STUDY PROTOCOL

RapidInfo4U – an online individualised COVID-19 support intervention for nursing and allied health professionals: study protocol [version 1; peer review: 1 approved, 1 approved with reservations]

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Abstract

Background: The COVID-19 outbreak was declared a pandemic by the World Health Organization on March 11th, 2020. An ongoing challenge in healthcare is ensuring that up-to-date and high-quality research evidence is implemented in practice. In the context of a global pandemic it is assumed, given the increased pressures on healthcare professionals that this problem has the potential to be exacerbated. Furthermore, the COVID-19 pandemic resulted in many health professionals being reassigned to areas outside their usual scope, returning to practice following absence or commencing their career as new entrants in the midst of a major crisis. These professionals are likely to require additional support to assist their confidence and competence.

Aims: This project has two broad aims: to design and deliver an online educational platform to support nursing and allied health professionals in their clinical practice throughout the pandemic and to evaluate that platform and its implementation.

Methods: The research protocol for this study consists of two work streams: the development and delivery of the online platform; and the project evaluation. This research will have a mixed methods approach including website data analytics, quantitative surveys and qualitative data analysis of semi-structured interviews.

Conclusion: Through knowledge brokering and adherence to principles of effective technology-enhanced-learning this project will
provide an accessible, individualised online educational resource to effectively meet the needs of individual nurses and allied health professionals in this unprecedented time. The evaluation of the platform and its implementation will provide key learning for future initiatives and may act as proof-of-concept for other organisations and countries seeking to support healthcare professionals' knowledge needs during similar future pandemics.

**Keywords**
COVID-19, implementation science, nursing, allied health professionals, training support, online systems, evaluation studies.

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Introduction

COVID-19 is a disease caused by the novel coronavirus SARS-CoV-2. The World Health Organization was first notified of this new virus on the 31st December 2019 and it declared the COVID-19 outbreak as a pandemic on March 11th 2020. As of December 13th 2020, there have been over 70 million cases of COVID-19 reported globally including more than 1.6 million deaths. In Ireland, as of December 12th, there have been 76,185 cases reported and 2,124 deaths.

An ongoing challenge in healthcare is ensuring that up-to-date and high-quality research evidence is implemented in practice, a situation which persists despite the positive attitudes of healthcare professionals to research. Failure to implement evidence-based interventions can result in inefficient use of resources, reduced quality of care and ultimately, poor health outcomes for individuals and communities. In the context of a global pandemic, given the increased pressures on healthcare professionals, it is assumed that this issue has the potential to be exacerbated. Furthermore, the COVID-19 pandemic resulted in many qualified health professionals being reassigned to areas outside their usual scope of practice, returning to practice following absence or commencing their career as new entrants during a major crisis. These professionals are likely to require additional support to assist their confidence and competence during the COVID-19 pandemic.

Knowledge brokers are recommended to facilitate the sharing of knowledge between practitioners, researchers and decision-makers. As part of their remit, knowledge brokers identify and obtain relevant information and create tailored knowledge products. Governments, professional bodies and international agencies have made available a wealth of evidence-based COVID-19 literature, policies, guidelines and algorithms which healthcare professionals must navigate. Within higher education institutions and professional bodies, there are vast repositories of knowledge, expertise and experience that can be harnessed to rapidly support healthcare professionals as they grapple with this new and emerging evidence and practice contexts. Knowledge brokering is needed to manage the shifting body of evidence and facilitate knowledge translation between higher education institutions, professional bodies, policy makers and practitioners during the pandemic.

Technology-enhanced-learning provides continuous professional development for health professionals, with e-learning at least as effective as traditional approaches. Given the ubiquity of mobile devices in clinical settings and the convenience of access to resources as needed, technology-enhanced-learning is ideal for healthcare professionals. Effective interventions in return to work training include a tailored approach and targeting individually identified needs. Technology-enhanced-learning allows for a tailored experience. Through knowledge brokering and adhering to the principles of technology-enhanced-learning, this project aims to provide an accessible, individualised online educational resource to effectively meet the needs of healthcare professionals in this unprecedented time.

