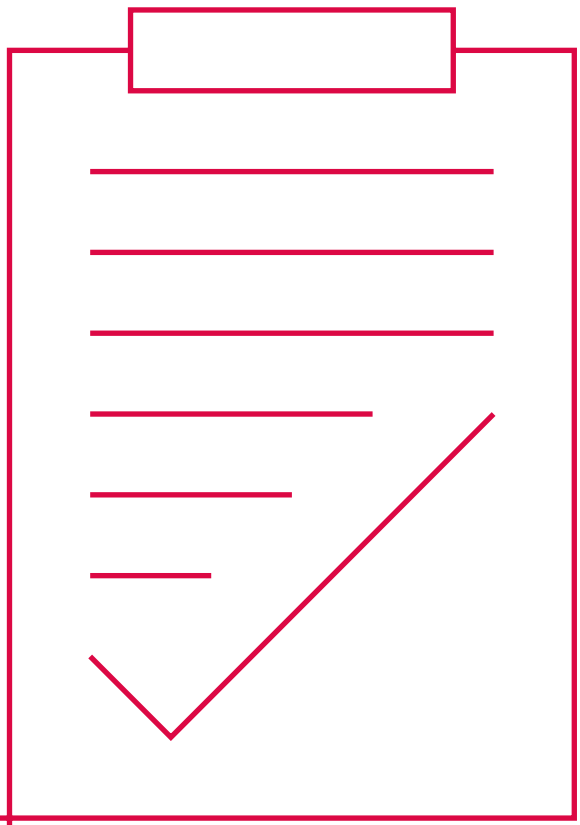
January / 2020

National patient safety syllabus 1.0

Training for all NHS staff

Making Safety Active:

— Preventing harm before it occurs
— Seeing risks and making them safe
— It's time to change what we do



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Foreword

We need to think differently about patient safety

The first NHS England/Improvement Patient Safety Strategy was launched at the Patient Safety Congress in July 2019. The Academy of Medical Royal Colleges has worked with colleagues from the University of Warwick to develop the new National Patient Safety syllabus which was included in the strategy as the basis for education and training throughout the NHS.

This syllabus represents an exciting new approach to patient safety incorporating an emphasis on a proactive approach to identifying risks to safe care and including systems thinking and human factors. This sets the scene for a step change in thinking about patient safety which will lead to significant gains as it reaches a critical mass of trained practitioners.

We will continue to work with NHSEngland and NHS Improvement in defining specific curricula for different staff groups and in building supporting educational materials.

Professor Carrie MacEwen
Chair of Academy of Medical Royal Colleges

Foreword

Professor Ted Baker, CQC's Chief Inspector of Hospitals, said,

> *"CQC welcomes the development of the patient safety syllabus which represents an opportunity to understand the factors that are essential foundations of safety, and will help everyone think differently about how to provide the consistently safe care that must underpin all services in the NHS."*

Dr Aidan Fowler, National Director of Patient Safety, NHS England and NHS Improvement, said,

> *"Developing a national patient safety syllabus for the NHS is a core part of the NHS patient safety strategy. Widespread education in patient safety science and improvement that is consistent and of a high quality will deliver a safer NHS for patients. We are delighted to be working with HEE, the Academy and many others on the further development of this vital syllabus."*

About this syllabus — what you need to know. Key FAQs

Who is it for?

— This is a multi-professional syllabus. It is intended to cover all the patient safety training and educational needs of people currently working in the NHS or in training to work in the NHS. This includes both clinical and non-clinical staff and covers the voluntary sector and social care.

Why is it different?

— This is the first NHS-wide patient safety syllabus. It is applicable to all staff

— The syllabus includes the incident reporting and investigation that takes place after incidents (including near-misses), but also adds critical proactive systems to prevent harm occurring in the first place. This reflects best practice in building safe systems within other safety-critical industries

— The syllabus encompasses all national safety initiatives including national alerts, key safety regulations and safety campaigns.

How will it make a difference to clinicians?

— The syllabus provides a common language and framework for patient safety

— It provides content to support all patient safety activities carried out by NHS staff. This includes incident investigation, creating a safety culture, using human factors, proactive risk management and managing system-induced human failures.

Is it only about non-technical skills?

— The syllabus is based on a systems approach to human factors. It is holistic in its use of human factors, both system- and person-based

— Human factors is the study of the system within which staff work, including their environment, equipment and people. In other industries, the application of human factors adds a proactive approach to safety that goes beyond the reactive approach that currently dominates in healthcare

— The syllabus therefore explicitly emphasises a systems-based human factors approach to safety, where working systems and their interaction with staff are paramount in creating safety for patients and supportive working conditions for staff

— The aim of all the tools and techniques is always to minimise risk and consequent harm to patients. These tools and techniques apply to all aspects of work within the NHS, including the safe design of plant, equipment, environment and working conditions

— The syllabus also includes popular ‘human factors’ approaches based on non-technical skills such as communication, stress management and situational awareness, commonly referred to as Team- or Crew-Resource Management.

What are some of the tools and techniques described in the syllabus?

— Because the syllabus is based on a systems approach, system mapping and risk evaluation are critically important

— Tools to understand the system and the risks to patients include process mapping, Hierarchical Task Analysis, Failure Mode and Effect Analysis (FMEA) and human error management

— Incident Investigation tools are based on best practice in identifying care and service delivery problems and emphasise system interventions in preventing future harm. These include the use of the Hierarchy of Control in designing the most effective interventions, report writing and sharing lessons learned

— Safety Culture, one of the four key themes on which the syllabus is based, is addressed through several tools including the Manchester Patient Safety Framework and the Safety Culture Index. The use of these instruments in creating a reflective, risk-aware culture and in accurately measuring it is an essential part of the syllabus

— The syllabus emphasises throughout, the importance of avoiding corrosive blame culture and the correct use of an Incident Decision Tree or Just Culture Guide in evaluating human performance and variability

— Measurement and monitoring of patient safety and the models that underpin thinking on safety, are included in Safety Culture education

— The syllabus also describes the use of formal tools in risk management, including reporting and learning from adverse events (including near-misses), risk evaluation and ranking, risk registers and escalation of risk

— The syllabus addresses improvement methodology as it affects patient safety, with an emphasis on the reliability of safety-critical processes. The development of essential process reliability metrics and their correct application in building safe clinical systems is key to the syllabus.

