Public Health England

Protecting and improving the nation's health

Finding the Evidence for Global and Disaster Health

Created by Public Health England for the IFLA Evidence for Global and Disaster Health Special Interest Group.

Contents

Introduction

In times of crisis, humanitarian workers need timely evidence which suits the local context within which they work. This guide contains a range of information sources to support evidence-based global and disaster health, highlighting specific resources which have been tailored to meet the needs of relief workers, delivering support in the field. This guide is available electronically at http://bit.ly/E4GDHLeaflet.

Suggestions for additional resources are welcome and will be considered for future updates. Please send these to E4GDHteam@gmail.com.

Resources for librarians

- **Disaster information for librarians**
  The purpose of this entry is to present background information on disaster management and information sources for librarians working with the disaster workforce. This is no longer updated, but it is still useful.
  https://web.archive.org/web/20170606101724/http://hlwiki.slais.ubc.ca/index.php/Disaster_Information_For_Librarians

Guidelines

- **Medbox: The aid library**
  This is an open source library for health-related work, humanitarian action and development assistance. It contains key information on ebola, natural hazards, conflict, zika, tuberculosis, cholera, leprosy, polio, rapid response, refugee, disability, and specific hazards.
  https://www.medbox.org

- **Emergency surgical care in disaster situations**
  These guidelines have been extracted from the WHO manual Surgical Care at the District Hospital (SCDH), which is a part of the WHO Integrated Management on Emergency and Essential Surgical Care (IMEESC) tool kit.
  www.who.int/surgery/publications/s16368e.pdf

Systematic reviews

- **Evidence Aid**
  Evidence Aid, along with partners (including the International Rescue Committee (USA) and Cochrane), has assessed published systematic reviews. Those identified as being of relevance to natural disasters, humanitarian crises or major healthcare emergencies, that include health outcomes, are included within the four categories and include a summary of the review before it links to the full article. Most summaries are also available in Spanish and French.
  http://www.evidenceaid.org/resources/

- **NLM Disaster Lit ® - Database for Disaster Medicine and Public Health**
  This resource improves access to disaster health information, including systematic reviews related to natural and man-made disasters, and infectious diseases.
  https://disasterinfo.nlm.nih.gov/

- **PubMed Clinical Queries**
  PubMed Clinical Queries. The PubMed Clinical Queries Page is designed to filter one search by three clinical research areas: Clinical Study Categories, Systematic Reviews, and Medical Genetics.
  www.ncbi.nlm.nih.gov/pubmed/clinical

- **3ie International Initiative for Impact Evaluation - systematic reviews**
  This database covers systematic reviews of the effectiveness of social and economic interventions in low- and middle- income countries. It contains almost 303 summaries of systematic reviews drawn from a range of sources and sectors.
  https://www.3ieimpact.org/evidence-hub/systematic-review-repository

Evidence briefings and gap maps

- **3ie International Initiative for Impact Evaluation - evidence gap maps**
  3ie produce briefs which summarise evidence from 3ie-supported impact evaluations, systematic reviews, replications and evidence gap maps. They also include summaries of our research programmes, lessons from grant making and instances of uptake and use of evidence.
  https://www.3ieimpact.org/evidence-hub/evidence-gap-maps

- **Humanitarian Evaluation, Learning and Performance (HELP)**
  ALNAP is a global network of NGOs, UN agencies, members of the Red Cross/Crescent Movement, donors, academics and consultants dedicated to learning how to improve response to humanitarian crises. They host the largest library of evaluations of humanitarian action.
  www.alnap.org/help-library

Databases

- **Campbell Collaboration**
  This database contains systematic reviews on the effects of interventions in crime and justice, education, international development, and social welfare.
  https://campbellcollaboration.org/better-evidence

- **Cochrane**
  The Cochrane Library is a collection of six databases that contain different types of high-quality, independent evidence to inform healthcare decision-making.
  http://www.cochranelibrary.com/

- **Disaster Health Information Search Guide**
  The Disaster Information Management Research Center has produced a guide to searching for disaster-related evidence. It includes a list of relevant databases and indexes, and effective MeSH terms
  https://disasterinfo.nlm.nih.gov/search-guide

- **Epistemonikos**
  This is a collaborative, multilingual database of health evidence, and contains the largest source of systematic reviews relevant for health-decision making, and a large source of other types of scientific evidence.
  https://www.epistemonikos.org/

