff members locally, for example the patient safety specialists to be recruited within every Trust as part of the national patient safety strategy.

Action

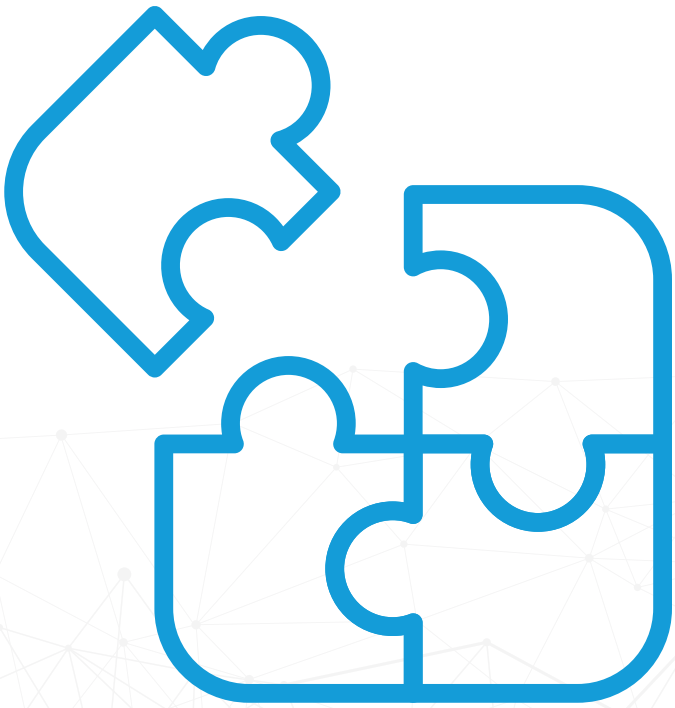
2. Understand trade-offs and adaptation

Organisations should analyse work-as-done from a neutral perspective and without outcome bias, i.e. not judge an action just by its outcome. Organisations will find that work-as-done might vary from work procedures, protocols and guidelines (work-as-imagined), but compelling people to follow the rules is not always the best approach in complex care systems.

Organisational learning can be a tool for understanding the trade-offs and adaptations people make in order to deliver good care in changing circumstances and with multiple competing demands.

There can be many reasons why people need to make trade-offs and adapt the way they work. There could be a mismatch between demand and capacity, the right equipment might not be available, work procedures might not be appropriate for a given situation or might conflict with other procedures, or a novel situation might be encountered.

COVID-19 put health and social care organisations under such pressure that many work procedures stopped being workable or useful. People have the ability to adapt their ways of working to reflect the changing conditions. Organisational learning needs to tap into this experience of people to understand, for example: what trade-offs do people have to make? How do they resolve these trade-offs? How can the organisation support people in making good trade-offs? How can the effects of trade-offs and adaptations be made visible?



Action

3. Ensure learning is practical and meaningful

Organisational learning is more than the dissemination of safety information to staff. The biggest threat to successful learning is the failure to relate lessons to frontline clinical and non-clinical, e.g. housekeeping, portering and clerical, practice. There is consensus in the literature that the NHS might be reasonably good at collecting and aggregating incident data but that very little actionable learning is created by that.

Staff should be encouraged to take ownership of change and improvements and should be involved in the learning process. This can help to ensure that learning is relevant to practice and that sustainable change can take place.

Some of the trade-offs and adaptations that people make might be very good, others might introduce new risks or create unintended consequences in other parts of the system. There needs to be dialogue and collective sensemaking to ensure that change and improvement supports practice and does not inadvertently constrain or hinder it.

An example of collective sensemaking is outlined in the CIEHF's "Guidance to design effective and usable work procedures" document. Find this at: https://bit.ly/WorkProceduresDesignGuidance

Staff should contribute to the design of work procedures, feed back on adaptations they need to make when using the procedure in different situations and reach consensus on what kinds of adaptations are useful and where the procedure requires further change.

