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Infection prevention and control education framework

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Foreword

> As we move forward to deliver on the aims of the NHS Long Term Plan, building on the learning from a global pandemic, it is paramount that we support the education needs of our workforce now and for the future.
> I am delighted to recommend to you this new education framework on infection prevention and control (IPC). It sets out a vision for the design and delivery of IPC education for our people that support effective and safe care.
> Using this framework, I expect this to support and enhance the skills and expertise in our existing workforce and deliver a positive impact for all learners, our people, educators, patients in our care and our populations.
> **Dame Ruth May,** Chief Nursing Officer, England.

> As nurses and care colleagues working across adult social care, we know effective IPC underpins the fundamental principles of our clinical practice. That is why we are delighted to be part of a whole system approach to managing, mitigating and eliminating infection outbreaks across all health and social care settings.
> This essential framework will enhance learning, evidence and leadership, helping us all keep pace with best practice and share successful strategies with others.
> We are so proud to partner with NHS England. Together, we will continue to make IPC a priority for residents, patients and colleagues, wherever they work in the health and social care sector.
> **Deborah Sturdy,** Chief Nursing Officer, Adult Social Care, Department of Health and Social Care.

Introduction

In addition to a programme of education provided by local infection prevention and control (IPC) teams for their healthcare workforce, a range of IPC and antimicrobial resistance (AMR) related education and learning is provided to those working in health and social care by Public Health England (now the United Kingdom Health Security Agency [UKHSA]), Health Education England (HEE), Skills for Health (SfH) and Skills for Care (SfC).

These include general e-learning material aimed at clinical and non-clinical staff working in healthcare settings. In addition, professional staff will receive IPC education as part of their basic or initial core training in higher education institutions.

Strengthening IPC knowledge skills and behaviours across all health and social care sectors is important to support the provision of safe and effective care and deliver on the actions outlined in the NHS Long Term Plan (2019) (https://www.longtermplan.nhs.uk/publication/nhs-long-term-plan/) and the Five-year Antimicrobial Resistance (AMR) National Action Plan (2019) (https://www.gov.uk/government/publications/uk-5-year-action-plan-for-antimicrobial-resistance-2019-to-2024). The need for cohesion and standardisation of IPC/AMR education has been recognised (Healthcare Safety Investigation Branch 2020).

NHS England has commissioned Skills for Health (SfH) to review and develop an IPC education framework to outline the behaviours, knowledge and skills required by the health and social care workforce to improve the quality of IPC practice and thereby improve patient outcomes. This framework encourages organisations to commit to demonstrating:

a culture of ongoing IPC learning and development
strong IPC leadership at board/executive level, supported by visible IPC role models

that IPC education and training is developed by and with IPC experts, using the expertise of the multidisciplinary team to promote delivery, which is tailored to all staff needs, focusing on behaviour as well as developing knowledge and skills.
A key objective of the national IPC programme is to develop and deliver national IPC educational programmes to:
support system-wide improvement in IPC and AMR
align practice to a national IPC manual
align practice to evidence-based best practice
support IPC practitioner professional development.

Purpose of the infection prevention and control (IPC) education framework

The purpose of this framework is to:
support the national and local commissioning, design and delivery of education programmes that meet the needs of the workforce
enable staff to understand and demonstrate the required expectations for effective and safe IPC practice
ensure infection prevention is a core component of all initial and induction training
inform the content of education and training provided by health and social care organisations, support agencies (e.g., UKHSA, NHS England, Health England [HEE], SfH and Skills for Care [SfC]) and commercial training providers
inform education programmes to ensure evidence-based IPC is consistently built into, and delivered within, all health and social care related educational programmes
support commissioning to promote all systems and providers of health and social care to commit to continuous learning and development in relation to IPC
enable audit of education programmes against the identified standards and to assess capabilities of those in the workforce.
The framework is the first step in the delivery of the objectives set out above. The framework will be used by the national IPC programme to develop and commission a new national programme of IPC mandatory training.

A: Standards for organisations who develop and deliver IPC educational programmes for health and social care

The standards below cover all organisations, national, regional and local that provide or commission educational programmes.

1. IPC practitioners should inform the development of IPC education programmes. Input may be sought on a national, regional, or local level.
2. Applying standard IPC precautions (SICPs) and evidence-based practice for preventing healthcare-associated infection (HCAI) associated with invasive devices and procedures will be incorporated into all health and social care related education programmes.
3. AMR and antimicrobial stewardship (AMS) are integral to all health and social care related education programmes.
4. Application of transmission-based IPC precautions (TBPs), screening programmes, risk assessment and hierarchy of controls will be incorporated into all health and social care related education programmes.
5. IPC management and leadership are incorporated into all health and social care related education programmes.
6. Management, maintenance and planning of the built environment will be incorporated into specific health and social care education programmes.

Fundamentally, all IPC education programmes must promote the development of identified behaviours and positive behaviour changes in practice as well as the identified knowledge and skills.

B: Standards to ensure health and social care systems and providers maintain a learning environment for IPC

All systems and providers of health and social care will ensure their organisational culture and leadership supports staff in the identification and application of IPC learning and that there is the capacity and capability to ensure this.

1. Learning will be resourced as part of system-wide strategic financial planning, allowing for learning to be built into job plans and strategic design of services and patient pathways.
2. All staff are supported through employer standard responsibilities to undertake IPC education and training, appropriate to role, responsibilities, and workplace setting, to enable them to minimise infection risks.
3. Learning and service providers will collaborate within and across organisational boundaries to support staff and their professional development.
4. All institutions and professional bodies responsible for the provision of core or initial training for clinical staff will ensure that IPC and AMR are included as an essential component of education and training.
5. The monitoring of standards and ongoing assurance will be the responsibility of the relevant integrated care board.

