MINISTRY OF HEALTH

GUIDELINES FOR EVIDENCE USE IN POLICY-MAKING

2016

Address

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Guidelines for Evidence Use in Decision-Making in the Health Sector in Malawi

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Abbreviations and Acronyms

AFIDEP	African Institute for Development Policy
AGORA	Access to Global Online Research in Agriculture
AHILA	Association for Health information and Libraries in Africa
AIDS	Acquired Immunodeficiency Syndrome
AIM	African Index Medicus
AMSTAR	Assessment of Multiple Systematic Reviews
ARDI	Access to Research for Development and Innovation
CNHR	Consortium for National Health Research
CoM	College of Medicine
DECIDE	The Developing and Evaluating Communication Strategies to Support Informed Decisions and Practice Based on Evidence
DFID	United Kingdom's Department for International Development
DHIS	District Health Information System
ECSA-HC	East, Central and Southern Africa Health Community
EIPM	Evidence-Informed policymaking
FAO	Food and Agricultural Organization
FHI 360	Family Health International
GRADE	The Grading of Recommendations Assessment, Development and Evaluation
HINARI	Health Internetwork Access to Research Initiative
HIV	Human Immunodeficiency Virus
HSSP	Health Sector Strategic Plan
IMR	Infant Mortality Rate
M&E	Monitoring and Evaluation
MMR	Maternal Mortality Rate
MoH	Ministry of Health
NCDs	Non-Communicable Diseases
NHRA	National Health Research Agenda
NGO	Non-Governmental Organisation
NSO	National Statistical Office
OARE	Online Access to Research in the Environment
SECURE Health	Strengthening Capacity to Use Research Evidence in Health Policy
SDGs	Sustainable Development Goals
TWG	Technical Working Group
UN	United Nations
USAID	United States Agency for International Development
UNAIDS	Joint United Nations Programme on HIV/AIDS
U5MR	Under Five Mortality Rate
WHO	World Health Organization

Foreword

Malawi has made remarkable progress in strengthening its health system and improving the health status of its people. However, the country continues to face challenges such as high fertility and mortality rates, high burden of infectious diseases (Malaria, TB and HIV/AIDS), an increasing burden of Non-Communicable Diseases (NCDs), shortage of drugs, and inadequate human resources for health.

The Ministry of Health (MoH) realises that the use of evidence from research findings and rigorous data is key to sustaining past gains as well as achieving the goals and objectives stipulated in the Health Sector Strategic Plan (HSSP), health-related Sustainable Development Goals (SDGs), the UNAIDS 90-90-90 HIV and AIDS targets, and other health sector strategic plans.

The MoH, through the Research Unit, with support from the Strengthening Capacity to Use Research Evidence in Health Policy (SECURE Health) Programme has, therefore, developed these guidelines for Evidence Use in Decision-making in the Health Sector in Malawi. These guidelines outline the steps involved in policy-making, and provide guidance and tips in how to seek, appraise, synthesise and apply evidence in decision-making.

The guidelines are a response to the results of a study on the status of research evidence use in the health sector in Malawi conducted by the SECURE Health programme, which revealed the need for guidance on the use of evidence in decision-making in the health sector. The purpose of these guidelines is to provide directions on Evidence-Informed Policy-Making (EIPM). The document complements the guidance found in other policy-making frameworks with emphasis on how to use evidence to inform policy and decision-making processes.

While the Government of Malawi appreciates the diversity of needs and interests of different stakeholders in the health sector, stakeholders are called upon to ensure that all the policies and programmes are "evidence-informed". The Government of Malawi will endeavor to channel resources to support research uptake in all programmes in the health sector. A special appeal is being made to all co-operating partners, both national and international, to support the undertaking of research utilisation in the sector.

I wish to thank all those who have given their time, ideas and expertise during the development of the guidelines. Finally, I would like to thank His Excellency the President, Professor Arthur Peter Mutharika for providing a conducive working environment in which these guidelines have been formulated.

Dr. Peter Kumpalume, MP

Minister of Health

March 2016

Preface

It is in the interest of the Government of Malawi (GoM) to have the highest possible level of health and quality of life for its citizens by improving the health outcomes of the nation through the combined efforts of individuals, communities, organisations, and our co-operating partners. For example, health outcomes of the country have improved as shown by a decrease in maternal mortality ratio (MMR) from 984 deaths per 100,000 live births in 2004 to 475 in 2014 (NSO, 2014). Child survival data shows that Under-Five Mortality Rate (U5MR) declined from 112 deaths per 1000 live births in 2010 to 85 deaths per 1000 live births in 2014 (NSO, 2015). Similarly, Infant Mortality Rate (IMR) declined from 66 to 53 deaths per 1000 live births during the same period (NSO, 2015).

In contributing to the achievement of international and national health related goals, Malawi through the Ministry of Health (MoH), developed the Health Sector Strategic Plan (HSSP). The success of the HSSP in achieving better health service delivery depends on careful evidence-based policy and decision-making, which is made possible by health research. Being cognizant of the importance of evidence in policy and decision-making and the need for locally generated evidence, the Ministry developed a National Health Research Agenda, 2012-2016 (NHRA) to set the priorities for research in the health sector in the country.

The use of evidence, which includes research findings and rigorous data, can help improve health outcomes and reduce the high disease burden in Malawi by informing formulation of robust policies and implementation plans, resource allocation, and design of effective health interventions and their evaluation. Evidence can help reveal health issues, which need to be prioritised and inform the identification of the most effective and impact-driven intervention strategies.

However, utilisation of evidence in decision-making processes in the health sector in Malawi, like in other African countries, is limited due to bottlenecks that operate at individual, systemic and institutional levels. The likelihood of research being used decreases when policymakers lack both a good appreciation of the value of research evidence and skills and expertise in utilisation of evidence in decision-making processes.

In this regard, the guidelines for evidence use in decision-making in the health sector in Malawi seek to provide direction and enhance the skills of policy-makers and practitioners in accessing, appraising, interpreting, synthesising, and using available evidence in decision-making processes. It is therefore imperative that all the senior and midlevel managers utilise these guidelines in order to enhance evidence use in the health sector.

Dr. McPhail Magwira

Secretary of Health

March 2016

Acknowledgements

The development of these guidelines for Evidence Use in Decision-making in the Health Sector in Malawi has been made possible through the leadership of the Ministry of Health (MoH), in collaboration with various partners and stakeholders. Specifically, the MoH would like to acknowledge the leadership of the Secretary for Health and the Director of Policy, Planning and Development.

The MoH would also like to acknowledge the technical guidance of the Head of Research Unit, Dr. Damson Kathyola, in the development of these guidelines. The guidelines benefited from reviews and inputs from the National Coordinator of Knowledge Translation Platform, Dr. Collins Mitambo, as well as Mr. Billy Nyambalo from the Research Unit. MoH recognises the contributions of Mrs. Marjorie C. Shema from the Office of President and Cabinet. The MoH would like to recognise specific staff from the Public Health Institute Management, Mr. Ambonishe Mwalwimba, Dr. Thoko Kalua and Ms. Emily MacDonald who made invaluable contributions to the development of the guidelines.

The development of these guidelines was made possible through the MoH's collaboration with the Strengthening Capacity to Use Research Evidence in Health Policy (SECURE Health) programme, which is a consortium of five organisations led by African Institute for Development Policy (AFIDEP). The Ministry would like to thank the AFIDEP team, comprising of Dr. Rose Oronje, Dr. Abiba Longwe-Ngwira and Ms. Nissily Mushani for providing technical assistance for the development of the guidelines. The MoH would also like to thank other SECURE Health programme consortium partners who provided invaluable inputs into the development of the guidelines, including FHI 360, the College of Medicine (CoM) of the University of Malawi, and the East, Central and Southern Africa Health Community (ECSA). Specifically, the Ministry would like to recognise the technical input of Prof. Adamson Muula and Dr. Cecilia Maliwichi-Nyirenda from the College of Medicine.

The MoH would also like to thank the members of the Technical Advisory Committee for the SECURE Health programme for their invaluable inputs into the draft of the guidelines.

Finally, the development of these guidelines would not have been possible without the support of the UK's Department for International Development (DFID) through the SECURE Health programme. The Ministry acknowledges and appreciates this support from the UK government.

Chapter 1

Foundation of Public Policy-Making

Chapter 1

Introduction

The need for guidelines for evidence use in decision-making in the health sector has been identified by the Ministry of Health (MoH)'s senior officials and staff through interactions with the Strengthening Capacity to Use Evidence in Health Policy (SECURE Health) programme. The results of a study conducted by the SECURE Health Programme in 2014 on the status of research use within the MoH and Parliament, and an initial external evaluation of the SECURE Health programme conducted in 2015 have revealed a need for guidelines on policymaking and evidence use within the Ministry. Many Ministry staff lacked clarity on how to seek, appraise, synthesize and apply evidence.

The government in general and MoH in particular have policy formulation guidelines. The Office of President and Cabinet launched the *Guide to Executive Decision-Making Processes* in June 2015. This guide provides a systematic approach to procedures that govern all policy and decision-making processes of the Malawi Government. The findings from SECURE Health study imply that even though the guidelines exist, many MoH staff are not aware of the guidelines. While the *Guide to Executive Decision-Making Processes* provides guidance on public decision-making, it does not provide guidance on how to use evidence in the decision-making process. The purpose of guidelines for evidence use in decision making is to fill this gap by providing clear guidance on evidence-informed policymaking (EIPM). The document therefore does not repeat the guidance found in *Guide to Executive Decision-Making Processes*, but concentrates on how to utilize evidence to inform policy/decision-making processes. These guidelines will be used in line with other existing government guidelines.

1.1 Essentials of policy-making

A policy can be defined as a course or principle of action adopted or proposed by a government, party, business, or individual. It is defined by Black's Law Dictionary (2nd Ed) as "the general principles by which a government is guided in its management of public affairs".

The World Health Organisation (WHO) defines health policy as referring to "decisions, plans, and actions that are undertaken to achieve specific health care goals within a society. An explicit health policy can achieve several things: it defines a vision for the future which in turn helps to establish targets and points of reference for the short and medium term" (WHO undated).

The Government of Malawi defines public policy as a decision or a position taken by government to address a particular public issue and it guides the translation of government aspirations into actions (Malawi Government, 2015). A public policy provides courses of action aimed at achieving the objectives otf the government. Policies can take a range of different forms, including formal policy documents; presidential decrees; non-intervention; regulation for instance by licensing; or the direct public service provision.

1.2 Evidence-informed policy-making

Evidence-informed policy-making is an approach to policy decisions that aims to ensure that decision-making is well informed by the best available (research) evidence. It is characterised by the systematic and transparent access to, and appraisal of evidence as an input into the policy-making process (Oxman et al., 2009).

1.3 Rationale for the guidelines

The MoH has a long history of supporting and providing guidance to its staff in order to enable effective delivery of their roles and responsibilities. The process is typically complex and often driven by interests of different actors within and outside government. Weak capacity in seeking, appraising and applying evidence remains one of the major barriers to research use in programming in the health sector in Malawi (SECURE Health, 2014).

All these point to the need to provide a guide that enables better understanding of the importance and steps involved in evidence-informed policy-making. These guidelines are therefore a resource that offers important knowledge and skills in the process and the use of evidence to ensure more effective policies and programmes. It is hoped that the guidelines will standardise and promote evidence-informed processes as well as bring in high quality standard of research evidence consideration in the decision-making process within the Ministry.

