EVIDENCE SYNTHESIS IRELAND

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Rapid Qualitative Evidence Synthesis: balancing rigour with speed

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HRB An Bord Taighde Sláinte Health Research Board

NUI Galway OÉ Gaillimh

HSC Public Health Agency Research and Development

A bit about ourselves…

- Linda Biesty
- Catherine Houghton

- Acknowledgements:
  - Evidence Synthesis Ireland
  - Cochrane Ireland
  - Cochrane EPOC group

Background to the review

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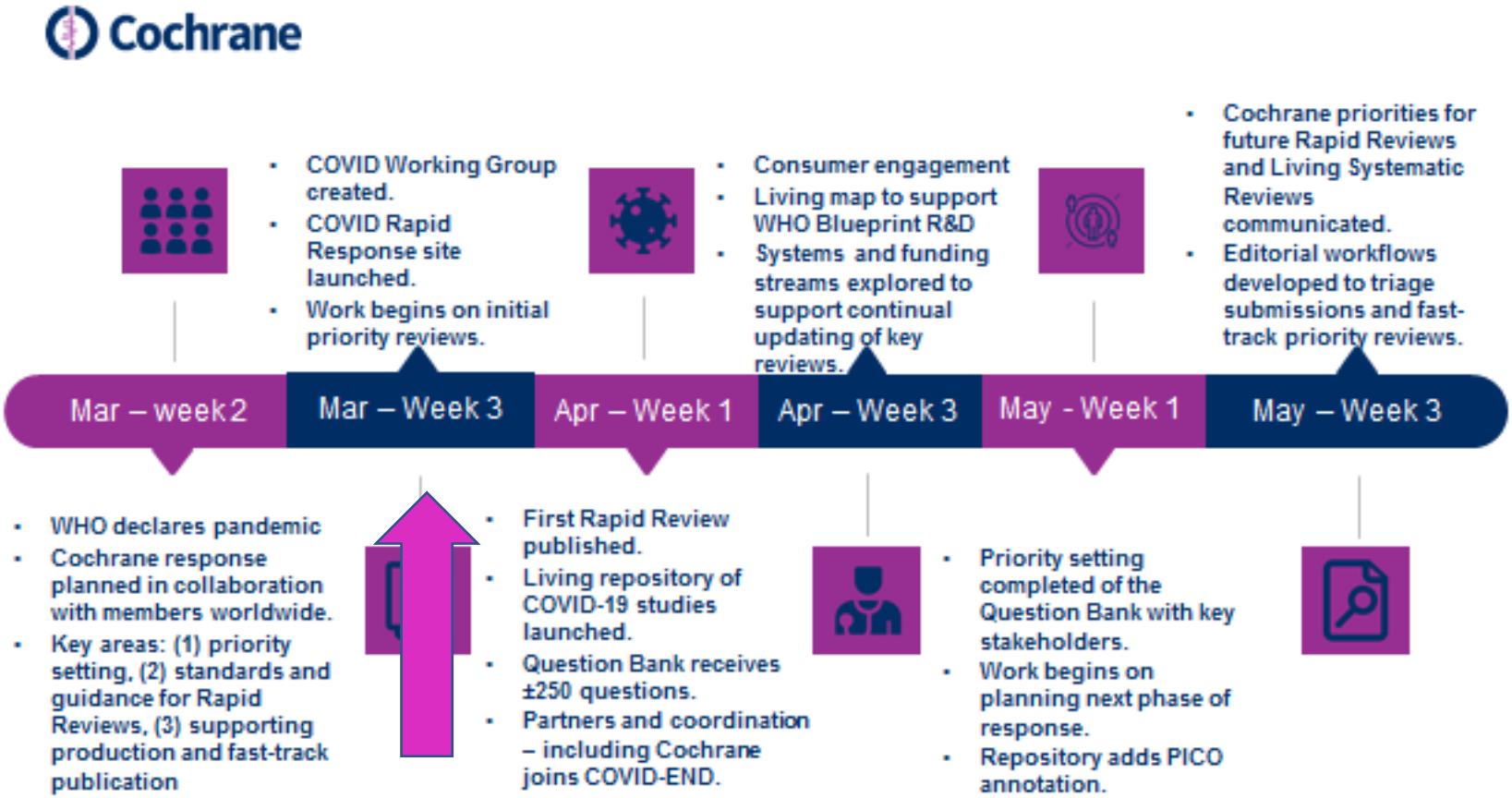