Standards for all organisations who develop and deliver educational programmes

Standard: 1. IPC Practitioners must inform the development of IPC learning and practice development.

Knowledge: IPC practitioners will have expert knowledge to inform and support the development of learning.
Behaviours: IPC practitioners will demonstrate the appropriate teaching skills to inform the development of learning programmes OR will work with educationalists who do have the appropriate skills
Skills: IPC practitioners are able to support the learning of staff to apply the principles of IPC effectively.

Standard: 2. Applying standard IPC Precautions (SICPs) and evidence-based practice for preventing HCAI associated with invasive devices and procedures will be incorporated into all health and social care related education programmes.

Knowledge: Staff will be able to apply the theory underpinning SICPs and how this should be applied within their role and workplace.
Staff will understand the infection risks from invasive devices and breaches to the skin / the body's natural barriers to infection, the role of aseptic technique and other evidence-based practice for preventing HCAI associated infections relevant to their role and workplace.
Skills: Staff will be able to apply the identified range of skills needed, appropriate to their role, practice and environment, as well as being able to adapt practice as required.
Staff will be skilled in applying techniques for the prevention of infection in invasive devices or wounds (e.g., aseptic technique).
Behaviours: All health and social care staff will demonstrate the effective application of SIPCs, asepsis technique and other evidence-based IPC practice as part of their working practice.
Staff will act as a role model for others in the prevention of infection.

Standard: 3. Antimicrobial resistance (AMR) and Antimicrobial Stewardship (AMS) is an integral part of education programmes.

Knowledge: Staff will understand the role they play in the prevention and control of AMR, the principles of AMS, and appropriate use of antimicrobials related to their role.
Skills: Staff will be skilled in the application of AMS principles to their role and promoting activities that assist in the prevention and control of AMR.
Behaviours: All staff will demonstrate effective application of AMS principles as part of working practice and act as role models for others.

Standard: 4. Transmission based IPC precautions (TBPs), screening programmes, Hierarchy of controls (HOC) and IPC risk assessment will be incorporated into relevant education programmes.

Knowledge: Staff will understand how to apply IPC measures to prevent infection. They will understand appropriate Microbiology, chain, and routes of infection, TBPs, HoC, and how these apply to individual workplace settings.
Staff will understand the importance of their own personal health in relation to IPC.
Skills: Relevant to roles and responsibilities, staff will be skilled at using TBPs HOC and risk assessment that includes IPC as part of hazard perception. Staff will demonstrate application of TBPs and HOC, adapting practice based on an IPC risk assessment.
Behaviours: Staff will demonstrate awareness of IPC risks as part of daily working practice.

Standard: 5. IPC will be appropriately incorporated into all health and social care related education programmes in a contextually relevant approach. This will support the promotion of appropriate IPC in the delivery of care.

Knowledge: Staff will understand local infection risk factors and risk assessment in relation to their role and their workplace setting. This will include wider infection prevention and public health messaging.

Staff will understand the legislative context and background to IPC where appropriate.
Skills: Ability to apply good infection prevention practice in delivering care and promote IPC to patients and the wider public to prevent infection, deterioration, and systemic infection. This will be appropriate to role and responsibility.
Behaviours: Staff will demonstrate the application of prevention of infection as part of their key role and responsibilities.

Standard: 6. Management, maintenance and planning of the built environment is incorporated into related education programmes.

Knowledge: Staff will understand infection risk(s) from the environment and the action required to mitigate those risks.
Skills: Skilled at mitigating environmental risks appropriate to role.
Behaviours: Staff will apply the principles of IPC to the design and management of the built environment.

C: Outcomes for practice

Overview

These outcomes have been developed to help those who design and deliver educational programmes in ensuring all relevant IPC content is included.
The learning outcomes are a minimum expectation and do not preclude additional outcomes being developed. The tiers are incremental, building from tier 1 to tier 3 (i.e., tier 3 assumes and builds on the preceding tier and capabilities, to minimise unnecessary repetition).
The three tiers are:

Tier 1. Everyone working in health and social care settings.

This tier outlines the principles of IPC Practice. It applies to **everyone** working within health and social care regardless of their role, seniority, grade, and whether or not they interact with patients.

Tier 2. All staff working directly with/providing care to patients and/or who work in the patient environment.

Tier 2 will include (but not be limited to) staff such as: Nurses, Doctors, Allied Healthcare Professionals, Healthcare Assistants, Technicians, Porters, Housekeeping / Cleaning staff, Estates and Facilities staff/ admin and reception.

Tier 3. All staff who are responsible for an area of care.

This tier is applicable to those who for example are managers of a particular area of care and who have responsibility for ensuring safe practice.
This Tier is **not** for IPC practitioners themselves, although people working at Tier 3 would be expected to work with and report to such practitioners to ensure good IPC practice in the local area/environment.

Tier 1: Everyone working in health and social care settings

Tier 1: Behaviours expected by people at this Tier

1. Staff ensure good IPC practice is appropriately embedded into their work.
2. Staff ensure their actions minimise risks to health and safety and contribute to positive and safe practice.

Tier 1: Learning outcomes

Individuals demonstrate knowledge and understanding of:

1. What is meant by the term healthcare associated infections
2. How they can contribute to good IPC practice appropriate to their role
3. How their own health or hygiene might pose a risk to the individuals they support or work with
4. The chain of infection and how this informs infection prevention and control practice
5. The routes of transmission of micro-organisms

6. The importance of hand hygiene (including glove use) for themself and others, and when/how to perform it
7. The range of hand hygiene products/equipment available and how to use them appropriately in given situations pertinent to their role
8. How to report issues relating to IPC
9. The importance and purpose of Personal Protective Equipment (PPE) – using risk assessment to determine appropriate use
10. Why the work environment must be visibly clean and free from non-essential items and equipment to facilitate cleaning
11. How to use waste disposal equipment correctly
12. How to obtain information about IPC within own organisation
13. Relevant IPC and Health and Safety legislation and policies
14. What antimicrobial resistance is, its impact on individuals and society and the factors which contribute to antimicrobial resistance
15. How vaccines can prevent or reduce the impact of some infections in susceptible persons.