This project will develop an online platform with three functions. Firstly, it will house a searchable repository of high-quality evidence, information links and guidance to inform practice during the COVID-19 pandemic. Secondly, it will provide an interactive query submission function, where healthcare professionals can ask clinical questions and receive prompt, evidence-based answers. Finally, it will incorporate structures that allow for the evaluation of the platform and its functions. The target group for this intervention is nursing and allied health professionals, working in Ireland, who have queries either directly related to COVID-19 or about changes to their practice as a consequence of the pandemic. This research will shed light on the education requirements and support needed by this group of healthcare professionals for application in future crises.

This research has four aims:

1. To develop a web-based technology-enabled learning platform that provides a searchable repository and incorporates a communication system that allows users to submit clinical questions and receive individualised answers.
2. To provide evidence-based answers to clinical questions for nursing and allied health professionals about practice during the COVID-19 pandemic. This will be achieved through populating the repository with high-quality evidence and guidance, conducting rapid evidence searches and producing summaries and, where necessary, consulting with a panel of experienced clinicians.
3. To evaluate the online platform by determining if it meets the support and information needs of healthcare professionals.
4. To evaluate the implementation process to inform future work by exploring the types of clinical queries posed, identifying what components of the intervention work best and for whom and exploring learning outcomes achieved by the project team.

Protocol

The research protocol for this study consists of two work streams: the development and delivery of the online platform; and the project evaluation. This research will have a mixed methods approach including website data analytics, quantitative surveys and qualitative data analysis of semi-structured interviews.

Work stream 1: Development and delivery

Development of the online platform: RapidInfo4U. Operational systems and access and communication protocols will be developed to support timely, effective and individualised access to required knowledge via a web-based technology-enabled-learning platform.

Populating the repository. The RapidInfo4U repository will be populated with up-to-date high-quality evidence, government and professional body guidance and documentation, as well
as useful links to other resources. The content will be categorized by discipline: nursing, speech and language therapy, occupational therapy, physiotherapy, and human nutrition and dietetics. The interdisciplinary project team will identify key resources for each discipline and the repository will be regularly updated with the most recent and relevant research evidence and guidance as well as the evidence summaries produced in answer to users’ queries.

Answering questions: rapid evidence search and summary. The platform will be monitored and questions submitted will be answered within 72 hours. Protocols will be developed for conducting the rapid evidence searches and producing the summaries to send to users. Questions will be triaged and categorised as high, medium and low complexity. Summaries will be produced in an easily understood format and anonymised responses uploaded to the repository for the benefit of all users.

Establish panel of experienced clinicians. The project team has successfully secured collaboration from key professional bodies: the Association of Occupational Therapists of Ireland, the Irish Nutritional and Dietetic Institute, the Irish Society of Chartered Physiotherapists, the Irish Association of Speech and Language Therapists and the National Health and Social Care Professionals office. The project team will work with the project collaborators to recruit a panel of clinicians representing the allied health and nursing disciplines. These discipline specialists will complement the work of RapidInfo4U with clinical expertise and will be contacted in the event that the rapid evidence search fails to answer a question submitted by a user.

Marketing and reach. A marketing protocol will be developed to effectively advertise RapidInfo4U. A Twitter account will be created to reach those healthcare professional bodies and individuals active on social media. Through professional body networks and other key stakeholder agencies, the aims of the project and the platform will be advertised to ensure a wide reach to target populations (including new graduates, returning or redeployed clinicians). Advertising material, hyperlinks and alerts will be disseminated to relevant bodies and key stakeholders to ensure optimal engagement. The marketing processes will be analysed throughout the project and adapted from feedback received. Completed evidence summaries produced as answers to questions submitted by users will also be used as a marketing tool.

Work stream 2: Evaluation
The objectives of the evaluation are:

1. To assess if the platform meets the support and information needs of nursing and allied health professionals including those returning, redeployed or newly entering the workforce during the COVID-19 pandemic.
2. To determine what, if any, contribution the platform makes to assisting healthcare professionals to perform in the COVID-19 context.
3. To determine what components of the platform work best and for whom.
4. To identify what, if any, learning outcomes have been achieved.
5. To systematically feedback data to the intervention team across the life cycle of the project to ensure that the platform is responsive to users’ needs and flexible in its design, delivery, and dissemination.
6. To examine the implementation of the project compared to initial intentions and assumptions.