Action

4. Put commitment and resource into change

Lessons learned might relate to, for example, the introduction of new technology, improvements to existing technology or equipment, updating of work procedures or changes to behaviour. Any change is usually just an approximation and requires commitment, resource and good planning as well as feedback and refinement.

Commitment to change depends on whether people at all levels of the organisation value the change and regard it as something worthwhile. However, valuing a change by itself is not sufficient to make it happen; organisations need to understand resource requirements and make these available to make change happen.

Commitment to change and the ability to put adequate resource into change are indicators of organisational readiness for change.

The implementation plan should outline what is expected to happen and how the proposed solution will improve the situation and contribute to enhanced resilience. Rapid improvement cycles, e.g. plan-do-study-act cycles, might be a useful approach to facilitating change and demonstrating that improvement has taken place. It is important to involve all staff that will be affected by changes.

Organisations need to consider that changes might have knock-on effects that could result in unintended consequences in other areas. Improvement specialists who are already employed in many organisations can help with planning and running improvement activities. Human factors specialists can help with participatory and user-centred design of work procedures, equipment, workspaces and communication.

Action

5. Monitoring and feedback

Organisations need to monitor whether the changes have the expected impact on outcomes, e.g. improved patient safety and patient experience, staff wellbeing, etc. Situations and demands will continue to change and new lessons will have to be learned.

Therefore, any improvements in technology, equipment, procedures and changes to behaviour, need to remain adaptable.

Organisational learning is a cycle and feedback can trigger new insights and lessons learned.

Organisational learning templates:
Capturing examples of resilient performance

There are two templates, one for **mindset**, the other for **action**. These are best used within a team or at management or board level to reflect on the overall approach to organisational learning. The second template is best used to learn from specific instances or situations.

The templates can be used as they are or can be tailored to fit specific needs and situations or different ways of engaging staff.

Learning outcomes can include:

- Improved safety
- Increased efficiency or productivity
- Enhanced job enjoyment
- Better communication and teamworking
- Reduced costs
- Less stress or frustration
- More effective leadership
- Service redesign
- Improved experience of patients and their relatives
- Informed decision-making.

Mindset template

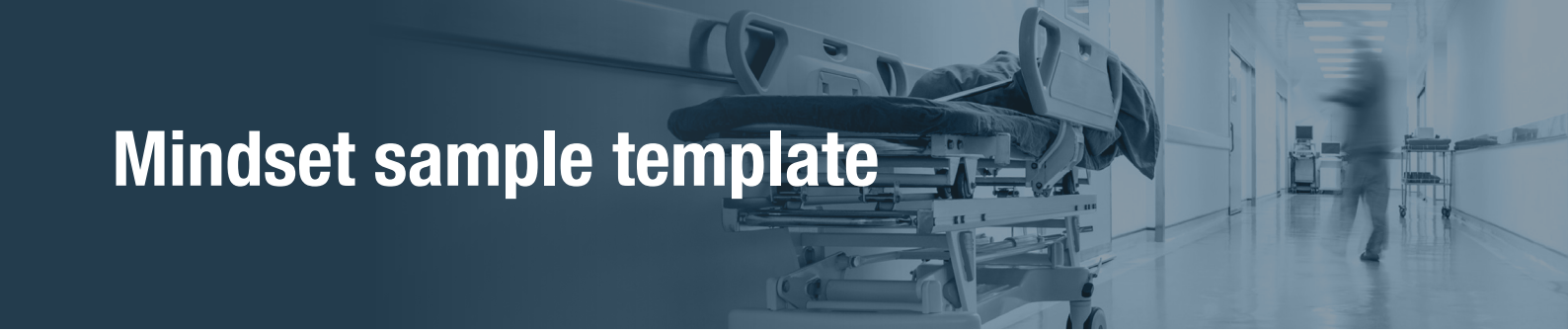
This is generic for the department/organisation and does not have to be completed every time. It can be filled in once and can then be reviewed periodically.