Where does this work come from?

— The work builds on previous work in the NHS on patient safety, academic courses in patient safety, the national programme Safer Clinical Systems and direct experience in managing safety in NHS trusts

— The development of the syllabus has been guided by an expert advisory group including representatives from patients, NHS staff, academia, medical Royal Colleges, NHS Improvement and NHS England. The work was funded by Health Education England and other jurisdictions have been consulted.

What impact will this work have?

— This syllabus will be relevant to patient safety education at all levels and in all professions

— The syllabus is expected to create a step-change in thinking about safety, providing the understanding, tools and techniques that NHS staff at all levels need to build safety for patients

— The syllabus is also intended to begin moving the emphasis from reactive to proactive methods, managing risk before it creates harm for patients

— The syllabus takes the systems approach to safety that has been continually advocated across the world and sets it out clearly for professional education

— Throughout the syllabus, the emphasis is pragmatic and focuses clearly on how to build safe clinical systems in all areas and departments of the NHS.

Introduction

Patient safety continues to be a significant issue in healthcare and a focus of both quality improvement and academic research. Although clinicians' training places a strong emphasis on the safety of their individual practice, it is rare that they, or anyone else working in the NHS, receive any education in formal safety management or the opportunity to apply those principles, tools and techniques in creating safe systems. Neither clinical nor non-clinical staff receive training in systems, risk, human factors or organisational culture.

The NHS published its first Patient Safety Strategy in July 2019. As part of this, it was announced that the first NHS-wide Patient Safety Syllabus would support a transformation in patient safety education and training in the NHS. The Patient Safety Strategy included ambitions to develop training in the fundamentals of patient safety that would be relevant to all NHS staff – clinical and non-clinical – as well as more detailed training and education that could be incorporated into clinical and non-clinical undergraduate and postgraduate healthcare education and continuing professional development.

The syllabus is designed for all NHS staff and is structured to provide both a technical understanding of safety in complex systems and a suite of tools and approaches that will:

— Build safety for patients

— Reduce the risks created by systems and practices

— Develop a genuine culture of patient safety.

Although there are a number of well-known safety procedures in healthcare – including the intention to learn from incidents and some key national safety regulations – this syllabus is distinct in three ways. First, it draws explicitly from widely-used safety methodologies applied routinely in other safety-critical industries such as aviation and process engineering. These are industries where the use of a systems-based approach and the recognition of human error have brought safety to high-risk areas and have long been upheld as learning opportunities for healthcare. Second and in line with best practices from safer sectors, the syllabus adopts an approach that brings a systems perspective to *reactive* safety methods and – perhaps most importantly – uses a systems approach to enhance patient safety *proactively*. Third, this is the first NHS-wide patient safety syllabus.

The syllabus consists of five sequential domains, drawn from key developing themes in patient safety, which are outlined in the next section. Further sections in this document describe the outcomes expected and the key capabilities which will be developed.

The syllabus represents a very high-level description of material that could be covered on a topic. Subsequent curricula developed from that syllabus contain the educational content reflecting the syllabus items tailored to particular categories and levels of audience. Curricula will address the range of potential educational methods that might be used.

The concepts and tools of patient safety must be taught across many professions and many levels of seniority and responsibility, therefore the syllabus will form the basis of detailed curricula and training modules to be designed for specific levels of the NHS — a process taking place over 2020-21.

The syllabus also includes examples (for illustrative purposes only) of the knowledge, skills and behaviours considered effective in patient safety and some suggested approaches to assessment. These are provided for a single domain, *Learning from incidents* (Appendix 1) and provide part of a vision of patient safety where safety is the priority in everything we do, where we have created a culture of learning, free from blame, and where we make sure, before any harm befalls our patients, that the way we work — the system — is safe. Materials for other domains are being developed.

Key domains and underpinning knowledge

The domains of this syllabus are presented below as a linear sequence, although there are inevitable dependencies and synergies between them. To understand this and to support the structure and content of each domain, this document sets out the key outcomes for each domain and the underpinning knowledge and expertise required at each stage.

Figure 1. Key Domains in the Patient safety syllabus

The rationale used in developing the domains embodies a spiral of learning, with each domain building on and deepening the work carried out in previous domains. The elements of underpinning knowledge and expertise fall into *four key themes* that run through each of the domains and through the unfolding of further knowledge within each domain, build a comprehensive understanding in each area.

The syllabus is being translated into discrete learning modules that will form a curriculum. These will be defined as discreet for the purposes of educational design, but inevitably the skills in different Domains will integrate in different ways in a behavioural context depending on the demands of each situation. From the curriculum, staff will be able to select those modules of most significance to their work – perhaps focusing on systems-based incident review, or on human factors. It is envisaged that the design of the learning modules and the incorporation of a 'fundamentals' for all staff will enable staff and patients to benefit quickly from the clear focus on patient safety. In addition, the curriculum will include a 'gateway' module, providing essential elements of the four key themes of the syllabus for those who choose to develop their expertise further.

The four key themes of underpinning knowledge and expertise are:

- Systems expertise
- Human factors
- Risk expertise
- Safety culture.

Although elements of each theme will be used in each domain, some domains have a strong focus on two or three themes. For example, Domain 2 (Learning from incidents) draws most deeply on expertise in Risk expertise and Human factors; Domain 4 (Creating safe systems) draws more from systems expertise and safety culture.

The overall structure of the syllabus also focuses on **knowledge**, **action** and **consolidation**. Thus, Domain 1 provides the systems knowledge which is critical to carrying out the necessary actions in reactive approaches in Domain 2. Similarly, Domain 3 provides the *knowledge base* for *actions* in proactive approaches to patient safety in Domain 4. Domain 5 draws on all previous domains to provide the knowledge and tools that consolidate and maintain patient safety.