- **EPPI-Centre**
  The Evidence for Policy and Practice Information and Co-ordinating Centre resource contains systematic reviews of research evidence on health promotion, public health, social welfare, and international development.
  https://eppi.ioe.ac.uk/cms/Default.aspx?tabid=185

- **Global Index Medicus**
  This resource contains medical and health documentation from countries, less developed, outside the major industrialized areas.
  https://www.globalindexmedicus.net/

- **PubMed**
  Medline and PubMed have the same content, just different interfaces, and are made up of more than 22 million citations from biomedical literature, journals, and online books.
  https://www.ncbi.nlm.nih.gov/pubmed/

Grey literature

- **EM-DAT: The International Disaster Database**
  This resource provides information on the human impact of disasters - such as the number of people killed, injured or affected, along with disaster-related economic damage estimates and disaster-specific international aid contributions.
  http://www.emdat.be/publications

- **Emergency Nutrition Network**
  The purpose of the Emergency Nutrition Network (ENN) is to strengthen the evidence and know-how for effective nutrition interventions in countries prone to crisis and high levels of malnutrition.
  https://www.ennonline.net/

- **Environment, Conflict and Cooperation (ECC) Platform Library**
  This resource contains documents on topics, including climate change, environment and migration, early warning and risk analysis, and conflict transformation.
  https://library.ecc-platform.org/

- **Health Evidence Network (HEN)**
  HEN The Health Evidence Network has been developed by the World Health Organization, and provides a synthesis of the best available evidence in the field of public health, including a summary of the main findings and policy options.
  http://www.euro.who.int/en/data-and-evidence/evidence-informed-policy-making/publications/evidence-reports/evidence-reports

- **NICE Evidence Search**
  Evidence search provides access to selected and authoritative evidence on health, drugs and technologies, public health, social care, and healthcare management and commissioning in one place.
  https://www.evidence.nhs.uk/

- **Oxfam GB Guidelines and toolkits**
  Oxfam publishes a range of resources including guidelines, manuals and training packs that provide advice and tools for practical application and adaptation. These cover many different thematic areas including, gender justice, livelihoods, private sector engagement,

climate change, resilience, humanitarian response, water and sanitation, governance and fragile contexts.
https://policy-practice.oxfam.org.uk/our-approach/toolkits-and-guidelines

- **Prevention Web**
  PreventionWeb is a collaborative knowledge sharing platform on disaster risk reduction (DRR), managed by the UN Office for Disaster Risk Reduction (UNDRR). It contains a range of knowledge products and services to facilitate the work of DRR professionals.
  https://www.preventionweb.net/english/

- **ReBUILD Consortium**
  The ReBUILD Consortium is an international research partnership funded by the UK Department for International Development which has been working since 2011 to support improved access of the poor to effective health care and reduced health costs burdens, through the production and uptake of a coherent body of high quality, policy-relevant new research on health systems financing, human resources for health, and aid-architecture in post-conflict countries.
  https://rebuildconsortium.com/

- **Relief Web**
  This is a leading humanitarian information source on global crises and disasters. It is a specialized digital service of the UN Office for the Coordination of Humanitarian Affairs (OCHA). They provide reliable and timely information, including the latest reports, maps and infographics from trusted sources, enabling humanitarian workers to make informed decisions and to plan effective response.
  https://reliefweb.int/

- **Resilience Library – South East Asia Resources**
  The International Federation of Red Cross and Red Crescent Societies has collated information on the following topics: climate change, communication and advocacy, disaster law, disaster risk reduction, gender and diversity, health, migration, national society development, and youth and volunteering.
  http://www.rcrc-resilience-southeastasia.org/

- **Save the Children's Resource Centre**
  This resource centre is a comprehensive source of information on child protection, child rights governance, health and nutrition, education, and child poverty.
  https://resourcecentre.savethechildren.net/

- **TRIP Database**
  The TRIP Database searches a range of health information sources to inform clinical and non-clinical decision-making. There is a useful PICO option so that you can just put in the relevant search terms, and results are delivered with the highest level of evidence first.
  https://www.tripdatabase.com/

- **United Nations Office for Disaster Risk Reduction (UNDRR)**
  The UNDRR website (formerly UNISDR) reflects the activities of major stakeholders involved in disaster risk reduction for natural, environmental and technological hazards.
  https://www.undrr.org/

- **The UN Refugee Agency**
  This agency collects stories describing interventions that have made a difference to refugees.
  http://www.unhcr.org/uk/stories.html