Conceptual framework for the evaluation. A programme theory approach, using a realist evaluation design, underpins the design of the evaluation. Programme theory involves developing causal models, such as logic models, to link programme inputs and activities to a chain of intended or observed outcomes. This model can then be used to guide the evaluation design. Realist evaluations ask what works, in which circumstances, and for whom and are designed to improve our understanding of how programmes work or do not work and in what contexts.

Realist evaluations can identify the structures, processes, culture and behaviours that create the enabling conditions for programme results. The realist evaluation approach is underpinned by the Context-Mechanism-Outcome (CMO) configuration. The context in which programmes operate make a difference to the outcomes that are achieved: contexts can both enable and constrain. Mechanisms are understood in terms of the ‘reasoning and resources’ relationship. That is, the interaction between the reasoning of the intended target population, what the programme provides and the outcomes.

Understanding this relationship encourages evaluators to consider what resources, opportunities or constraints were provided, and to whom; the ‘reasoning’ that was prompted in response to these; and what, if any, changes in behaviour were generated and outcomes achieved. Outcomes are the intended and unintended consequences of services, resulting from different mechanisms in different contexts. A realist evaluation design is usually composed of four stages:

1. Theorising the programme theory and hypothesising the CMO configurations to be tested.
2. Data collection
3. Data analysis and hypothesis testing
4. Interpretation and refinement of CMO configurations.

The first stage of the realist evaluation design for the current project is complete: the logic model is presented in Figure 1 and the two theorised CMO configurations are presented in Table 1.

Methods
Realist evaluations typically use mixed methods, incorporating pluralistic and pragmatic approaches appropriate to the hypothesis being tested. This evaluation will include quantitative data from surveys and website analytics, and qualitative data
**Contexts**

**Practice environment**

Health service is in flux due to COVID-19, resulting in significant changes in everyday practice and new demands on healthcare staff.

- The users are motivated and able to seek information through the resource
- The website is accessible and easy-to-use for users
- The users interact positively with knowledgeable senior clinicians while using the resource
- The users receive timely, individualised and targeted responses
- The users are motivated and capable of using the information provided through the resource

- The RRR is used by the intended target groups of healthcare professionals
- The users are satisfied with their experience of using the RRR
- The users are satisfied with the evidence provided
- The users have implemented the information
- The users have gained new/up-to-date knowledge, concepts or skills which makes them feel more confident in their day-to-day practice
- The users tell other healthcare professionals about the RRR

**RRR processes**

Parts of the evidence base informing how best to work in the context of COVID-19 are emerging, changing or not developed.

- The work of the project team is guided by clear and shared processes to manage, assign and respond to queries, including when there is no information
- There are knowledgeable and skilled senior clinicians and project team members who have the capacity and capability to complete the evidence reviews
- There are enough skilled staff to ensure rapid responses to queries and anticipate user needs

- There is fidelity among the project team to the evidence review protocols
- The senior clinicians and project team members develop high quality, accurate, clear, acceptable, useful and up-to-date responses which are shared with the users
- The bank of open access knowledge on the RRR is accurate and up-to-date

**Mechanisms**

**Inputs**

- Uni Limerick: HIST Management Group (design, delivery, dissemination, & quality control)
- JT and Library expertise
- Pool of Doctoral students
- RHR Funding: FT Post Doc for overall management
- External experts
- Communications: Interface Developer
- Network of supportive clinicians
- Network of supportive professional bodies.

**Outputs**

- Protocols for fielding questions
- System for responding to questions
- Pool of responders to deal with low to complex level questions
- Initial development of interface (social media technologies)
- Marketing and publicity activities (communications)
- Provision of information and advice
- Creation of bank of information and advice
- Secondary development of interface (Moodle, website, portal)
- Social media presence.

