

**TRAINING PACKAGE FOR USING SOCIAL SCIENCE IN COMMUNITY ENGAGEMENT AND/OR COMMUNICATIONS ACTIVITIES**

**SESSION 5.1:** Evidence synthesis for social and behavioural data

SESSION CONTENT

**Learning approach:** Real-time presentation, discussion, case examples

**Delivery mode:** Online and offline, 120 minutes approx.

**Summary:** This session presents ways to access relevant data and information required to undertake an evidence synthesis, and then approaches to synthesizing qualitative evidence from those different sources. It then covers a practical example of synthesizing qualitative and quantitative data in the context of a humanitarian emergency.

**Learning outcomes:**

* Be able to identify, access and assess evidence from different sources to inform strategies and decision making
* Become familiar with the steps to effectively synthesize qualitative evidence
* Understand the opportunities and challenges for synthesizing qualitative and quantitative evidence in an emergency context

FACILITATING THE SESSION



**TRAINING PACKAGE FOR USING SOCIAL SCIENCE IN COMMUNITY ENGAGEMENT AND/OR COMMUNICATIONS ACTIVITIES**

Introduction: (5 minutes total)

Talk through session summary and learning outcomes.

Position this session in the question flow.

1. How to ensure that this information goes back to communities? To inform community-level actions and decision-making of the broader response?
2. What methodology and tools should be used to collect and analyse this information?
3. How to track the information used to ensure that it effectively contributes to operational and strategic priorities?
4. Who can collect this information?
5. Does this information already exist? Is there a related needs assessment or study?
6. What information is needed?

**DATA TO ACTION:**

Key questions in social science research

1. Who needs this information?
2. How to ensure that the information is used to make operational and/or strategic decisions?

What is evidence? (15 minutes)

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|  | Question to participants (5 minutes):  How would you define evidence?  Online: Invite the participants to write the answers in the chat function and summarize  Offline: Ask two or three participants to share their thoughts |

Evidence includes all available information or ‘[bodies of evidence](https://media.nesta.org.uk/documents/Using_Research_Evidence_for_Success_-_A_Practice_Guide.pdf)’ related to a specific topic. Evidence can refer to published research articles, guidelines and policies, or unpublished sources such as internally conducted evaluations, reports or briefing documents. Formal research is only one type of evidence, but it has the advantages of greater rigour, relevance and independence when compared to some other types of evidence.

Synthesizing evidence is the process of bringing together the different information available on a topic.

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|  | Brainstorm (5 minutes):  What are the different types of evidence we might want to bring together during an emergency or humanitarian response?  Online: Invite the participants to write their answers in the chat function  Offline: Collect as many answers as possible from the room |

The methods discussed in this session can be used to bring together evidence from:

* Situation reports (SitReps)
* Cluster reports or dashboards such as the Collective Service’s [COVID-19 Behavioural Dashboard](https://www.rcce-collective.net/data/behavioural-indicators/)
* Data regularly produced by key responding agencies (UNICEF, WHO, IFRC)
* Health system data
* Articles published in journals (including research articles as well as editorials, commentaries and reviews)
* Grey literature (i.e. materials and research produced by organizations outside of traditional academic publishing) such as CDC’s [Morbidity and Mortality Weekly Report](https://www.cdc.gov/mmwr/index.html) or [ACAPS](https://www.acaps.org/countries) monitoring and analysis of humanitarian crises
* Relevant websites such as the [Social Science in Humanitarian Action Platform](https://www.socialscienceinaction.org/)
* Policies (public policies, guidelines, frameworks produced by governmental organizations)
* Media (articles published in newspapers and magazines)
* Reports (published and unpublished

What is the purpose of an evidence synthesis? (10 minutes total)

The purpose often depends on what you want to achieve from the evidence synthesis.

An important first step in the evidence synthesis is establishing a clear aim. The aim can help the review team determine the scope of the synthesis and the best approach to select and review the existing evidence. The scope of a review is normally decided through the development of questions that guide the development of the synthesis. If the evidence synthesis will be used to generate findings that can be translated into changes in policy or practice, it is good practice to involve all relevant stakeholders in the process of defining the research questions.