1.4 Intended users of the guidelines

These guidelines are designed primarily for use by senior officials as well as technical staff within the MoH. However, anyone involved in the decision-making process in health as well as other sectors will find the information useful.

1.5 Use of the guidelines

The main purpose of the guidelines is to strengthen skills for increased use of evidence in the policy-making process in order to improve the quality of policy decisions in the health sector. It is therefore hoped that the guidelines will be used as a reference tool for technical officers involved in these processes. The guidelines cannot be fully comprehensive and are not a substitute for consulting detailed guidance on aspects of the institutional framework, legislative and financial processes and statutory obligations within the MoH and within government. Reference to the *Guide to Executive Decision Making Processes* (Malawi Government, 2015) published by the office of president and cabinet is especially encouraged.

1.6 The process of developing the guidelines

The development of these guidelines was spearheaded by the MoH through the leadership of the Research Unit under the Department of Policy, Planning and Development. The MoH has been implementing a capacity strengthening programme for research use since February 2014 through a partnership of various institutions led by AFIDEP. It is through this partnership that the guidelines for evidence use in decision-making in the Health Sector in Malawi were developed. Initial drafts of the guidelines were discussed with a wide range of stakeholders including the primary target users (technical staff within the MoH) as well as other health sector stakeholders and experts in the health research-to-policy process. Insights from these consultations enriched the final guidelines. Importantly, the development of the guidelines was informed by the government's provisions and guidance contained in the *Guide to Executive Decision Making Processes* (Malawi Government, 2015).

1.7 Structure of the guidelines

The rest of this document is organised in seven chapters: Chapter 2 sets out the foundation of policy-making, providing information on the complexity of the public policy-making process and the actors and factors that influence the process. Chapter 3 focuses on defining a policy question, Chapter 4 outlines the steps in accessing evidence, Chapter 5 focuses on ways of appraising evidence, Chapter 6 discusses ways of synthesising evidence, and finally Chapter 7 outlines ways of applying evidence in decision-making. The final chapter provides a conclusion for the guidelines.

Chapter 2

Foundation of Public Policy-Making

Chapter 2

Foundation of Public Policy-Making

This Chapter seeks to provide an understanding of the public policy-making process, including the theory that explains public policy-making, key components of the process, the factors and actors who influence the process, and the barriers and facilitators of evidence use in the process. This understanding is important in enabling the use of evidence at the different stages and levels of health policy-making. This chapter therefore sets the foundation for the rest of the chapters, which provide guidance on actual evidence use in health policy-making. Making national health policy is the core business of the MoH. Health policies developed by the MoH have to fit within the broader legal framework as well as strategic development blueprints for the country.

2.1 Context of public policy-making

Public policy-making is a political and complex process, influenced by many actors and factors and different kinds of information and priorities. Research evidence has to compete with many other factors and information to influence policy decisions. These other factors include politics, ideology, values, power dynamics, available resources, interests, habits and traditions (also see Chapter 7). Scholars have identified three main factors that influence decision-making including:

- Policy actors and their networks, including government officials, political leaders, religious leaders, funding agencies, programme implementers, civil society and interest groups.
- Local and international contexts within which policy decisions are made, including the political context, socio-economic context, and cultural context.
- Evidence or knowledge available on the policy issue, and the prevailing framing of the issue in development discourses locally and internationally.

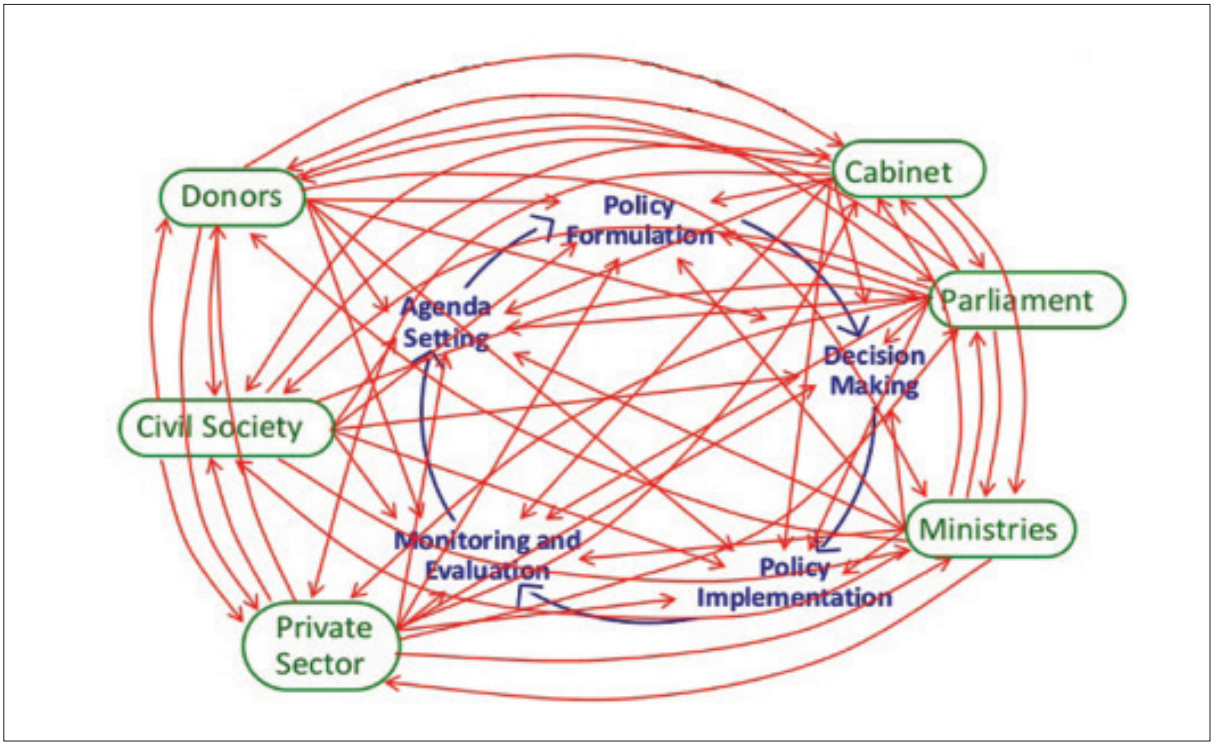

Figure 1. Complexity of the policy-making process
Source: Adapted from Overseas Development Institute (ODI), undated.

The complexity of policy-making process entails that for it to be effective, civil servants involved in policy development not only need all the "traditional" attributes (knowledge of relevant law and practice, understanding of key stakeholders' views and ability to design implementation systems), but they must also understand the context within which they (and the policy) have to work. This means understanding not only the way organisational structures, processes and culture can influence, but also understanding the priorities of government and ministers, and envisioning the way policies will work out in practice.

2.2 Theory in public policy-making

There are many theories that attempt to explain the public policy-making process in different fields of study including policy analysis, political science, and anthropology. Here, we will only highlight one of the theories commonly applied in the health sector or applicable in the health sector in the developing world (see Annex 1 for two more theories). The purpose is to increase understanding of the complexity of the public policy-making process as well as stimulate policy-makers to think critically of how these theories apply in the Malawian health sector context.

It is important to note that initial theory on public policy-making can be conceived as a linear process moving from agenda setting, formulation, implementation, to evaluation. This thinking has been challenged by the reality that is largely an iterative process that does not progress neatly from agenda-setting to evaluation; rather that in reality the different stages are often blurred and policy actors move back and forth between the different stages. Even then four main stages/components, namely: agenda setting, policy formulation, implementation and evaluation, provide a simple way of thinking about the entire public policy-making process. The theory below therefore does not perceive public policy-making as a linear process, but rather as a complex process involving many actors and factors, often all interacting at the same time to shape policy decisions.

The policy triangle

The policy triangle model of was proposed by Jill Walt and Lucy Gilson in 1994 (Walt and Gilson 1994), with a specific focus on the health sector. The model argues for the need to go beyond focusing on policy content when it comes to understanding, but to appreciate that policy decisions are shaped by the processes, the actors, and the context in which they are made. The model therefore contends that understanding the specific decisions made would require one to look at these four components and how they interact to determine and shape policy decisions.

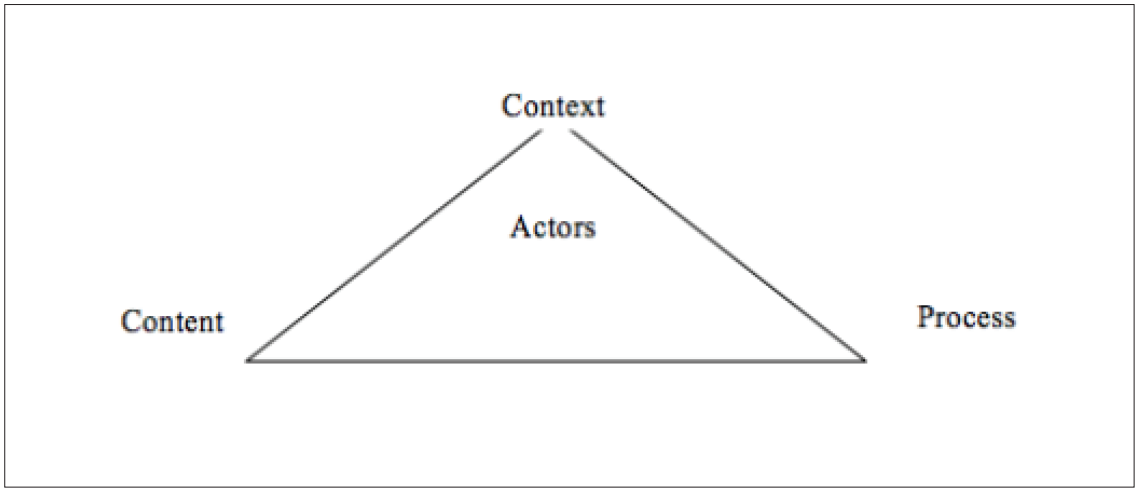

Figure 2. The Policy Triangle

Source: Walt and Gilson 1994

2.3 Key stages of the public policy-making process and evidence use

The complexity of making public policies has to be understood in the context of the four main components of the policy-making process namely, agenda-setting, policy formulation, implementation, and evaluation. Table 1 below explains the key focus of each of these components. You may also find useful information on this in the *Guide to Executive Decision-Making Processes* (Malawi Government, 2015).

Table 1. Key components of the public policy-making process

Policy development stage	Description	Evidence needs at the different stages
Agenda setting	Awareness and priority given to an issue	Identifying new problems or the build-up of evidence regarding the magnitude of a problem so that relevant policy actors are aware that the problem is indeed important. A key factor here is the credibility of the evidence, as well as the way the evidence is communicated.
Formulation	There are two key stages of the policy formulation process: determining the policy options and then selecting the preferred option.	For both stages, policy-makers should ideally ensure that their understanding of the specific situation and the options is as detailed and comprehensive as possible; only then can they make informed decisions about which policy options to go ahead and implement. This includes the instrumental links between an activity and an outcome as well as the expected cost and impact of an intervention. The quantity and credibility of the evidence is important.
Implementation	Actual practical activities.	Here, the focus is on operational evidence to improve the effectiveness of initiatives. This can include analytic work as well as systematic learning around technical skills, expert knowledge and practical experience. Action research and pilot projects are often important. The key is that the evidence is practically relevant across different contexts.
Evaluation	Monitoring and assessing the process and impact of a policy.	The first goal here is to develop monitoring mechanisms. Thereafter, according to Young and Quinn (2002), 'a comprehensive evaluation procedure is essential in determining the effectiveness of the implemented policy and in providing the basis for future decision-making'. In the processes of monitoring and evaluation, it is important to ensure not only that the evidence is objective, thorough and relevant, but also that it is then communicated successfully into the continuing policy process.