Appendix 2 provides further details on the underpinning knowledge and expertise within each domain.

The following sections take the five domains and specify the elements in more detail. Each domain contains four subsections describing key elements. Within each subsection are more detailed capabilities to be attained in building expertise in the area. In addition to the detailed capabilities, examples are provided of generic learning and development activities, themselves divided into those to be delivered in the early part of training and those to be mastered at a higher level.

Key to structure

Each capability is presented with essential learning outcomes in the left-hand box, together with, in the right-hand column, examples of overall learning activities at basic and higher levels.

Outcomes

Overarching outcome

All staff, both clinical and non-clinical will be able to:

Demonstrate a clear understanding of both reactive and proactive methods of approaching patient safety, including personal clinical safety and the wider factors that impact system safety.

Three key outcomes

Beneath this overarching outcome lie three key high-level learning outcomes:

Describes how organisational culture and working systems impact on patient safety; demonstrates the ability to conduct a systems-based incident investigation when appropriately qualified and commissioned.

Applies a proactive, systems approach to identifying, evaluating and managing risks to patients.

Outlines how knowledge of human factors and human performance variability improves clinical practice; continually monitors and acts to improve patient safety.

Appendix 3 illustrates those elements in the syllabus which relate to each outcome.

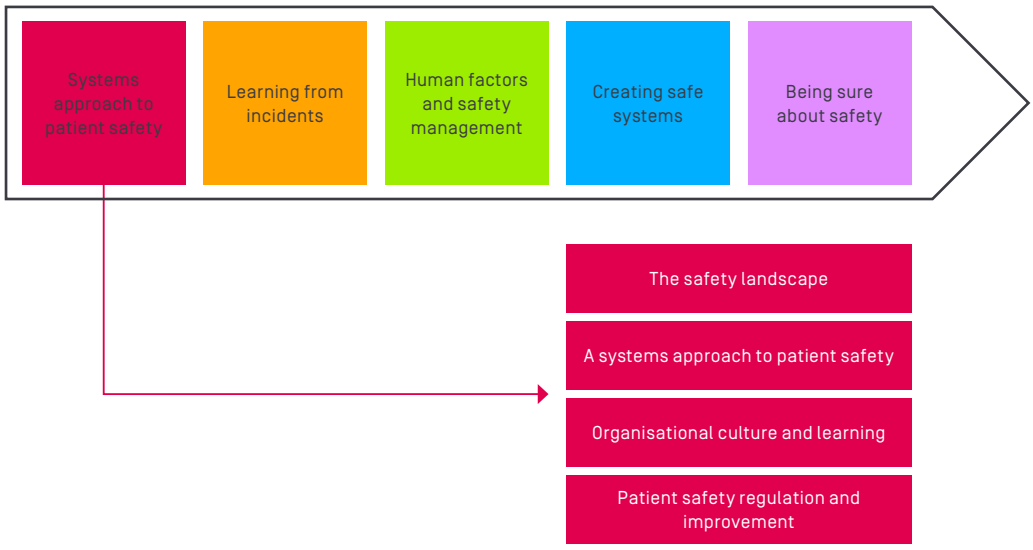
Domain 1
Systems approach to patient safety

Outcomes

Demonstrates a knowledge of how culture and working systems lead to risks to patients.

Understands how system failures create risks to patients; recognises how organisational culture can lead to failure or improvement in clinical practice; understands and acts on national regulation and findings of national case studies in patient safety.

Figure 2. The four key elements in Domain 1



Capabilities This box describes essential learning outcomes	Examples of generic learning and development activities	
	Basic training	Higher training

1.1 The safety Landscape

1. Has knowledge of national learning reports and can describe key findings 2. Has knowledge of essential safety procedures, including reporting, safety alerts and regulatory requirements 3. Applies lessons from key case studies in patient safety 4. Analyses patient harm levels to evaluate the safety of the area	Applies key learning in patient safety to the local environment	
	Understands patient safety regulation and procedures	Applies systems-based approaches to improving safety

1.2 Systems approach to safety

1. Recognises and describes the effect of systems design on risk and safety 2. Outlines the principles of direct and latent failures and of performance-influencing factors 3. Describes safety approaches used in other safety-critical industries 4. Explains the fundamentals of human factors and human error	Actively applies an understanding of systems to improving safety in the specialty	
	Understands patient safety as beyond safe individual practice and dependent on the way we work – our systems	Ensures that system risks are addressed in improving safety

1.3 Organisational culture and organisational learning

1. Recognises organisational culture and the principles of safety culture 2. Explains the effect of blame culture on organisational learning 3. Analyses and evaluates safety culture and organisational learning 4. Contributes to sharing lessons learned in patient safety and promotes a learning culture	Uses an understanding of organisational culture to identify and improve patient safety	
	Supports individual and group work to evaluate safety culture	Leads on developing a safety culture

1.4 Patient safety regulations and improvement

1. Outlines and explains key safety recommendations from professional bodies and regulators, including mandated safety practices 2. Ensures that recommendations such as national patient safety alerts are complied with 3. Is aware of all indications of patient harm and risk, including incident reporting, complaints, and mortality reviews 4. Identifies and monitors key areas where safety can be improved	Ensures that key safety and compliance data are monitored and subject to improvement	
	Monitors safety data and identifies improvement areas or non-compliance	Leads on creating full compliance with safety measures