During a humanitarian crisis an important consideration will be how quickly you can collect the information that you need to synthesize so that it can inform response activities. Your approach should be tailored to the needs and urgency of the situation.

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|  | Case example  Redeployment and training of health care professionals to Intensive Care during COVID-19:  A systematic review  Aim  The aim of this review was to provide a detailed understanding of the characteristics of redeployment to Intensive Care Units (ICUs) and training provision during the first year of the COVID-19 pandemic. It sought to identify what worked in redeployment and training, and what are concerns going forward with redeployment planning.  Research questions guiding the review were:   * What were the main strategies developed to redeploy staff to ICU? * What were the principles of redeployment? * What were redeployed staff experiences and perceived training needs? * How were these needs addressed? * What worked for redeployment and training? |

Searching for evidence (10 minutes)

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Not all evidence is equal. Some is stronger – and more relevant to your challenge – than others. *(Breckon et al., 2016, p. 18).*

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In this section we explore how to search for evidence relevant to your synthesis.

Two prominent umbrella concepts of evidence searching are a ‘literature review’ and a ‘systematic review’. Typically, literature reviews identify evidence but without a strictly standardized search strategy or inclusion criteria. Systematic reviews use explicit, standardized methods to identify and select all studies relevant to the research questions. This should, in theory, mean the evidence synthesis can be replicated by others.

Systematic reviews have 5 core characteristics:

* A clear set of objectives with pre-established inclusion criteria for identified literature
* An explicit, reproducible methodology
* A systematic search which seeks to identify all eligible literature that matches the inclusion criteria
* A formal assessment of the quality of the included literature
* Systematic synthesis (bringing together) and presentation of the findings

Systematic reviews are usually conducted and reported in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis ([PRISMA](http://www.prisma-statement.org/)) (Moher et al., 2009).

Qualitative evidence synthesis steps (55 minutes)

These are the most common steps that are followed during an evidence synthesis process. The extent to which all of the features of these are followed during a humanitarian crisis depends on the urgency of the situation.

Step 1: Is an evidence synthesis needed?

Check whether a sufficiently recent evidence synthesis already exists which meets your needs. A large number of reviews on a range of topics already exist and there are numerous online repositories improving access to these, including [SSHAP](http://www.socialscienceinaction.org/). An up-to-date, full list of online research resources for the humanitarian sector can be found [here](http://www.evidenceaid.org/online-collections-of-research-for-the-humanitarian-sector). For formal, academic reviews see [Cochrane](http://www.cochrane.org/), [Campbell Collaborations](http://www.campbellcollaboration.org/), [Evidence Aid](http://www.evidenceaid.org/) and the [International Initiative for Impact Evaluation](http://www.3ieimpact.org/) (3ie), to name but a few.

Step 2: Developing the search strategy

Search strategies involve identifying:

1. The core concepts which represent your planned evidence synthesis – your ‘*key terms’*
2. Sub-concept search terms
3. Appropriate limits

For each key term that you have (e.g. mask-wearing) a list of sub-search terms should be developed. This involves identifying synonyms and alternative wording for the concepts (e.g. face covering).

**“**

Appropriate limits may be based on a date (e.g., since the last systematic review, after a major system change, etc.), a geographical region (e.g., low- and middle-income countries), or languages (i.e., which languages are within the scope of the researchers).

The search strategy should be trialled and revised as appropriate.

The searcher must judge the optimal balance between sensitivity (not missing relevant items)   
and specificity (only retrieving relevant items)   
for both the topic and the study type.

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*(Booth, 2016, p.12).*

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…if the number of studies is too large to work through, researchers may decide to adopt a   
strategy for limiting the number of included   
studies. Purposive and/ or theoretical sampling   
are the main choices, with papers selected for inclusion on the basis of such criteria as rich description or conceptual clarity.

**”**

(Booth, 2016, p.7).

Step 3: Searching for the evidence

During an emergency, lots of data you work with will not yet be formally published. As such, looking through recent Sitreps and response dashboards and collecting data from cluster meetings or reports will all be important. In the humanitarian context, it can be helpful to make direct contact with partners who do field activities and programming. They may have publications and grey literature that have not been widely circulated or published. Such documents can be relevant to a synthesis focused on a specific humanitarian crisis. They may include locally conducted studies, M&E reports or strategic documents.