**Outcomes**

- Learners’ views about learning experiences and satisfaction with the information or advice
- Changes in attitudes or perceptions about return to work
- Acquisition of concepts, principles, and skills of the workplace
- Implementation of learning reflected in changes in attitudes, and/or application of newly acquired skills
- Changes in organisations or delivery of services
- Changes in the well-being or outcomes for the people using services.

**Sample Indicators**

- Protocols developed on time
- Recruitment of X hospitals
- No and rate of enquiries from X disciplines
- % rate of enquiries that are accepted for information searches
  - X low level
  - X mid-level
  - X complex
- % of satisfied users
- Types of user, implementation
- Types of benefits for service providers.

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**Evidence**

Functional literature and empirical reviews of similar initiatives, discipline and professional body consultation, access to experts to assist deliberation and stress testing ideas, action research design with feedback loops and iterative design process, to feed into monitoring and evaluation.

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**Figure 1. Logic model.**

**Table 1. Theorised Context-Mechanism-Outcome configurations.**
from interviews and focus groups. Data will be collected, analysed and fed back systematically to the intervention team across the life cycle of the project, to ensure that the resource is responsive to users’ needs and flexible in its design, delivery, and dissemination. The design of the evaluation takes account of health professionals’ likely limited capacity to engage with evaluation efforts and capitalises on their points of contact with the intervention itself to collect data.

Participants and recruitment
Registered users of the platform who submit queries will be invited to complete a pre-post survey. A sample of these participants will also be invited to take part in interviews. All users of the platform will be invited to complete a short pop-up survey. The project team will take part in a focus group interview. The senior clinicians responsible for completing the rapid evidence reviews will be invited to take part in interviews.

Outcomes
The evaluation will consider if, how and to what extent the following implementation outcomes have been achieved:

1. The users tell other healthcare professionals about the platform.
2. The platform is used by the intended target groups of healthcare professionals.
3. There is fidelity among the project team to the evidence review protocols.
4. The senior clinicians and project team members develop high quality, accurate, clear, acceptable, useful and up-to-date responses which are shared with the users.
5. The bank of open access knowledge on the platform is accurate and up to date.

The following outcomes for users of the resource will be evaluated:

1. The users are satisfied with their experience of using the platform.
2. The users are satisfied with the evidence provided.
3. The users have implemented the information.
4. The users have gained new/up-to-date knowledge, concepts or skills which makes them feel more confident in their day-to-day practice.

Data analysis
Survey data will be analysed in Excel to generate descriptive statistics. Statistical analysis, using dependent t-tests, of pre- and post-intervention data will be used to assess if, and what learning outcomes have been achieved for users of the platform. All qualitative data from interviews and focus groups will be analysed using MAXQDA and Excel. All transcripts will be read by at least two members of the evaluation team. For the initial first reading of the transcripts, the evaluation team dyads will code the data using an a priori coding frame that reflects the high-level contexts, mechanisms and outcomes originally theorised. The dyads will review their partner’s coding and any discrepancies or differences in the coding will be discussed and agreed. Inductive thematic analysis of qualitative data will be carried out, in conjunction with the use of a framework for deductive coding, to identify categories, codes and sub-codes within the CMO configurations. This approach will allow the evaluation team to analyse the data against the CMO configurations while simultaneously allowing new themes to be generated. Any new and emerging contexts, mechanisms and outcomes will be identified, and the coding frame will be refined further. A hierarchical set of codes, with up to four levels of coding, will be agreed (Table 2).

Data will be triangulated across sources, e.g. users, experienced clinicians and project team members, and across data types, e.g. survey data, interview and focus group data and documents.

Ethics
The project has received ethical approval from the Faculty of Education and Health Sciences, University of Limerick, Research Ethics Committee. Risks to individual participants will be minimised by informed consent and anonymising data collected. Participants will have the option of opting in or out of the intervention evaluation and will be informed of the nature of their participation in the evaluation, confidentiality, and freedom to withdraw at any time without any risk. General Data Protection Regulations will pertain at all times.