- **USAID Development Experience eClearinghouse**
  This resource contains 50 years of US international aid records and evaluations.
  https://dec.usaid.gov/dec/home/Default.aspx

Journals

- **Hinari programme**
  The Hinari Programme was set up by WHO together with major publishers. It enables low- and middle- income countries to gain access to one of the world's largest collections of biomedical and health literature.
  http://www.who.int/hinari/en/

- **Disaster medicine and disaster preparedness journals in PubMed**
  The Disaster Information Management Research Centre, has compiled a list of disaster-related journals.
  https://disasterinfo.nlm.nih.gov/search-guide#Disaster_Medicine_and_Disaster_Preparedness_Journals_in_PubMed

Statistics

- **Centers for Disease Control and Prevention**
  This site contains training, tools and resources to help teams prepare for and respond to emergencies. It also gives details of recent outbreaks and incidents, so that clinicians can stay better informed about public health emergencies.
  https://emergency.cdc.gov/

- **Humanitarian Response**
  This organisation provides maps, infographics, and situation reports, and supports efficient, effective, and coordinated humanitarian response through the sharing of operational information.
  https://www.humanitarianresponse.info/

- **ProMED International Society for Infectious Diseases**
  ProMED - the Program for Monitoring Emerging Diseases - is an Internet-based reporting system dedicated to rapid global dissemination of information on outbreaks of infectious diseases and acute exposures to toxins that affect human health, including those in animals and in plants grown for food or animal feed.
  https://www.promedmail.org/

- **Prevention Web**
  Data and statistics are important in understanding the impacts and costs of disasters. Systematic disaster data collection and analysis can be used to inform policy decisions to help reduce disaster risks and build resilience. UNDRR collects and disseminates the latest disaster statistics.
  https://www.preventionweb.net/knowledgebase/disaster-statistics

- **World Health Organization statistics**
  This site lets you search for global health and mortality statistics.
  https://www.who.int/healthinfo/statistics/en/

- **World Health Organization disease outbreaks**
  This site lets you search for news of disease outbreaks, by country or by disease, and publishes a weekly epidemiological record.
  https://www.who.int/emergencies/diseases/en/

Critical appraisal

- **Learning Resources Database**
  This resource contains more than 500 resources to help people to learn and teach these skills so that people can learn critical thinking skills to assess treatment claims.
  https://teachingebhc.org

- **Informed Health Choices project**
  This has been developed to help consumers understand the issues with information about treatment effects, so that they can make better choices.
  http://www.informedhealthchoices.org

- **Understanding Health Research: A tool for making sense of health studies**
  This tool will guide people through a series of questions to help them to review and interpret a published health research paper.
  https://www.understandinghealthresearch.org/

Bibliographies

- **Bibliography: Librarians and libraries respond to disasters: Bibliography on library roles in disaster preparedness, response, and recovery**
  National Library of Medicine Disaster Information Management Research Center
  First published: 14/08/08
  https://disasterinfo.nlm.nih.gov/dimrc/bibliographydisaster.html

- **Emergency Preparedness Resilience & Response Current Awareness Update**
  A current awareness update service from England's North West Ambulance Library and Knowledge Service on Emergency Preparedness Resilience & Response [EPRR].
  https://ambulance.libguides.com/currentawareness/eprr

Networks and forums

- **CHAIN** - Contact, Help, Advice and Information Network
  This is an online mutual support network for people working in health and social care. It gives people a simple and informal way of contacting each other to exchange ideas and share knowledge.
  https://www.chain-network.org.uk/chain/index.html

- **DISASTR-OUTREACH-LIB Discussion Listserv**
  This is a discussion list where topics related to library services and disaster preparedness can be discussed, and experiences shared.
  https://disasterinfo.nlm.nih.gov/stay-connected

- **Facebook:**
  - ➢ Libraries Step Up (in times of crisis)
    https://www.facebook.com/groups/libcrisis/
  - ➢ Trauma Informed Services in the Library
    https://www.facebook.com/groups/1775447376011577/
  - ➢ Libraries and the Opioid Crisis
    https://www.facebook.com/groups/librariesopioidcrisis/
  - ➢ National Emergency Management Resource Center (NEMRC)
    https://www.facebook.com/groups/NEMRC/
  - ➢ Emergency Manager's Weekly Report
    https://www.facebook.com/emweeklyreport/