Individuals demonstrate these behaviours by being able to:

1. Perform appropriate, effective hand hygiene and glove use to prevent the spread of infection
2. Use a range of PPE which is relevant to their role and know how and when to use it
3. Contribute to the cleanliness of the work environment as relevant to their role
4. Dispose of waste immediately in the correct waste stream as close to the point of generation as possible
5. Use antibiotics appropriately, personally and professionally as relevant to their role
6. Engage in vaccination programmes, personally and professionally as relevant to their role
7. Cover their nose and mouth with a disposable tissue when sneezing, coughing, wiping, and blowing their nose, where this is not possible to at least sneeze into their elbow/sleeve.

Tier 2: All staff working directly with/providing care to patients and/or who work in the patient environment

Tier 2: Behaviours expected by people at this Tier: (in addition to tier 1)

1. Staff assess risks related to IPC in the workplace and take appropriate actions.
2. Staff provide safe and effective care to patients as appropriate to the scope of their role.
3. Staff provide optimal IPC practice as an integral part of their day-to-day working.

Tier 2: Learning outcomes:

Individuals demonstrate knowledge and understanding of:

1. The Standard Infection Control Precautions that are contextually relevant to role and work setting
2. Preventing of infection associated with invasive devices and procedures as relevant to role and work setting
3. The significance of alert organisms and conditions that pose an infection risk
4. The Transmission Based Precautions and when they may be required as contextually relevant to role and work setting
5. How and when to seek support in situations that are beyond experience and expertise according to role
6. How to identify and use current evidence-based guidance, policies and protocols to inform IPC practice
7. How to apply appropriate policies/procedures and guidelines when collecting and handling specimens
8. How to recognise the different symptoms of infection as appropriate to their role/context
9. How to apply identified AMS principles and good practice, using current evidence-based guidance, local policies and protocols in a manner which is contextually relevant to their role for example, the difference between broad and narrow spectrum antimicrobials and/or the role broad spectrum antibiotics play in AMR.

Individuals demonstrate these behaviours by being able to:

1. Conduct an assessment in respect of ensuring IPC risks are minimised
2. Apply Standard Infection Control Precautions in the context of role at all times, for all patients whether infection is known to be present or not, to ensure the safety of those being cared for, staff and visitors in the care environment
3. Apply evidence-based practice in the management of invasive devices and procedures in the context of role
4. Practise in line with the principles of good practice in the use and stewardship of antimicrobials as relevant to role
5. Use current evidence-based guidance, policies and protocols to inform IPC practice
6. Appropriately apply Transmission Based Precautions when indicated by using clinical judgement and, where relevant to role, making risk assessed decisions based on:
    1. Suspected/known infectious agents
    2. Severity of the illness caused
    3. Transmission route of the infectious agent
    4. Care setting and procedures undertaken.

7. Recognise circumstances or settings which create barriers to effective delivery of IPC and take appropriate action to overcome these barriers seeking advice where necessary
8. Contribute to and participate in the processes of IPC monitoring, audit, and significant event reporting.

Tier 3: All staff who are responsible for an area of care

Tier 3: Behaviours expected by people at this Tier (in addition to tiers 1 and 2)

1. Staff ensure that actions are taken to prevent, and control infection; are appropriate, safe, are recorded and monitored suitably.
2. Staff ensure appropriate action is taken following a serious health and social care associated infection incident (staff and patients), and that any learning is implemented and disseminated.
3. Staff are responsible for the implementation of effective and appropriate reporting mechanisms and audit procedures.

Tier 3: Learning outcomes

Individuals demonstrate knowledge and understanding of:

1. How legislation and work setting procedures interact with IPC practice and processes
2. The remit and responsibilities of other professionals and agencies involved in IPC AMR and AMS
3. How to apply relevant standards of practice and guidance relating to the work setting
4. Supporting members of staff to work with patients to deliver good practice
5. How to contribute to the development of systems, practices, policies, procedures and how to support others to do so
6. Providing leadership to support the application of audit and surveillance processes where required
7. Leading on incident reviews and remedial actions related to IPC AMR and AMS
8. When and how to escalate potential or actual clusters/outbreaks of infection.

Individuals demonstrate these behaviours by being able to:

1. Monitor the effectiveness of evidence-based guidance, policies, procedures, and practices
2. Monitor behaviour change in people and agencies to promote best IPC and AMS practice
3. Act as a role model in adhering to best IPC practice
4. Challenge working practices that are unsafe
5. Promote work with others to identify, assess, minimise, and manage potential risks and issues in the working environment
6. Ensure the completion of records and reports/acts on IPC/AMR/AMS issues
7. Promote partnership to manage risks to ensure optimal outcomes for patients
8. Ensure they and others they work with are aware of their responsibilities in relation to IPC AMR and AMS
9. Monitor guidance, policies, systems, procedures, and practices to identify improvements
10. Encourage individuals, key people, and others to give feedback on guidance, policies, systems, procedures, and practice-s and how improvements could be made
11. Work in partnership to plan, monitor and review guidance, policies, systems, procedures, and practices designed to promote good practice
12. Communicate in a timely way to highlight risks or potential clusters/outbreaks of infection
13. Provide reports on contributions to the development of IPC policies, procedures, and practices, in accordance with legal and work setting requirements.