Mindset	Prompts	Description
1. Learning goals	• What are our learning goals? • Do we want to learn about protocols and safeguards? • Do we want to learn about how to make the work more flexible and responsive? • Do we want to learn about how technology can help or hinder us in becoming more efficient?	
2. Learning is for everyone	• Who should be involved? • Have we identified everyone who might contribute or might be affected? • Are we learning at team level, departmental level, organisational level or even wider? • How can we involve relevant people at all levels?	
3. Learning speed and depth	• Have we looked at a range of options for improvement? • Do improvements have the feel of quick fixes? • Have we challenged ourselves and our existing beliefs?	
4. Learning from everyday work	• Do we focus only on adverse events and what went wrong or could go wrong? • Do we try to learn from everyday situations? • Do we capture what went well and things we want to keep?	
5. Learning is formal and informal	• Is our learning narrowly confined to specific people or designated roles? • How do we promote informal learning, e.g. spontaneously formed working groups? • Do we give ownership for learning and improvements to a wide range of people? • How do we establish psychological safety (i.e. at the personal level feeling free and safe to raise issues or challenge decision-making without fear of punishment or embarrassment) for staff who contribute to change?	

Action template

Think of a situation from which you want to learn, e.g. where you had to adapt systems, processes or behaviours to get jobs done, where you had to make trade-offs between competing priorities and demands, or where you anticipated that a change was necessary and then implemented it.

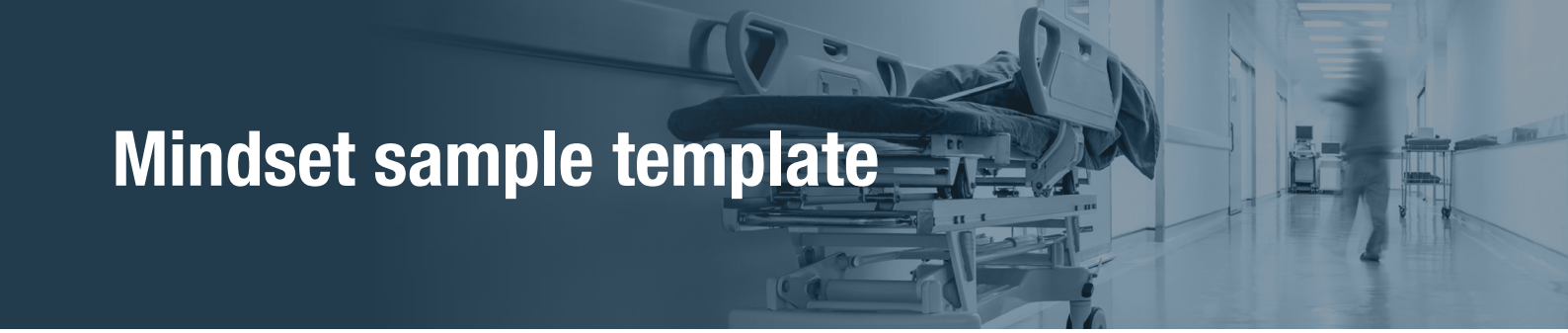
Action	Prompts	Description
1. Capture work as done	• What was actually done? • By whom? • How, e.g. sharing of information, negotiation, delegation of tasks, etc?	
2. Understand trade-offs and adaptation	• What prompted the adaptation? • How was the need for adaptation anticipated? • What purpose did the adaptation serve? • What made it work/not work?	
3. Ensure learning is practical and meaningful	• How does the adaptation relate to everyday practice? • Who should know about it/be involved? • Who will be affected? • Is it useful to make it standard practice? • Are there any risks? • What would help in the future?	
4. Put commitment and resource into change	• Who takes ownership of implementing changes? • How do the changes improve practice, e.g. does it improve anticipation, adaptation, the ability to make trade-offs? • What do we need to keep an eye on?	
5. Monitoring and feedback	• What outcome do we expect to improve? • How do we involve people and enable them to provide feedback? • How will we make further changes?	