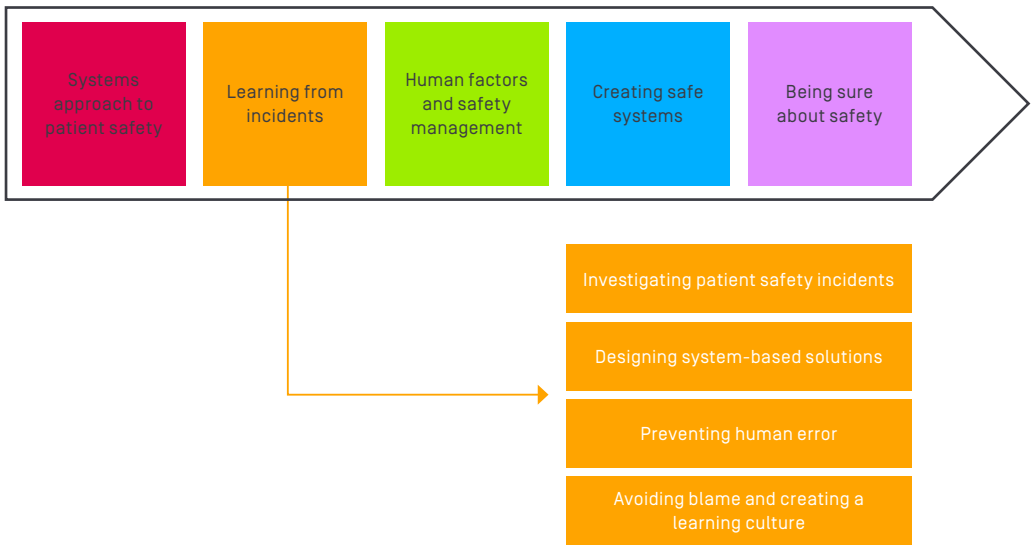
Domain 2
Learning from incidents

Outcomes

Conducts a systems-based investigation into patient safety incidents, treating individuals fairly and creating future safety.[1]

Promotes and understands the systems-based approach to investigating patient safety incidents; understands and addresses human error in incident investigations and responses; distinguishes between systems-based failures and failures in individual performance.

Figure 3. The four key elements in Domain 2



1. As part of the NHS Patient Safety Strategy, a revised approach to responding to incidents and managing investigation is being explored. This syllabus content will be updated as that process generates insight and the new Patient Safety Incident Response Framework is adopted.

Capabilities This box describes essential learning outcomes	Examples of generic learning and development activities	
	Basic training	Higher training

2.1 Investigating patient safety incidents

	Responds to patient safety incidents to improve future safety	
1. Ensures that a multidisciplinary team with a qualified leader manages the incident investigation 2. Involves patients and carers in the investigation process 3. Creates an evidenced timeline for the patient journey through document review and unbiased data collection 4. Uses a systematic approach to identifying causal and contributory factors in analysing incidents 5. Where appropriate, uses an understanding of human performance and its variability to describe discrete care and service delivery problems	Takes part in systems-based incident and near-miss investigations	Leads systems-based incident and near-miss investigations when qualified and commissioned

2.2 Designing systems-based interventions

	Uses an awareness of systems factors to reduce risk to patients and improve safety	
1. Uses the wider system and context to respond to incident investigations 2. Uses an understanding of each separate care delivery problem to bring about changes in the system which will prevent future harm 3. Uses an awareness of stronger and weaker interventions when developing safety interventions 4. Checks the robustness of interventions for the impact on future risk and safety	Contributes systems-based thinking to incident investigations	Carries out recommendations from investigations that lead to safety into future clinical systems

2.3 Preventing human error

	Recognises where human error will affect clinical safety and acts to manage it	
1. Ensures that incident investigations recognise and highlight human contributions to risk and patient safety incidents 2. Applies an understanding of human performance variability as a consequence of systems rather than an explanation of safety failures 3. Evaluates system-induced human error to design effective safety interventions 4. Builds human performance management explicitly into incident investigation reports	Promotes the analysis and understanding of human performance variability as originating in system design	Ensures that human error in systems is safely managed in response to safety incidents and near-misses

2.4 Avoiding blame and creating a learning culture

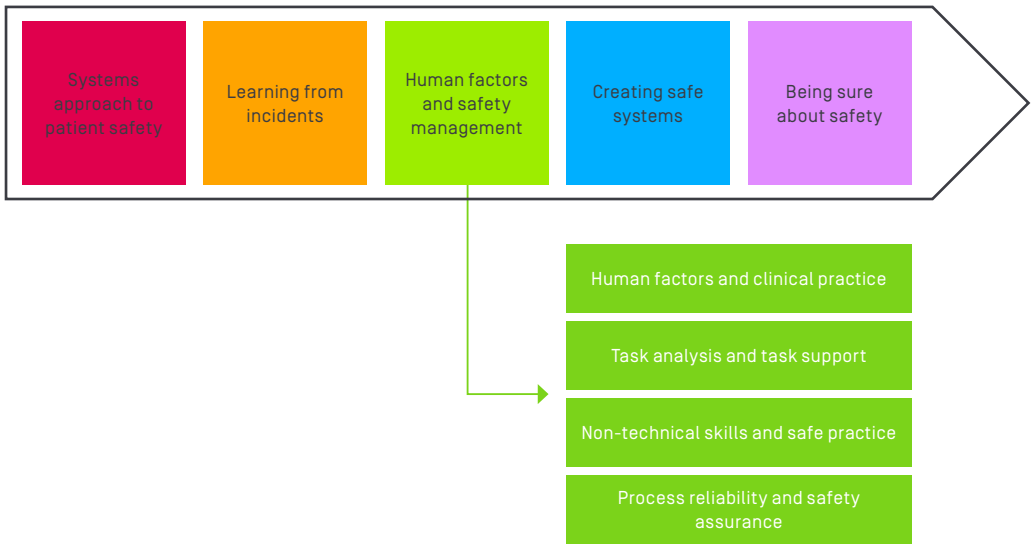
	Understands and manages system-induced human error and contributes to a culture of sharing preventative interventions	
1. Explains how to distinguish between systems-based failures in safety and the contribution of individual staff 2. Uses the 'A Just Culture Guide' (JCG) with each individual failure in a systematic way to challenge and validate individual behaviours 3. Documents and shares the outputs from the JCG with those involved in the incident and the investigation to ensure complete transparency 4. Demonstrates that systems failures identified by the JCG are addressed in the response to the incident or near-miss	Contributes to understanding when and how to assess individual culpability as distinct from system failures	Leads on sharing briefings from incidents and near-misses widely in the organisation

Domain 3
Human factors and safety management

Outcomes

Evaluates and ranks risks to patients in the systems and culture of the workplace.