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Process: the clock starts

- The question
  - Barriers and facilitators to **healthcare workers'** adherence with **infection prevention and control (IPC)** guidelines for **respiratory infectious diseases**: a rapid qualitative evidence synthesis
- Registering the Protocol
- Gathering the team
- Finding a home
  - Cochrane Effective Practice and Organisation of Care (EPOC)

Appendix 2. Review protocol. The barriers and facilitators to health care workers' compliance with IPC recommendations for respiratory infectious diseases: a qualitative evidence synthesis

Protocol information

Team

Catherine Houghton, Pauline Meskell, Hannah Delaney, Michael Smalle, Andrew Booth, Xin-Hui Chan, Declan Devane, Linda Biesty

Contact

Catherine Houghton

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Date protocol completed

27 March 2020

Background

Brief description of the condition/issue under consideration

The novel coronavirus (COVID-19), caused by SARS-CoV-2 (severe acute respiratory syndrome coronavirus), was first isolated in December 2019 in Wuhan, China. COVID-19 ranges in symptoms from asymptomatic to severe pneumonia with acute respiratory distress syndrome (ECDC 2020). It is spread mainly through droplet infection and contact with contaminated surfaces (Official Guidance 2020).

Description of the phenomenon of interest

Following the severe acute respiratory syndrome (SARS) outbreak in 2003, a study was undertaken in three Canadian cities affected by SARS to identify which organisational, environmental, and individual factors healthcare workers felt were most crucial in protecting themselves from respiratory tract infections while at work (Moore 2005b). These factors were seen to impact on the ability of healthcare workers to comply with issued guidelines.

In 2014, the World Health Organization (WHO) published guidelines for infection prevention and control (IPC) of epidemic- and pandemic-prone acute respiratory infections in health care. IPC strategies in healthcare facilities are commonly based on early recognition and source control, administrative controls, environmental and engineering controls, and personal protective equipment (PPE; WHO 2014).

Why it is important to do this review

The recent COVID-19 Pandemic has prompted concern about the ability of health care workers to strictly adhere to recommended IPC guidance. By identifying barriers and facilitators to IPC guideline compliance, we can more easily identify strategies that will support healthcare workers to undertake the IPC measures needed at such a critical time in health care internationally.

Objectives of the review

To identify the barriers and facilitators to healthcare workers' compliance with IPC recommendations for respiratory infectious diseases.