- **Healthcare Information for All (HIFA)**
  The HIFA Vision: A world where every person will have access to the healthcare information they need to protect their own health and the health of others. The HIFA Forum has 18,500 members from different sectors working to support humanitarian efforts and improve access to healthcare information.
  http://www.hifa.org/

- **LinkedIn:**
  - ➢ Disaster Risk Reduction for Health
    https://www.linkedin.com/groups/3876618
  - ➢ Emergency Managers Global Forum
    https://www.linkedin.com/groups/44228
  - ➢ Disaster Relief & Assistance Coordination Network
    https://www.linkedin.com/groups/2055124
  - ➢ Public Health Emergency Management
    https://www.linkedin.com/groups/3445446
  - ➢ Global Public Health - Emergencies and Disasters
    https://www.linkedin.com/groups/2060408

Training resources

- **OpenWHO – World Health Organization e-learning platform**
  This is an interactive, web-based, knowledge-transfer platform offering online courses to improve the response to health emergencies.
  https://openwho.org/

- **Training programme on information roles in disaster management**
  The National Library of Medicine Disaster Information Management Research Center is very interested in the roles librarians play in disaster preparedness and response. They

have developed a training program that includes a course on Information Roles in Disaster Management
https://disasterinfo.nlm.nih.gov/dimrc/trainingresources.html

Sendai Framework

The Sendai Framework aims to make sure that everyone is ready when hazards strike, so that responses are more effective and better organised. "*The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries.*" Libraries have a major role as repositories and disseminators of health information, and provide a secondary emergency service to communities.
https://www.undrr.org/implementing-sf

- **Disaster Risk Response – A IFLA brief on libraries and the Sendai Framework**
  IFLA has prepared this briefing summarizing the framework and describing how libraries can support this agenda.
  https://www.ifla.org/files/assets/hq/documents/cultural_heritage_brief_on_drr.pdf

- **Sendai Framework for Disaster Risk Reduction: for children**
  This guide offers a child-friendly version of the Sendai Framework. It was developed in consultation with children by the Children in a Changing Climate coalition (ChildFund Alliance, Plan International, Save the Children, UNICEF, and World Vision). The document supports processes of child-friendly accountability by making the Sendai Framework accessible to children, especially those aged 10 to 14.
  https://www.preventionweb.net/educational/view/46959

Blog posts, newspaper articles, reports, and books

- **The role of libraries in times of crisis**
  CILIP: The Library and Information Association
  Posted 13/10/15
  This post is part of a series of blogs we are publishing about the role of libraries in times of crisis.
  https://www.cilip.org.uk/news/482443/The-role-of-libraries-in-times-of-crisis.htm

- **Welcoming refugees to the UK (and to libraries)**
  J Vincent
  CILIP: The Library and Information Association
  Posted 30/09/15
  https://archive.cilip.org.uk/blog/welcoming-refugees-uk-libraries

- **5 ways libraries support disaster relief and recovery**
  G Mies
  TechSoup Blog for Libraries
  Submitted 27/08/15
  http://forums.techsoup.org/cs/community/b/tsblog/archive/2015/08/25/5-ways-libraries-support-disaster-relief-and-recovery.aspx
  This post originally appeared on the TechSoup blog as part of our reflection on the 10

year anniversary of Hurricane Katrina. Has your library helped in times of disaster? Tell us about how you supported your community in the comments.

- **The importance of libraries in times of crisis**
  IN Weir
  Women Write About Comics
  Posted 25/11/14
  http://womenwriteaboutcomics.com/2014/11/25/the-importance-of-libraries-in-times-of-crisis/

- **Special services in special times: Responding to changed information needs during and after community-based disasters**
  L Zach, M McKnight
  Public Libraries Online
  March/April 2010, May 2013
  http://publiclibrariesonline.org/2013/05/special-services-in-special-times-responding-to-changed-information-needs-during-and-after-community-based-disasters/

- **Report collection provides targeted resources for all stakeholders in a disaster response**
  Recent events have proven that even prepared communities can be overwhelmed in a state of state of emergency. This collection of reports provides guidelines and targeted resources for all stakeholders in a disaster response, including state and local governments, emergency medical services and health care centers. These reports also examine the improvement of emergency services in rural communities and recommends post-disaster public engagement practices.
  https://www.nap.edu/collection/35/emergency-preparedness-disaster-management

