Designing an Optimal Infection Prevention Service: Is it possible?

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On behalf of the DOIPS Team

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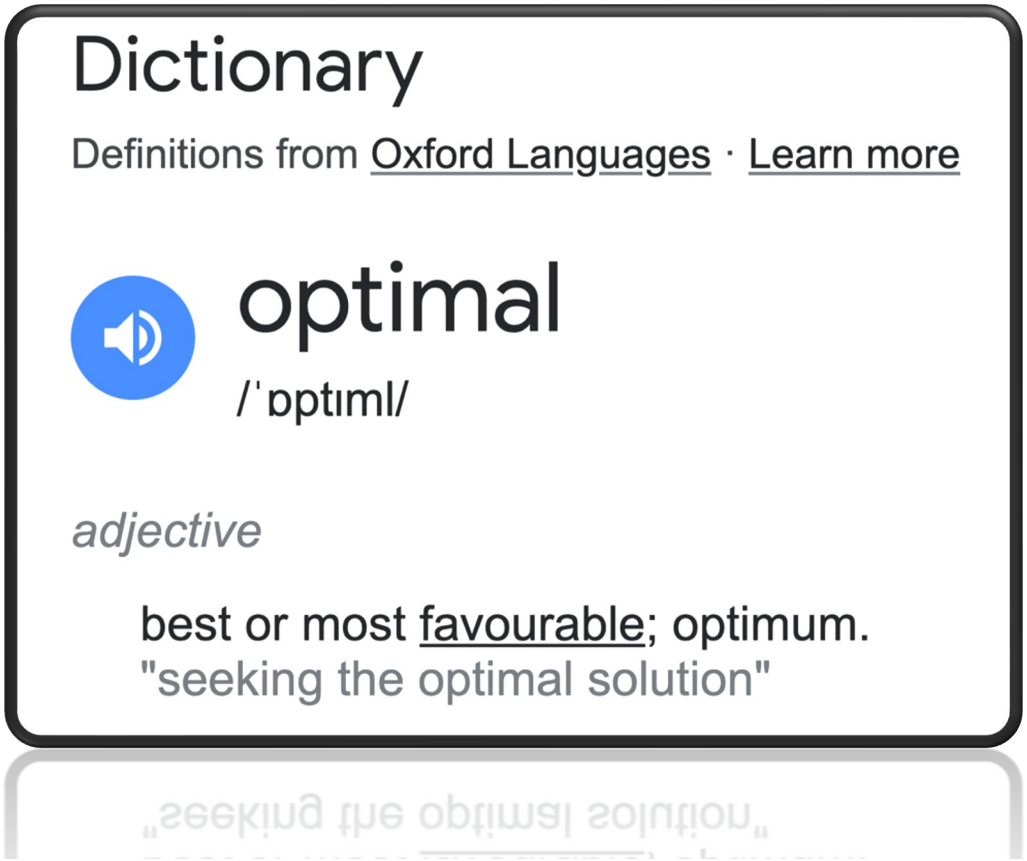
“Best or most favourable”



Background

- Significant threat of healthcare associated infections
- Ever-increasing incidence of antimicrobial resistance
- Infection prevention teams are doing more than ever before, across a wide range of settings, with even less resources
- Substantial differences in IPC team structures, practices and governance
- IPCTs saw an exponential growth in demand for their time and expertise during the pandemic, to a point beyond what was perhaps thought possible when faced with the unique epidemiological, operational, behavioural and policy changes related to COVID-19 (Loveday and Wilson 2021).
- WHO core components of infection prevention and control programmes at the national and acute health care facility level (2016)
- We found no studies investigating how the core components could be integrated into an infection prevention and control service in relation to the United Kingdom and Ireland.