Reflections on the initial stage

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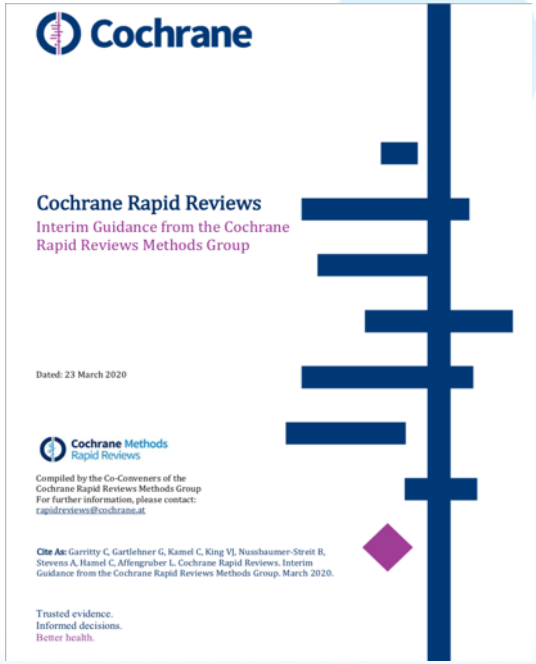
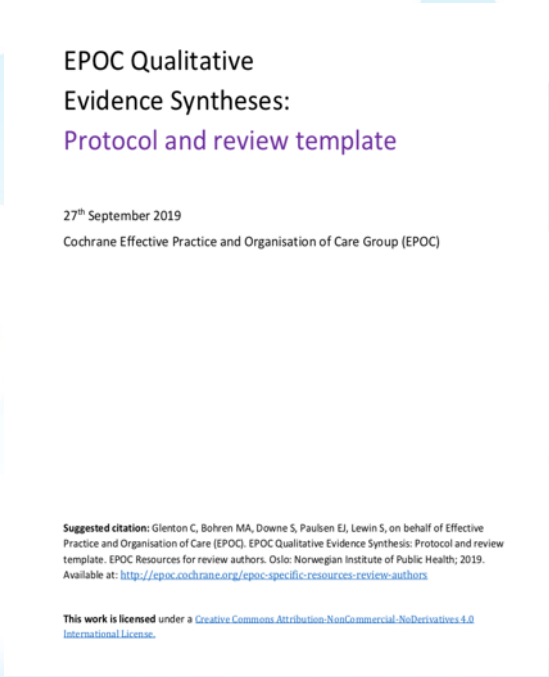
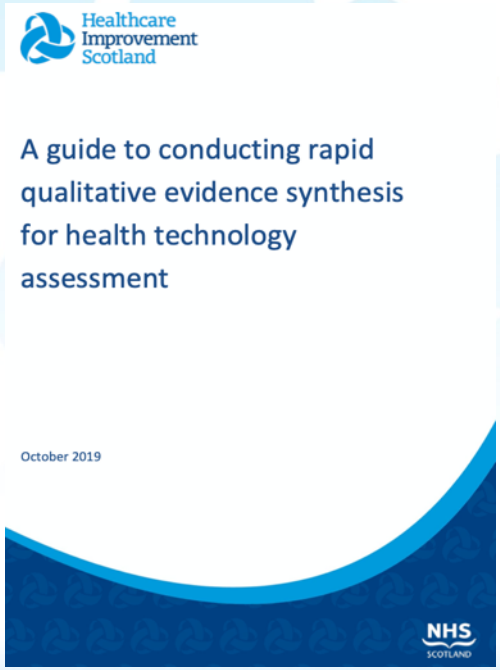