D: Education, training, and behaviour change

The tiers in this framework describe the required behaviours for safe and effective IPC practice and associated learning outcomes to support IPC education and training.

However, this is about more than just the delivery of education and training. Achieving successful implementation across organisations requires clear and strong leadership, together with systems and processes that, where required, support behaviour change for workforces (https://www.health.org.uk/publications/realising-the-value).

The framework will be used by the national IPC programme to develop and commission a new national programme of IPC mandatory training, working with providers of care, behavioural change specialists and a range of professional stakeholders with expertise in education and infection prevention and control.

Behaviour change

To achieve and sustain positive impact for workforces who are adopting and/or adapting to new ways of working, research suggests taking a behavioural approach (https://www.skillsforhealth.org.uk/info-hub/person-centred-approaches-2017/) (including capability, opportunity and motivation [COM]) to supporting staff is more successful than isolated training.

The COM-B model of behaviour is widely used to identify what needs to change for a behaviour change intervention to be effective. The COM-B model is an appropriate starting point, as it provides insight into the determinants of behaviour and how a focus on these can encourage changes in behaviour. The model is used to understand what needs to be altered to facilitate behaviour change.

It identifies three factors that need to be present for any behaviour to occur:

Capability: having the psychological capacity and physical ability to enact the desired behaviour.

Opportunity: the environment that enables the behaviour.

Motivation: the desire to carry out the behaviour over other behaviours.

For a person to engage in a particular behaviour, they must be capable, have the opportunity and be motivated to do it, more so than any competing alternative behaviour at the time. An example of how the model might be used can be found in appendix 2.

Development of capability must simultaneously be supported with the right processes, systems, and opportunities, together with locally relevant incentives, which build these intrinsic and extrinsic motivations.

The principles of behaviour change for the workforce are essential to understand, whatever methodology is used to deliver the training or education. There are factors that can impact the ability of staff to learn and their motivation and confidence to implement new skills and behaviours. These include psychological, social, economic, and cultural factors within their lives and working environment.

In practice, this means people need to:

know what to do

know how to do it

think it is a good thing

believe that they are capable

believe that it is their role

believe that people who are important to them think it is the right thing to do.

Reflective practice

To embed behaviour change, it is important for staff members to take time to reflect on their actions and the impact this has on safe and effective IPC. This draws on a worker's experiences, knowledge, values, and feedback (and evidence, where appropriate) to analyse and identify opportunities to change their thoughts and behaviours.

Examples of how this might be achieved include:

talking to peers

focusing on specific events

informal or formal mentoring

local role specific activities such as Schwartz rounds

a Schwartz Round is a structured forum for staff from all backgrounds to come together to talk about the emotional and social challenges of working in healthcare. The aim is to offer staff a safe environment in which to share their stories and offer support to one another.

listening and acting on feedback from people who use services and their families and carers.

Quality improvement

Quality improvement is a principle that runs through everything we do. Embedding effective IPC may require improvements in how some services are designed, delivered, and reviewed. The opportunities for improvement need to be identified, developed, and evaluated in partnership with people who deliver and use those services. A continuous feedback loop is an essential component of this.

Training and development for IPC can be a component of quality improvement projects, and the principle of quality improvement should be included in training to enable staff to drive this agenda.

Methods for delivering training

All members of the workforce need to be trained in tier 1 to achieve the relevant knowledge, skills and behaviours listed in the framework.

It is important to stratify the workforce to identify those for whom each of the three tiers are appropriate.

Opportunities must be identified for embedding IPC training and learning within the context of other subject areas and learning programmes. For example, consideration should be given to including the principles of infection prevention when teaching wound care, the management of long-term conditions and specific clinical procedures.

All tiers should be grounded in real life examples and complexity to experience the importance and impact of IPC practice.

The baseline nature of tier 1 capabilities means that tier 1 training must be available, appropriate, and accessible to all those working in health and social care settings. At tier 1, training may contain an element of face-to-face delivery, though this may form part of scalable blended approaches incorporating e-learning and interactive exercises to experience this level of capability.

At tiers 2 and 3, blended approaches to training, education and learning may be more appropriate: for example, face-to-face experiential learning, multi-disciplinary and scenario-based discussion. Where possible, there should be follow-up and ongoing learning through, for example, supervision and appraisal, team action learning sets, coaching and mentoring.

At all tiers, e-learning may be appropriate to impart underpinning knowledge, but it is important to recognise when face-to-face training, practical methods or a blended approach may be more effective.
For each tier, the mindsets of behaviour change, continuous improvement, and reflective practice, should be all considered.