Mindset sample template

Appropriate allocation and utilisation of critical care and redeployed staff and skills in an adapted workspace used as a COVID-19 ITU

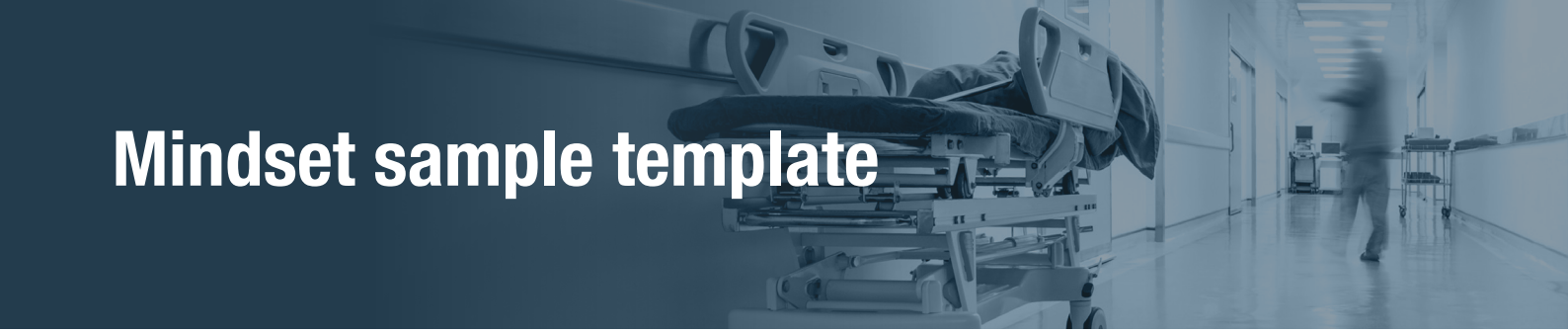
Mindset	Prompts	Description
1. Learning goals	• What are our learning goals? • Do we want to learn about protocols and safeguards? • Do we want to learn about how to make the work more flexible and responsive? • Do we want to learn about how technology can help or hinder us in becoming more efficient?	We wanted to know: What helps staff to work most effectively in this Critical Care (CC) environment? How can we reduce staff cognitive load and feelings of stress? How can we help more things go right to enable safer working practices? What support do staff need to fulfil their role?
2. Learning is for everyone	• Who should be involved? • Have we identified everyone who might contribute or might be affected? • Are we learning at team level, departmental level, organisational level or even wider? • How can we involve relevant people at all levels?	All staff in a patient facing role Shift leaders Auxiliary and support staff Service managers and senior department staff Incident control centre team Psychology team Learning is at all levels and we involved different professions and skilled practitioners through bedside discussion and more formal simulation teaching to gauge multiple perspectives. Feedback and thoughts from the frontline staff were discussed with wider senior team at daily management meetings to ensure buy-in and agreement.



Mindset sample template

Appropriate allocation and utilisation of critical care and redeployed staff and skills in an adapted workspace used as a COVID-19 ITU

Mindset	Prompts	Description
3. Learning speed and depth	• Have we looked at a range of options for improvement? • Do improvements have the feel of quick fixes? • Have we challenged ourselves and our existing beliefs?	There was a sense of urgency as the current allocation of workforce system, based on how we allocated staff and resources before COVID in ITU, was not functioning well in this new COVID-19 era. There was a need to be responsive and think outside of the box. Daily end-of-shift staff survey results and updates from representatives of different professional groups at daily management meeting pushed for quick, albeit widely discussed improvement suggestions. Options were limited by the consistently emerging situation, staffing, skills and resources.
4. Learning from everyday work	• Do we focus only on adverse events and what went wrong or could go wrong? • Do we try to learn from everyday situations? • Do we capture what went well and things we want to keep?	A temporary ICU with a total capacity of 55 beds was planned and reconfigured, but it was found that the previous ways of working with regards to staff allocation and skill mix was no longer relevant in this current COVID-19 context. A framework of new roles, role descriptions, and allocations alongside updated standards of care was sketched out and piloted, with subsequent learning and feedback, focused on how well the learning goals above were achieved, e.g. How did the shift feel? Did staff feel more supported? How were their stress levels? Verbal responses were collated and used in subsequent iterations.