Source: ODI 2006.

2.4 Characteristics of good public policy-making

The health policy development process includes all the activities undertaken to revise, create, and/or update a policy, through to the culmination of that policy being adopted and implemented. Systematic policy development is essential to making informed and evidence-based policy decisions. It enables policymakers to identify and verify complex health sector challenges and compare alternative ways to address an issue. It also informs political debate and improves the quality of decision-making.

Key features of good include, forward looking, outward looking, innovative, flexible and creative, evidence-informed, inclusive, joined-up, to learn lessons from experience, to be communicated effectively, and to incorporate ongoing monitoring and evaluation. These features overlap and so they need to be considered collectively. Table 2 captures seven elements of a good policy. These elements together with the policy development process described in Chapter 5 of the Guide to Executive Decision-Making Processes provide an important threshold that should guide effective within the health sector in Malawi.

Table 2. Features of good policy-making

Feature	Description
Forward looking (clear goals and outcomes)	The policy-making process clearly defines goals and outcomes that the policy is designed to achieve. Where appropriate, it takes a long-term view based on statistical trends and informed predictions of social, political, economic and cultural trends, for at least five years into the future of the likely effect and impact of the policy. The following points demonstrate a forward looking approach: • A statement of intended outcomes is prepared at an early stage • Employs scenario building or forecasting • Takes into account the executive's long-term strategy
Outward looking	The policy-making process takes account of influencing factors in the regional and international contexts; and draws on experience from other regions and countries. The following points demonstrate an outward looking approach: • For regional level, it is informed by mechanisms and policies of the Southern Africa Development Community and the African Union Commission • For international level, it is informed by mechanisms and policies of UN agencies, World Bank, among other key international agencies • Looks at how other countries have dealt with the issue • Recognises variation within Malawi
Evidence-informed	The advice and decisions of policymakers are based on the best available evidence from a wide range of sources; all key stakeholders are involved at an early stage and throughout the policy development process. All relevant evidence, including that from specialists, is available in an accessible and meaningful form to policy-makers. Key points of an evidence-informed approach to policy-making include: • Reviews existing research • Commissions new research • Consults relevant experts and/or uses internal and external consultants • Considers a range of properly-costed and appraised options

Inclusive	The policy-making process takes account of the impact on and/or meets the needs of all people directly or indirectly affected by the policy and involves key stakeholders directly. This includes consultations with county governments and the public, who are the beneficiaries of the policy. An inclusive approach may include the following aspects: • Consults those responsible for service delivery/implementation • Consults those at the receiving end or otherwise affected by the policy • Carries out an impact assessment • Seeks feedback on policy from recipients and front line deliverers
Joined-up	The policy-making process takes a holistic view; looking beyond institutional boundaries to the administration's strategic objectives and seeks to establish the ethical, moral and legal base for policy. There is consideration of the appropriate management and organisational structures needed to deliver cross-cutting objectives. The following points demonstrate a joined-up approach to policy-making: • Cross-cutting objectives clearly defined at the outset • Joint working arrangements with other departments clearly defined and well understood • Barriers to effective joining-up clearly identified with a strategy to overcome them • Implementation considered part of the policy-making process.
Learns lessons	Learns from experience of what works and what does not. A learning approach to policy development includes the following aspects: • Information on lessons learnt and good practices disseminated • Account available of what was done by policymakers as a result of lessons learnt • Clear distinction drawn between failure of the policy to impact on the problem it was intended to resolve and managerial/ operational failures of implementation
Communication	The policy-making process considers how policy will be communicated to the public. The following contribute to effective communication of policy: • Communications strategy prepared and implemented • Executive Information Service involved from an early stage
Evaluation	Systematic evaluation of the effectiveness of policy is built into the policy-making process. Approaches to policy-making that demonstrate a commitment to evaluation include: • Clearly defined purpose for the evaluation • Success criteria defined • Means of evaluation built into the policy-making process from the outset • Use of pilot interventions to influence final outcomes

Adapted from: Office of the first minister and deputy first minister, Northern Ireland, undated.

2.5 Facilitators and barriers to evidence use in policy-making

As noted earlier, evidence is not optimally used in decision-making for many reasons. This makes it important to understand the factors that facilitate use or increase use and/or consideration of evidence in decision-making as well as those that hinder its use (i.e. barriers). Significant research has been conducted on the barriers and facilitators of evidence use and we draw on this.

2.5.1 Facilitators of evidence use

Several factors and conditions have been documented as being facilitative of research use in decision-making. On the supply-side of evidence, these factors include availability of relevant and timely research that is well packaged for use by policymakers, implementers, and the general public, and wide dissemination of research findings. On the demand-side of evidence, these factors include policymakers having interest and motivation to use research evidence, having access to research evidence, and having supportive/enabling institutional systems and structures as well as individual technical skills to access, appraise, interpret, synthesise and apply research evidence. At the interface of policymakers and researchers, an important facilitating factor for evidence use is the existence of collaboration and relationships between policymakers and researchers. Other facilitators of evidence use include:

- Results that are congruent with existing ideologies, and that are convenient and feasible
- Presence of policymakers who believe evidence can act as an important counterbalance to expert opinion
- Presence of strong advocates for research and evaluation findings

2.5.2 Barriers to evidence use

The study conducted in Malawi under the SECURE Health programme identified various barriers to research use as captured in Table 3 below (SECURE Health 2014).

Table 3. Barriers to evidence use identified by health sector policy-makers in Malawi

Institutional barriers

- Lack of a mechanism for accessing research evidence:
    - No repository
    - No subscriptions to journals
    - Poor dissemination and packaging of research evidence
- Lack of or limited access to operations research or research in some specialised fields
- Poor data quality and a deficient health information system
- Weak leadership for evidence use in decision-making
- Inadequate institutional incentives for promoting evidence use in decision-making
- Inadequate funding to support the generation and use of research evidence in decision-making
- Understaffing
- Weak institutional linkages with research institutions
- Lack of institutional forums for communicating research evidence to top-level decision-makers
- Lack of guidelines for research evidence and data use
- Suspicion about motives of research funders and the validity of their research evidence
- Politics and personal interests driving decision-making
- Lack of equipment, software and systems to support sourcing and using research evidence and data.

Individual barriers

- Inadequate technical skills to:
    - Analyse routine data
    - Access research
    - Interpret and synthesize research
    - Summarize research into clear policy messages

- Inadequate time due to competing demands, this is made worse by the fact that research evidence is often not well-packaged for ease of consumption by policymakers.

Other barriers not captured in the Table 3 above include lack of motivation among policymakers to use evidence, as well as supply-side barriers to research use including research evidence being irrelevant, untimely, and not well-packaged and widely disseminated. In order to promote use of evidence, the above barriers need to be addressed. This can be achieved by interventions to strengthen institutional support systems and structures the enable evidence use, and interventions to improve technical knowledge and skills of individual staff in finding, appraising, interpreting, synthesising and applying evidence.

Chapter 3

Defining and Developing a Policy Question

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Defining and Developing a Policy Question

The first step in evidence-informed policy-making (EIPM) is to clearly define your policy question or problem. Think of it this way - before you can proceed to find evidence to inform your decision, you must have a clear idea about what your decision point or policy objective is. You may acknowledge that evidence is an important part of the policy equation, but you cannot start looking for the relevant evidence without being clear on what you need it for. In other words, *what is the question you are trying to answer by seeking out evidence?*

3.1 What is the difference between a policy question and research question?

Before going any further on developing a policy question, let us first clarify the difference between a policy question and a research question. There is a thin line between a policy question and a research question. Both questions are seeking information. Even then, a research question seeks to generate information for understanding/explaining a phenomenon, whereas a policy question generates information for addressing or responding to a specific public policy issue/concern. Public policy-makers are charged with tackling public or developmental issues, and so their search for information is geared towards not just understanding the issue, but also finding solutions to addressing the issue. As such, policy questions are often broader than research questions; indeed, a policy question often has more than one research question. A policy question moves the research to the next level, i.e. what are the research findings telling us in tackling this particular policy issue.

There are some marked differences in the way policy questions are posed compared to research questions as captured in Table 4 below.

Table 4. Illustrating the difference between a policy question and a research question

Research question	Policy question
1. What factors explain the lack of progress in reducing maternal mortality in Malawi?	In what ways can the maternal health program in Malawi be improved to reduce maternal deaths?
2. Why is community X susceptible to frequent cholera outbreaks?	How can we address the frequent cholera outbreaks in community X?
3. What is the relationship between policy and practice when implementing community health strategy?	How effective is the implementation of the community health strategy/guidelines?
4. How are communities and non-state actors contributing to TB control in Malawi?	How can we improve the involvement of communities and non-state actors in TB control?

3.2 Types of policy questions in the health sector

Questions in public health policy can be related to one or more of the following:

- A risk factor, disease or condition
- The programmes, services or drugs currently being used to address a risk factor, disease or condition
- The current health system arrangements within which programmes, services and drugs are provided
- The current degree of implementation of an agreed upon course of action (e.g. a policy or guideline)

Evidence can be helpful in answering these questions by:

- Explaining the need for certain decisions or impetus for action;
- Showing the reasons for choosing one of many competing arguments;
- Increasing confidence in decisions that are eventually made; and
- Helping build consensus

3.3 Steps in defining a policy question

The first place to start in defining your policy question is to be very clear on the policy issue that you or the Ministry would to like to tackle. Refer to section 5.2.1 of the *Guide to Executive Decision Making Processes* for more details on sources of policy issues. Being clear on the policy issue calls for a good understanding of where the issue lies in the policy-making process/cycle, i.e.:

- Is the issue on the political agenda or do you need evidence to put the issue on the agenda (i.e. agenda-setting stage)?
- If the issue is already on the political agenda, do you need evidence on the possible policy options for tackling the issue (i.e. policy formulation stage)?
- If there is already a policy for tackling the issue, but it is not being implemented or the implementation is ineffective, do you need evidence on the more effective ways for implementing the policy or do you need evidence to convince Treasury to allocate resources or increase resource allocations needed for effective implementation? (i.e. policy implementation stage)
- If the policy on the issue has already been implemented, do you need evidence to know how well the implementation tackled the issue, what worked and what did not in order to revise the policy or put in place a new policy in addressing the issue (i.e. policy evaluation stage)?

Being very clear on where your issue lies in the policy-making process is critical as it determines the way you formulate your policy question. It also determines the nature and type of evidence that you look for because evidence is incorporated into policy-making at each of these different points, and the specific stage involved will affect how the question is formulated, and therefore, also point toward different types of evidence needed. Table 5 details the different policy stages and the types of policy questions that can be asked at the different stages and the types of evidence that you will be looking for.