The search strategy would include looking at important websites (e.g., response-focused sites such as SSHAP, governmental, or NGO). Some websites may have sophisticated search functions which allow you to use your *key terms*. Most likely they will not, however, and the search strategy will need to be implemented through phased searching of key words. Some websites may not have search functions, and it may be necessary to search by hand via website tabs.

Published literature is identified by looking through bibliographic databases (e.g., PubMed, Web of Science). Databases vary in their scope and topic of focus; selected databases should be appropriate to the investigation. Each database can work in a slightly different way and so it may be necessary to slightly amend the search strategy to make it appropriate for a given database.

FOR ADVANCED-LEVEL PARTICIPANTS

Most databases use Boolean ‘operators’ for *key terms* to be able to tell the database exactly what you are looking for. The core basic operators are as follows:

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| Operator | What it does |
| AND | Joins concepts together so that the database knows that both concepts need to appear in identified results – e.g. ‘social distancing’ AND ‘perception’ |
| OR | Used to join keywords so that the database knows that either or both concepts need to be in the search results – e.g. ‘social distancing’ OR ‘physical distancing’ |
| NOT | Can be used to remove studies with a given keyword which does not suit a review |
| \* | Can be used for words with alternative endings or spelling, e.g. mask\* |
| “ “ | To search for keywords with multiple words, e.g. ‘social distancing’ |

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|  | Case example  Redeployment and training of health care professionals to Intensive Care during COVID-19:  A systematic review  The search strategy consisted of key terms referring to intensive care AND training AND redeployment AND health care workers. In this rapid review, we began with these broad concepts and then refined them until we had a more specific search strategy like the one shown below. The search strategy was simplified when necessary for grey literature databases.  Example of a search strategy and how it was used across different databases  Ovid: Medline, Psychinfo, Embase, and HMIC:   1. "Intensive care" OR "acute medical units" OR "critical care" OR "critically ill" OR "critical illness" OR "intensive treatment unit" OR "intensive therapy unit" OR "high dependency unit" or ICU or ITU or HDU 2. Training OR education OR course OR prepar\* OR "clinical competence" OR "education intervention" OR "training intervention" OR Skill OR "competency-based education" OR "simulation" OR "simulation training" 3. Redeploy\* OR deploy\* OR reallocation OR reallocate 4. staff OR "Healthcare worker" OR HCW OR "healthcare professional" OR clinician OR nurse OR anaesthetist OR doctor OR trainee OR AHP OR allied health professional   Search 1 AND 2 AND 3 AND 4  Time limit Dec 2019-Dec 2020  MedRxiv  Redeploy\* AND Covid-19  Web of Science   1. "Intensive care" OR "acute medical units" OR "critical care" OR "critically ill" OR "critical illness" OR "intensive treatment unit" OR "intensive therapy unit" OR "high dependency unit" or ICU or ITU or HDU 2. Training OR education OR course OR prepar\* OR "clinical competence" OR "education intervention" OR "training intervention" OR Skill OR "competency-based education" OR "simulation" OR "simulation training" 3. Redeploy\* OR deploy\* OR reallocation OR reallocate 4. staff OR "Healthcare worker" OR HCW OR "healthcare professional" OR clinician OR nurse OR anaesthetist OR doctor OR trainee OR AHP OR allied health professional   Search 1 AND 2 AND 3 AND 4  Time limit to “last five years” |

Step 4: Identifying and selecting evidence

Having successfully searched for potentially relevant literature, evidence and/or data and stored these on a data management software, such as Zotero which is free, it is now time to identify and select those which are actually relevant to your evidence synthesis.

This involves phased searching of titles, abstracts, and full text of articles/reports or looking through the evidence or data sets. Evidence is assessed at each of these stages in accordance with pre-devised inclusion/exclusion criteria. Those sets which meet the inclusion criteria after full-text screening are those which will be included in the final evidence synthesis. This screening process is conducted by more than one researcher, or with a second researcher checking a proportion of excluded articles in rapid reviews, to ensure that the process is rigorous and does not incorporate bias. Disagreements are usually discussed until consensus is found.