- **Share Fairs: Effects of knowledge management techniques on learning and sharing in East Africa: Research brief**
  USAID, K4Health
  October 2017
  Overall, the Share Fair brought together participants to share and learn KM techniques and to participate in growing a network of KM practitioners who work at the intersection of global health and KM.
  https://www.kmtraining.org/resources/share-fairs-effects-knowledge-management-techniques-learning-and-sharing-east-africa

- **Development and access to information (DA2I)**
  IFLA 2017
  The International Federation of Library Associations and Institutions has recently published this report which contains a chapter on how access to information drives better health.
  Full report: https://da2i.ifla.org/

  DA2I for better health: How access to information can help ensure healthy lives and promote well-being
  Chapter 4, by Simon Chaplin, of the Wellcome Trust, appears in Development and Access to Information 2017, written by Fackson Banda, Dave Banisar, Fiona Bradley et al, and published by the International Federation of Library Associations and Institutions (IFLA) and the Technology and Social Change Group (TASCHA), at the University of

Washington, in July 2017.
https://da2i.ifla.org/wp-content/uploads/da2i-2017-chapter4.pdf

- **Here, there and everywhere: Disasters and public libraries**
  MG Flaherty
  IFLA 2016
  Abstract: In communities throughout the world, public libraries are familiar anchor institutions. Besides offering equal access to wide varieties of resources, services and programs, libraries provide safe spaces, and serve as havens, an oasis of calm for anyone who arrives at their doors. In all types of settings, library staff are becoming more involved in disaster planning and disaster management. This is particularly apparent in the public library arena, where even the facility itself may become an important component of disaster response and relief activities. From natural disasters like earthquakes, tornadoes, fires, floods and hurricanes to those that are human-made, including civil and social unrest, public libraries are often at the forefront in terms of providing support and some semblance of stability to communities. This support can take many forms, such as providing a central community hub, with information and telecommunications access or temporary shelter and/or school classrooms, meeting space for first responders and relief efforts, and as a dispensary for all sorts of supplies. Perhaps most importantly, public libraries are in a position to provide a beacon of hope for normalcy during troubled times.
  http://library.ifla.org/1375/1/103-flaherty-en.pdf

- **Enhancing access to current literature by health workers in rural Uganda and community health problem solving**
  MGN Musoke
  IFLA 2014
  Abstract: An outreach activity, which originally targeted health professionals and student nurses in rural Uganda, was extended to the community with a focus on addressing the most prevalent diseases/health problems reported by the Health Management Information System (HMIS) of the Uganda Ministry of Health. The activity was conducted in nine districts in three years (2010-2012/13) by a team of two medical doctors, one nurse and three health information professionals including an IT person. The team implemented a project that was supported by the Elsevier Foundation as part of its competitive 'Innovative Libraries in developing countries' grant. For each district, a pre-visit was made before the main visit. The pre-visit enabled the team to meet the district health authorities, the administration of the host health unit, plan for the main visit and sort out the various issues, such as venue requirements (including mobile internet service providers). The outreach included a hands-on literature search session by participants, accessing the Internet using a mobile modem, R4L registration and a question-answer session facilitated by the medical team, which was so popular. Outreach sessions concluded by filling an evaluation form by all participants. Members of the community who were not able to read English were assisted by the facilitators to translate the questions. The evaluation comments assisted the team in improving the subsequent sessions. One of the repeated comments was the request to the team to conduct such sessions to benefit more people. Consequently, at the end of each session, the team requested the participants from both the Community and health workers to conduct similar sessions to benefit those who did not attend. Training materials used and both hard and soft copies of the presentations were left with the Head of the host health unit to use in future training sessions. In addition, the training was summarised in a periodical

Digest that was distributed to over 1,500 health units in Uganda. The Digest also included abstracts from literature searches of international databases on the topical diseases/health problem. Results of the final project evaluation are summarised and the sustainability of the project outlined. This article, therefore, reports the successful implementation of the project, which other low income countries can learn from.
http://library.ifla.org/868/1/088-musoke-en.pdf