It is important to note that your policy question will likely just be in one of these stages, i.e. you are unlikely to have a policy question that focuses on an issue that lies in all the four stages of the policy-making process.

Table 5. Examples of policy questions at the different stages of the policy-making process

Policy-making stage	Examples of policy questions	Examples of types of evidence needed
Agenda-setting stage: need to create awareness and raise priority for the issue A policy question is in this stage if policymakers are not aware of the problem, the extent of the problem, or the need to consider the problem important.	• What is the magnitude of the problem? • Which sections of the population are most affected by the problem? • Which are the geographic areas of highest need?	• Burden of disease – quantitative evidence that reveals the extent of the problem • Evidence that shows the costs borne by the government for not tackling the policy issue • Evidence that shows the development implications of the policy issues
Policy formulation stage: determining and selecting policy options A policy question is in this stage if there is a general consensus that an issue needs a policy response, but the best policy options to address the issue are not known.	• Which services would make the greatest impact? • Which interventions are most effective in responding to the issue? • What are the costs associated with the delivery of the different interventions?	• Systematic reviews • Cost-effective analyses
Policy implementation: actual delivery of interventions A policy question is in this stage if there is a general understanding of the best policy options to address the problem, but there are challenges in their effective implementation.	• How effective is the implementation of the programme X in tackling this issue? • How can we improve the delivery of programme X?	• Action research • Evaluations of pilot projects
Policy evaluation: M&E and impact A policy question is in this stage if programmes are being implemented to address the problem, but they lack adequate documentation of their effectiveness or impact, and/or there is a lack of communication of that information to the people who need it.	• To what extent has the implementation addressed the policy issue? • Is the programme meeting its set objectives? • What lessons can we draw from the implementation to inform policy reforms? • Was the policy effective in tackling the problem?	• Evaluation and impact assessment studies

Chapter 4

Accessing Evidence for Decision-Making

Chapter 4

Accessing Evidence for Decision-Making

Once a policy question has been defined, the next step is to find the evidence that can answer the policy question. This chapter thus focuses on getting information or finding the evidence to answer a policy question. It covers where to look (top, reputable sources and databases); how to look (Boolean terms and Google modifiers); and the information search strategy (how to do your own search, strategy steps and structure).

4.1 Sources of information for policy-makers

The SECURE Health study in 2014 revealed that technical staff from the MoH rely on information and evidence from conferences and seminars, MoH's Health Management Information System (HMIS), the District Health Information System (DHIS2), colleagues and MoH's programmatic technical working groups (TWGs), for informing their work.

The HMIS includes data from the primary, secondary and tertiary levels of the health care system. The data that is collected at the primary level is further analysed at the secondary level and the national level to provide a broader picture of the health profile of the district and country, respectively. Personnel working at all levels of the health system within the MoH have access to the online-based password-protected DHIS 2.

Figure 3 below shows the common sources of research evidence for policymakers as documented in the literature.

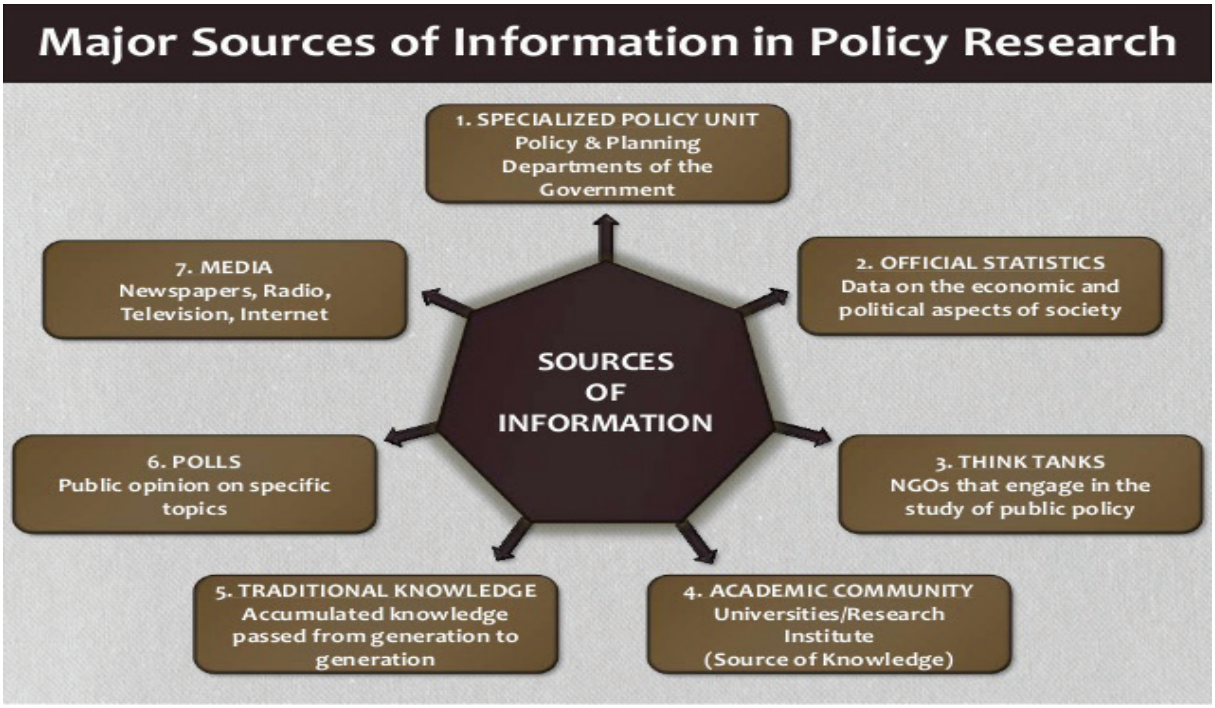


Figure 3. Major sources of information for policymakers
Source: Gurung 2014.

4.2 Researchers as a source of evidence: Establishing and maintaining links

As noted in Chapter 2, one of the factors that enable use of evidence in is meaningful relationships and trust between policymakers and researchers (Innvaer et al 2002; Oliver et al 2014). Researchers can enrich the process by:

- Ensuring policy decisions are based on the most up to date information
- Enabling innovation in policy by bringing a range of valuable external viewpoints and fresh perspectives
- Bringing extra rigour to decisions, as they can ask and answer difficult questions and challenge and defend complex answers
- Bridging skills gaps in specialist analytical and data handling roles

This guide recommends the need for policymakers to identify and sustain contact with researchers and research institutions in their area of focus. It proposes some ways in which policymakers can ensure a sustained contact with relevant researchers and research institutions including:

- Make an effort to know the main researchers in your area of interest – their names, institutions where they work and their positions, telephone number, and email addresses
- Make initial contact – send an email asking them to share any new research they are generating, and to keep you abreast of their new findings whenever these emerge
- Inform them of the key policy issues that you wish their research could answer
- Involve them in policy-making processes
- Request them to involve you in their conferences, meetings and research studies
- Attend key scientific conferences in your area of interest
- Subscribe to receive regular newsletters and other publications of the research institutions in your area of interest

4.3 Online sources of evidence

The Internet has become an important, but overwhelming source of information. Therefore, working with or through a librarian or knowledge management specialist can be of benefit to not only one's time, but also the quality of the information generated from Internet searches. Such experts also have more knowledge and experience with searching and literature repositories, and may also have access to databases that require fees or subscription costs. Apart from experts, some databases may have online technical support in searching and accessing documents.

These Guidelines highlight 10 commonly used databases or search engines as the go-to repositories for evidence for the health sector. Note that all these databases or engines have frequently asked questions (FAQs), how to search, and tutorials. These databases are listed in alphabetical order and not in order of importance. Note, however, that the list is not exhaustive and that there are many more top-tier databases depending on what one is looking for. The words "database" and "search engine" are used interchangeably although they have different meanings.

African Index Medicus (AIM) (http://indexmedicus.afro.who.int/Journals/Indexj.htm) - The WHO, in collaboration with the Association for Health Information and Libraries in Africa (AHILA), has produced an international index to African health literature and information sources. This index is called African Index Medicus (AIM). Printed knowledge generated in African countries is given global exposure in the AIM. It promotes African publishing by encouraging writers to publish in their country or regional journals, whereas now scientists and researchers in developing countries are competing for publication space in the few worldwide "prestigious" journals.

For a definition of systematic reviews and why they are preferred in evidence-informed policy-making, please refer to Text Box 1 on page 30.

The Cochrane Library (www.Cochrane.org) is published on behalf of the Cochrane Collaboration and strives to improve healthcare decision-making through systematic reviews of research on the effects of healthcare interventions. The Cochrane Collaboration identifies the strongest studies addressing a given issue, helping researchers and policymakers to separate reliable information in properly done studies from less reliable or rigorous information. Cochrane Collaboration Library's five databases include:

- Database of Systematic Reviews – extremely rigorous
- DARE (Database of Abstracts of Reviews of Effectiveness) – well-done reviews by others
- Controlled Trials Registry – database of controlled trials, much smaller than Medline
- National Health Service (NHS) Health Technology Assessment Database – summaries of Health Technology Assessments
- NHS Economic Evaluation Database – appraised summaries of economic evaluations

HINARI (http://www.who.int/hinari/en/) -- HINARI Access to Research in Health Programme provides free or very low cost online access to major journals in biomedical and related social sciences to local, not-for-profit institutions in developing countries. Up to 13,000 journals (in 30 different languages), 29,000 e-books, 70 other information resources are now available to health institutions in more than 100 countries, areas and territories, benefiting many thousands of health workers and researchers.

POPLINE® (www.popline.org) -- contains the world's most comprehensive collection of population, family planning and related reproductive health and development literature. An international resource, POPLINE helps programme managers, policymakers, and service providers in low and middle income countries in development-supportive agencies and organisations gain access to scientific articles, reports, books, and unpublished documents. POPLINE is a free resource, maintained by the Knowledge for Health (K4Health) Project at the Johns Hopkins Bloomberg School of Public Health/Centre for Communication Programmes and is funded by USAID. From a librarian: "Information searches in Pubmed and Popline are great but can be overwhelming. Have patience!"

PubMed (www.pubmed.gov) -- comprises more than 24 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher web sites. National Centre for Biotechnology Information, US National Library of Medicine host PubMed.

Research for Life (http://www.research4life.org/) -- is the collective name for four programmes –HINARI, AGORA, OARE and ARDI– that provide developing countries with free or low cost access to academic and professional peer-reviewed content online. Eligible libraries and their users benefit from online access to over 44,000 peer-reviewed international scientific journals, books, and databases; full-text articles which can be downloaded for saving, printing or reading on screen; searching by keyword, subject, author or language; resources available in several languages; training in information literacy and promotional support. Research4Life is a public-private partnership of the WHO, Food and Agriculture Organisation, UN Environmental Programme, World Intellectual Property Organisation, Cornell and Yale Universities and the International Association of Scientific, Technical and Medical Publishers.

World Health Organisation (WHO) resources (http://www.who.int/en/) -- The WHO has a wide range of information resources on global and country-specific health issues. Specific resources can be found in WHO's Global Health Observatory (http://www.who.int/gho/en/) and Publications (http://www.who.int/publications/en/) pages. The Observatory contains disease statistics, data repository, and analytical reports on global priority health issues.