Understands and is able to categorise tasks and their risks in clinical practice; recognises the impact of non-technical skills; uses measures of process reliability to monitor and improve safety.



Capabilities This box describes essential learning outcomes	Examples of generic learning and development activities	
	Basic training	Higher training

3.1 Human factors

1. Outlines and explains the role and effect of humans in complex systems and the fundamentals of human factors 2. Reflects performance to explain human factors in practice 3. Evaluates the key factors that affect human performance and relate them to local work systems 4. Demonstrates knowledge of the effect of human factors management in safety-critical industries	Develops an understanding of human performance in clinical systems	
	Recognises and accepts the limits of human performance	Changes practice to minimise system-induced error in individual practice

3.2 Task analysis and task support

1. Outlines and explains the psychology of human performance variability and error modes 2. Analyses the range of tasks in the work area and evaluates task types as skill-, rule- and knowledge-based or applies other cognitive framework 3. Applies a knowledge of Performance Influencing Factors and their effect on human performance 4. Evaluates safety-critical tasks where support is required to minimise error and improve quality of patient safety	Understands the diverse nature of tasks in practice and how to translate this into quality and safety improvement	
	Categorises personal tasks systematically and identifies potential for safety improvement	Ensures that safety-critical tasks are adequately supported

3.3 Non-technical skills and clinical practice

1. Uses case studies to understand the effect of non-technical skills on working practice 2. Carries out evaluation of personal non-technical skills (communication, situational awareness, stress management teamwork and leadership) 3. Outlines and explains the hierarchy gradient and its effects 4. Applies strategies to improve non-technical skills in the specialty	Recognises and works to improve non-technical skills as a way to build safe systems	
	Is aware of non-technical personal non-technical skills and their effect	Actively evaluates and works to improve non-technical skills

3.4 Process reliability and safety assurance

1. Explains the relationship between clinical outcomes and process reliability 2. Identifies and maps safety-critical processes against clinical goals 3. Creates and applies metrics to assess process reliability and clinical outcomes 4. Evaluates and develops communication and feedback to improve process reliability	Uses knowledge of systems and process reliability to improve patient safety and clinical outcomes	
	Identifies processes that affect clinical outcomes	Measures and supports improvement of safety- and quality-critical processes

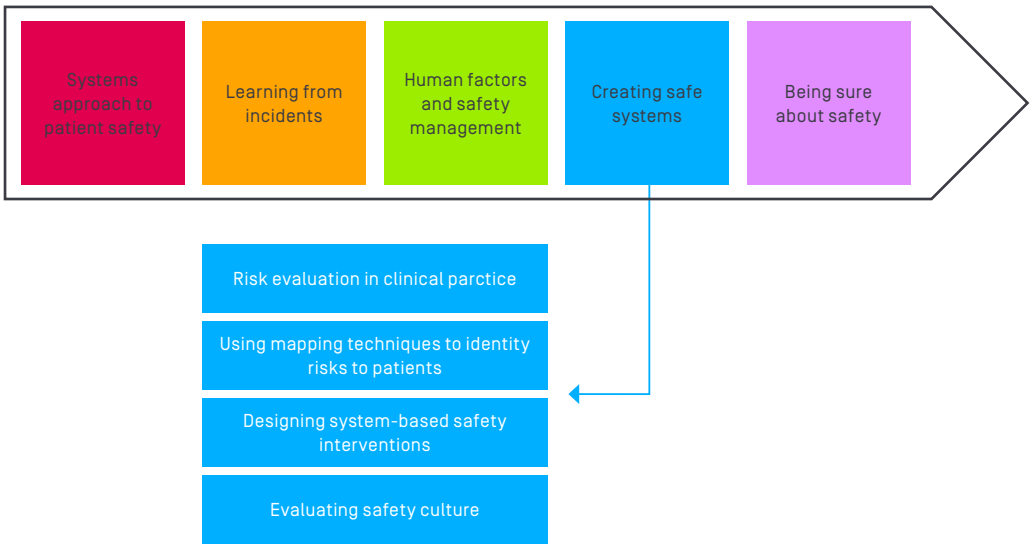
Domain 4
Creating safe systems

Outcomes

Applies proactive risk management in the department, specialty and patient pathway to create safe working systems.

Uses proactive safety techniques to prevent harm to patients; understands the strengths and weaknesses of safety interventions and the effect of contextual factors on safety; evaluates dimensions of safety culture.

Figure 5. The four key elements in Domain 4



Capabilities	Examples of generic learning and development activities	
This box describes essential learning outcomes	Basic training	Higher training

4.1 Risk evaluation in clinical practice

1. Adopts a consensus-based approach to identifying risk, with multi-professional involvement 2. Has knowledge of hazards and risks and uses standard methodology to assess risks to patients 3. Applies formal risk analysis of defined area, patient pathway or treatment using Failure Mode and Effect Analysis (FMEA) 4. Identifies proximal and systemic causes of potential failures and develops strategies to address immediate risks	Uses both explicit and tacit knowledge of the clinical team in identifying and evaluating risk	
	Contributes to formal risk analysis in the work area	Leads on identifying risks using FMEA

4.2 Mapping techniques to identify risks to patients

1. Understands and applies Process Mapping to understand systems and to identify high-level risks to patients 2. Applies Hierarchical Task Analysis (HTA) to decompose safety-critical tasks and identify specific task risks 3. Takes outputs from mapping techniques to structure improvement programmes in safety and quality 4. Uses Hierarchical Task Analysis as a tool to design goal-oriented safe clinical systems	Develops a deep and detailed understanding of task design to manage risk and create safety	
	Identifies areas of risk through process mapping and task analysis	Designs and implements safe systems through goal-oriented HTA

4.3 Improving systems safety

1. Leads on consensus-based evaluation of why things go wrong for patients 2. Outlines and explains checklist design and uses safety checklists appropriately 3. Outlines and explains weak and strong interventions in building safety 4. Applies the Hierarchy of Control to design and implement effective barriers to patient harm	Uses systems-based approaches to create strong preventative measures against patient harm	
	Contributes to consensus work in risk evaluation and solution design	Leads on developing and monitoring barriers to patient harm