- **Guide to monitoring and evaluating knowledge management in global health programs**
  S Ohkubo, TM Sullivan, SV Harlan, BK Timmons, M Strachan
  United States Agency International Development
  November 2013
  The Guide to Monitoring and Evaluating Knowledge Management in Global Health Programs introduces standardized practices to evaluate whether KM projects, activities, and tools are effective at supporting global health and development efforts. The Guide describes the cycle of knowledge assessment, capture, generation, synthesis, and sharing, as well as how to evaluate a range of KM products, services, and tools. It offers a list of 42 indicators that program managers and evaluators can use to track the progress of their own KM activities, and instruments to measure the contribution of KM activities to health policy and program outputs and outcomes. The Guide also discusses why monitoring and evaluation of KM approaches and activities is important and provides a series of recommended techniques and tools.
  https://www.globalhealthknowledge.org/sites/default/files/km-monitoring-and-eval-guide_0_0.pdf

- **Informed and healthy: theoretical and applied perspectives on the value of information to health care**
  MGN Musoke
  2016
  Informed and Healthy: Theoretical and Applied Perspectives on the Value of Information to Health Care focuses on two major issues: the value attributed to information by users and its effect on health care; and, a new model of information behavior in which the value of information drives various information activities (unlike many information models which tend to give prominence to information needs).
  https://www.elsevier.com/books/informed-and-healthy/musoke/978-0-12-804290-8

- **Crisis Information Management: Communication and Technologies**
  C Hagar
  November 2011
  This book explores the management of information in crises, particularly the interconnectedness of information, people, and technologies during crises. Natural disasters, such as the Haiti earthquake and Hurricane Katrina, and 9/11 and human-made crises, such as the recent political disruption in North Africa and the Middle East, have demonstrated that there is a great need to understand how individuals, government, and non-government agencies create, access, organize, communicate, and disseminate information within communities during crisis situations.
  https://www.elsevier.com/books/crisis-information-management/hagar/978-1-84334-647-0

- **The Sphere Handbook**
  This resource has been published by the Sphere movement, which was started in 1997

by a group of humanitarian professionals aiming to improve the quality of humanitarian work during disaster response. The handbook comprises the Humanitarian Charter, the Protection Principles, the Core Humanitarian Standard, and minimum humanitarian standards in four vital areas of response - water supply, sanitation and hygiene promotion (WASH), food security and nutrition, shelter and settlement, and health. It is one of the most widely known and internationally recognized tools for the delivery of the quality humanitarian response. National and international NGOs, United Nations agencies, and governmental authorities across the globe make use of its guidance when planning, delivering and evaluating humanitarian operations.
http://www.spherestandards.org/handbook/editions/

Further reading

- **Principles of evidence-based medicine**
  AK Akobeng
  Archives of Disease in Childhood, 2005, 90(8): 837-40
  This paper explains the concept of EBM and introduces the five step EBM model: formulation of answerable clinical questions; searching for evidence; critical appraisal; applicability of evidence; evaluation of performance. Subsequent articles will focus on the principles and critical appraisal of randomised controlled trials, systematic reviews, and meta-analyses, and provide a practical demonstration of the five step EBM model using a real life clinical scenario.
  https://adc.bmj.com/content/archdischild/90/8/837.full.pdf

- **Using research evidence: A practice guide**
  Nesta, Alliance for Useful Evidence
  January 2016
  This guide aims to help policy-makers apply the evidence to their decision-making.
  https://www.alliance4usefulevidence.org/assets/Using-Research-Evidence-for-Success-A-Practice-Guide-v6-web.pdf

Tips for effective searching

1. Breakdown the essay question and identify the key concepts. For example:

   *What is the evidence of **communicable disease** and **infection control** in **areas of conflict**?*

   Three or four concepts should help find relevant evidence, but sometimes, the answer can be found by searching for just two concepts:

   - Concept 1 – could be the key population and/or setting
   - Concept 2 – might be the type of intervention or exposure
   - Concept 3 – perhaps a comparison of a second intervention
   - Concept 4 – refers to the final, expected outcome

Concept 1	Concept 2	Concept 3	Concept 4
communicable disease	infection control	*(optional)*	areas of conflict war zones

2. Under each of the concepts, think of all the alternative terms that could apply to that original concept. Think about American terminology and spellings, or brand names. For example, in America, they call motor neurone disease, Amyotrophic Lateral Sclerosis. The technical name for Prozac is fluoxetine.

Concept 1	Concept 2	Concept 3	Concept 4
communicable disease infection infectious disease zika ebola cholera dengue fever plague	infection control prevention prophylaxis prophylactic antibiotic chemoprophylaxis	*(optional)*	areas of conflict war zones emergencies disasters relief work rescue work humanitarian crisis

3. Choose appropriate information sources, such as databases. For a good search, and depending on the topic, you should search at least three databases. There will be some duplication in results, but you will also find some unique records. When searching databases, search one database at a time and search for one term at a time. If you search more than one database at a time, you will miss out on key features, such as the indexes described further on. If you search for one term at a time, you can then try out different combinations, until you get the results you are looking for.