Mindset sample template

Appropriate allocation and utilisation of critical care and redeployed staff and skills in an adapted workspace used as a COVID-19 ITU

Mindset	Prompts	Description
5. Learning is formal and informal	• Is our learning narrowly confined to specific people or designated roles? • How do we promote informal learning, e.g. spontaneously formed working groups? • Do we give ownership for learning and improvements to a wide range of people? • How do we establish psychological safety (i.e. at the personal level feeling free and safe to raise issues or challenge decision-making without fear of punishment or embarrassment) for staff who contribute to change?	Learning was continuous and dynamic with informal multi-professional staffroom discussions acting as a huge source of information. (By contrast, breaks are often in silos outside of critical care and theatres). During introductory critical care simulation teaching, an open and honest, non-judgemental approach encouraged psychological safety, as staff seemed able to give feedback, ask questions and raise concerns. The lived experience of myself and other senior staff involved in the new process meant we became a version of work as done and therefore our feedback was also valid. Staff were asked to feedback directly on the new process and how they felt it would work in practice, or how it felt to work in this way already. Informal ‘well-being’ conversations with impartial clinical and non-clinical staff such as psychologists revealed other information which fed back to the daily management meeting and simulation team, which affected learning.

Action sample template (1)

Appropriate allocation and utilisation of critical care and redeployed staff and skills in an adapted workspace used as a COVID-19 ITU

Action	Prompts	Description
1. Capture work as done	• What was actually done? • By whom? • How, e.g. sharing of information, negotiation, delegation of tasks, etc?	Pre-COVID-19 critical care (CC) practice standards and ways of working such as staff to patient ratio, administration of medications, access to investigations and treatments, inclusion of relative etc became unsustainable during the peak of COVID-19. We had to change the fundamental way that staff, skills and resources were redistributed in CC in order to cope. Collaboration between the simulation & human factors team, and the senior CC/PACU team to redesign: • A role description (CC Nurse, Bedside Practitioner, support staff) and handover allocation system to improve safety, efficiency and reduce staff anxiety. • An SOP redefining the acceptable standard of patient care (observations, mouth-care, pressure area care etc) in CC that could realistically be given during the peak by redeployed non-CC staff, who were overwhelmed by workload, pressure and constraints. • A novel escalation coloured hat system (Green – airway doctor, Pink – CC nurse, Blue – all other staff, including bedside practitioners) • Training to upskill non-CC redeployed staff. We spoke to other London CC units to find out how they were coping and what adaptations they had needed to make in order to cope. Working clinically and having access to speak with frontline staff allowed us to capture WAD and build our new processes from there. Senior CC team discussed and agreed to pilot the new processes. Staff were informed of the pilot at the beginning of their shift and an extra senior CC nurse floated to offer support and gain feedback from frontline staff. The pilot was a success and input from frontline staff was added to the process and accompanying documentation. After agreement at the daily management meeting, this process was rolled out and staff-in-charge would communicate the new processes and ways of working during the handover to the next shift. The new redeployed staff all attended an upskilling orientation session where they were also familiarised with the new ways of working. The training to upskill non-CC redeployed staff centred on the new ways of working, trade-offs and adaptations required to cope during COVID-19.

Action sample template (1)

Appropriate allocation and utilisation of critical care and redeployed staff and skills in an adapted workspace used as a COVID-19 ITU