Appendix 1: Glossary

Antimicrobial Resistance (AMR): Antimicrobial resistance is when a microbe evolves to become more or fully resistant to antimicrobials which previously could treat it. Antimicrobials include antibiotics, which kill or inhibit the growth of bacteria.
Antibiotic Stewardship (AMS): Antibiotic stewardship is the effort to measure and improve how antibiotics are prescribed by clinicians and used by patients. Improving antibiotic prescribing and use is critical to effectively treat infections, protect patients from harms caused by unnecessary antibiotic use, and combat antibiotic resistance.
Healthcare Associated Infection (HCAI): An infection whose development is influenced by care received in a healthcare setting or from the delivery of a healthcare service. Healthcare Associated Infection can develop either as a direct result of healthcare interventions such as medical or surgical treatment or from being in contact with a healthcare setting.
Hierarchy of Controls (HoC): Hierarchy of controls provides a consistent approach to managing safety in your workplace, by providing a structure to select the most effective control measures to eliminate or reduce the risk of hazards that have been identified during the risk assessment process. This would include Control of Substances Hazardous to Health.
Incident Reviews: The collection and analysis of healthcare incident data with the goal of improving patient safety and the quality of care. Sometimes also referred to a post infection review (PIR) the process identifies how a case of infection occurred as well as identifying actions that prevents similar cases reoccurring in the future.
Infection Prevention and Control (IPC): Infection prevention and control (IPC) is a practical, evidence-based approach which prevents patients and health workers from being harmed.
Infection Prevention and Control Practitioner (IPCP): Experts in the prevention and control of infection. They lead on planning, development, implementation, co-ordination, and evaluation of system wide improvements in infection prevention and control. They work either for a specific healthcare facility or service/group of services; playing a key role in improving the safety and quality of care delivered to patients by providing staff with robust expertise, advice, support, and guidance to enable them to prevent and control infection.
Learning and Development: A process that is about creating the right culture and environment for individuals and organisations to learn and grow. It’s knowing the current and future capability needs of the organisation, as well as how to create a learning culture that drives engagement in ongoing development.
Learning Outcomes: Statements that describe the knowledge and/or skills individuals should acquire by the end of a particular learning intervention(s).
Micro-organisms: An organism that is microscopic. The term is used to include bacteria, viruses, and fungi.
Standard IPC Precautions (SIPCS): Standard Precautions are a range of measures that reduce the risk of transmission of infection from known and unknown sources. They are basic Infection Prevention and Control precautions.
Transmission Based Precautions (TBPs): Transmission-Based Precautions are the second tier of infection control and are to be used in addition to Standard Precautions for patients who may be infected or colonised with certain infectious agents for which additional precautions are needed to prevent infection transmission.

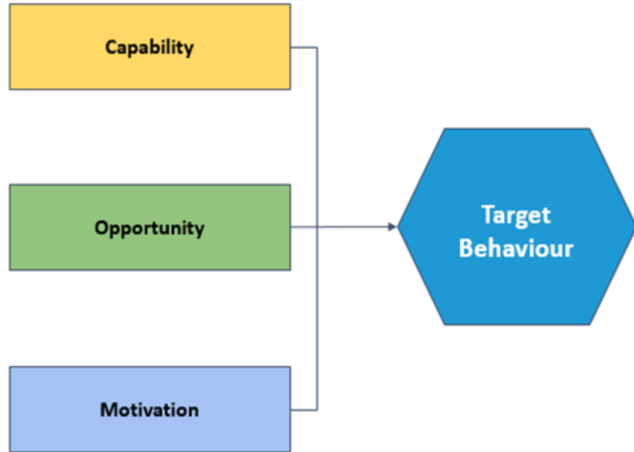
Appendix 2: The COM-B Model: what is preventing the target behaviour?

Clostridioides difficile infection (CDI) example.

COM-B Model

Objective:
Identifying what is preventing the target behaviour

Process:
- Pick a single target behaviour i.e. something positive you are trying to get someone to do
- Identify the barriers to achieving that behaviour by running it through the Capability, Opportunity and Motivation framework
- Highlight potential interventions or drivers that can counter or change that barrier



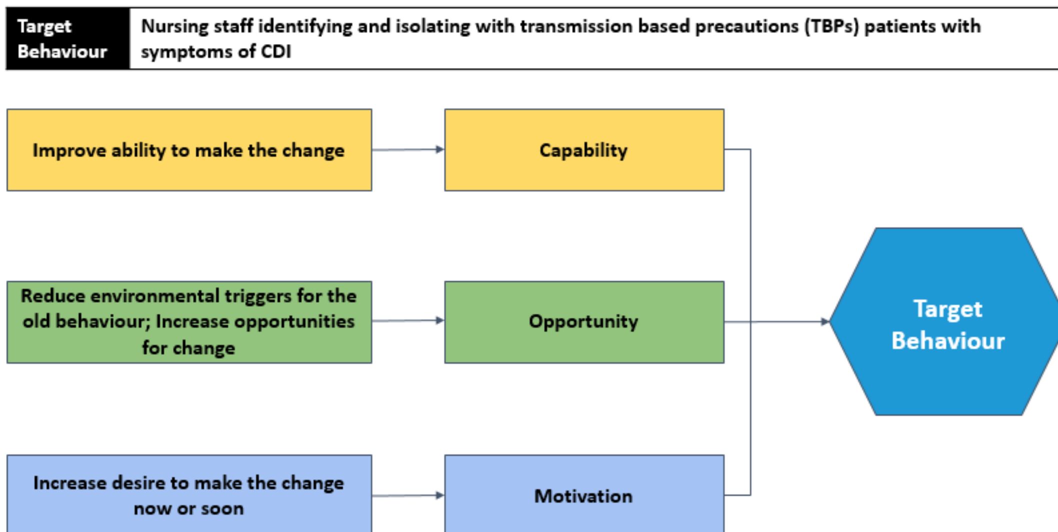
(https://www.england.nhs.uk/wp-content/uploads/2023/03/com-b-model-1.gif)

Image text:

COM-B model

Objective:
Identifying what is preventing the target behaviour.
Process:
Pick a single target behaviour ie. something positive you are trying to get someone to do.
Identify the barriers to achieving that behaviour by running it through the Capabuity, opportunity and motivation framework.
Highlight potential interventions or drivers that can counter or change that barrier.

Applying COM-B to the target behaviour



(https://www.england.nhs.uk/wp-content/uploads/2023/03/aplying-com-b.gif)

Image text:

Applying COM-B to the target behaviour

Target behaviour: Nursing staff identifying and isolating transmission-based products (TBPs) patients with systems of CDI.

Improve the ability to make the change – capability – target behaviour.
Reduce environmental triggers for the old behaviour, increase opportunities for change – opportunity – change behaviour.
Increase desire to make the change now or soon – motivation – target behaviour.