Google Search (www.Google.com) -- commonly referred to as Google Web Search or just Google, is a web search engine owned by Google Inc. It is the most-used search engine on the World Wide Web, handling more than three billion searches each day. The order of search on Google's search-results pages is based, in part, on a priority rank called a "PageRank". Google Search provides many different options for customised search, using Boolean and other options specified in a different way on an advanced search page.

> *The main purpose of Google Search is to hunt for text in publicly accessible documents offered by web servers, as opposed to other data, such as image or database search. Google Search provides several features beyond searching for words.*
>
> From a librarian: *"Using general Internet search engines such as Google to identify potential studies may be a good resource as these may be used to retrieve current (both published and unpublished) studies. Google will have more grey literature."*

Google Scholar (https://scholar.google.com/) -- is a freely accessible web search engine that indexes the full text of scholarly literature across an array of publishing formats and disciplines. Google Scholar index includes most peer-reviewed online journals of Europe's and America's largest scholarly publishers, plus scholarly books and other non-peer reviewed journals. It is estimated to contain roughly 160 million documents.

> From a librarian: *"Google Scholar is good because it is peer reviewed. Both Google and Google Scholar will give you a lot (neither is indexed, that is read by staff who apply index terms to the articles) – and you'll have duplicates between them. These two are simply matching your terms – so you may have to put in a lot of different terms. That is, you can't assume 'vaccine' will get everything vaccine related term (e.g. vaccines, immunise, immunisations). You have to put in all possible alternatives."*

Development Experience Clearinghouse (DEC) (https://dec.usaid.gov/dec/home/Default.aspx) -- USAID's DEC is the largest online resource for USAID-funded technical and project materials; makes nearly 200,000 items available for review or download, and continuously grows with more than 1000 items added each month. The DEC holds USAID's institutional memory, spanning over 50 years; including documents, images, video and audio materials. The DEC collects research reports, evaluations and assessments, contract information, tutorials, policy and planning documents, activity information sheets, and training materials. The idea of evidence-informed is to look at everything. Conducting searches in multiple databases ensures that one gets all sides of the issue.

Textbox 1. What are systematic reviews and why are they preferred in evidence-informed policy-making?

A systematic review is defined as "a review of the evidence on a clearly formulated question that uses systematic and explicit methods to identify, select and critically appraise relevant primary research, and to extract and analyse data from the studies that are included in the review." (NHS Centre for Reviews and Dissemination 2001).

Systematic reviews are preferred in evidence-informed policy-making (EIPM) because they not only provide a meticulous way of finding relevant, high quality studies, but also integrate the findings of these studies to give a clearer and more comprehensive picture of an issue than any single study can do (Gough et al 2013). Systematic reviews enable policy-makers to establish what is known from research, but also what is not known from research (ibid).

Evidence generated by a systematic review is much stronger than evidence generated from the traditional literature review since systematic review focus on ensuring a comprehensive review of all existing literature on the issue, and they also appraise the evidence.

Advantages of a systematic review include that they:

- Reduce bias
- Enable replicability
- Resolve controversy between conflicting studies
- Identify gaps in current research
- Provide a reliable basis for decision-making

Limitations of a systematic review include that:

- The results may still be inconclusive
- There may be no evidence
- Existing evidence may be of poor quality

Given their comprehensiveness, systematic approach, and critical appraisal of evidence, systematic reviews are preferred in EIPM as opposed to single studies. Policymakers are therefore encouraged to prioritise systematic reviews where they are available in informing policy decisions.

Meta-analyses are often confused with systematic reviews. Meta-analysis (see Table 10) is a method of statistically combining results from several selected studies in order to develop a single conclusion that has greater statistical power. If the individual studies utilized randomized controlled trials (RCT), combining several selected RCT results would be the highest-level of evidence on the evidence hierarchy (see Figure 8), followed by systematic reviews, which analyze all available studies on a topic.

4.4 Developing an evidence search strategy

An evidence or information search strategy refers to the systematic steps you undertake to find the most appropriate information/evidence for answering your policy question. This strategy is especially critical since Internet and database searches can generate a large amount of potentially useful and non-useful information. The search strategy can be a formal tool you use or it can be less formal.

Developing a search strategy is an iterative process in which the terms that are initially used may be modified based on what has already been retrieved. There are diminishing returns for search efforts, that is, after a certain stage, each additional unit of time invested in searching returns fewer references that are relevant to the review. You can limit by dates and language and country area. Generally, you should not limit when starting. Do not limit at all if doing a systematic review. If you really want to be comprehensive, do not limit to language, but you may have to translate.

Note that you can get more credible and useful evidence if you search for literature that is tagged as "review" or "systematic review". In this way, you can access information that has already been compiled and evaluated. Similarly, you can prioritise databases comprised only of systematic reviews like Cochrane or Campbell.

4.4.1 Steps in conducting an evidence search

There are **7 basic** steps in conducting an evidence search:

4.4.1.1 **Formulate what one is looking for into a question** because that will focus the need and define relationships. In other words, what is one really trying to find out? The structure of a search strategy should be based on the main concepts being examined in a review. Generally speaking, a search strategy to identify studies will typically have three sets of terms: 1) terms to search for the condition of interest, i.e. the population; 2) terms to search for the intervention(s) evaluated; and 3) terms to search for the outcomes (optional).

4.4.1.2 **Brainstorm all the terms** that could be used in the question. Look at any references that appear to be right on target and see what terms they use. Group terms and decide how to **put terms together,** that's where the question will help. What Boolean operators should be used and how should they be logically arranged? (Boolean terms are discussed in the next section).

Decide whether to **"start wide"** and narrow down (see what's out there and refine) or "start narrow" and then widen (start with pre-conceived ideas and build). There's no right or wrong way; it is dependent on how different brains work. But, starting narrow can limit what one gets because one is essentially using pre-conceived ideas and may have missed something.

Decide whether data from **unpublished studies** are to be included. There are many definitions of grey literature, but it is usually understood to mean literature that is not formally published in sources such as books or journal articles. Conference abstracts and other grey literature have been shown to be sources of approximately 10% of the studies referenced in Cochrane reviews (Mallett, 2002).

Remember, nearly anyone can publish information on the Internet; as such, it is common to find academic journals sitting next to comics and presidential speeches next to gossip. Focus on databases of credible academic journals.

4.4.1.3 **Brainstorm the databases** relevant for the search. Once decisions have been made regarding which databases will be searched, the following key decisions will need to be made as well:

- The limiting features available to target primary studies only (for example, use of document type codes). Keywords such as "study" or "studies" or "control group" may be used to limit the results to empirical research
- The study designs that will be included, if that is a need
- Any geographic considerations
- The time period that one is interested in (keeping in mind that retrieval tools have different beginning dates and may not index very old material)
- Language of publication that is to be included

4.4.1.4 **Launch** the database search

4.4.1.5 **Evaluate** the results of the search. If nothing is helpful, there may be a couple reasons: there may not be much out there, the search terms could be wrong, or the relationships are not right. Go back, refine search terms, and try the search again.

4.4.1.6 **Record the search strategy.** Recording the search strategy is a good practice even if one is not writing a manuscript or conducting a systematic review (where it would be a requirement). Recording the basic fields of information in the strategy is not necessarily for reporting, but to help one know what one has already done and what still needs to be done. This helps avoid repeat work and is particularly helpful if the search effort extends over many months or is done by more than one person. The following can be used to guide the recording of the search strategy:

- List search terms
- List all databases searched
- Note the dates of the last search for each database AND the period searched
- Note any language or publication status restrictions
- List grey literature sources
- List individuals or organisations contacted
- List any journals and conference proceedings specifically hand-searched for the review
- List any other sources searched (e.g. reference lists, the internet)

4.4.1.7 **Document the references**. One can use an Excel spreadsheet or even a Word document to collect and organise references. Reference manager software makes this task much easier and enables one to add notes to references, cite references and create bibliographies more easily. There are many programmes available. Some free ones are Zotero, Mendeley, and basic versions of Endnote (Endnote Online).

4.4.2 Identifying evidence search terms

4.4.2.1 Step 1. Using mind maps

A great tip for brainstorming and organising terms is to use a mind-map to structure the information. Mind-maps were championed by Tony Buzan as a flexible organisational tool that uses a visual format to link words, ideas, tasks or other concept items together. Usually, mind-maps are developed around a central theme, with linked words (etc.) arranged radially around the central theme. It is an image-centred diagram that represents the semantic connections between portions of information (see Figure 4 overleaf).

By presenting these connections in a radial, non-linear graphical format, it encourages a brainstorming approach, eliminating the hurdle of initially establishing an intrinsically appropriate or relevant conceptual framework to work within. Mind maps record the information in the same way that our brains structure and store information through linked associations. A mind-map may help to define the search question, as well as help in identifying the terms associated with the chosen topic. Mind-maps are flexible, so one can include different branches for alternative spellings or related terms.

Figure 4. Different features of a mind-map Source: Kolsnik 2012

Figure 4 above shows the different features of a mind-map, e.g. one can use color or images to represent concepts; keywords radiate out from the central theme (i.e. mind-maps) to show the association/relationship between terms (e.g. a mind-map has lines, colour, etc.).

Mind-maps are a great way of identifying what one already knows about a given topic, and can expand in detail as one's understanding of a specific domain increases. Once one has mapped the information landscape around a specific topic or research question, one can transfer this information into a concept cluster and then concept tables. Figure 5 below provides an example of a mind-map.

MIND MAP EXAMPLE: RH BENEFITS OF HIV SERVICES IN MALAWI

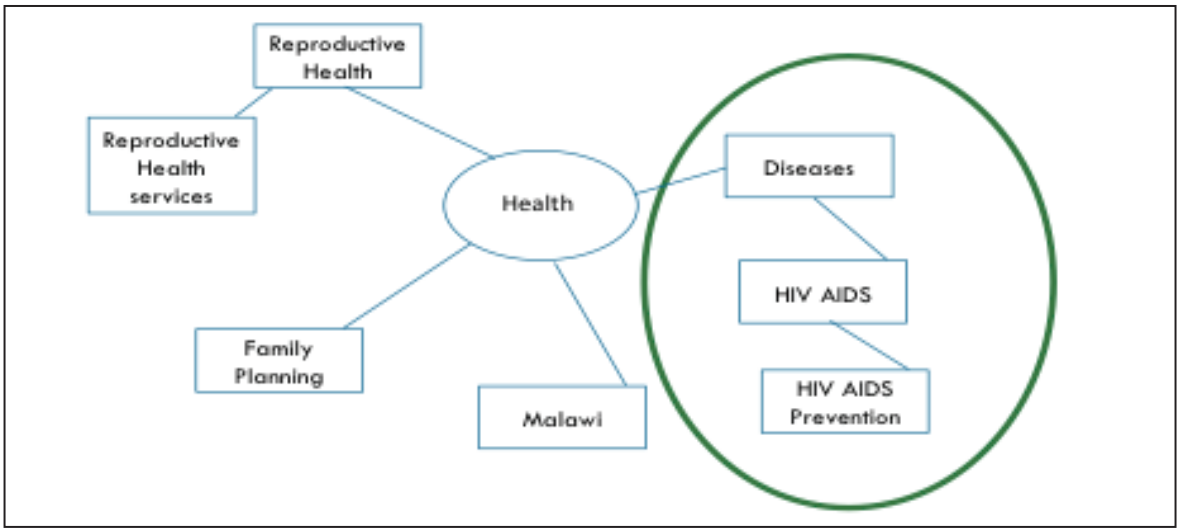


Figure 5. An example of a mind-map

4.4.2.2 Step 2: Concept Clusters

Once one knows the areas of interest taken from the mind-map, the next step is to cluster these into specific areas and also look for other terms that could be used to describe these areas. These terms are the search keywords, which one will eventually use to formulate a search strategy for locating information.