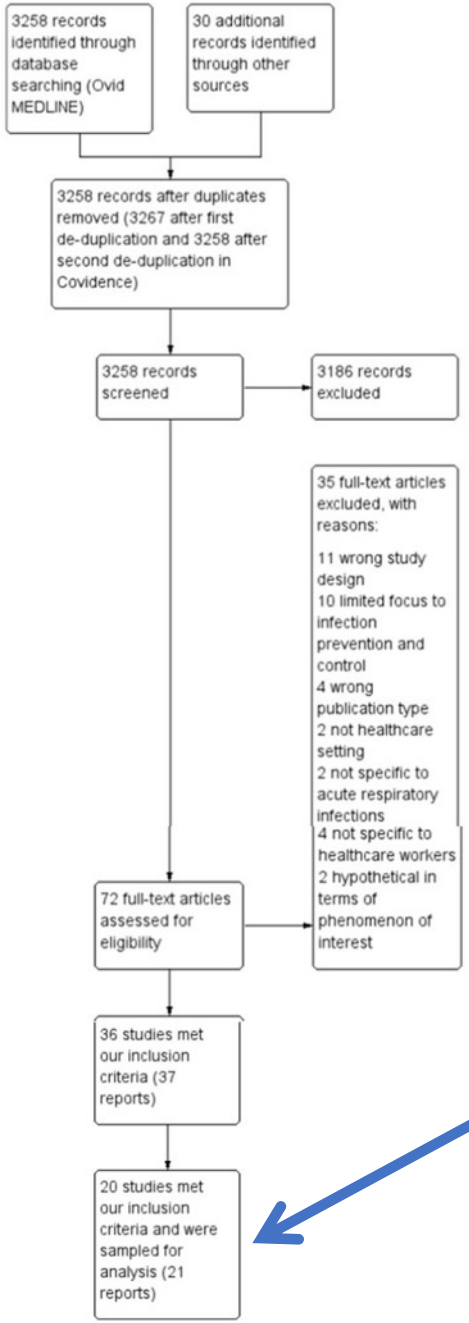


Developing the Search Strategy

- Challenge of the concepts
- Scoping search
- Importance of expertise
  - Andrew Booth
  - Mike Smalle
- Peer review
  - Robin Featherstone, Cochrane Information Specialist, topic refinement and support in developing the search strategy
  - Douglas Salzwedel, Cochrane Information Specialist, peer reviewed the search strategy

Reflections on the Search Strategy

- 1 database
  - Compromise … or not?
  - QES – exhaustive search not necessary
- No grey literature
  - Scoping exercise, screening, citation chaining
- Early immersion and engagement with the literature



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Screening

Table 1. Purposeful sampling frame

	Measure	Example
1	Very little qualitative data presented that relate to the synthesis objective. Those findings that are presented are fairly descriptive.	For example, a mixed-methods study using open-ended survey questions or a more detailed qualitative study where only part of the data relate to the synthesis objective
2	Some qualitative data presented that relate to the synthesis objective	For example, a limited number of qualitative findings from a mixed-methods or qualitative study
3	A reasonable amount of qualitative data that relate to the synthesis objective	For example, a typical qualitative research article in a health services journal
4	A good amount and depth of qualitative data that relate to the synthesis objective	For example, a qualitative research article in a social sciences journal with more context and setting descriptions
5	A large amount and depth of qualitative data that relate in depth to the synthesis objective	For example, from a detailed ethnography or a published qualitative article with the same objectives as the synthesis

Reflections on Screening Phase

- Double Blind screening at Title & Abstract, Full Text
  - Security blanket for speed & complexity
  - Constant communication
  - Engaging with the literature

Reflection on Sampling the Studies

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Ames *et al. BMC Medical Research Methodology* (2019) 19:26
https://doi.org/10.1186/s12874-019-0665-4

BMC Medical Research Methodology

RESEARCH ARTICLE Open Access

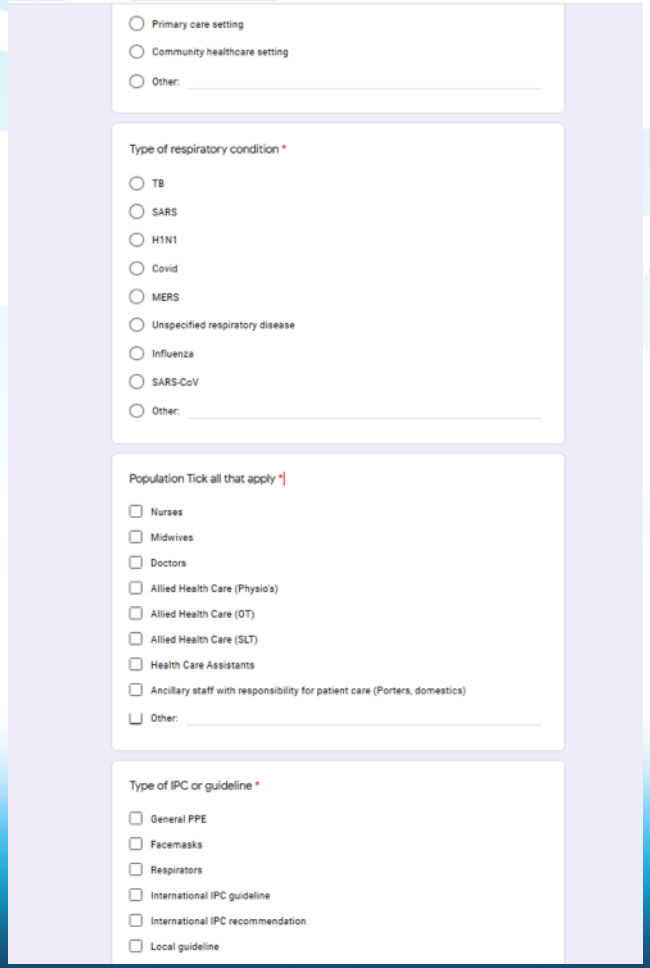
Purposive sampling in a qualitative evidence synthesis: a worked example from a synthesis on parental perceptions of vaccination communication