4.4 Evaluating safety culture

1. Explains the key dimensions of reporting culture, just culture, flexible culture and learning culture 2. Applies a safety culture discussion instrument to create dialogue about risk, safety, reporting and learning 3. Identifies and applies formal safety culture evaluation instruments 4. Encourages and supports staff involved in safety incidents	Uses a professional understanding of organisational culture to evaluate and support the creation of safety culture	
	Contributes to the assessment of safety culture and supports openness and transparency	Leads a multi-professional approach to assessing and developing safety culture

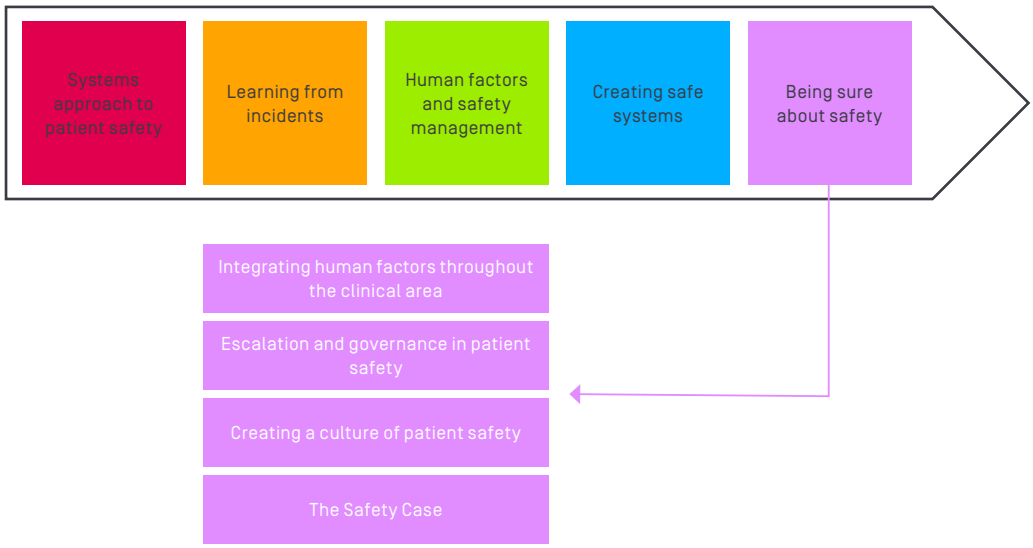
Domain 5
Being sure about safety

Outcomes

Continually monitors and develops patient safety through human factors and systems improvement.

Uses proactive safety techniques to prevent harm to patients; understands the strengths and weaknesses of safety interventions and the effect of contextual factors on safety; evaluates dimensions of safety culture.

Figure 6. The four key elements in Domain 5



Capabilities This box describes essential learning outcomes	Examples of generic learning and development activities	
	Basic training	Higher training

5.1 Integrating human factors

1. Evaluates human factors integration through regular assessment against a formal system review checklist 2. Checks safety-critical tasks and provides task support and usable, effective procedures for all staff 3. Identifies, supports and contributes to the design and implementation of safety-critical handovers and communications 4. Applies continuous monitoring of key risks and process reliabilities	Ensures that human factors are a continuous focus of attention	
	Supports the use of human factors integration	Actively identifies and develops human factors approaches to safety

5.2 Risk, escalation and governance in patient safety

1. Understands and uses specialty clinical governance meetings to review risks and identify residual (uncontrolled) risks 2. Justifies and applies the risk management strategies of eliminate, transfer, mitigate, contain or accept 3. Populates the risk register with current and residual risks 4. Escalates uncontrolled risks to the next level of the risk hierarchy and monitors response	Adopts a professional response to risk management	
	Supports the use of risk management systems and raises risks to be addressed	Monitors residual risks and ensures appropriate escalation and governance of risk

5.3 Creating a culture of patient safety

1. Fosters an open, multi-professional approach to patient safety using both reactive and proactive methods 2. Develops or adopts techniques such as Proactive Risk Management in Healthcare (PRIMO), sharing lessons learned or the use of huddles as cultural interventions 3. Uses case studies from healthcare and other industries to ensure a continuing focus on safety management 4. Promotes the principle of measuring and monitoring patient safety, such as the Health Foundation's Measurement and Monitoring of Safety	Places patient safety centrally	
	Contributes to a safety culture through the use of case studies and safety interventions	Takes a leadership role in creating a safety culture

5.4 The safety case

	Creates and applies a safety case	
1. Builds a safety case with defined scope, an evaluation of safety level, description of risks, risk control measures and residual risks 2. Applies the safety case as a tool to measure and monitor safety 3. Uses the safety case to address residual risks through improvement activities 4. Develops the use of safety case as a tool in governance and regulatory compliance	Is aware of and supports formal safety management through a safety case	Contributes to a wide understanding of safety by leading in development of a safety case

Appendix 1
Examples of knowledge, skills and behaviours for Domain 2

For illustrative purposes, examples of knowledge skills and behaviours relating to capabilities in Domain 2 are provided, as well as examples of how assessment in these areas might be carried out.

Learning from incidents – knowledge, skills and behaviours

In the context of creating safe clinical systems		
Knowledge	Skills	Attitudes and behaviour

2.1 Investigating patient safety incidents

Demonstrates knowledge of:	Demonstrates the ability to:	Demonstrate:
— Why patient safety incidents and near misses should be investigated — The effect of systems and human factors in creating the conditions for clinical errors — Potential biases in attributing causes in investigations	— Contribute to and conduct a professional standard of incident investigation — Use open or "cognitive interviews" to build an in-depth understanding of the events — Write an investigation report which includes a timeline, an analysis of care and service delivery problems and causal and contributory factors — Ensure that incident reports include robust recommendations for change	— A willingness to embrace a multidisciplinary approach to investigating incidents with respect for all contributions — A focus on using investigation to achieve higher levels of safety for future patients