Concept clusters enable one to group related terms around a specific theme. These may be concepts or terms that are taken from one branch of the mind-map. For instance, the example of terms related to the research issue "reproductive health benefits of HIV services in Malawi" has been provided. These terms include concepts that one would look for in a search such as disease and more specifically HIV/AIDS. One would also include variants such as "HIV/AIDS", "Women". Concept clusters are collections of related concepts, ideas or terms.

4.4.2.3 Step 3. Concept Tables

The next step is to transfer clustered terms into concept tables:

- Transfer clustered terms/phrases into concept tables to create a list of terms that one will use for searching.
- List associated terms under an 'umbrella' concept - e.g. disease, Malawi.
- Clusters form key terms for search strategy or search table.
- Take the concept 'clusters' and place them into a search/concept table as shown below.

Table 6. Example of a concept table

Key concept 1 Health	**Key concept 2 Malawi**	**Key concept 3 Family Planning**
Diseases	Lilongwe	Family Planning Methods
HIV and AIDS	Republic of Malawi	Natural Family Planning
HIV and AIDS Prevention	Southern Africa	Family Planning services

Clustered terms positioned within a concept table will help one to formulate a search strategy. By listing the concepts in a separate cell (under an umbrella term), one can begin to combine terms to create a search strategy. This technique is a great way to systematically record the combination of terms used in the search strategy.

To expand and enrich the search terms, one should also look at related search terms or subject terms in online databases. Figure 6 points to the part of the online page/database where one will find related search terms or subject terms. Once all the concepts have been gathered together in the table, one can begin to combine terms to create 'meaningful' search queries that respond to one's search question. In this example, the terms "HIV AIDS", "Lilongwe" and "family planning services" have been combined. Note that combinations of keywords e.g. "HIV AIDS" have been enclosed in speech marks. This may or may not be necessary in all databases or search engines, but it is good practice as it ensures that the search limits only to documents with these terms following each other.

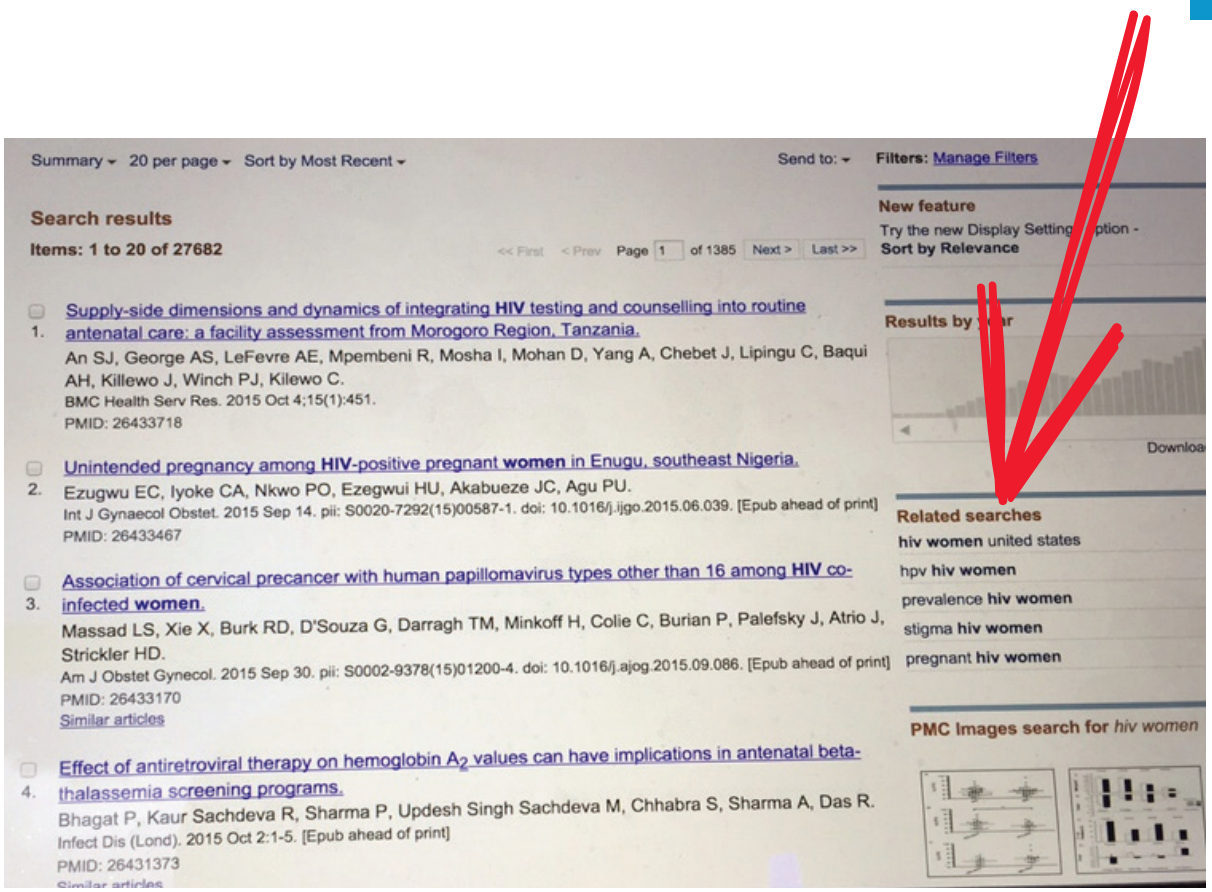


Figure 6. A search screen showing a source of more search terms

4.5 Boolean terms and Google search operators

Boolean terms are logical operators used in expanding or limiting an Internet information search. The operators include: AND, OR, and NOT. Figure 10 demonstrates how Boolean terms can be used in conducting an Internet search.

Some specialists think that as search engines like Google are becoming more sophisticated, Boolean terms are becoming a thing of the past. Still, some repositories use Boolean terms so we include them here along with some Google search tips.

Boolean operators can provide a powerful way of entering a search as they allow one to specify how the search terms are combined. To do this, one needs to use Boolean logic operators, namely: AND, OR, and NOT or their equivalents on the system that one is using (see Figure 10 below for demonstration). It is important to find out how the particular resource one is using uses these commands: some use symbols such as "+" (for AND), "-"for NOT), "*" (truncating terms), etc. There is almost always a 'help' section, which will explain how that particular resource works. Although different symbols may be used to represent the Boolean commands or operators, what the operators do is the same. Here are some tips on the use of Boolean terms:

- AND, OR and * (truncation/pluraliser) are the three most important Boolean operators. Use NOT sparingly since it will exclude a potential source if the term is mentioned.
- Truncation: place a symbol at the end of the word so you search for variant endings of that word, e.g. litera$ would look for literature, literacy, and literal.
- Wildcards: place a symbol within a word to find variations on it: e.g. analy*e would find analyse or analyze.
- Different symbols are used by different search engines.
- Inserting search phrases in speech marks ("") ensures a search for the exact phrase. For example, entering the phrase "knowledge uptake" into a search engine will only generate documents that have the phrase "knowledge uptake".
- Boolean operators must be entered in capital letters (e.g. Synergy AND Conflict).

- Different search tools may use "OR" or "AND" as a default setting, which means one may not need to enter these operators between the search terms or phrases. Google search engine is such an example.
- A search strategy should build up the controlled vocabulary terms, keywords, synonyms and related terms for each concept at a time, joining together each of the terms within each concept with the Boolean 'OR' operator.

From a librarian: "When using web search engines, search strategies should be entered into the advanced search screen as this allows the searcher to easily use Boolean logic and limiting commands through the use of menus.

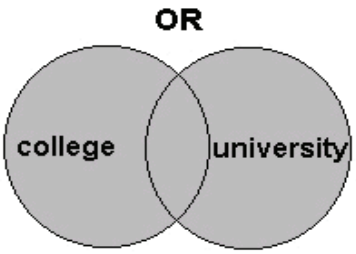
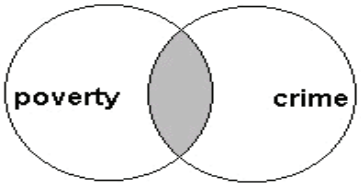
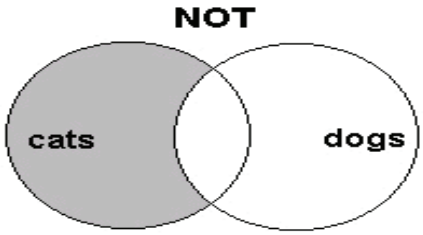
 **college OR university**	I would like information about 'college' or 'university'. OR expands your search. In this example, the search will return documents that have both the terms 'college' and 'university'.
 **poverty AND crime**	I would like information about both 'poverty' and 'crime'. AND refines your search. In this example, the search will return documents that have both the terms 'poverty' and 'crime', but leave out documents that only have one of these words 'poverty' or 'crime'
 **cats NOT dogs**	I would like information about 'cats' and not 'dogs' NOT limits your search. In this example, the search will return documents that have the word 'cats' and leave out documents that have the word 'dogs'.

Figure 7. Illustrating how the Boolean Search Operators function
Source: Adapted from DeVry University South Florida Camous Community Website, n.d.

4.5.1 Google search tips: using punctuation, symbols and operators in searches

Google is a sophisticated search engine that uses a number of punctuation and search operators to help one discover information more efficiently and get more specific results. The punctuation, symbols and operators used in making Google searchers more effective are described in more detail overleaf.

Punctuation

Google and Google Scholar recognise a number of special characters that can improve the quality of the search results. These special characters are represented in Table 7.

Table 7. Google search operators

Symbol	What it is used for
+	Include terms in the search results e.g. +Malaria and +Polio
-	Remove or exclude these words from search results e.g. '+Malaria', '–Vaccine'
" "	A combination of words or a phrase in quotation marks, the results will only include pages with these words in the same order

Google search operators

Google has several search operators that can improve the efficiency and speed with which one can search a whole site.

The "Site:" operator is a powerful search prefix that will enable one to search a specific site or type of site (e.g. ac.uk) for content. One can also combine a key word or search terms with the operator to locate specific information. For example, Site: who.int "malaria control" report – will look for reports that contain the keywords "malaria control" within the WHO website. The formula for the search query is as follows:

- Use the site: tag and follow it with the website address (i.e. URL). There should be no space between the colon and the website address. This is very important point, because if one leaves a space between 'site:' and the website address, the search query will not work
- Also note that one does not need the "www" in front of the website address
- One can list terms after the website (leave a space between the website address and terms)
- Google will understand that keywords placed beside each other are combinations of terms, in other words the Boolean AND
- If a keyword must be included in the results, one can use a "+" symbol before the term (this applies with or without the site: tag) e.g. no space e.g. +vaccines)
- If one wants to exclude a term, one should use the "–" symbol in front of the keyword (no space e.g. -vaccines)
- To combine keywords in a particular order, enclose them in speech marks e.g. "immunisation programmes".