Compliance with Data Protection Regulations
A data management plan has been developed in partnership with the UL Institutional data steward and in line with HRB policy on the management and sharing of research data. The principles of the General Data Protection Regulation (GDPR) 2018 and UL Data Protection Policy will be adhered to throughout this research. The Lead applicant and co-applicants based at the University of Limerick have previously completed

<table>
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<th>Table 2. Hierarchy of codes.</th>
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<tr>
<td><strong>Level 1: Concept</strong></td>
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<td><strong>Level 2: Category/theme</strong></td>
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<td><strong>Level 3: Code</strong></td>
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<td><strong>Level 4: Sub-codes</strong></td>
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GDPR and Research Integrity training at the University of Limerick. All data generated in this project will adhere to the FAIR principles with open access to the University of Limerick’s research output in conjunction with the University of Limerick Institutional Repository (ULIR). Only authorised study personnel will have access to personal data. This research does not involve the transfer of data outside the EU.

**Dissemination plan**

- A summary report from the baseline and needs assessment data generated over time will be shared with relevant professional bodies. To date this includes the following who have agreed to collaborate with the project: Association of Occupational Therapists of Ireland, Irish Nutrition and Dietetic Institute, Irish Society of Chartered Physiotherapists, Irish Association of Speech and Language Therapists: Office for Nursing and Midwifery Planning and Development; National Clinical Programme for Older People, with others to be added as appropriate.

- Findings will be shared with the national Health and Social Care Professions office and the World Health Organisation to complement their work on healthcare workers’ training needs.

- Interim data on impact of learning experiences will be published as a policy brief in an accessible infographic format.

- The baseline and needs assessment data, data gathered from participants accessing the platform (via surveys and interviews), with the study protocols, survey and interview guides and information documents will be available on publication in peer-reviewed papers. This will be facilitated by uploading of relevant documents as supplementary information.

- The rapid evidence search and summaries produced in answer to questions submitted to RapidInfo4U will be uploaded to the repository and circulated to email networks and on social media.

**Study status**

To date (December 2020) the online platform has been developed and launched: https://rapidinfo4u.healthcare/. Protocols have been developed. Users have searched the repository for evidence and guidance related to their practice, submitted questions and received individualised answers. The research team have received feedback from the external advisory group and undertaken an externally facilitated interim review of the project.

**Conclusion**

In the COVID-19 pandemic healthcare professionals are faced with the constant development of new/emerging evidence and practice contexts. Access to reliable, evidence-based information is paramount for identification, assessment, intervention and monitoring of patients across healthcare settings. Through knowledge brokering and adherence to principles of effective technology-enhanced-learning, this project will provide an accessible, individualised online educational resource to effectively meet the needs of individual nurses and allied health professionals in this unprecedented time. The evaluation of the platform and its implementation will provide key learning for future initiatives and may act as proof-of-concept for other organisations and countries seeking to support healthcare professionals’ knowledge needs during similar future pandemics.

**Data availability**

No data are associated with this article.

**References**

13. Panteli N, Pen S: Empowering women returners in the UK high-tech

Publisher Full Text


Reference Source


Reference Source


PubMed Abstract | Publisher Full Text | Free Full Text


PubMed Abstract | Publisher Full Text | Free Full Text


PubMed Abstract | Publisher Full Text | Free Full Text


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[?]  

[✓]  

Version 1

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Andy Bell

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This is an interesting and timely study. Of interest will be the ability to construct a repository of high quality documentation and resources. It would be beneficial to the transparency and reproducibility of the study that there is more detail provided of what, where, how and who these resources will be sourced from.

More detail could be provided regarding the how the platform will be monitored and regulated for quality of response.

Would there be a way to measure the metrics of users interfacing with the resources as a secondary line of data collection outside of the pre-post survey being considered? If the survey uptake is low (which is common), then some quantitative measures can be made from usage levels etc.

Are the interviews formal? Semi-structured? More detail is required.

What forms of tools are being considered as a measure of user satisfaction? Is this a bespoke measure or a previously validated tool?

This could be a valuable resource, but the quality of the content and the validity of the review process will be important, as will a well constructed and delivered dissemination/marketing program to ensure a strong consumer uptake.

Is the rationale for, and objectives of, the study clearly described?