Heather Ames[1,2*], Claire Glenton[3] and Simon Lewin[4,5]

Data Extraction

- **Google Forms**
- **Used theoretical framework to extract the data**

- Organisational factors
  - Safety climate
  - Health and Safety Programmes*
  - Availability of training programmes
- Environmental factors
  - Physical environment
  - Availability of PPE
- Individual factors
  - Individual knowledge
  - Individual attitudes
  - Individual beliefs



Reflections on Data Extraction

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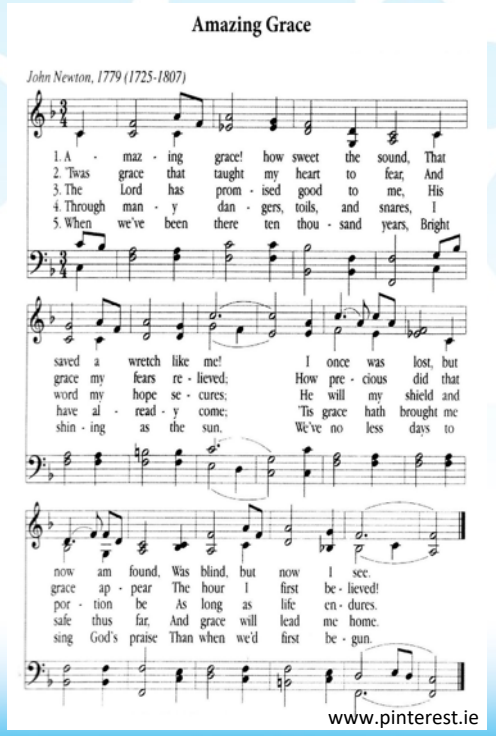
- Benefits of developing the data extraction form
  - Setting
  - Health care workers
  - Respiratory infectious diseases
  - Extracting data against the *best-fit* framework
- Benefits of piloting and refining



Assessment of methodological limitations

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- Adapted version of CASP (Critical Skills Appraisal Programme)
- Two authors independently assessed and resolved disagreements with discussion and included other members of the team as per EPOC guidelines

Table 2. Assessment of methodological limitations

Study ID	Was the context described?	Was the sampling strategy appropriate and described?	Was the data collection strategy appropriate and described?	Was the data analysis appropriate and described?	Were the findings supported by evidence?	Is there evidence of researcher reflexivity?	Have ethical issues been taken into consideration?	Overall assessment of methodological limitations
Adeleke 2012	Yes	No	No	No	Yes	No	No	**Major**
Akshaya 2017	Yes	Yes	Yes	No	Yes	No	Unclear	**Minor**
Buregyeya 2013	Yes	Unclear	Yes	Yes	Yes	No	Yes	**Minor**
Chapman 2018, Chapman 2017a	Yes	Unclear	Yes	Yes	Yes	Yes	Yes	**Minor**
Chau 2008	Yes	No	No	No	Yes	No	No	**Major**
Corley 2010	Yes	Yes	No	Yes	Yes	No	Yes	**Minor**
Kang 2018a	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	**None**

Reflections on the Assessment of Methodological Limitations

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- COVID RR versus EPOC?