4.6 Assessing source credibility

An important aspect of searching for evidence on online databases is to be able to assess the source credibility so that one is assured that the evidence found is sound. Note that the next chapter will address assessing the quality and credibility of studies and content. In this section therefore the focus is only on assessing the source of the evidence.

Proxy for quality #1: Reputation

The source of the evidence is sometimes as important as the evidence itself. Another way to assess quality is knowing whether or not the manuscript comes from a reputable source. For instance, if the source is Cochrane, one can have a certain amount of confidence about the credibility of the evidence.

Proxy for quality #2: Journal rankings

Journal ranking systems can provide an indicative proxy guide regarding the scrutiny with which an academic study has been subjected prior to publication. The principal journal ranking system is the 'Impact Factor' rating. Journals often publish their Impact Factor ranking somewhere on their website. The higher the Impact Factor, the better the journal. The Impact Factor is the measure of how many times the average article in the journal has been cited in the last two years. It therefore shows if people are using the journal to write about other things. It is important to note, however, that a new journal may be great, but it will not have an Impact Factor because it is not on the playing field yet (remember the Impact Factor is calculated using a two-year time period of measurement).

Not all well-designed and robustly applied research is to be found in peer-reviewed journals and not all studies in peer reviewed journals are of high quality. Journal rankings do not always include publications from southern academic organisations or those that feature in online journals, so a broad and inclusive approach is required to capture all relevant studies.

For more information on this, read the two publications below:

- DFID's How to Note: Assessing the Strength of Evidence (available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/291982/HTN-strength-evidence-march2014.pdf
- Searching for Studies: Information Retrieval Methods Group Policy Brief (available at:http://www.campbellcollaboration.org/artman2/uploads/1/C2_Information_retrieval_policy_brief_new_draft.pdf)

4.7 When there is no documented evidence

Sometimes there is no documented evidence for informing a policy or programme decision. In this case, a policy-maker could assemble a team of experts (including top scientists, practitioners, and programme implementers) to advise the MoH. Given the importance of the views of the beneficiaries of the policy decision, the policy-maker could gather public views on the issue. The policy-maker could also recommend that the MoH commissions research on the issue in order to obtain credible evidence to inform the selection of a viable policy option for tackling the issue.

Chapter 5

Appraising Evidence for Decision-Making

Chapter 5

Appraising Evidence for Decision-Making

The goal of evidence-informed policy-making is not simply to increase reliance on research results, but to increase reliance on "good" (i.e., rigorous) research. This chapter focuses on developing knowledge and skills to critically assess the strength of evidence. It starts with a primer on basic research methods in order to build knowledge and skills on the type and quality of evidence generated by the different research methodologies. It then deliberates the criteria for assessing the quality and rigour of research evidence.

5.1 Basic research methods primer

5.1.1 What is research?

Research is:

- Process of discovering new knowledge
- A systematic investigation
- Designed to produce new generalisable knowledge/or test a hypothesis
- "Research" comes from French "recherche", which means "to go about seeking"

Research is different from other forms of discovering knowledge (like reading a book) because it uses a systematic process called the Scientific Method.

A systematic investigation means that a careful plan is followed to gather and analyse information. It means information gathering is done according to an established plan or system; or in a methodical way, and that it can be replicated.

Generalisable means the information gathered can be applied to other populations, and has been published and disseminated.

5.1.2 Research design and methods

No matter what topic is being studied, the value of the research depends on how well it is designed and carried out. A research design is a framework in which a research study is undertaken. A research employs one or more research techniques to collect and analyse data. One may ask: why is research design so important?

The design is the logical structure that gives direction and systemizes the study.

- Serves to ensure that we obtain relevant data to answer the research question in a convincing way
- Choice of study design is critical:
    - Affected by type of research question
    - Dictates the type of conclusions that can be drawn
    - Influenced by availability of resources and time needed to accomplish the task

- Knowing the research design is also important in appraising evidence since certain research designs are known to produce more rigorous evidence than others. Figure 8 below presents the hierarchy of evidence from different research designs, with systematic reviews and RCTs being at the top of this hierarchy.

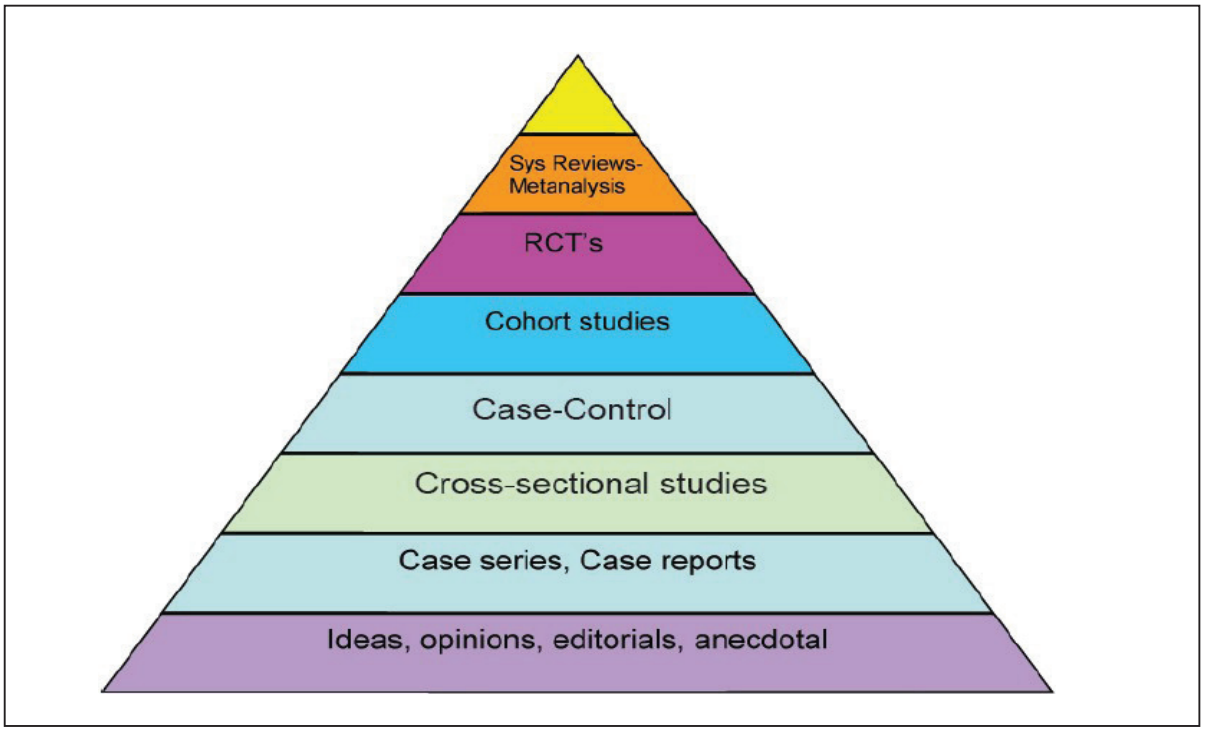


Figure 8. Hierarchy of evidence
Source: Adapted from University of Illinois at Chicago, undated.

Major types of research designs include: Action Research; Case Study; Causal; Cohort; Cross-sectional; Descriptive; Experimental; Exploratory; Historical; Longitudinal; Meta-Analysis and Observational designs. Annex 2 provides a detailed table on these 12 designs, including the information the research designs generate and how it can be used in policymaking.

It is important to note that some designs are better suited for demonstrating the presence of a causal relationship, others are more appropriate for explaining such causal relationships while some designs are more useful for describing political, social and environmental contexts. Table 8 summarises most commonly used designs in public health and research questions they tend to answer.

Table 8. Research questions and study designs

State of knowledge	Type of research questions	Study type
Knowing that the problem exists but knowing little about its characteristics or possible causes	What is the nature / magnitude of the problem? Who is affected? How do the affected people behave? What do they know, believe, think about the problem and its causes?	Exploratory studies or Descriptive studies: - Descriptive case studies - Cross-sectional surveys
Suspecting that certain factors contribute to the problem	Are certain factors indeed associated with the problem? (e.g. Is lack of pre-school education related to low school performance? Is low fibre diet related to Ca. bowel?	Analytical (comparative) studies: - Cross–sectional surveys - Case-control - Cohort
Having established that certain factors are associated with the problem: desiring to establish the extent to which a particular factor causes or contributes to the problem	What is the cause of the problem? Will the removal of a particular factor prevent or reduce the problem? E.g. stopping smoking and lung cancer	Cohort studies Experimental or quasi-experimental
Having sufficient knowledge about causes to develop and assess an intervention that would prevent, control or solve the problem	What is the effect of a particular intervention/ strategy? (e.g. Rx with a particular drug Which of two alternate strategies gives better results? Which strategy is most cost-effective?	Experimental or quasi-experimental

5.2 Types of evidence

Primary research studies empirically observe a phenomenon at first hand, collecting, analysing or presenting 'raw' data. They tend to employ the following designs:

- Experimental
- Quasi-experimental
- Observational

Secondary review studies interrogate primary research studies, summarising and cross-examining their data and findings. They tend to employ the following designs:

- Systematic reviews - A systematic review is defined as "a review of the evidence on a clearly formulated question that uses systematic and explicit methods to identify, select and critically appraise relevant primary research, and to extract and analyse data from the studies that are included in the review." (NHS Centre for Reviews and Dissemination 2001). See page 48-49 for more details on systematic reviews.

- Non-systematic reviews - Non-systematic or traditional literature reviews use informal, unsystematic and subjective methods to collect and interpret information (Klassen et al 1998). And the information is often summarized subjectively and narratively (ibid). Processes such as searching, quality appraisal and data synthesis are not usually described in the reviews and as such, these reviews are prone to bias. An advantage of these reviews is that they are often conducted by 'experts' who may have a thorough knowledge of the research field, but they are disadvantaged in that the authors may have preconceived notions or biases and may overestimate the value of some studies (Hedin and Kallestal 2004).

Theoretical or conceptual studies: most studies (primary and secondary) include some discussion of theory, but some focus almost exclusively on the construction of new theories rather than generating, or synthesising empirical data.

Qualitative and quantitative: data collection can be either quantitative or qualitative. Data analysis methods can also be quantitative (using mathematical techniques to illustrate data or explore causal relationships) or qualitative (collating (i.e. assembling and comparing) 'rich' textual data and inferring meaning).

Qualitative data are usually text-based and can be derived from in-depth interviews, observations, analysis of written documentation or open-ended questionnaires. Qualitative research aims to gather an in-depth understanding of human behaviour and the reasons that govern such behaviour. The discipline investigates the why and how of decision-making, not just the what, where and when. It allows researchers to explore the thoughts, feelings, opinions and personal experiences of individuals in some detail, which can help in understanding the complexity of an issue. Qualitative research uses smaller but focused samples rather than large random samples.

Qualitative research is also highly useful in policy and evaluation research, where understanding why and how certain outcomes were achieved is as important as establishing what those outcomes were. Qualitative research can yield useful insights into programme implementation such as: Were expectations reasonable? Did processes operate as expected? Were key players able to carry out their duties?

Quantitative data are numerical data that can be manipulated using mathematical procedures to produce statistics. Quantitative research is the systematic scientific investigation of quantitative properties, phenomena and their relationships. The objective of quantitative research is to develop and employ statistical models, theories and/ or hypotheses pertaining to phenomena and relationships. The process of measurement is central to quantitative research because it provides the fundamental connection between empirical observation and statistical expression of quantitative relationships.