The inclusion/exclusion criteria may consider

* The population group and context
* The topic of research (e.g. a disease, or particular intervention)
* The associated phenomenon being explored (e.g. attitudes, knowledge, experience, facilitators/barriers, accessibility)
* Type of qualitative data
* The outcome of the quality assessment (as discussed later)

This process can be transparently reported and represented in a PRISMA flow diagram.

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|  | Case example  *Redeployment and training of health care professionals to Intensive Care during COVID-19:  A systematic review*  Ovid: Medline, Psychinfo, Embase, and HMIC:  Studies and commentaries published in peer-reviewed journals or official reports were included in this review if they were focused on redeployment to Intensive Care Units and related wards during COVID-19. Publication date was restricted from December 2019 to 8 December 2020  (the date the search was conducted). There were no restrictions on language. Articles were excluded if the focus was on redeployment to other areas of care, other viral infection emergencies, or changes in health care activities such as shifting to remote working.  **N=20** included in review  **N=2** full text articles excluded  **N=22** full text articles assessed for egibility  **N=329** records screened *Title and abstact.*  **N=307** records excluded *did not meet initial screening criteria*.  **N=3** identified through reference searches and prelimanary review  **N=326** total after duplicates removed  **INCLUDED**  **ELIGIBILITY**  **SCREENING**  **IDENTIFICATION**  Results  Figure 1. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram of the screening and selection process conducted in this systematic review. |

Step 5: Extracting data

Extracting relevant data can be guided by a data extraction form. Although this can be developed beforehand, this data extraction form should be piloted with a handful of articles and appropriately amended. This form can be built in Excel, using a row per piece of evidence and columns per data extraction item.

Figure 2: Example data extraction form on Excel

Alternatively, software such as Qualtrics, RedCap or NVivo can be used, but this would require some experience using this type of software.

Data extracted should cover:

1. Study details such as setting, population, methodological characteristics
2. The results
3. Assessment of quality of evidence (to be discussed later)

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|  | Case example  *Redeployment and training of health care professionals to Intensive Care during COVID-19:  A systematic review*  Preliminary list of data to extract (one column per item in Excel):   * Citation details * Location of study * Data collection methods / source of data (for secondary data analysis studies) * Data analysis methods * Population: * Professional group * Sample size * Sociodemographic and socioeconomic characteristics of the sample (gender, age, educational level, income level, and ethnicity) * For research question 1: redeployment * Redeployment process * Objectives * Level at which it occurred (hospital, regional, national…) * Implementation strategies * Learnings – what worked * Redeployed staff * Training needs * Obligations * For research question 2: Training * Training programmes offered/developed * Training programme evaluations * Learnings – what worked |

Step 6: Synthesizing qualitative data

You have now collected all of the relevant evidence together, and it’s time to synthesize data into a collective evidence synthesis.

Note: Social science data can be both quantitative and qualitative. Both are independently important and even more helpful when combined. Session 4.7 on mixed methods research highlights that, individually, these approaches can answer different questions, so combining them can provide you with more in-depth findings. In general, quantitative data is better at answering questions like ‘What are the actions people might be taking in response to an emergency situation?’ and qualitative data can show how and why they are taking those actions. Mixing methods draws on the strengths of both approaches.

In this section we will cover synthesizing qualitative data. The case example at the end covers a synthesis of both qualitative and quantitative data.

There are many different approaches to synthesizing qualitative data, for example:

* Meta-ethnography
* Realist synthesis
* Narrative synthesis
* Critical interpretive synthesis
* Grounded theory synthesis
* Textual narrative synthesis
* Meta-narrative
* Ecological triangulation
* Framework synthesis
* Thematic synthesis

In this session, we go through a *thematic synthesis* as an example, as it is a more straightforward approach to qualitative analysis that may be helpful during a humanitarian crisis.

Thematic synthesis

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…a method for identifying, analysing and reporting patterns (themes) within data.

**”**

(Braun & Clarke, 2006, p.79).

**“**

In essence, this method involves identifying key concepts from studies and translating them into one another, The term ‘translating’ in this context refers to the process of taking concepts from one study and recognising the same concepts in another study, though they may not be expressed using identical words. Explanations or theories associated with these concepts are also extracted and a ‘line of argument’ may be developed, pulling corroborating concepts together and, crucially, going beyond the content of the original studies…

**”**

(Thomas & Harden, 2008, p.3).

