



Evidence syntheses for prioritised questions during COVID-19

IMPACT

1. Greater evidence-based decision-making in healthcare policy and practice
2. Greater capacity for the production of synthesised evidence
3. Irish researchers recognised as leaders in evidence synthesis methodologies

SUMMARY

In March 2020, ESI and Cochrane Ireland were asked by the Irish Department of Health to focus our efforts and resources on prioritised evidence gaps for COVID-19 that would support healthcare policy and practice decision-making. We harnessed existing connections and developed new international collaborations to reduce duplication of effort. The group, called the Emergency Evidence Response Service (EERS), worked across >25 projects¹. As evidenced by a request from Cochrane to lead on a WHO scoping review², ESI and Cochrane Ireland have now built an **international reputation** as a skilled, responsive and effective centre. We are proud that even during the pandemic, we held fast to our core value of **capacity-building**, which we wove into our activities. This gave junior and senior colleagues the opportunity to lead and contribute to high-quality evidence syntheses, and develop their international research network and synthesis skills.

DESCRIPTION

Working with the **Cochrane COVID-19 Working Group** (Devane D on core group), the **WHO Evidence Collaborative for COVID-19** (member), and **COVID-END**, we sought to support organisations answering prioritised questions and needing evidence synthesis capacity. We provided experienced methodologists and reviewers and embedded **capacity building**. In addition to our core activities, we³:

- Led the development of Cochrane COVID-19 rapid reviews, leading **3** and co-authoring **3**
- Our research informed **4** WHO guidelines

- Curated **2** Cochrane Special Collections; co-authored **2** Cochrane protocols; **2** Cochrane supplements
- Launched **iHealthFacts.ie**, a health claim fact-checking service for the public
- Participated in the Steering Group, screening and synthesis of reviews of **COVID-NMA** (led by Cochrane France) which is the **WHO's** primary source for evidence on interventions for the treatment and prevention of COVID-19
- Published **8** non-Cochrane rapid reviews and led or contributed to **4** methodology articles
- As knowledge translation is a key pathway to impact, we contributed to **8** products used by Cochrane in dissemination; including **1** Cochrane COVID-19 Case Study; **3** Cochrane evidence summaries, **2** Cochrane podcasts and **2** Cochrane webinars
- Placed **8** volunteers with Evidence Aid (evidenceaid.org)

IMPACT

Throughout, we built capacity by placing **5** clinicians and **23** Irish researchers (including **2** from Northern Ireland, **5** ESI Fellows, **11** students, and **2** information specialists) on COVID-19 evidence syntheses. Impact tracking and an ESI survey has helped us measure changes to skills and expertise, confidence, reputation, collaborations, how individuals put what they learned into practice, and how they and others benefitted. Here we highlight two examples of our impact on 1) **policy and practice**, 2) **innovative methodologies**, and 3) **capacity building**.



Care bundles for improving outcomes in patients with COVID-19 or related conditions in intensive care - a rapid scoping review

(Cochrane Database of Systematic Reviews, Dec 2020, Smith V, Devane D, Nichol A, Roche D)⁴

In October 2020, the **World Health Organisation** asked Cochrane to identify and **endorse** review teams that would deliver a quality-assured product to a tight deadline. Cochrane's Editor-in-Chief Karla Soares-Weiser asked **Cochrane Ireland** to lead on Cochrane's first rapid scoping review², demonstrating that we are now a recognised and trusted international evidence provider. As Cochrane scoping reviews had not been done before, a significant challenge was establishing new processes to meet commissioners needs. The review was completed in 21 days, and will act as a prototype for future reviews⁵.

This review **informs** the **WHO's COVID-19 Clinical Management interim guidance** for clinicians caring for COVID-19 patients during all phases of their disease⁶, which supports clinical decision-makers, is intended to provide optimised care, and has the potential to save lives. Lead author (Prof Valerie Smith) was invited to present this research to the **WHO guideline group** (Nov 2020).

Prof Smith said⁷

"ESI helped develop my own **capacity** and **confidence** in evidence synthesis, and those of others, in particular leading a Cochrane review, commissioned by the WHO, on care bundles for individuals with COVID-19 in the ICU. This activity is of significance as i) it was the first rapid scoping review undertaken by Cochrane, thus positioning me at the **forefront of Cochrane methodological developments**, ii) **the review directly informed WHO clinical practice guidelines on COVID-19**, iii) it **expanded my network** to working with critical care clinical leaders, and iv) developed my **expertise** in conducting a rapid review. As a result, I have shared the knowledge I gained [by delivering a workshop in March 2021] and strengthened my reputation as an expert reviewer across multiple review types."

The review involved senior clinician (Alistair Nichol, Critical

Care Consultant) and **included capacity building** with junior clinician David Roche (critical care and anaesthesia). Coming from a "pure" clinical background, Dr Roche said this experience sparked his interest in evidence synthesis, particularly the use of Cochrane methods. He then subsequently applied for, and was successful in, an open competition for an ESI Fellowship with Cochrane Anaesthesia and Cochrane Japan (Jan 2021). The scoping review provided him with new competencies and skills, a better appreciation for the usefulness of evidence in clinical decision-making, and better able to communicate evidence to health managers.