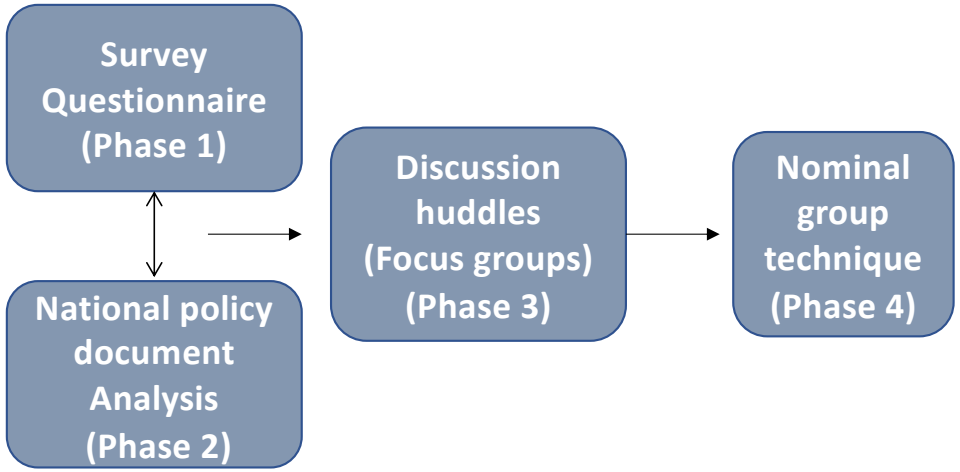
Designing an optimal infection prevention and control service study (DOIPS)

Aim

Define an optimal IPC service in different contexts and settings within the United Kingdom and Ireland.

Methods

- Exploratory mixed methods research design
- Four phases
  - 1: survey questionnaire for IPC leaders
  - 2: national policy document analysis
  - 3:discussion huddles with IPC practitioners
  - 4: nominal group technique with IPC leaders and practitioners

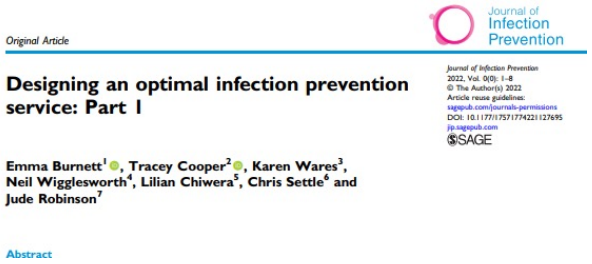


Phase 1: Survey Questionnaire

- Conducted in February and March 2018
- 400 IPC leaders/ managers
- 70 completed surveys (17.5%)
- Descriptive and inferential statistics for analysis
- Qualitative- thematic analysis

Phase 1: Survey Questionnaire

- Explored IPC demographics- job tiles, staff numbers, skill mix, budgets, services covered, job vacancies, core components
- First time we had this detail about our national workforce
- Successes of an effective IPC service: teamwork, leadership, resources, engagement, communication, team knowledge & skill mix, commitment, shared vision
- Barriers of an effective IPC service: poor staffing, time pressures, capacity, financial pressures, poor resources, lack of engagement, competing interests, poor leadership, lack of support, poor communication



Original Article

Journal of Infection Prevention

Designing an optimal infection prevention service: Part I

Journal of Infection Prevention
2022, Vol. 0(0): 1–8
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DOI: 10.1177/17571774221127695
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Abstract

Current IPC service components

IPC service component	Reported %
Report Writing	100
Education and teaching	95.7
IPC advice, support and management directly to HCW	94.3
Audit	92.9
Quality improvement related to service	92.9
Surveillance	90
PIR/Root cause analysis investigations	90
Governance activity	87.1
Outbreak detection, investigation and management	87.1
Policy development	84.3
Procurement advice	84.3
Estates and facilities	82.9
Antimicrobial stewardship	78.6
Quality improvement to the wider organiation	78.6
IPC advice, support and management directly to patients and visitors	77.1
External committee work and engagement	77.1
Decontamination	75.7
Campaigns	75.7
Public engagement	54.3
Research	40

Core

- Over 85%= 15/18 components
- components under 85%= research, Public engagement and campaigns

Keep

- Over 80%= 18/18 components

Top 5 in need of improvement

- audit
- quality improvement (Service)
- campaigns
- quality improvement (wider organisation)
- Surveillance