**Stage 1:** Line-by-line ‘coding’ of the extracted data

Go through your extracted data line-by-line and apply ‘codes’ which represent the meaning of the text selected. ‘Codes’ are simply terms generated by the researcher which are then consistently applied across all the extracted data.

* For example, you are reading through extracted data in order to better understand the experiences of redeployed staff, the first few lines describe staff experiencing ‘anxiety’. Hence, you create a ‘anxiety’ code and apply this code to this segment of text.
* Tip: It is useful to generate a list of codes and a brief definition of the code as you go through the extracted data so you can remember the codes which already exist and the terminology used to guide consistent application as you progress through the data.
* Codes can be applied to just a few words, a few sentences or an entire paragraph where appropriate.
* Sometimes segments of text may represent more than one concept. In this instance, more than one code can be applied to the same segment of text.

You will start to notice how codes repeat themselves across data extracted from different evidence bases and how coding has helped you to organize the data and identify concepts which carry over from one study to another.

You will now have a number of codes, with all the data that represents each given code. How you approach the ‘data management’ element of this will depend on you. As a simple approach you may code text directly on Word using the ‘comments’ function and then manually create a list of data extracts for each code (being mindful to ensure each quote has a citation to which study it came from, etc.). At a more sophisticated level you can use software such as NVivo, but this requires experience using this method.

It is good practice to re-check your application of codes and see whether codes generated further in the process may apply to earlier data.

**Stage 2:** Organizing the devised codes into ‘descriptive themes’

From stage one you will have many codes with varying degrees of relation to each other. Now, your job is to look for relational similarities and differences between your codes and to organize the codes into ‘descriptive themes’. A descriptive theme is simply a higher-level term which captures the essence of a number of related codes. A theme may have a number of sub-themes. Themes may be named using new terminology, or use the terms used for some of the codes. In this sense, some codes may go on to develop into themes and sub-themes, and some may be discarded if there was not much support/they are not relevant.

* For example, let’s say you have codes named ‘anxiety’, ‘stress’, ‘burn-out’, ‘depression’, ‘satisfaction’, ‘pride’ and ‘purpose’ as codes
* You may choose to merge the codes ‘anxiety’, ‘stress’, ‘burn-out’ and ‘depression’ under one descriptive theme called ‘DISTRESS’
* You may merge ‘anxiety’ and ‘stress’ to represent one sub-theme titled ‘fear’, while using ‘burn-out’ and ‘depression’ as sub-themes
* Similarly, you might combine ‘satisfaction’, ‘pride’ and ‘purpose’ into on descriptive theme called ‘INTERNAL GRATIFICATION’ and so forth until you are left with a final set of themes and sub-themes
* Tip: Sometimes it can help to write codes on post-it notes and play around with clustering the codes in different ways to draft your themes and sub-themes

These themes should not overlap with each other and should be internally consistent and coherent.

* See session 4.5 on qualitative data analysis for more discussion of thematic analysis, which has many similarities to thematic synthesis.

Common pitfalls

* Failing to analyse the data, instead providing a string of quotations with no analytical narrative (i.e. ‘cherry picking’ your data)
* Using data collection questions as themes
* Too much overlap between themes, or themes which are not internally consistent or coherent

If you have not run a thematic synthesis like this before, you will need the support of someone with experience doing this.

Point participants to the following key reading:

Thomas, J., & Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC medical research methodology*, *8*(1), 1–10.

FOR ADVANCED-LEVEL PARTICIPANTS

Step 7: Assessing evidence quality

Assessing the quality of studies means looking at how rigorous the research was and what the quality of reporting was like.