- COVID RR guidance for risk of bias:
  - ☐ Single, no second reviewer
  - ☒ Dual; second reviewer checks all judgements
  - ☐ Dual; second reviewer checks [add proportion]
  - ☐ Dual; independent screen and cross check

Best Fit Framework Synthesis

- Geared to produce actionable messages by enriching existing theory (Booth 2015).
- 26 Key findings within the framework

- **Organisational factors**
  - Safety climate
  - Health and Safety Programmes*
  - Availability of training programmes
- **Environmental factors**
  - Physical environment
  - Availability of PPE
- **Individual factors**
  - Individual knowledge
  - Individual attitudes
  - Individual beliefs

- **Organisational factors**
  - Safety climate
  - **Communication of IPC guidelines**
  - Availability of training programmes
- **Environmental factors**
  - Physical environment
  - Availability of PPE
- **Individual factors**
  - Individual knowledge
  - Individual attitudes
  - Individual beliefs
  - **Discomfort of PPE**

Reflections on Analysis and Synthesis

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- '*Best Fit*' Framework Approach

- Domains of the framework
  - Balanced uninterrupted analysis and synthesis with contemporaneous, critical peer review

  - Compromise: no subgroup analysis

GRADE-CERQUAL

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Summary of review finding	Studies contributing to the review finding	GRADE-CERQual assessment of confidence in the evidence	Explanation of GRADE-CERQual assessment
Organisation factors			
Safety climate			
Finding 1: HCWs perceived their response to guideline protocols being influenced by the level of support that they received from their management team	Buregyeya 2013; Chapman 2017a; Corley 2010; Moore 2005a; Tseng 2005; Woith 2012; Zinatsa 2018	**Moderate confidence**	Minor concerns regarding coherence, relevance, adequacy and methodological limitations
Finding 2: If HCWs considered that the IPC guidelines were long, ambiguous or did not reflect international guidance, they described feeling unsure as to which IPC recommendation they should adhere to	Chau 2008; Corley 2010; Kang 2018b; Locatelli 2012; Seale 2014; Shih 2007; Yassi 2005	**Moderate confidence**	Minor concerns regarding relevance and adequacy Moderate concerns regarding methodological limitations
Finding 3: With guidelines changing so frequently, HCWs felt overwhelmed and often were not able to keep up with the most recent guidance	Kang 2018a; Locatelli 2012; Moore 2005a; Shih 2007; Wong 2012; Yassi 2005	**Moderate confidence**	Minor concerns regarding methodological limitations Moderate concerns regarding relevance and adequacy
Finding 4: If IPC guidelines were considered impractical, HCWs found them difficult to implement	Adeleke 2012; Shih 2007; Wong 2012; Zinatsa 2018	**Low confidence**	Minor concerns regarding methodological limitations Moderate concerns regarding relevance Serious concerns regarding adequacy
Finding 5: The increased workload and HCW fatigue associated with IPC guidelines, such as donning PPE and additional cleaning, were seen as a barrier to adherence	Chapman 2017a; Chapman 2018; Chau 2008; Corley 2010; Moore 2005a; Seale 2014; Shih 2007; Tseng 2005; Wong 2012	**Moderate confidence**	Minor concerns regarding methodological limitations and relevance Moderate concerns regarding adequacy

- Done individually but with continuous discussion and clarification of how we were making our assessments
- Talked through our assessments with the core team to ensure agreement and consistency

Reflections on Assessing the Confidence in the Findings

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GRADE CERQual

- Drawing on our previous experiences as a team
  - Agreed detail
  - Presented each assessment and detail as part of our core group discussions
  - Peer Overview

  - Evidence profiles submitted at Stage 2 (under editorial review)

Publication and dissemination

- Accelerated peer review, editorial review and copy editing
- Huge input from team and Cochrane community
- Dissemination required hard work behind the scenes
  - Clare Glenton and EPOC developed evidence summary
  - Nikita Burke and ESI developed Infographic
  - Pauline Meskell presented at March for Science
  - Additional podcast, webinars, presentations, Evidence Aid, Cochrane Corner
  - Irish Examiner article

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Who is the review for: Ministries of health, healthcare facilities and other stakeholders to plan, implement and manage IPC strategies for respiratory infectious diseases.

Health care workers and infection prevention and control (IPC) for respiratory infectious diseases: **Implementation considerations**

Health care workers point to several factors that influence their ability and willingness to follow IPC guidelines. This includes the source of the guidelines, how relevant they are and how they are communicated. Other factors include support from managers, workplace culture, and provision of training. Physical space, access to and trust in personal protective equipment (PPE) are key elements. A desire to deliver good patient care and protect their own family and friends also motivate healthcare workers to follow guidelines. The review highlights the importance of including all facility staff, including support staff, when implementing IPC guidelines.