Exploring with the 'target audience' what is preventing the desired behaviour

COM B Model

Capability Barriers	
Physical ability	Do I have the physical ability to do it?
Awareness	Am I aware of the options available to me?
Know how & cognitive skills	Do I understand it? Do I know how to do it?
Interpersonal skills	Do I have the interpersonal skills to do it?
Memory	Will I remember to do it?
Attention span	Will it capture and hold my attention? Will I get bored halfway through?
Evaluating options and making decisions	Will I be able to evaluate the different options and make the right decision?

Opportunity Barriers	
Opportunities in the environment	Are there opportunities in the environment to do it? Does the environment make it difficult or impossible?
Prompts in the environment	Does the environment encourage or discourage it?
Resources and time	Do I have the resources and the time needed to do it?
Social and cultural norms	Is it the norm in my social group to do it? Will I be perceived negatively if I do it? How do my peers influence my behaviour?
Role models	What role models in my environment will encourage me to do it?

Motivational Barriers	
Belief in abilities	Do I believe I can do it?
Beliefs about consequences	Will it lead to a positive or negative outcome? Is this outcome likely to happen? Will it have a significant impact?
Goals	Have I got a clear goal or target? Is the goal a priority for me?
Identity	Is the behaviour in line with how I see myself?
Negative emotions	How do I feel when I do it? How do I feel about doing it?
Unhelpful habits	Is the behaviour a habit?
Accountability	Who will hold me accountable?
Automatic responses	Do I do it without realising? Is it an automatic response that happens outside of my conscious awareness?

(https://www.england.nhs.uk/wp-content/uploads/2023/03/com-b-model-exploring.gif)

Image text:

Exploring with the 'target audience' what is preventing the desired behaviour

Capability barriers

Physical ability: Do I have the physical ability to do it?
Awareness: Am I aware of the options available to me?
Know-how and cognitive skills: Do I understand it? Do I know what to do?
Interpersonal skills: Do I have the interpersonal skills to do it?
Memory: Will I remember to do it?
Attention span: Will it capture and held my attention? Will I get bored halfway through?
Evaluating options and making decisions: Will I be able to evaluate the different options and make the right decisions?

Opportunity barriers

Opportunities in the environment: Are there opportunities in the environment to do it? Does the environment make it difficult or impossible?
Prompts in the environment: Does the environment encourage or discourage it?
Resources and time: Do I have the resources and the time needed to do it?
Social and cultural norms: Is it the norm in my social group to do it? Will I be perceived negatively if I do it? How do my peers influence my behaviour?
Roel models: What role models in my environment will encourage me to do it?

Motivational barriers

Beliefs in abilities: Do I believe I can do it?
Beliefs about consequences: Will it lead to a positive or negative outcome? Is this outcome likely to happen? Will it have a significant impact?
Goals: Have I got a clear goal or target? Is the goal a priority for me?
Identity: Is the behaviour in line with how I see myself?
Negative emotions: How do I feel when I do it? How do I feel about doing it?
Unhelpful habits: Is the behaviour a habit?
Accountability: Who will hold me accountable?

Automatic responses: Do I do it without realising? Is it an automatic response that happens outside of my conscious awareness?

Identifying what is preventing the target behaviour

Behaviour	**Nursing staff identifying and isolating with transmission based precautions (TBPs) patients with symptoms of CDI**	
	Barriers	**Drivers / Interventions**
CAPABILITY	Knowledge – signs and symptoms	Training core skills, signs and symptoms, TBPs and sampling
	Knowledge and skills – sampling, TBP's and the interpersonal skills to influence what others do	Regular updates and work place reminders ("environmental prompts"), access to policy documents and checklists (e.g. "process tick-boxes")
	Memory of what has been learnt and the confidence to put learning into action	Decision support tools
OPPORTUNITY	Limited isolation facilities	Clear risk based side room prioritisation (tools to support this out of hours and in hours)
	Competing demands on time Normal practice (social and cultural norm) is not to prioritise	Embed prompts into other demands e.g. safety checklists and bed management tools
	Lack of role modelling and prioritisation. Lack of opportunity to challenge senior staff	Senior leader role modelling and focus
MOTIVATION	Not aware of impact	Patient stories and feedback +/- and benefit to staff motivations (e.g. workload, role satisfaction, earlier discharge)
	Not a habit	Peer to peer feedback to note good practice, checklists ("process tick-boxes")
	Fear of responsibility	Feedback from senior leaders when things gone well Feedback and participation in outbreak analysis and root cause analysis investigation, used for system learning and support

(https://www.england.nhs.uk/wp-content/uploads/2023/03/preventing-target-behaviour.gif)

Image text:

Identifying what is preventing target behaviour

Target behaviour: Nursing staff identifying and isolating transmission-based products (TBPs) patients with systems of CDI.

Capability

Barriers:
Knowledge-signs and symptoms
Knowledge and skills-sampling, TBP's and the interpersonal skills to influence what others do
Memory of what has been learnt and the confidence to put learning into action.
Drivers/interventions:
Training core skills, signs and symptoms, TBPs and sampling
Regular updates and work place reminders ("environmental prompts"), access to policy documents and checklists (e.g. "process tick-boxes")
Decision support tools.

Opportunity

Barriers:
Limited isolation facilities
Competing demands on time Normal practice (social and cultural norm) is not to prioritise
Lack of role modelling and prioritisation. Lack of opportunity to challenge senior staff.
Drivers/interventions:
Clear risk based side room prioritisation (tools to support this out of hours and in hours)
Embed prompts into other demands e.g. safety checklists and bed management tools
Senior leader role modelling and focus.