Quality assessment tools have been developed for different types of evidence:

* [Mixed Methods Appraisal Tool](http://mixedmethodsappraisaltoolpublic.pbworks.com/w/file/fetch/127916259/MMAT_2018_criteria-manual_2018-08-01_ENG.pdf) (MMAT): This tools allows review teams to assess the quality of studies with a quantitative, qualitative and/or mixed-methods design using the same tool
* [Authority, Accuracy, Coverage, Objectivity, Date and Significance](https://dspace.flinders.edu.au/xmlui/bitstream/handle/2328/3326/AACODS_Checklist.pdf;jsessionid=9FC36FE60BE7F83B454CB24AA013F380?sequence=4) (AACODS): This checklist is designed to enable the critical appraisal of grey literature
* [Critical Appraisal Skills Programme](https://casp-uk.net/casp-tools-checklists/) (CASP) has eight critical appraisal tools for research developed using different types of study designs
* More traditional ‘[risk of bias tools’](https://handbook-5-1.cochrane.org/chapter_21/21_4_assessment_of_study_quality_and_risk_of_bias.htm) for quantitative data
* [GRADE](https://www.gradeworkinggroup.org/): an approach to grade the quality or certainty of evidence and strength of recommendations

Some reviews use quality assessment tools as inclusion criteria, only including evidence that meets high standards. However, most of the evidence syntheses that seek to generate findings to inform decision-making processes will tend to include all of the relevant evidence and apply quality assessment tools to give the evidence synthesis a general sense of the quality of the available evidence.

If you have not conducted a quality review before you will need the support of someone with experience doing this.

Step 8: Assessing evidence quality

Checklists such as [PRISMA](http://www.prisma-statement.org/) have been developed to provide guidance on how review methods and findings should be reported (see Box 1 for a list of areas to include). However, often dissemination of the findings of the evidence synthesis will depend on the needs and preferences of users.

**BOX 1:** Main dimensions included in reporting standards for systematic reviews?



Introduction

* Rationale
* Objectives

Methods

* Eligibility criteria (inclusion/exclusion criteria)
* Information sources (databases, websites, registers, etc.)
* Search strategy
* Selection process
* Data extraction
* Quality assessment
* Synthesis methods

Results

* Selected sources selection
* Characteristics of the included evidence
* Results of the quality assessment
* Synthesis of the main findings

Discussion

* Interpretation of the results in relation to other evidence
* Limitations of the evidence included in the review
* Limitations of the review
* Implications of the findings for practice, policy, future research, etc.

Users interested in using the evidence to inform rapid decision-making processes will often prefer brief summaries of findings, highlighting the most important aspects of the existing evidence as well as evidence gaps. They also tend to prefer brief reports or visual representation of the evidence, over longer reports or manuscripts.

See Session 5.3 for deeper discussion on communicating and presenting evidence to different audiences.

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|  | Case example  *Redeployment and training of health care professionals to Intensive Care during COVID-19:  A systematic review*  The team presented the evidence review findings to users in three main formats: a one-page infographic with the key findings and evidence gaps (see Figure 3), a set of slides with more detailed information about the content and a manuscript submitted for publication (published first in the form of a [preprint](https://www.medrxiv.org/content/10.1101/2021.01.21.21250230v2.full.pdf) for quick dissemination). These formats were discussed with the users before the evidence synthesis began and the review team tailored the analysis to be able to develop these dissemination materials.  Figure 3. Infographic summarizing the key findings in the review on redeployment during COVID-19 |

Evidence synthesis, but rapid! (20 minutes total)

As mentioned earlier, during a humanitarian emergency you may not have the time or resources to conduct a full systematic review, especially when decisions need to be made quickly.

Some of the adaptations that can be made to save time include:

* Limiting the number of questions, interventions, or outcomes considered (Langlois et al., 2018)
* Limiting the type of questions (e.g. efficacy only, practice only rather than knowledge, attitudes and practices) (Hartling et al., 2015)
* Conducting tasks in parallel/at the same time (e.g., screening, data extraction, risk of bias assessments) (Langlois et al., 2018)
* Limiting the literature search dates, focusing on more recent research (Langlois et al., 2018)
* Language limits (Langlois et al., 2018)
* Reducing the number of databases searched (Langlois et al., 2018)
* Using one reviewer for study selection, risk of bias assessment, or data extraction (Langlois et al., 2018)
* Can use one reviewer but check 25% of work using a second reviewer (Tricco et al., 2017)