Start

- antimicrobial stewardship
- public engagement
- Campaigns

Stop

- Low response

Phases 2- Policy Document Analysis (Curran et al., 2018)

Aims

- Explore local and national IPC priorities
- Explore the indicators of success and how they are measured

Methods

- Analysis of selected national IPC documents in England, Scotland and Wales
- Looking for reports and data (qualitative and quantitative) that would indicate success (or otherwise) from national publications


Journal of Infection Prevention
Volume 22, Issue 2, March 2021, Pages 75-82
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https://doi.org/10.1177/1757177420971849

SAGE journals

Original Article

A comparison of the nationally important infection prevention and control documents in NHS England and NHS Scotland

Evonne T Curran [1], Emma Burnett[2], Jude Robinson[3], and Heather Loveday [4]

Policy Document Analysis Findings

- Make it Simpler;
  - The current national IPC priorities could be simplified
  - Replacing old with new (not keeping the old ones)
  - logical approach

- Has IPC as a national risk has been downgraded?
  - Downgrading of the overall importance of IPC itself.
  - evidenced by assessors reporting on many aspects of care not just IPC (England & Wales)
  - absence in recent years of negative HAI publicity.
  - potential consequences of CPEs, which are a significant and present threat, is yet to be realised at least in the public's opinion

Policy Document Analysis Findings Continued

- The system itself is complicated and makes the selection of IPC indicators and their interpretation challenging
- Are IPCTs now being charged to prevent what is preventable, or to act on a healthcare burden that is largely unpreventable?
- One final comment is that as the ask from IPCTs is increasing (e.g. reduce ECB by 50%), then either more resources are required or the ways IPCTs work needs to change

Phase 3: Discussion Huddles

5 discussions- Face to face & virtual 2018 & 2019

- **Huddle 1:** What are the pros and cons to providing an IPC service to one, or more than one organisation?, What skill mix is needed to cover all the organisations that your IPC service covers? What are the unique issues about working across diverse organisations?
- **Huddle 2:** What are the pros and cons to a predominately Nurse led infection prevention service?, Could other healthcare professionals step into infection prevention roles, and why? Is there an overall problem with recruiting infection prevention staff? If so, why do you think this might be?
- **Huddle 3**: Who is in control of setting your annual budget? Do service leaders have a say in this? Do other team members have a say in this? What is your IPC service annual budget? Are financial resources adequate for the service you are delivering? If not, why not? What impacts the IPC services annual budget?
- **Huddle 4** (interactive) Components of IPC ranking, Core, Keep, Stop, None mandatory auditing
- **Huddle 5** (interactive) Indicators of success, enablers of success, Barriers of success

Phase 3: Discuss huddles (Robinson et al., 2022)

- 53 participants across the 5 huddles
- No single priority – several key components interlinked for effective IPC service
  - Education and training; different ways of working; communication; leadership; procurement; standardisation of policies and guidance; building relationship; budget management; skills and expertise of the IPC teams; interdisciplinary working

Discussion Huddle 4

Core	Stay	Stop
Surveillance	PIR/RCA investigations	Sharps management (H&S)
IP advice, support and management to HCWs	IP advice, support and management directly to patients and visitors	Antimicrobial stewardship (pharmacy/ clinicians/ Micro)
quality improvement related to service	Quality improvement to the wider organisation	Public engagement (Comms)
Outbreak detection investigation	Report writing (we should be supporting not solely responsible)	Reduction in HCAI (Clinicians delivering patient care, not IPC)
Education and teaching	External committee work and engagement	Policy development (National policies rather then everyone having local ones)
Clinical support visits with community practitioner	Decontamination	
Audit	AMR	
Procurement advice	Campaigns	
Estates and facilities	Research	

Phase 4: Nominal Group Technique (NGT)

- Completed 2021 at IPS conference
- Alternative approach to Delphi-a structured face-to-face group discussion with the purpose of achieving group consensus and action planning on a chosen topic
- Participants were IPS members with a variety of roles, ranks and expertise
- 2 Topics: **key priorities for an effective IPC service** & **key enablers for success**
- This is achieved in three stages;
  1-Individual responses, clarification (face to face)
  2-Consolidation (research team)
- 45 responses were identified which were determining the key priorities for an effective IPC service
- 69 responses for establishing key enablers for success