Yes

Is the study design appropriate for the research question?
Yes

Are sufficient details of the methods provided to allow replication by others?
Partly

Are the datasets clearly presented in a useable and accessible format?
Not applicable

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Clinical Education, Education methodology, cognitive readiness, paramedicine

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Reviewer Report 24 March 2021

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Catherine Darker
Department of Public Health & Primary Care, Trinity College Dublin, Dublin, Ireland

This is an exciting project and has huge potential to make a meaningful contribution to nurses and allied healthcare professionals in their tackling of COVID-19. I welcomed your process around developing the tool and the proposed evaluation processes that you are considering using. I think that the rapid evidence search and summary section will be very useful. It is terrific to see a clearly outlined logic model.

I have some queries that I would like you to consider:

1. Are there any sections of the tool that you are using to target one of the key groups that you mentioned e.g., new entrants? I would see that their needs may be somewhat different than professionals who maybe mid career and have been seconded into a COVID role.

2. Will the tool be free to access?

3. Will verification of professional status be required for access?

4. What will be the scope parameters/guidelines be that you will set in terms of the rapid review of evidence? e.g., Cochrane has guidelines around conducting a rapid review.

5. Science and evidence relating to COVID is emerging so quickly, can you tell me some more about how to intend on updating any previously published reviews?

6. In terms of the evaluation, I would like to know more about what is possible with the
backend website analytics (e.g., numbers visiting, unique engagements, returning visitors, time spent in particular sections of the tool etc).

7. You are intending on using CMO as the evaluation framework. It will be beyond the scope of the paper to have completed a review of other options, however, did you consider other frameworks or models from implementation science? e.g., RE-AIM.

8. Minor edit required - there is a typo within the 3rd para of the Intro, "As part of their remit....."

**Is the rationale for, and objectives of, the study clearly described?**
Yes

**Is the study design appropriate for the research question?**
Yes

**Are sufficient details of the methods provided to allow replication by others?**
Yes

**Are the datasets clearly presented in a useable and accessible format?**
Not applicable

*Competing Interests:* No competing interests were disclosed.

*Reviewer Expertise:* Interventions, process and outcome evaluations, health psychology, public health

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

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**Author Response 09 Apr 2021**

**Emma Carr,** University of Limerick, Limerick, Ireland

Thank you for taking the time to review our paper and for providing helpful feedback. Please find our responses to each of your comments below.

**Are there any sections of the tool that you are using to target one of the key groups that you mentioned e.g., new entrants? I would see that their needs may be somewhat different than professionals who maybe mid career and have been seconded into a COVID role.**
All users can submit individual questions and therefore support will be tailored to their specific needs

**Will the tool be free to access?**
Yes. The resource is freely available and has been shared with our research networks and is
Will verification of professional status be required for access?
Users who register to submit a question are asked about their profession. They have the following options: nursing, midwifery, physiotherapy, speech and language therapy, occupational therapy, human nutrition and dietetics, other. Users only searching the repository (not registering) do not have to provide any information on their professional status.

What will be the scope parameters/guidelines be that you will set in terms of the rapid review of evidence? e.g., Cochrane has guidelines around conducting a rapid review.
We adapted the HSE National Health Library and Knowledge Service Protocol for COVID-19 Summaries of Evidence to create a four-stage protocol for our rapid evidence search and summaries:
Stage 1: understand the question: using PICO and PEO methods the submitted is broken down
Stage 2: conduct and document the search: a hierarchy of evidence sources was created:
  - Guidance documents from governments, institutions and professional bodies
  - Clinical and COVID specific repositories
  - Reviews and RCTs and other high level evidence research e.g. TILDA
  - Other research
Stage 3: Summarise evidence
Stage 4: Disseminate summary

Science and evidence relating to COVID is emerging so quickly, can you tell me some more about how to intend on updating any previously published reviews?
We provide an individualized service by answering questions related to clinical practice and COVID-19. The questions posed by our users are those that are most pertinent to their clinical practice at that point in time, the service we provide is to produce a rapid evidence summary to address their needs at that given time. We will update completed rapid evidence searches if we are requested to do so by a user. The same protocol for producing the rapid evidence summaries will be used to update them, but only evidence generated after the original completion date will be consulted.