Motivation

Barriers
Not aware of impact
Not a habit
Fear of responsibility.
Drivers/interventions

Patient stories and feedback +/- and benefit to staff motivations (e.g. workload, role satisfaction, Tharlier discharge)
Peer to peer feedback to note good practice, checklists ("process tick-boxes") Feedback from senior leaders when things gone well
Feedback and participation in outbreak analysis and root cause analysis investigation, used for system learning and support.

Appendix 3: Statements of support

Health Education England colleagues have been delighted to work alongside NHS England and other partner organisations in the development of this timely and important resource.
The IPC education framework, developed by those with significant expertise in the field, will support the development of practitioners, with a focus on safe and effective care.
Ensuring colleagues are properly prepared to enable effective IPC is of key importance and we are pleased to support the objectives of the Chief Nursing Officer and have been privileged to be part of the IPC education framework development.
Professor Mark Radford CBE
Deputy Chief Nursing Officer for England, NHS England
Chief Nurse and Deputy CEO, Health Education England

The Infection Prevention Society welcomes this framework which provides direction for the education of the wider NHS workforce and focuses on some key principles of IPC.
The framework is an important first step in ensuring healthcare organisations prioritise the continued development of IPC knowledge and skills in the delivery of safe care and encourages them to focus on appropriate education to support this.
We look forward to the next phase of development and supporting the design of innovative, practice-orientated and user-focused IPC education programmes that empower staff to deliver safe and effective IPC practice.
Professor Jennie Wilson
President, Infection Prevention Society

The antimicrobial prescribing and medicines optimisation workstream of the NHS England AMR programme welcomes the implementation of this education framework to ensure the optimal design and effective delivery of education programmes for IPC for all health and social care staff.
This framework will promote consistency in policy and practice across health and social care systems and embeds antimicrobial stewardship as an integral component of IPC practice.
The IPC education framework supports the national action plan ambition to improve professional capacity and capability for infection prevention and control and highlights essential antimicrobial stewardship capabilities for all health and social care staff within the context of high-quality infection prevention and management.
Naomi Fleming
East of England Antimicrobial Stewardship Lead, NHS England
Dr Kieran Hand
AMR: National Pharmacy and Prescribing Clinical Lead, NHS England

I am pleased to support and recommend to you the national IPC education framework which has been co-developed by a task and finish group. The membership of the group demonstrated a wide range of skills and included front line clinical staff, IPC experts and education experts.
Their complementary skills and knowledge have enabled the development of a realistic and meaningful IPC education tool that is applicable to all settings where health and social care may be delivered.
The framework has guidance for all disciplines from those first greeting the patient/client through to those delivering expert practice. It recognises the value of shared learning across all health and social care sector organisations by encouraging this approach.
The tool will ensure a higher level of knowledge skill and understanding of all health and social care staff with the goal of improving practice, reducing infection, and maintaining the safety of our patients/clients and public. Please promote this important approach within your organisation.
Chris Piercy
Senior Responsible Officer, NHS North East and North Cumbria

> The Healthcare Infection Society (HIS) supports this IPC education framework that acknowledges the strong current IPC evidence base. This evidence base will continue to evolve and will impact on various aspects of IPC (including terminology, outbreak management and modes of transmission) in the future.
> There must be a culture of ongoing IPC learning and development in all healthcare settings. The workforce must be supported to understand expectations required for effective and safe IPC practice.
> HIS supports the development of an adaptive education framework, that will enable the design and delivery of expert-led education programmes to meet the needs of the workforce. A national IPC education scheme must ensure the consistency of education and standards across trusts and the efficient use of resources.
> **Kay Miller**
> Chief Executive Officer, Healthcare Infection Society

Appendix 4: How the framework was developed

This framework was commissioned by the NHS England IPC team. Development of the framework was guided by a task and finish group representing key stakeholders including clinical practitioners, professional bodies, and IPC experts; the group was chaired by Esther Taborn, National IPC Improvement Lead, NHS England.

Project management was provided by Andrew Lovegrove, Senior Consultant at Skills for Health. Oversight of the task and finish group was provided via the Education, Workforce, and Leadership Steering Group.

Initial desk research was undertaken to identify key references, resources and significant themes or issues for consideration. Further references and resources continued to be identified during the development of the framework.

Initial iterations of the framework were developed based on the findings of the desk research and consultation with the task and finish group. Subsequently, in April 2022 a wider consultation of the framework was undertaken through the networks/contacts of the task and finish group and other identified stakeholders.

Based on analysis of comments received, further amendments and refinements were undertaken.

Task and finish group membership

A note of thanks is given to all members of the task and finish group and their networks, for providing their guidance, expertise, and support into the development of this framework. Task and finish group members were:

Esther Taborn (Chair) IPC Improvement Lead, National IPC team, NHS England
Sue Millward (Deputy Chair) Clinical Lead Education/Project Lead, NHS England
Amanda Robson Senior Nurse, HEE
Andrea Denton Former IPC Lead Nurse Professional Development, NHS England North West
Sally Matravers Regional IPC Lead, NHS England South West
Naomi Fleming Regional AMS Lead, NHS England East of England
Leigh Emerson Clinical Nurse Manager, DHSC
Caroline Poole Professional Head of Allied Health Professions, NHS England
Christine Finch Quality Lead for Infection Prevention, Nuffield Health, The Royal College of Nursing
Chris Piercy Senior Responsible Officer, AMR IPC North Cumbria and North East
Lisa Butcher Vice President, Infection Prevention Society, Lead Nurse and Manager for IPC and Decontamination Lead, Oxford University NHS Foundation Trust
Dr Eimear Brannigan Healthcare Infection Society representative, Deputy Clinical Lead AMR and Infection Control Division, Health Service Executive
Professor Matthew Cripps Director of Behaviour Change, NHS RightCare, NHS England
Karl McGilligan IPC Representative, National Ambulance Service IPC Group. Head of IPC, West Midlands Ambulance Service
Janet Coverdale Head of Facilities, Universities Hospital Leicester

Thanks also to Tracey Cooper, Chair of the Education, Workforce and Leadership Steering Group who oversaw the project from a governance perspective.