Phase 4: Nominal Group Technique (NGT)

3rd stage- finally ranking responses until a consensus is achieved (Virtual)

Question 2

Item 6: Ownership of IPC within services

Please give every item a score of between1 and 5 to indicate how important you think each item is.
5 = extremely important
4 = very important
3 = important
2 = somewhat important
1 = not important at all

Please note the higher the score the higher the importance of the item in your view. There is no right or wrong answers. You are expressing your personal view on the importance of each one on its own. You are not comparing them to each other.

Question 2. What are the key enablers for success?		**Question 1.** What are the key priorities for an effective IPC service?	
Item number	**Score**	**Item number**	**Score**
E.g. Chocolate	**5**	**E.g. Marshmallow**	**3**
Item number	**Score**	**Item number**	**Score**
1	**3**	**1**	**2**
2	**3**	**2**	**5**
3	**5**	**3**	**5**
4	**5**	**4**	**4**

Phase 4: NGT findings

- 24 out of 39 participants returned their ranking forms
- The highest a theme could have ranked was a total of 120 points (24 × 5 = 120)
- The lowest a theme could have ranked was a total of 24 points (24 × 1 = 24).
- The ranking of themes ranged from 116 which was the highest ranked theme, to 88 for question 1 and between 116 and 66 for questions 2.
- There were several themes that reached the same score for both questions.

Table 1. Q1 ranked order.

Ranking in order	Raking score (out of 120)	Q1 key priorities for an effective IPC service
1st	116	Preventing HCAI to persevere patient safety
2nd	114	Engagement of frontline staff
2nd	114	Embedding key IPC principles into practice
3rd	113	Education- IPC team
4th	112	Evidence-based practice
5th	111	Effective outbreak management
5th	111	Resource- IPC staffing to enable realistic workload
5th	111	Effective leadership all levels
6th	109	Visibility of IPC team
6th	109	Effective surveillance systems
6th	109	Joint working for AMR and IPC
6th	109	Cleanliness
7th	108	Resource- funding
7th	108	Robust IPC education for all staff
7th	108	Wider focus than acute care
7th	108	Engagement of executives
7th	108	AMR/AMS
8th	106	Positive working relationships with patient facing teams
8th	106	Robust governance structures
9th	105	Ownership of IPC outside the IPC team
9th	105	National IPC standards but local implementation
9th	105	Real-time feedback of outcomes
9th	105	Effective and appropriate auditing

Top 5 key priorities for an effective IPC service

- Preventing HCAI to preserve patient safety
- Engagement of frontline staff **and** Embedding Key IPC Principles into practice
- Education of the IPC team
- Evidence based practice
- Effective outbreak management **and** Resource- IPC staffing to enable realistic workload **and** Effective leadership all levels

Top five key enablers for success are….

Adequate staff resources

Appropriate, flexible, realistic and evidence based national standards/guidelines **and** a trained, competent IPC team

IPC commitment at board level

Adequate funding

Visibility of IPC team within the organisation **and** effective communication **and** staff well-being and morale

Reflections of the challenges to being optimal

- Ratio of IPC staff to occupied beds is outdated
- No recognised pathway into the infection prevention speciality
- A reduction of HCAI is not on its own a reliable outcome measure for the effectiveness of the team
- More coherent and comprehensive surveillance programmes which target HCAIs responsible for at least 5% of hospital patients
- National objectives and targets across the UK frequently focus upon infections which affect relatively small numbers of people
- Audit is all too often being used as a routine monitoring tool which does not appear to be used for driving improvement