Action	Prompts	Description
2. Understand trade-offs and adaptation	• What prompted the adaptation? • How was the need for adaptation anticipated? • What purpose did the adaptation serve? • What made it work/not work?	The extreme efficiency- thoroughness trade-offs (ETTOs) made when still applying standard pre-COVID-19 practices were at the forefront of people's minds and were noted to be causing staff moral injury, as they could not give the normal standards of care. WAD was now unrecognisable to pre-COVID-19 work as imagined (WAI) (Standard CC guidelines) and we had to adapt our expectations, standards of care and capabilities to fit the situation and work within latest government CC staffing guidance. Previous clinical critical care experience and an interest in designing work procedures with the end user in mind, as well as observation of WAD and listening to staff helped us anticipate the need for adaption. The redefining of roles and standards of care allowed a safer, fairer and more manageable allocation of tasks and responsibilities to fit the skills and resources available. Changing the expectations of staff with regards to levels of direct patient care tasks, documentation, speaking with relatives, and escalating for help. Staff could clearly feel the benefits as the unit felt calmer and more organised. There were clear expectations for each role which made staff feel they 'knew what they were supposed to do', reducing cognitive load. It was obvious which skills were in the room due to the coloured hat system, which further reduced staff anxiety and enhanced escalation processes. This adaptation did not work so well at night where sometimes there were lower numbers of staff, which meant both bedside practitioners and critical care nurses were focused on giving direct patient care. This left a reduced number of CC staff with oversight of the bedside practitioners and department. Junior doctors were not always allocated to work in the bedside practitioner role as the enthusiasm for this role from the consultant team was variable. This affected the ability of the nurse-in-charge to allocate accordingly, due to the lower numbers of bedside practitioners available to give one-to-one care.

Action sample template (1)

Appropriate allocation and utilisation of critical care and redeployed staff and skills in an adapted workspace used as a COVID-19 ITU

Action	Prompts	Description
3. Ensure learning is practical and meaningful	• How does the adaptation relate to everyday practice? • Who should know about it/ be involved? • Who will be affected? • Is it useful to make it standard practice? • Are there any risks? • What would help in the future?	The adaptations made a huge impact on the organisation of work and safety of everyday practice when resources were stretched beyond the capacity of the standard CC system. Senior CC managers and clinical staff should be aware so that in the event of a second wave the adaptations are widely supported by the Trust and can be easily put into place. Both staff and patients will be affected as the adaptations necessary to cope with a surge in workload change the level of care that can be given and the skills of the staff members giving care. The new role allocation and care standards are useful to adapt to the CC response to a large surge in CC patient demand, but are not suitable for standard practice where workflow and capacity are at an acceptable and manageable level. However, professional bodies such as NMC and GMC have accepted that working outside of scope of practice is acceptable standard practice in the context of pandemic service requirements. There is a risk that these adaptations for extreme situations are used in normal workflow and capacity time, and become accepted as a norm. A clear agreement of who will lead this adaptation in the event of a second wave. An understanding of who will be redeployed and what previous CC training and experience they have already in anticipation of a surge. A wider acceptance that all staff may need to work in different ways or roles during a future wave or pandemic.

Action sample template (1)

Appropriate allocation and utilisation of critical care and redeployed staff and skills in an adapted workspace used as a COVID-19 ITU

Action	Prompts	Description
4. Put commitment and resource into change	• Who takes ownership of implementing changes? • How do the changes improve practice, e.g. does it improve anticipation, adaptation, the ability to make trade-offs? • What do we need to keep an eye on?	CC senior team and managers The changes allow for the ETTOs to be made that are necessary to cope with the capacity, workload and dilution of skills and resources. This change can be helpful when planning or anticipating the CC response to a second wave. That we harness all skills available and avoid looking at traditional professional roles as a barrier. This adaptation only works when there is collaboration from all professions, and support from professional bodies.
5. Monitoring and feedback	• What outcome do we expect to improve? • How do we involve people and enable them to provide feedback? • How will we make further changes?	By using the role allocation and standards of care in the context of a second wave, we hope to: reduce staff anxiety, enable an improved situational awareness, reduce cognitive load of the critical care staff, reduce the extreme ends of ETTO, provide clarity of expectations of redeployed staff, and bring some organisation to a dynamic and quickly changing situation. Therefore, by default department safety is enhanced. Feedback was collected via verbal and survey routes, where staff were encouraged to feedback and share any good ideas they may have come up with. The adaptations seemed to work well on day shifts but further work into how this can be replicated on nights (arguably the more difficult shift) needs to be carried out. The COVID-19 ICU admission numbers did not ever reach 55, peaking at 26, and therefore this model should be further explored as to how it can be resourced to work at maximum capacity. This should be actioned through the COVID-19 incident control team and senior CC staff.