Appendix 5: Related standards frameworks and principles

National infection prevention and control manual for England (NIPCM)

The NIPCM provides an evidence-based approach to IPC practice across all health and social care in England. This policy manual should be adopted as mandatory guidance in NHS settings or settings where NHS services are delivered, and the principles should be applied in all care settings.

NHS England » National infection prevention and control (https://www.england.nhs.uk/publication/national-infection-prevention-and-control/)

Core skills training framework (CSTF)

Since its launch in 2013, the CSTF has become widely regarded as the benchmark for statutory/mandatory training in the health sector. The aim is to help ensure the quality and consistency of such training and to prevent unnecessary duplication of training.

The CSTF comprises 11 subjects, including IPC. SfH and HEE are currently working in collaboration to ensure the sustainability of a robust CSTF with agreed requirements for learning outcomes, training standards and frequency of refresher training for NHS trusts in England.
The aim is to ensure CSTF alignment, which is assured and related data which transfers efficiently, safely and accurately between employer organisations.
SfH core skills training framework (https://www.skillsforhealth.org.uk/core-skills-training-framework/)

Care Certificate standards

The Care Certificate is a set of standards that define foundation knowledge, skills and behaviours expected of roles in the health and social care sectors. Designed with the non-regulated workforce in mind, the Care Certificate was launched in 2015 and developed jointly by SfH and SfC.
It is based on 15 standards, with IPC covered in standard 15. Individuals need to complete all 15 standards before they can be awarded their certificate. Each standard is underpinned by full learning outcomes and assessment criteria.
Further information about the Care Certificate is available from the Skills for Health (https://skillsforhealth.org.uk/info-hub/category/the-care-certificate/) and Skills for Care (https://www.skillsforcare.org.uk/Learning-development/inducting-staff/care-certificate/Care-Certificate.aspx)

National Occupational Standards

National Occupational Standards (NOS) are statements of the standards of performance for individuals when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding.
NOS are developed for employers by employers through the relevant sector skills council or standards setting organisation.
NOS for IPC were developed by SfH in 2012 and revised in 2021:
IPC1.2012 – Minimise the risk of spreading infection by cleaning, disinfecting and maintaining environments (https://tools.skillsforhealth.org.uk/competence-details/html/3308/)
IPC2.2012 – Perform hand hygiene to prevent the spread of infection (https://tools.skillsforhealth.org.uk/competence-details/html/3309/)
IPC3.2012 – Clean, disinfect and remove spillages of blood and other body fluids to minimise the risk of infection (https://tools.skillsforhealth.org.uk/competence-details/html/3362/)
IPC5.2012 – Minimise the risk of exposure to blood and body fluids while providing care (https://tools.skillsforhealth.org.uk/competence-details/html/3364/)
IPC6.2012 – Use personal protective equipment to prevent the spread of infection (https://tools.skillsforhealth.org.uk/competence-details/html/3365/)
IPC7.2012 – Safely dispose of healthcare waste, including sharps, to prevent the spread of infection (https://tools.skillsforhealth.org.uk/competence-details/html/3366/)
IPC8.2012 – Minimise the risk of spreading infection when transporting and storing health and social care related waste (https://tools.skillsforhealth.org.uk/competence-details/html/3369/)
IPC10.2012 – Minimise the risk of spreading infection when transporting clean and used linen (https://tools.skillsforhealth.org.uk/competence-details/html/3372/)
IPC11.2012 – Minimise the risk of spreading infection when laundering used linen (https://tools.skillsforhealth.org.uk/competence-details/html/3367/)
IPC12.2012 – Minimise the risk of spreading infection when storing and using clean linen (https://tools.skillsforhealth.org.uk/competence-details/html/3368/)
IPC13.2012 – Provide guidance, resources and support to enable staff to minimise the risk of spreading infection (https://tools.skillsforhealth.org.uk/competence-details/html/3370/)
Competence search tools are also available from the Skills for Health tools website (https://tools.skillsforhealth.org.uk/).

Principles of AMS

Prescribe an antibiotic only when there is likely to be clear clinical benefit, giving alternative, non-antibiotic self-care advice, where appropriate.
If person is systemically unwell with symptoms or signs of serious illness or is at high risk of complications: give immediate antibiotic. Always consider possibility of sepsis and escalate as appropriate.
Use a lower threshold for antibiotics in immunocompromised, or in those with multiple morbidities; consider culture/specimens and seek advice.
Take timely microbiological samples where advised based on local and national policies.
Use local antimicrobial guidelines to initiate empirical treatment.
Where an empirical therapy has failed or special circumstances exist, obtain microbiological advice.
Limit prescribing over the telephone to exceptional cases.
Use simple, generic antibiotics if possible. Avoid broad spectrum antibiotics (for example co-amoxiclav, quinolones and cephalosporins) when narrow spectrum antibiotics remain effective, as they increase the risk of Clostridium difficile, MRSA and resistant UTIs.

Avoid widespread use of topical antibiotics, especially in those agents also available systemically (for example fusidic acid); in most cases, topical use should be limited.
Always check for antibiotic allergies.
Document indication for treatment, dose and duration in clinical notes.
Avoid use of quinolones unless benefits outweigh the risk.
Refer to the British National Formulary (BNF) (https://bnf.nice.org.uk/) for dosing and interaction information (for example the interaction between macrolides and statins), and check for hypersensitivity.

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