2.2 Designing systems-based interventions

Demonstrates knowledge of:	Demonstrates the ability to:	Demonstrate:
— The range of possible safety interventions in a system and their relative effectiveness — The importance of system change or redesign in preventing future harm	— Use investigative team's and staff skills to develop realistic interventions for patient safety — Choose robust, systems-based interventions over weaker training or administrative interventions	— Openness and respect for contributions from all sources when developing interventions — Determination to effect change for patients as well as completing necessary records in investigations

2.3 Managing human error

Demonstrates knowledge of:	Demonstrates the ability to:	Demonstrate:
— Human error as a widespread phenomenon, even with senior leaders and in familiar situations — Human error modes and the influence of contextual factors on each type — Examples of human error in clinical practice and interventions aimed at error prevention	— Create or modify clinical systems so as to minimise the possibility of systems-induced human error — Identify contextual factors such as distractions, interruptions, workload and process ambiguity that may affect error	— An acceptance that error will occur but that systems can manage it — A commitment to bypass immediate blame for error and to prioritise ways to prevent further error

2.4 Avoiding blame and creating a learning culture

Demonstrates knowledge of:	Demonstrates the ability to:	Demonstrate:
— The effect of a culture of blame on the open disclosure of risk and safety issues — The underlying principles of separating individual culpability or capability from systems-enabled failures in patient care	— Apply the 'A Just Culture Guide' to discrete human failures — Share learning from incident investigations widely in the work place	— A commitment to minimise in incident investigation — A commitment to fairness and transparency when contributing to or leading incident investigations

Learning from incidents – assessment

In the context of creating safe systems	Examples of recommended assessment methods		
	Multi-source feedback	Case-based discussion	Audit assessment
2.1 Investigating patient safety incidents			
Ensures that a multidisciplinary team with a qualified leader manages the incident investigation			✓
Involves patients and carers in the investigation process			✓
Creates an evidenced timeline for the patient journey through document review and unbiased data collection			✓
Uses a systematic approach to identifying causal and contributory factors in analysing incidents		✓	✓
Where appropriate, uses an understanding of human performance and its variability to describe discrete care and service delivery problems			✓
2.2 Designing systems-based solutions			
Uses the wider system and context to respond to incident investigations	✓	✓	✓
Uses an understanding of each separate care and service delivery problem to bring about changes in the system which will prevent future harm		✓	✓
Uses an awareness of stronger and weaker interventions when developing safety interventions	✓	✓	✓
Checks the robustness of interventions for the impact on future risk and safety	✓	✓	

2.3 Managing human error

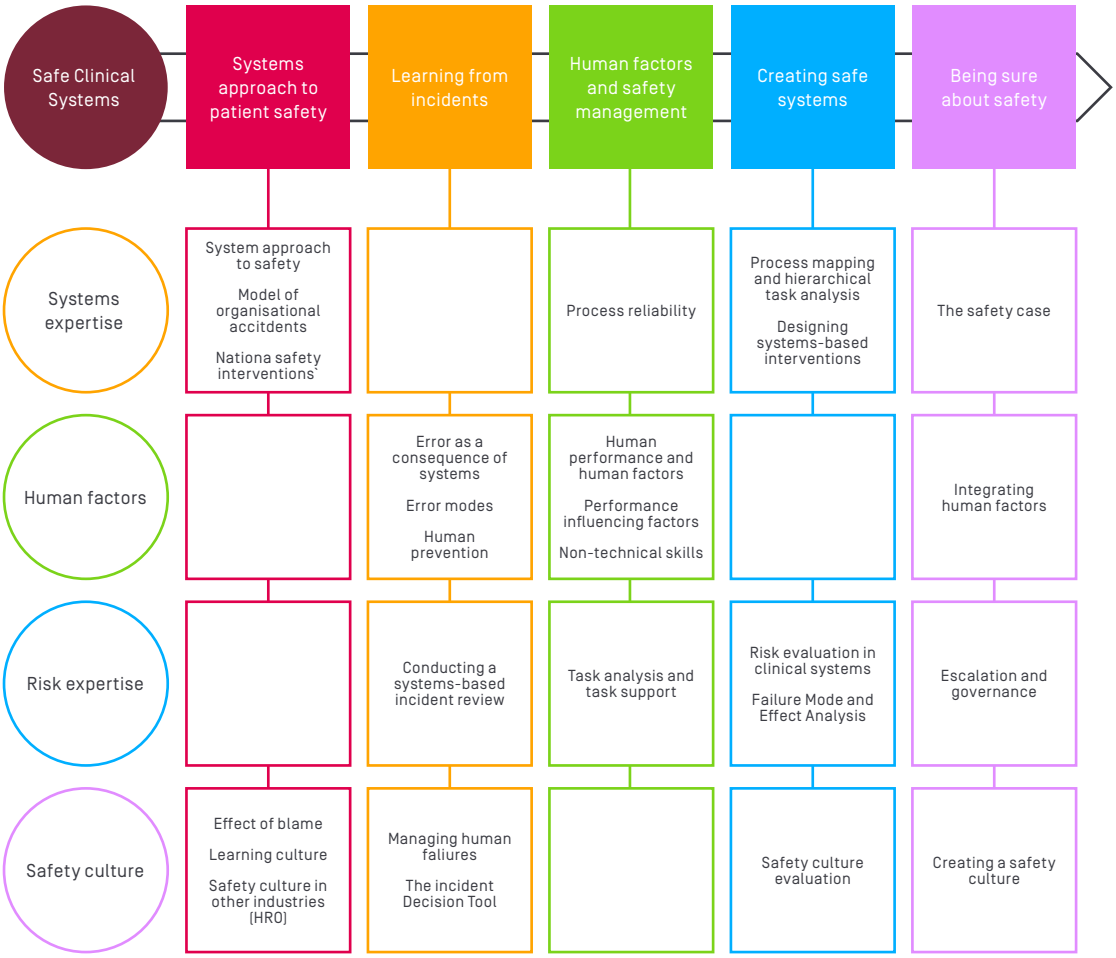
Ensures that incident investigations recognise and highlight human contributions to risk and patient safety incidents	✓	✓	
Applies an understanding of human performance variability as a consequence of systems rather than an explanation of safety failures	✓	✓	
Evaluates system-induced human error to design effective safety interventions		✓	✓
Builds human performance management explicitly into incident investigation reports	✓	✓	✓

2.4 Avoiding blame and creating a learning culture

Explains how to distinguish between systems-based failures in safety and the contribution of individual staff		✓	
Uses the Just Culture Guide (JCG) with each individual failure in a systematic way to challenge and validate individual behaviours			✓
Documents and shares the outputs from the JCG with those involved in the incident and the investigation to ensure complete transparency	✓	✓	
Demonstrates that systems failures identified by the JCG are addressed in the response to the incident (including near-misses)			✓

Appendix 2
Development of the four themes throughout the syllabus domains

The illustration below shows the developing themes in systems expertise, human factors, risk expertise and safety culture as they are covered in each sequential Domain.