David said⁸

"As I approach the end of my specialist training, I am acutely aware of evidence synthesis knowledge gaps amongst clinicians in the Irish health service. I am fortunate to benefit from the significant steps ESI are taking to fill this gap. This understanding of the need to facilitate learning in evidence synthesis in parallel with clinical work is incredibly valuable. I feel empowered to promote a culture of policy development and healthcare decision making, based on rigorous evidence synthesis in my clinical environment."



Prof Valerie Smith



Dr David Roche



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, April 2020. Houghton C, Meskell P, Delaney H, Smalle M, Glenton C, Booth A, Chan XH, Devane D, Biesty L.)⁹

ESI researchers led Cochrane's **first rapid qualitative evidence synthesis (QES)**, which was completed and published in **23** days (these have normally taken over 2 years), with Cochrane **EPOC**. It has been **cited 205** times since April 2020 (Google Scholar, 18.04.21) with an Altmetric score of 226. The review team then published a paper in Systematic Reviews¹⁰ describing the process by which the review was conducted, participated in a Cochrane webinar³, and delivered a webinar for ESI to >200 attendees³. These activities reflected on the practical considerations and the level of **methodological expertise** and dedication needed to deliver a qualitative evidence synthesis rapidly and accurately during the COVID-19 pandemic.

Kayleigh Kew, Cochrane's Senior Editor for Methods¹¹:

"The rapid qualitative evidence synthesis described is a true success story. The quality achieved in COVID-19 rapid reviews with such unforgiving timelines show what is possible when dedicated authors come together with Cochrane's vast and experienced network of editors and experts."

The research question was prioritised by the WHO and Cochrane, and **informs WHO Interim Guidance** for the prevention, identification and management of health worker infection in COVID-19¹². Working with end-users, knowledge translation was embedded in this review with an evidence summary for Ministries for Health and health managers for evidence-informed policy-making. Lead author Dr Houghton presented to the **WHO** on Implementation Guidance to Integrate Noncommunicable Disease Service (Nov 2020). The team received positive feedback from WHO Director of Communicable Diseases (Dr Yvan Hutin, personal communication, 29 April 20). It was also cited in the Royal Academy of Emergency Medicines' **Best Practice Guidelines**³ and by the UK Governments SAGE Environmental and Modelling Group³. The evidence summary was translated to **Spanish** and presented to the **Chilean Ministry of Health**³.

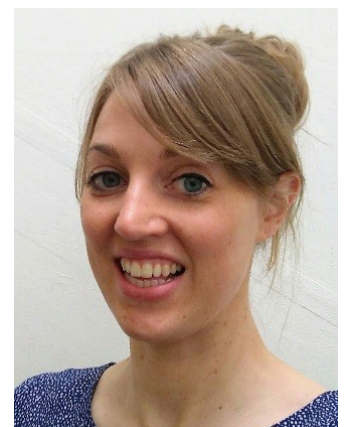
This review included **capacity building** with **two** ESI Fellows, and helped expand skills, networks and collaborations. Dr Hannah Delaney (ESI Fellow) said¹³:

"Contributing to such a high profile review and being part of an experienced team has been invaluable in building my confidence as a researcher. Following the rapid QES I contributed to two more QES reviews. For one, I was able to take on responsibility for the data synthesis phase. Working on the rapid QES built networks with experts in QES methodology within my institution and internationally, which has positively impacted my career as a researcher and future as a QES reviewer."

The success of this review and reputation built led to funding (Horizon Europe, Vaccelerate, €106k) to conduct a rapid QES on vaccine hesitancy for COVID-19¹⁴. This Cochrane EPOC review is being conducted by the same team and is being led by ESI Fellow and co-applicant Dr. Pauline Meskell. Pauline is now mentoring a new ESI Fellow (Dr Elaine Meehan) on this review, highlighting the continued downstream impact of our capacity building activities.



Dr Catherine Houghton



Dr Hannah Delaney



EVIDENCE SYNTHESIS IRELAND

We are part of the vanguard of **innovative methodologies** including **leading on Cochrane's first rapid QES, Cochrane's first scoping review, participating in COVID-NMA living mapping and living network meta-analysis**, which is being used by the WHO, Dept. of Health in Ireland, NICE, NIHR, NATO and many more¹⁵. COVID-NMA provides a living mapping of registered COVID-19 trials, live synthesis of results and living monitoring of transparency. This allows gaps where research is needed to be identified and provides policy-makers with the most up-to-date information. PhD student Fiona Quirke who contributes to COVID-NMA said¹⁶

“Seeing the impact of this work is something I am proud to have contributed to. The skills I learned include screening of large numbers of titles and abstracts, working in an efficient manner with time constraints, and communicating with international multidisciplinary researchers. The title and abstract screening have helped immensely in conducting my own systematic review as part of my PhD.”

We are a key access point for researchers, students, methodologists, and clinicians to get involved in syntheses that answer prioritized questions for decision-makers, in Ireland and beyond.

The ability for the EERS to be established at such a rapid pace and deliver numerous outputs to such high standards lay in the underlying support infrastructure including HRB infrastructure. This firm foundation of expertise, experience and dedicated personnel, with an excellent knowledge of the research landscape in Ireland, enabled agile and innovative response and achieve the work required. The establishment of the EERS during this pandemic has built strong networks and a reputation as being a source of robust and reliable evidence and reviewers who will deliver rigorous, quality and trustworthy products.



Figure 1. COVID-NMA Living mapping of COVID-19 trials.



EVIDENCE SYNTHESIS

I R E L A N D

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