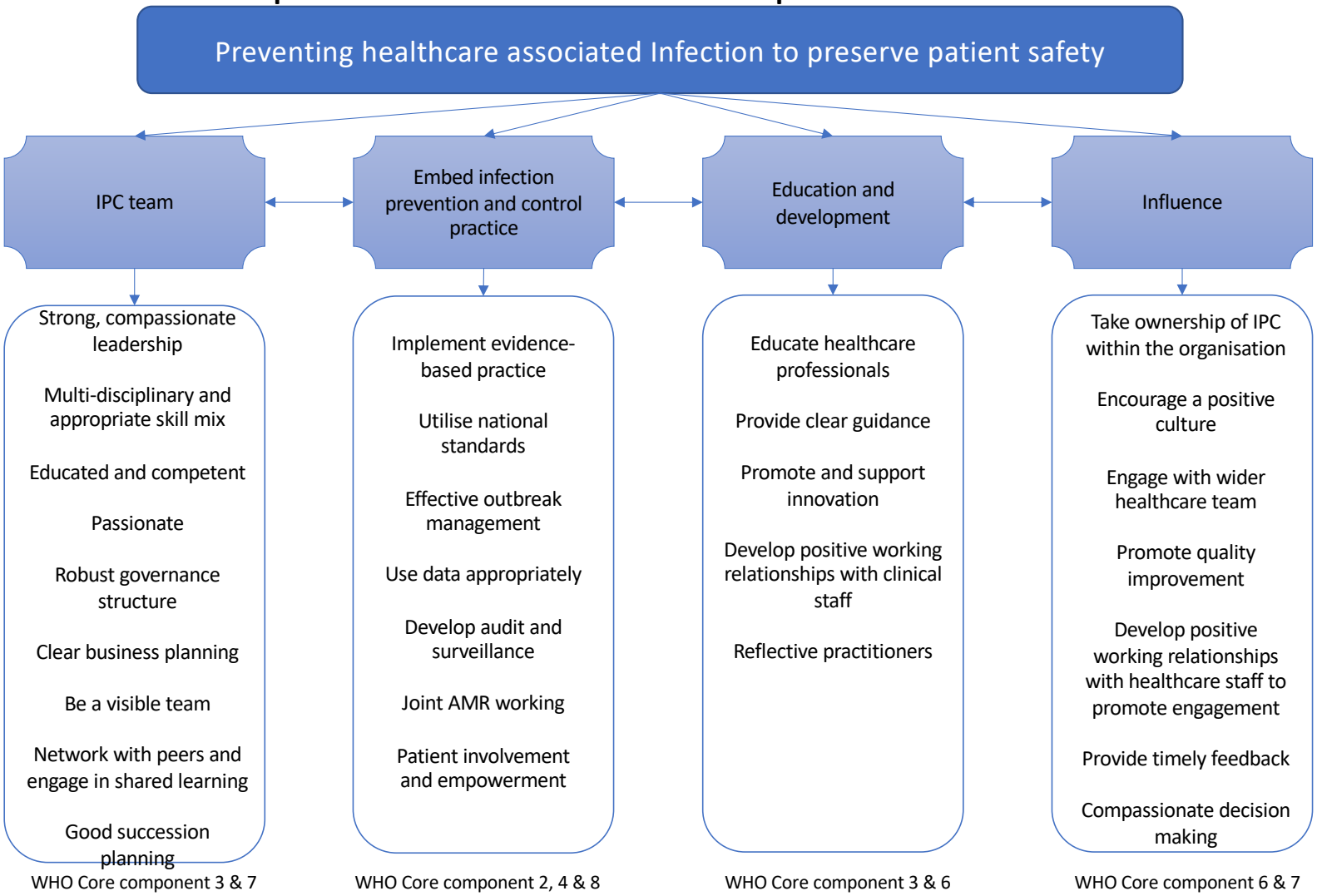
What should the IPC workforce look like?