Action sample template (2)

Traffic light telephone appointment triage

This example is unedited and shows how the template can be used. It is not put forward as best practice.

Action	Prompts	Description
1. Capture work as done	• What was actually done? • By whom? • How, e.g. sharing of information, negotiation, delegation of tasks, etc?	We switched to a telephone appointment system at lockdown from a majority trend of face-to-face appointments on an urgent or routine basis. Meeting with practice manager and partners to devise a new system to be able to triage patients quickly according to need. To anticipate an increase in demand and reduction in staff at work due to illness or shielding. Practice manager met with staff to explain and run through new appt system. Receptionists signpost as before, with an adapted signposting sheet (dentists, opticians shut, etc). From signposting they allocate into a red slot for emergency (slots at top of each GP column) or orange slot for patient needs same day (middle of GP screen) and green slot for something non-urgent/ not needed same day (e.g. sick line, letter for insurance). No option for house call without telephone triage by GP. No option to make appointment for blood test unless made by GP.
2. Understand trade-offs and adaptation	• What prompted the adaptation? • How was the need for adaptation anticipated? • What purpose did the adaptation serve? • What made it work/ not work?	The expectation that we would need to make sure our services could be reached by those most at need if there was a huge spike in demand. And the need to be able to easily cover each other's work if off sick. An opportunity to allocate work easily done from home and a need to meet the patients need of speaking to a Dr the same day. This worked as we had excellent signposting by staff. We communicated to patients via Facebook page and posters. Our doctors worked together to ensure safe standard of care for all. We had a "hot room" booking system so those patients attending face-to-face were evenly spaced and PPE was available.

Action sample template (2)

Traffic light telephone appointment triage

This example is unedited and shows how the template can be used. It is not put forward as best practice.

Action	Prompts	Description
3. Ensure learning is practical and meaningful	• How does the adaptation relate to everyday practice? • Who should know about it/be involved? • Who will be affected? • Is it useful to make it standard practice? • Are there any risks? • What would help in the future?	Practice manager, partners, reception staff, any other staff at work should know about it. Partners and practice manager involved in creating a safe system for patients and staff. Patients and staff affected absolutely prefer this telephone triage first system. The risk is that staff cannot anticipate demand but green slots can be deferred if the need ever arises. Help in future would be a 2-way non-telephone system to communicate directly back to patients (e.g. that sick line is ready) looking at SMS system to bolt onto EMIS.
4. Put commitment and resource into change	• Who takes ownership of implementing changes? • How do the changes improve practice, e.g. does it improve anticipation, adaptation, the ability to make trade-offs? • What do we need to keep an eye on?	Partners and practice manager taken ownership, reviewed weekly at meeting at present. Practice improved resilience, efficiency, adapted to support working from home if need and IT speeds allow. Patients had access to speak to GP or MDT member faster.
5. Monitoring and feedback	• What outcome do we expect to improve? • How do we involve people and enable them to provide feedback? • How will we make further changes?	Access to GP improved. Signposting improved as forced function added that each appointment needs a reason written next to (allows for spotting any triage issues). Feedback from staff at weekly meeting. Feedback from patients needs to be encouraged.

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Contributors

Ann Abbassi (West Midlands AHSN)

Jennifer Blair (Epsom and St Helier University Hospitals NHS Trust)

Eva Burford (Nottingham University Hospitals)

Prof Sue Hignett (Loughborough University)

Frances Ives (West Midlands AHSN)

Prof Peter McCulloch (Oxford University)

Giulia Miles (Nottingham University Hospitals)

Alexia Pellowe (NHS Education for Scotland)

Chris Ramsden (CIEHF/Chartered Society of Designers)

Sabrina Vitello (Epsom and St Helier University Hospitals NHS Trust)

Jessica Wadsworth (Epsom and St Helier University Hospitals NHS Trust)

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