Training and education

Mandatory training (on infection transmission and PPE use) for all staff who have contact with patients

Delegate person for training/ engagement/support

Help all staff to understand the importance of IPC

Ensure staff are properly fitted for PPE to avoid discomfort

Consider the impact of IPC on patient and family – loneliness, stigmatisation

Organisational support

Clear evidence-based guidelines in line with National and International guidance

Plan for effective communication of any changes to guidelines

Consider additional workload when caring for patients in isolation and the burden of PPE use

Physical environment

Provide enough space to isolate, minimize overcrowding, restrict visitors

Provide adequate facilities for staff handwashing, changing and showering

Provide adequate supplies of quality PPE, recognising increase in demand

Trusted evidence.
Informed decisions.
Better health.

The information for this summary is taken from the following Cochrane rapid review of qualitative research:
Houghton C, Meskell P, Delaney H, Smalle M, Glenton C, Booth A, Chan XHS, Devane D, Biesty LM.
Barriers and facilitators to healthcare workers' adherence with infection prevention and control (IPC) guidelines for respiratory infectious diseases: a rapid qualitative evidence synthesis.
Cochrane Database of Systematic Reviews 2020, Issue 4. Art. No.: CD013582.
DOI: 10.1002/14651858.CD013582.

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Cochrane Effective Practice and Organisation of Care

Cochrane Review of qualitative research
More summaries of our reviews
More Covid-19 relevant summaries

Health care workers and infection prevention and control (IPC) for respiratory infectious diseases: **Implementation considerations**

Photo by Sgt. Leia Tascarini

When respiratory infectious diseases become widespread, such as during the Covid-19 pandemic, health care workers' use of infection prevention and control (IPC) strategies becomes critical. These strategies include the use of personal protective equipment (PPE) such as masks, face shields, gloves and gowns; the separation of patients with respiratory infections from others; and stricter cleaning routines. These strategies can be difficult and time-consuming to implement. Authorities and healthcare facilities therefore need to consider how

Who is this summary for?

The questions below are drawn from the findings in a new Cochrane Review. These are prompts that are intended to help ministries of health, healthcare facilities and other stakeholders to plan, implement and manage IPC strategies for respiratory infectious diseases.

About the review

A Cochrane rapid review of qualitative research explored barriers and facilitators to health care workers' compliance with infection prevention and control (IPC) recommendations for respiratory infectious diseases (Houghton 2020). The review analysed 20 qualitative studies from different countries. These studies explored health care

Reflections on the path to Publication and Dissemination

- We prepared a rapid QES

- For rapid peer review, translation and dissemination
  - We relied on many

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- Thanks to Robin Featherstone, Cochrane Information Specialist, for her work on topic refinement and support in developing the search strategy
- Thanks to Douglas Salzwedel, Cochrane Information Specialist, for peer reviewing the search strategy
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- Thanks to the following people for their help in translating the summary of this review to Spanish, Norwegian, French, and Portuguese: Nancy Allan, Jorge Barreto, Julia Bidonde, Hege Estenstad Haugen, Signe Flottorp, Marcus Glenton Prescott, Jose F. Meneses-Echavez, Marcela Vélez, and Pierre Durieux
- Thank you to the peer reviewers: Nicky Cullum, Salla Atkins, Karen Daniels and Jos Verbeek for their helpful and timely feedback

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The balance

Speed

- The invaluable support of EPOC and wider Cochrane community
- The availability of the topic and methodology experts on the team
- The core team – the value of frequent and often online communication. Humour, support and good will
- Co-ordination of methods so discussions were happening in real time
- “Throwing everything at it”

Rigour

- The team expertise
- EPOC support and template
- Staying close to the data throughout
- Hours not equating to effort
- Substantial peer review
- STAGE 2 option

Clock is still ticking... STAGE 2 and future updates

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Thank you

Clickhttps://www.bbc.com/news/entertainment-arts-52556544

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