- Health and wellbeing prioritised for our IPC workforce, who endured unprecedented demand for their services during the pandemic
- Highly specialist team which intelligently uses data to respond and adapt to local needs
- Evidence-based policies and education for the healthcare system it serves
- IPC teams must be integrated into the whole healthcare management structure

Workforce Framework for an optimal IPC service

- Development of a conceptual model for designing an optimal infection prevention service, which can be used to develop IPC services at an international, national, regional, and local level
- Peer review process
- A focus is required around implementation of these highlighted enablers, so they are effectively embedded into infection prevention and control services, and wider healthcare settings

Conceptual Framework of Priorities for an Optimal Infection Prevention Service



Core components for IPC (who.int)

Evaluation

- Critical evaluation of the DOIPS workforce framework
- Thursday 11th May 2023 workshop
- 40 IPC experts in the room from different settings across the UK

Objectives of the Day

1: To critically evaluate the conceptual framework to support development and finalisation of a product that has “buy-in” and is ready for use across IPC services.

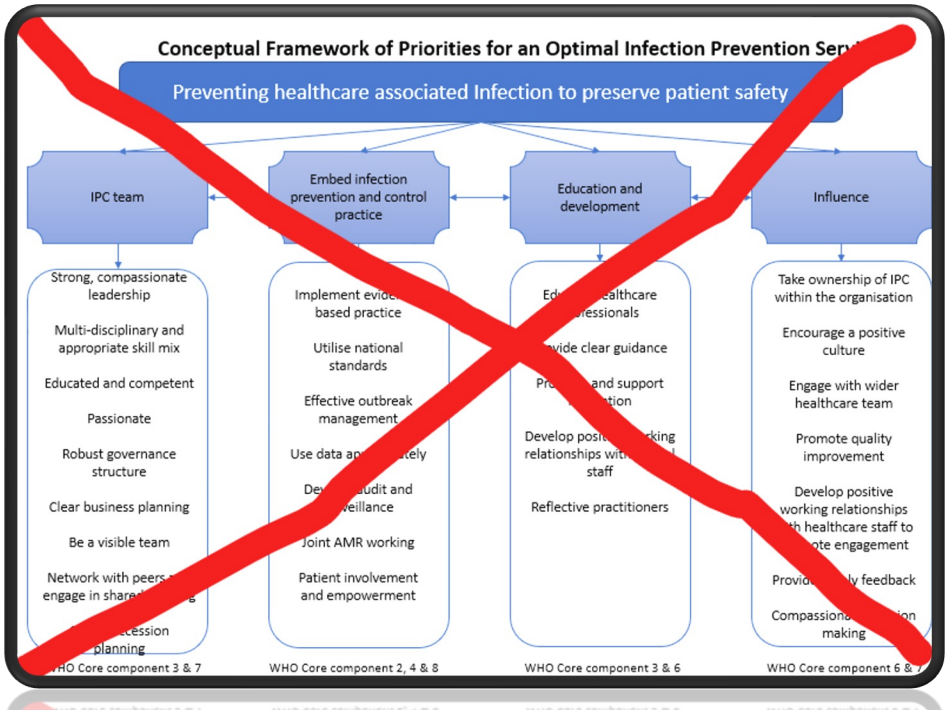
2: Draw on examples on the use of the conceptual framework to critique feasibility and reactions to the conceptual framework

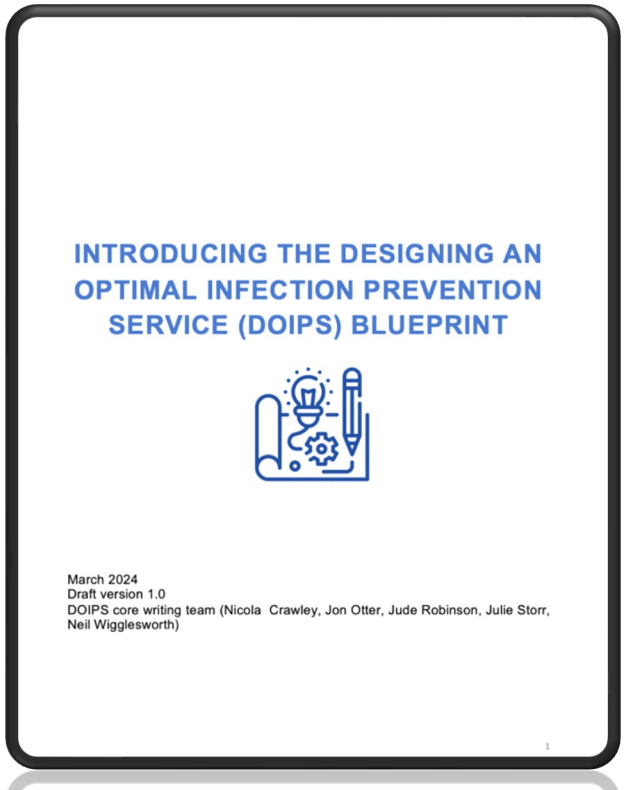
3: Consider appropriate implementation strategies including the utility of a toolkit