In terms of the evaluation, I would like to know more about what is possible with the backend website analytics (e.g., numbers visiting, unique engagements, returning visitors, time spent in particular sections of the tool etc).
Our capacity to use the backend website analytics is contingent on website users opting-in to the site's cookies settings. These settings and the associated permissions are in line UL's GDPR policy. Where users accept the website's cookies settings, we have three key areas of focus for our backend analytics:

Audience Overview report
This report provides information on users of the website and breaks down the information in the following ways:
  - Users - visitors who have initiated one session with our website or app within a
specified period of time.
- New users - users who have never been to our website, according to Google's tracking snippet.
- A session is a group of actions of one user in a given time frame. It starts when a user enters our site and it ends after a certain time of inactivity; a single session can contain multiple page views.
- Number of sessions per user: each time a user initiates a session, a session counter increments for that user.
- Pageviews is the total number of pages viewed. Repeated views of a single page are counted.
- Pages/sessions are the average number of pages viewed during a session, including repeated views of a single page.
- Bounce rate is the single-page sessions divided by all sessions or the percentage of all sessions on our site in which users viewed only a single page and triggered only a single request to the Analytics server.

**Behaviour Overview report**

This report provides information on movement around the site; it tracks some of the same information included in the Audience report, e.g. page views, average time on page and bounce rate, but also includes the following:
- Unique pageview represents the number of sessions during which that page was viewed one or more times.
- Exit is the metric referring to the number of times visitors have left a site from a single page.

**Acquisition Overview report**

This reports on where your users have ‘come’ from and how they have used the site; it includes some of the same information as the Audience report, but it also includes the following on top channels:
- Direct: Any traffic where the referrer or source is unknown
- Organic: Traffic from search engine results that are earned, not paid
- Referral: Traffic that occurs when a user finds you through a site other than a major search engine
- Social: Traffic from a social network, such as Facebook, LinkedIn, Twitter, or Instagram

**You are intending on using CMO as the evaluation framework. It will be beyond the scope of the paper to have completed a review of other options, however, did you consider other frameworks or models from implementation science? e.g., RE-AIM.**

The CMO framework provided an opportunity to make the scope of the evaluation as inclusive as possible, to make sense of the potentially wide range of usages/non-usages of the resource. For example, it was anticipated that the health professionals accessing the resource would come from a range of professional backgrounds, e.g., nursing, speech and language therapy, dietetics and human nutrition, physiotherapy, and occupational therapy; would be working in a range of different settings, e.g., acute hospitals, community and social care, primary care, or private care; and would have a variety of professional experiences, e.g., redeployed due to COVID-19, new entrant into the workforce, recently returned to work, etc. (at the time that RapidInfo4U was being developed health care students were being fast-tracked into work placements and a call had been issued to former
health care professionals to return to health care practice). Given the potential for the complicated interaction of these characteristics to influence the uptake and usage of RapidInfo4U, it was judged that the CMO framework provided the best strategic and practical approach to make sense of the potentially wide range of user experiences and outcomes, given the finite resources available. Other implementation science frameworks, such as RE-AIM, while well used to evaluate public health interventions, incorporate dimensions beyond the scope or capacity of the evaluation of RapidInfo4U, given the available resources. For example, while the evaluation of RapidInfo4U will capture some data on ‘reach’, such as absolute number accessing the resource and some limited information on characteristics of individuals who register with the site, the evaluation has little capacity to assess whether the intervention reached those who needed it most. In addition, while evaluation respondents who complete the pre- and post-questionnaire are asked if they have used the evidence provided in their practice, a comprehensive assessment of implementation and maintenance of the learning is not feasible.

Realist evaluation designs are particularly useful in circumstances where findings of ‘straight forward’ causality are not feasible/appropriate, as is the case here; health care professionals are likely to be influenced by multiple sources of information, not just RapidInfo4U. The CMO framework, therefore, presented a reasonably bounded means to collect data which also managed unknown risks regarding diversity and quantity of users.

Minor edit required - there is a typo within the 3rd para of the Intro, "As part of their remit....."
Will correct in version 2 of document

**Competing Interests:** No competing interests were disclosed.