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|  | Case example  See [Handout 1](../Handout/Module5.1_Handout_1.pdf): ‘COVID-19 vaccine perceptions in Africa: Social and behavioural science data, March 2020-March 2021’ for an example of a rapid evidence synthesis that involved both quantitative and qualitative evidence. Participants can read through the synthesis after the session. |

Practitioner’s account of developing the evidence synthesis:

The project responded to a request by colleagues from the global RCCE Collective Service partnership (WHO, UNICEF and IFRC) working to ensure acceptance of the COVID-19 vaccination. A gap in knowledge had been identified around how populations in Africa were perceiving and responding to COVID-19 vaccine plans and vaccine clinical trials. The request was to conduct a rapid data synthesis brief of social and behavioural data (qualitative and quantitative) collected by humanitarian, public health and academic research groups working on COVID-19 vaccine perceptions in the African continent. The synthesis was designed so that the evidence would inform a set of operational considerations for partners working on RCCE relating to COVID-19 vaccinations.

At the outset, the broad questions were: What social and behavioural data currently exist around vaccine perceptions in the African continent, and what are the key patterns or trends in this data that could inform COVID-19 response programming? The specific geographical scope of the synthesis (e.g. East Africa, versus West Africa) was to depend on the available data, so this was not fixed until a later stage of the process.

Resources were limited in terms of a short turnaround time (within 12 weeks), and limited personnel, with a research team of 3 part-time staff.

Step 1. Identify organizations and researchers collecting data on COVID-19 vaccine perceptions (including clinical trials) and mapping out the different types of data available. The mapping identified multiple types of relevant data, such as community feedback data, media monitoring data, opinion polls, KAP surveys and qualitative studies (see Module 4 for an overview of different quantitative and qualitative data collection methods). At this stage, there were no exclusion criteria for the forms of data, so the team requested and reviewed diverse data sets, including PowerPoint presentations, full reports, short summaries of collected data, Excel files of raw data, etc. The area of enquiry was very recent given that COVID-19 vaccines had only been developed within a year of the synthesis being conducted. This meant that there were limited studies published in peer-reviewed journals. Getting data directly from the partners was therefore a vital strategy in the identification and searching process. The process also took in the context of a rapidly changing and evolving scenario – as vaccine perceptions do change and evolve, especially as new developments emerge in production, trials, and distribution. Limiting the data to academic and published literature would lead to the prioritization of out-of-date data, but dependence on non-peer reviewed evidence had a trade-off in terms of quality assurance of the data.

Step 2. Conventional literature search. A rapid search was also conducted for academic research. Due to the limited time available for the synthesis, the research team limited the search to PubMed and Google Scholar for COVID-19 vaccine perception studies in Africa. Papers either had to have "vaccine" in the title or directly mention this word in the abstract. A number of different search terms were used, including ‘KAP’, ‘perceptions’, ‘vaccines’, ‘COVID-19’, ‘coronavirus’, etc. Specific countries were also added as search terms. This allowed for a targeted search that suited the limited time and resources of the synthesis process. All of the studies were filed in a referencing software called [Zotero](https://www.zotero.org/).

The synthesis included data from very large data sets and dashboards (e.g. Johns Hopkins University KAP-Dashboard, including 11 countries, N=44,784) and smaller single-country studies (e.g. a cross-sectional online survey in Nigeria, n=256 health care workers, by Charles et al., 2020).

Step 3: Analysis and synthesis. The data coding and extraction happened simultaneously as an inductive process. Each main data set was allocated an identification number. First, the team extracted the data points related to vaccines from each of the data sources into a separate document. Following this, the research team started collating the different sections by themes that were generated from the data, and merging them into a different document. These themes would create the basic outline of the report. During this phase the geographical scope of the synthesis was decided, which included all countries from sub-Saharan Africa, as these had the most robust data. Studies from Northern Africa, and out-of-date (older) studies were excluded. It was also observed that perception data about vaccines started to emerge in March 2020, so this became the starting date.

The team started analysing and writing the main sections of the report. In order to frame the data in broader public conversations occurring about COVID-19 vaccination, a purposive media search was conducted based on the main themes emerging and global conversations happening, which was triangulated with the synthesis data and added into the final report.