Critical feedback points

- Needs to balance a high level & strategic product with one that also adds value
- Consider renaming
- Move away from solely English NHS focus
- Potential for collaboration between IPC societies (across the globe)
- Digital considerations (? App where supporting documents can be linked)
- Formatting needs to change- remove silo pillars and change to interconnecting elements
- Practical elements identified
- Mapping to legislation (not just nationally)
- Sub domains changes/ additions in abundance

From prototype to DOIPS 2.0!



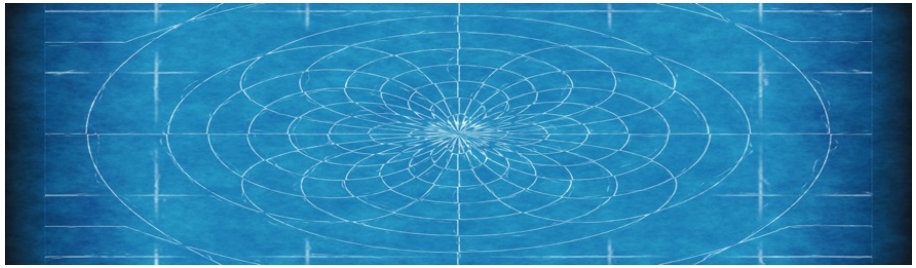


DOIPS 2.0 development working group

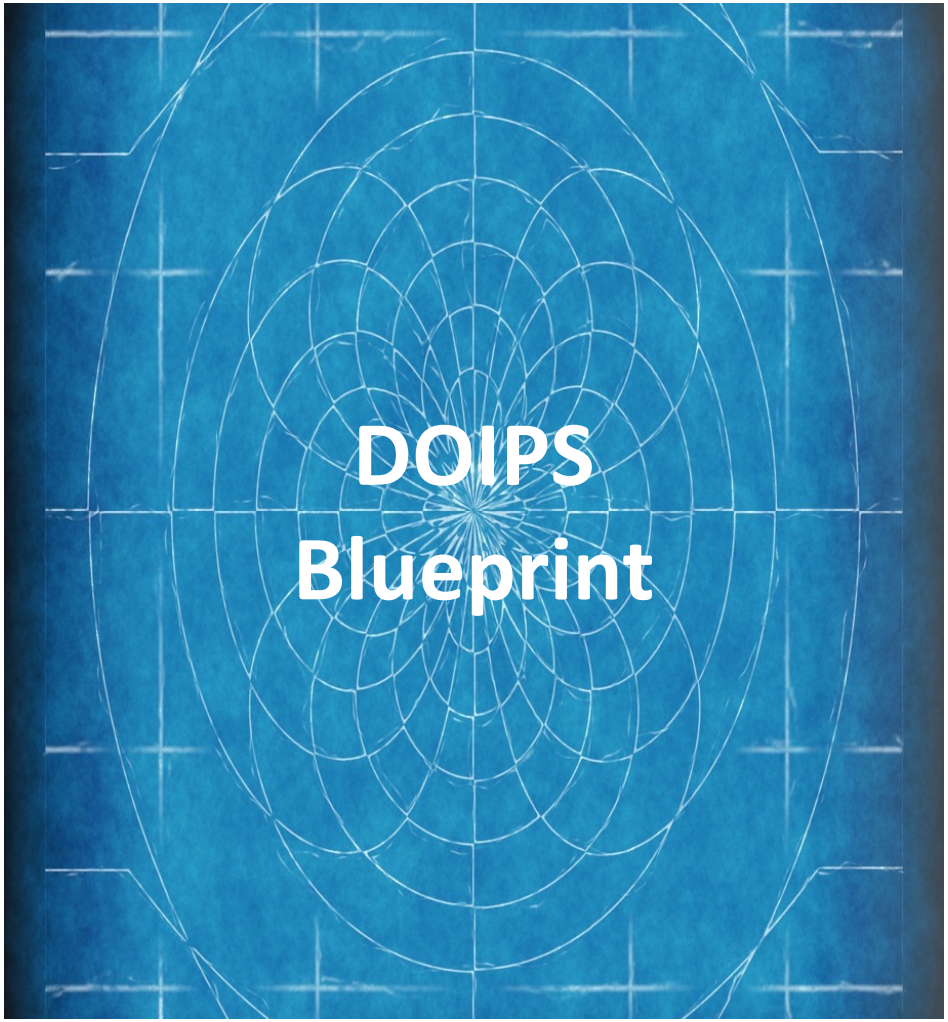
- Revise framework following workshop
- Collaboration plans to be worked out
- Pilot the framework across different settings across the UK
- Re-evaluate
- Evolve framework accordingly
- Implement