Appendix 3
The three outcomes of the syllabus

The three headline outcomes are addressed through the five key domains. The table below illustrates those elements in the syllabus which relate to each outcome.

Outcome 1
Describes how organisational culture and working systems impact on patient safety; demonstrates the ability to conduct a systems-based incident investigation when appropriately qualified and commissioned.
Key syllabus elements
1.2 Systems approach to safety
1.3 Organisational culture and organisational learning
2.1 Investigating patient safety incidents
2.2 Designing systems-based interventions
2.4 Avoiding blame and creating a learning culture
4.4 Evaluating safety culture
5.3 Creating a culture of patient safety
Outcome 2
Applies a systematic approach to identifying, evaluating and managing risks to patients.
Key syllabus elements
1.1 The safety landscape
1.4 Patient safety regulations and improvement
3.2 Task analysis and task support
4.1 Risk evaluation in clinical practice
4.2 Mapping techniques to identify risks to patients
4.3 Improving system safety
5.2 Risk, escalation and governance in patient safety

Outcome 3

Outlines how knowledge of human error and human factors improves clinical practice; continually monitors and acts to improve patient safety.

Key syllabus elements

2.3 Preventing human error

3.1 Human factors

3.3 Non-technical s kills and clinical practice

3.4 Process reliability and safety assurance

5.1 Integrating human factors

5.4 The safety case

Glossary

Cognitive interviews	A technique intended enhance retrieval of information by helping the witness to reconstruct the original context of the incident or near-miss
Curriculum (see also syllabus)	A detailed description of the content and delivery accompanied by a planned sequence of training
Error modes	Taxonomy of human error or human performance variability
Failure Modes and Effects Analysis (FMEA)	The process of reviewing systems and sub-systems to identify potential failure modes in a system, their relative risks and their causes and effects
Flexible culture	A culture which respects the skills and abilities of 'front line' staff and which allows control to pass to task experts
Harm	Physical or psychological damage or injury, or damage to the culture of an organisation
Hazard	A source of danger or harm, which gives rise to risk
Hierarchy gradient	Perceived difference in authority between junior and senior staff; often responsible for lack of communication in safety
Hierarchy of control	A methodology structured to select the most effective control measures to eliminate or reduce the risk of hazards
Hierarchical Task Analysis (HTA)	A detailed examination of the tasks users must do to achieve particular aims, breaking down large tasks into sub-tasks by analysing task goals
Human error	Deviation from planned activities
Human factors: system-based	The application of psychological and physiological principles to the design and management of systems in order to create safety and well-being
Human factors: person-based	The application of non-technical skills such as communication, situational awareness, stress management, leadership and teamwork to creating safety
Just culture	A concept in systems thinking which emphasizes that safety incidents are the consequence of working systems, rather person or persons directly involved
A Just Culture Guide	This guide encourages managers to treat staff involved in a patient safety incident in a consistent, constructive and fair way
Learning culture	A culture with the competence to draw the appropriate conclusions from safety events and information and the will to change
Manchester Patient Safety Framework	A framework developed to understand patient safety in several key dimensions, used as an assessment and discussion tool
Near miss	Unsafe acts or events that could have harmful outcomes in other circumstances; learning opportunity for the organisation

Non-technical skills	See Human factors
Organisational culture	The assumptions, values and artefacts that contribute to the unique social and psychological environment of an organisation
Performance-influencing factors	Factors that combine with human psychology to affect human performance, variability and error. In general, these include personal factors, environmental factors, equipment and procedural factors
Proactive Risk Monitoring in Healthcare (PRIMO)	A tool for risk management that aimed to complement existing methods by plugging the gaps in risk management strategies and procedures
Process mapping	The creation of an accurate visual representation of a system, showing work-flow and agency
Process reliability	The reliability of the processes (usually sub-systems) that are required to assure stated health outcomes. For example, the frequency of unaddressed patient deterioration is affected by the reliability of processes (sub-systems) including physical observations, early warning score recording and interpretation escalation and response
Quality improvement (QI)	A systematic, formal approach to the analysis of work systems in order to improve performance
Reporting culture	An organisational climate in which people are prepared to report their errors or near-misses
Residual risk	A known risk in a system for which incomplete or absent risk control measures are recorded
Risk	The potential for harm as a consequence of a hazard, usually derived as a product of probability and level of harm
Root cause analysis (RCA)	A process used to identify the primary sources of a near-miss or patient safety incident
Safety Case	A structured argument, supported by evidence, intended to justify that a system is acceptably safe for a specific application, or to specify a level of safety
Safety culture	A set of beliefs, perceptions and values that employees possess with regard to risk and safety
Situational awareness	The perception of environmental elements and events, the comprehension of their meaning, and the projection of their future status. Or, 'knowing what is going on around you'
Syllabus (see also curriculum)	A high-level specification of a course of study
Systems approach	Recognition that the performance of an enterprise depends on a dynamic and inter-related set of parts; the focus on systems as a route to safety and productivity
Systems expertise	An understanding and application of systems thinking when applied to improvement in an organisation
Task analysis	Analysis of how a task is accomplished, including any sub-tasks, preconditions and the range of factors affecting each step or element in the system
Task support	Provision of systematic help for the user in carrying out tasks, often taking the form of visual guides, flowcharts etc

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