4. There are two ways of searching databases. For best results, start with a subject heading search and combine with a free-text search:

   ➢ **thesaurus** (also known as index, MeSH or subject heading) searches - every article that is added to the databases is also tagged with a set of index terms, to help you

find articles specifically on that topic. When you apply the thesaurus/index search, there will be an option to Explode results (exp), and this means that any narrower thesaurus/index terms will be included. It is good practice to explode terms in all cases, and then narrow down the search by combining with the other concepts. There is sometimes an option to choose Major topic or Focus, but these can be limiting. There is also an option to narrow down by Subheading. Again, it is good practice to keep the search broad, and include all Subheadings.

➢ **free text** (also known as natural language or keyword) searches – the database will search the whole text for the term that you have entered and no other variations. So it will not look for similar terms, plurals, or spelling variations. Truncation (* or $) and wildcards (?) help to improve retrieval by expanding options, e.g. prophyla* will look for prophylaxis or prophylactic, while leuk?emia will retrieve papers containing the British and American spellings. You can also restrict your free text search to just title and abstract.

5. For a comprehensive search, a thesaurus search should always be run together with a free-text search, in case the articles have not been indexed yet.

6. Search for each concept, one at a time, using free text and thesaurus search methodologies, combining with OR. Then, combine the total results of each concept with AND so that you find papers containing all the concept terms.

7. Once you have completed your search, you can limit search results by applying limits (language of article, date, age of population, publication type: e.g. RCT's, meta-analysis, reviews). There is an example of a search strategy overleaf.

8. If *too many* records are retrieved, go back over the strategy and narrow the search, by using more specific or most relevant terms in Free Text and/or Thesaurus terms, or using Thesaurus search rather than Free Text or selecting specific subheadings with Thesaurus terms, or adding terms for other aspects of question (eg age or gender of patient), using AND or using limits.

9. If *too few* records retrieved, go back over strategy and widen search by using more terms: synonyms, related terms, broader terms (Thesaurus or Free Text), or adding in terms of related meaning with OR, or combining results of Thesaurus and Free Text searches or using the Explode feature of Thesaurus, which will include narrower terms, or selecting All Subheadings when searching for Thesaurus terms. You can find additional or related search terms from retrieved records:

➢ free text terms in the abstracts and/or titles that have not been included

➢ thesaurus terms that have not been included

➢ references at the end of the paper

10. Save your search with the name of the database and the date searched for future reference. This will help when you are reporting your search strategy. It is also worth keeping a copy of your search strategy, again for the writing-up stage of your research. To keep up-to-date, you can set up an alert so that each time another paper is added to the database that matches your search criteria, you will automatically be informed.

Example of a search strategy:

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Database: Ovid MEDLINE(R) and Epub Ahead of Print, In-Process
& Other Non-Indexed Citations, Daily, and Versions(R) <1946 to
July 27, 2018>
Search Strategy:
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1    exp Communicable Diseases/ (32434)
2    exp INFECTION/ (737701)
3    infectious disease*.tw. (67206)
4    exp ZIKA VIRUS INFECTION/ (2219)
5    exp Hemorrhagic Fever, Ebola/ (4367)
6    exp CHOLERA/ (8213)
7    exp DENGUE VIRUS/ (7589)
8    dengue fever.tw. (4061)
9    exp PLAGUE/ (4990)
10    or/1-9 (812436)
11    exp Infection Control/ (59105)
12    exp PRIMARY PREVENTION/ (139428)
13    prevention.tw. (473902)
14    prophyla*.tw. (149216)
15    antibiotic chemoprophylaxis.tw. (51)
16    or/11-15 (771984)
17    area* of conflict.tw. (246)
18    exp Warfare/ (35611)
19    war zone*.tw. (537)
20    exp EMERGENCIES/ (38300)
21    exp DISASTERS/ (68551)
22    exp Relief Work/ (4413)
23    exp Rescue Work/ (1976)
24    (humanitarian adj (crisis or crises or effort*)).tw. (366)
25    or/17-24 (102618)
26    10 and 16 and 25 (744)
27    limit 26 to (english language and last 5 years) (117)
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