DOIPS Blueprint- What is it and what will it achieve?

- An innovative, user-friendly tool that outlines the critical elements of an IPC service. The critical elements are the “must haves” and are based on available evidence and consensus. The DOIPS Blueprint enables IPC leaders and managers to better articulate the value of an optimal IPC. It also acts as an aide memoire or checklist for users.
- It focuses on how a service should be realised rather than describing what a service should look like and therefore can be differentiated from existing resources.



- provide a standard for IPC services
- support gap analyses i.e. enable IPC leads to clearly identify where gaps exist and signpost users to what action is required
- support business planning
- support users to demonstrate the strategic value of IPC
- signpost users to tools and resources
- include simple checklists outlining must dos/values and standards



Three central elements

- Workforce
- IPC programme
- Values and behaviours

Pillars for each element

- Explainer - why the element is necessary
- Case studies to support learning & implementation.
- Each element to contain signposting to existing guidance, legislation, key documents and key reading,
- A checklist to assess an IPC service against each critical component.

- Funding to develop this into a digital resource
- Consultation to flesh out the elements
- Explore collaboration opportunities
- Implementation and Launch

Can we design an optimal IPC service?

YES WE CAN!

DOIPS project - team members

Part 1: Tracey Cooper, Paul Cryer, Lilian Chiwera, Evonne Curran, Catherine Dalziel, Helen Dunn, Heather Loveday, Brett Mitchell, Lesley Price, Chris Settle, Fiona Smith, Helen Ugbome, Karen Wares & Neil Wigglesworth

Part 2: Evonne Curran

Part 3: Jude Robinson and Emma Burnett

Part 4: Jude Robinson, Lesley Price, Jon Otter and Emma Burnett

Evaluation: Jude Robinson and Jon Otter

DOIPS 2.0 development working Group: Neil Wigglesworth, Jules Storr, Nicola Cranley, Jon Otter and Jude Robinson

Thank you

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May 21, 2024	*(European Teleclass)* **MATERIAL COMPATIBILITY FALLING THROUGH THE CRACKS?** Speaker: **Jake Jennings**, Materials Science Lead, Research and Development, GAMMA
May 23, 2024	**INFECTION PREVENTION AND CONTROL CHALLENGES AND PRACTICAL SOLUTIONS IN "OTHER" CONGREGATE LIVING SETTINGS** Speaker: **Barbara Shea**, William Osler Health System, Canada
June 10, 2024	*(FREE Teleclass ... Broadcast live from the IPAC Canada conference)* **APPLYING AN EQUITY LENSE TO IPAC POLICIES AND PRACTICE** Speaker: **Dr. Jeya Nadarajah**, Public Health Ontario
June 10, 2024	*(FREE Teleclass ... Broadcast live from the IPAC Canada conference)* **AMR IN ANIMAL HEALTH / ONE HEALTH** **Speaker: Prof. J Scott Weese, University of Guelph**
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