Several feedback rounds with key partners were possible to check the direction the rapid review was taking and validate the approach. This included colleagues reviewing the analysis and conclusions, suggesting additional insights and giving feedback that could directly inform relevant policy recommendations.

One of the main challenges faced was the comparison between the studies as they used different data collection methods, sample size, in different countries, and the quality of the data also varied. To address this,the research team took notes about methodological aspects of the data sets on the side of the analysis,

including:

* What is the data telling us?
* What is the quality of the methodology?
* Other reflections?
* What are some gaps in the data, including underrepresented populations, unreported cases, etc.

This helped to take nuanced conclusions and acknowledge the methodological differences and challenges. Considerations regarding the data were included in the report in a section titled ‘operational and methodological considerations’. This section of the report concluded that to maximise the usefulness of perceptions data syntheses for RCCE programming, it is important to agree on: 1) some core indicators and 2) principles for data-collection against those indicators, to facilitate a level of standardisation.

In comparison to the full process described earlier, this example of a rapid review shows a synthesis process that was more purposive and designed to be applied for an identified need and using recent data.

|  |  |
| --- | --- |
|  | Question to participants (5 minutes):  Possible answers – The rapid synthesis of evidence:   * Placed less emphasis on academic search * Accessed data sets direct from organisations producing it * Did not predetermine the scope of the review at outset * Established exclusion criteria during the process * Did not include a formal quality review * Included input and validation from partners external to the research team, especially when sharing recommendations   Ask for any other questions or reflections |

Wrap-up/summary (5 minutes)

* The 8 steps of a qualitative evidence synthesis include:
* Deciding whether the evidence synthesis is needed
* Developing the search strategy
* Implementing the search strategy
* Identifying and selecting evidence
* Extracting data
* Synthesizing data
* Assessing the quality of evidence
* Displaying and disseminating the findings of the synthesis
* Adaptations for syntheses in a resource restricted, emergency setting might include:
* Limiting the number and type of questions
* Conducting steps in parallel
* Focusing on only very recent research
* Limiting the language
* Reducing the number of academic databases searched
* Other practical adaptations might include:
* Accessing data sets directly from organizations producing it, for the latest evidence
* Allowing the scope of the review to develop during the search
* No formal quality review
* Input and validation from partners external to the research team, especially when sharing recommendations

ADDITIONAL RESOURCES FOR EVIDENCE SYNTHESIS

* Breckon et al. (2016). Using research evidence: a practical guide.
* Hartling, L., Guise, J. M., Kato, E., Anderson, J., Belinson, S., Berliner, E., ... & Whitlock, E. (2015). A taxonomy of rapid reviews links report types and methods to specific decision-making contexts. Journal of clinical epidemiology, 68(12), 1451–1462.
* Langlois, E. V., Straus, S. E., Antony, J., King, V. J., & Tricco, A. C. (2019). Using rapid reviews to strengthen health policy and systems and progress towards universal health coverage. BMJ global health, 4(1), e001178.
* Schünemann, H. J., & Moja, L. (2015). Reviews: rapid! rapid! rapid!… and systematic. Systematic Reviews, 4(1), 1–3.
* Thomas, J., & Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. BMC medical research methodology, 8(1), 1–10.
* Tricco, A. C., Langlois, E., Straus, S. E., & World Health Organization (2017). Rapid reviews to strengthen health policy and systems: a practical guide. World Health Organization.

ADDITIONAL REFERENCES

* Booth, A. (2016). Searching for qualitative research for inclusion in systematic reviews: a structured methodological review. Systematic Reviews, 5, 74.
* Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative research in psychology, 3(2), 77–101.
* Charles, A., Aduragbemi, B.-T., Mobolanle, B., Chigozie, M. C., & Bukola, A. B. (2020). Reproductive Maternal and Newborn Health providers assessment of facility preparedness and its Determinants during the COVID-19 pandemic in Lagos, Nigeria [Preprint].
* Johns Hopkins Center for Communication. (2020). [*KAP COVID Global View*](https://ccp.jhu.edu/kap-covid/kap-covid-global-view-2/).
* Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009) The Preferred Reporting Items for Systematic Reviews and Meta-Analyses Group. Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. Journal of Clinical Epidemiology, 62, 1006–1012.

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