5.3 Assessing the strength of evidence

An important step in evidence-informed policy-making is learning how to objectively examine information to determine its value as evidence. It is also important to look at content quality criteria in appraisal, besides strength of evidence, such as:

- Uniqueness – is it original?
- Completeness – is any information missing?
- Coverage – what depth does it go into?
- Timeliness – is it up-to-date?

Other key questions to ask to enable you examine evidence quality include:

- What makes the study important?
- Do the findings make sense?
- Who conducted the research and wrote the report?
- Who published the report?

- Did the researcher select an appropriate group for study?
- If comparison groups are used, how similar are they?
- What has changed since the information was collected?
- Are the methods appropriate to the research purpose?
- Does the study establish causation?
- Is the time frame long enough to identify an impact?
- Could the data be biased as a result of poor research design?
- Are the results statistically significant?

Table 9 provides important principles that one can use to assess the quality of research evidence.

Table 9. Principles of research quality

Principles of quality	Associated questions
Conceptual framing	Does the study acknowledge existing research? Does the study construct a conceptual framework? Conceptual framework refers to a visual or written product that "explains, either graphically or in narrative form, the main things to be studied—the key factors, concepts, or variables—and the presumed relationships among them." Miles and Huberman (1994: p.18). Does the study pose a research question or outline a hypothesis?
Transparency	Does the study present or link to the raw data it analyses? What is the geography/context in which the study was conducted? Does the study declare sources of support/funding?
Appropriateness	Does the study identify a research design? Does the study identify a research method? Does the study demonstrate why the chosen design and method are well suited for the research question?
Cultural sensitivity	Does the study explicitly consider any context specific cultural factors that may bias the analysis/findings?
Validity	To what extent does the study demonstrate measurement validity? Validity refers to the degree to which a measurement method or instrument actually measures the concept in question. To what extent is the study internally valid? Internal validity is only relevant in cause-effect studies, or studies that try to establish a causal relationship. Internal validity refers to how well the study was run (i.e., research design, operational definitions used, how variables were measured, what was/wasn't measured, etc.), and how confidently one can conclude that the change in the dependent variable was produced solely by the independent variable and not extraneous ones.

	To what extent is the study externally valid? External validity is the extent to which results of a study can be generalised to the world at large. To what extent is the study ecologically valid? Ecological validity refers to the extent to which the findings of a research study are able to be generalised to real-life settings.
Reliability Reliability "refers to the extent to which results are consistent over time and an accurate representation of the total population under study … if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable." (Joppe 2000: p1).	To what extent are the measures used in the study stable? To what extent are the measures used in the study internally reliable? Internal reliability refers to the consistency of data collection, analysis, and interpretation. On ether other hand, external reliability refers to the extent to which independent researchers can reproduce a study and obtain results similar to those obtained in the original study. To what extent are the findings likely to be sensitive/ changeable depending on the analytical technique used?
Cogency Cogency refers to the soundness of the research, is the conclusion truthful given the study's results. It also refers to clarity of the presentation of the research.	Does the author 'signpost' the reader throughout? To what extent does the author consider the study's limitations and/or alternative interpretations of the analysis? Are the conclusions clearly based on the study's results?

Source: Adapted from DFID (2014). How To Note: Assessing the Strength of Evidence.

Figure 9 below depicts a quick critical appraisal process that one should go through before deciding to read and possibly use the evidence contained in a research report or paper.

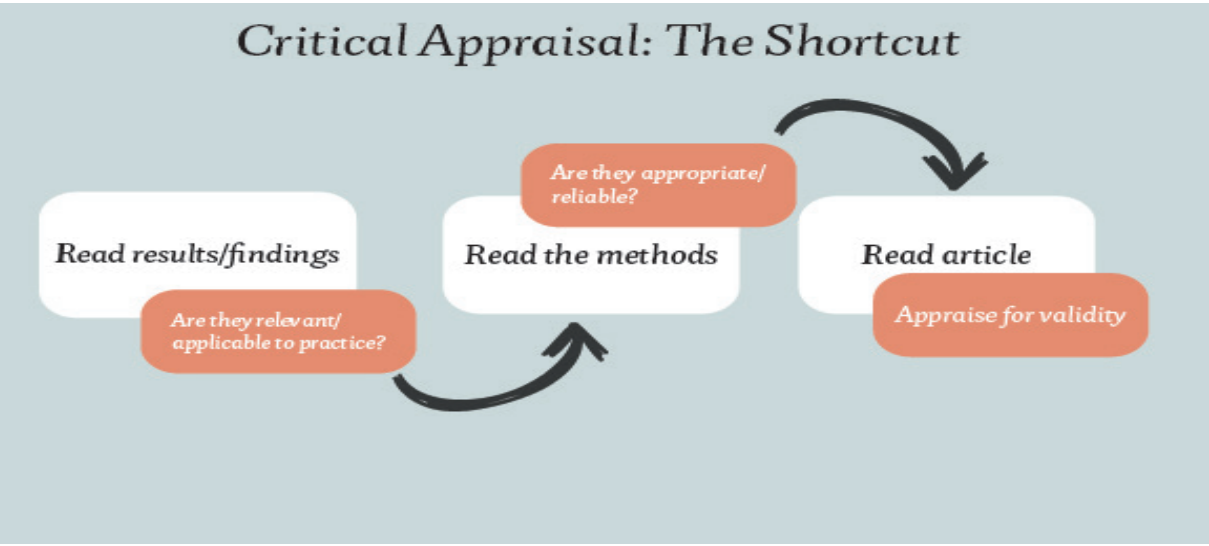


Figure 9. Illustrating a quick critical appraisal process

5.3.1 Assessing validity and reliability

Internal and external validity and reliability are key concepts in evaluating the strength of evidence. Internal validity is the approximate truth about inferences regarding cause-effect or causal relationships. Thus, internal validity is only relevant in studies that try to establish a causal relationship. It is not relevant in most observational or descriptive studies, for instance: Is the intervention actually causing the desired outcome? Are the changes observed due to the intervention or due to other possible factors? Internal validity means that we are able to rule out competing explanations for observed changes, and are confident that the observed changes are due to the intervention.

External validity is the validity of generalised (causal) inferences in scientific research, usually based on experiments as experimental validity. In other words, it is the extent to which the results of a study can be generalised to other situations and to other people. For instance: Is the programme replicable? Will it produce similar results in different settings?

Reliability of a research instrument concerns the extent to which the instrument yields the same results on repeated application. Although unreliability is always present to a certain extent, there will generally be a good deal of consistency in the results of a quality instrument gathered at different times.

5.3.2 Assessing the body of evidence

Assessment of the overall strength of a body of evidence with reference to a particular policy or business case is directly linked to the quality, size, consistency and context of the body of the evidence. Where you are not able to assess all the individual studies that constitute a body of evidence due to inadequate time or expertise, you should:

- Seek to use evidence synthesis products which have assessed the quality of individual studies, such as systematic reviews;
- Commission evidence synthesis products which assess the quality of individual studies; or
- Seek to make a judgement about a body of evidence based on the criteria outlined above.

5.3.3 Systematic reviews: Appraising the methods and interpreting the results

As noted in Chapter 3, systematic reviews can be invaluable for evaluating available evidence in a methodical manner and providing a critical summary of strength and direction of evidence. It is critical to interpret the results of a systematic review in the light of the quality appraisal of the included studies, and the differences between the study settings and populations and your own. The hierarchy of evidence varies depending on the nature of the question to be investigated. For example, for interventional studies, systematic reviews of randomized-controlled trials are at the top of the hierarchy of evidence. They are therefore regarded as the best source of evidence (see Figure 8).

To appraise the methods, interpret the results and use the evidence for recommendation, the following methodologies are used:

- The AMSTAR checklist to rapidly appraise the methods of a systematic review.
- The GRADE approach as a framework for appraising the results of a systematic review.
- The DECIDE framework for moving from evidence to recommendations.

AMSTAR checklist for appraising the methods of a systematic review

The Assessment of Multiple Systematic Reviews (AMSTAR) is measurement tool to assess the methodological quality of systematic reviews. The tool consists of 11 items and has good face and content validity. AMSTAR has only been tested for systematic reviews of interventions. It enables clinicians to assess effectively and efficiently results from systematic reviews as reliable, questionable or unreliable. The tool aims to highlight the aspects of systematic review methodology that influence its overall quality.

It comprises 11 concise criterion items; each item is given a score of 1 if the specific criterion is met, or a score of 0 if the criterion is not met, is unclear, or is not applicable. An overall score relating to review quality is then calculated (the sum of the individual item scores). AMSTAR characterises quality at three levels: 8 to 11 is high quality, 4 to 7 is medium quality, and 0 to 3 is low quality. Although, scoring systems are controversial, the principles of the AMSTAR tool can be used to demonstrate aspects of systematic review methodology that influence the overall quality of a review. For complete and step-by-step AMSTAR measurement tool for assessing the methodological quality of systematic reviews see Shea et al, 2007.

GRADE approach as a framework for appraising the results of a systematic review

The Grading of Recommendations Assessment, Development and Evaluation (GRADE) was developed as a common, sensible and transparent approach to grading quality of evidence and strength of recommendations.

Judgments about evidence and recommendations in healthcare are complex. For example, those making recommendations must decide between recommending treatment A or treatment B for the treatment of a disease/condition. They must agree on which outcomes to consider, which evidence to include for each outcome, how to assess the quality of that evidence, and how to determine if A will do more good than harm compared with B. Because resources are always limited and money that is allocated to treating the disease/condition cannot be spent on other worthwhile interventions, they may also need to decide whether any incremental health benefits are worth the additional costs.

Therefore, a systematic and explicit approach to making judgments such as these can help to prevent errors, facilitate critical appraisal of these judgments, and can help to improve communication of this information. The GRADE Working Group suggested a criteria which can assist in making such judgements.

- "Quality of evidence" should be defined consistently with one of the two definitions (for guidelines or for systematic reviews) used by the GRADE Working Group.
- Explicit consideration should be given to each of the GRADE criteria for assessing the quality of evidence (risk of bias/study limitations, directness, consistency of results, precision, publication bias, magnitude of the effect, dose response gradient, influence of residual plausible confounding and bias "antagonistic bias") although different terminology may be used.
- The overall quality of evidence should be assessed for each important outcome and expressed using four (e.g. high, moderate, low, very low) or, if justified, three (e.g. high, moderate, and very low and low combined into low) categories based on definitions for each category that are consistent with the definitions used by the GRADE Working Group.
- Evidence summaries (narrative or in table format) should be used as the basis for judgements about the quality of evidence and the strength of recommendations. Ideally, full evidence profiles suggested by the GRADE Working Group should be used and these should be based on systematic reviews. At a minimum, the evidence that was assessed and the methods that were used to identify and appraise that evidence should be clearly described. In particular, reasons for upgrading and downgrading should be described transparently.

- Explicit consideration should be given to each of the GRADE criteria for assessing the strength of a recommendation (the balance of desirable and undesirable consequences, quality of evidence, values and preferences, and resource use) and a general approach should be reported (e.g. if and how costs were considered, whose values and preferences were assumed, etc.).

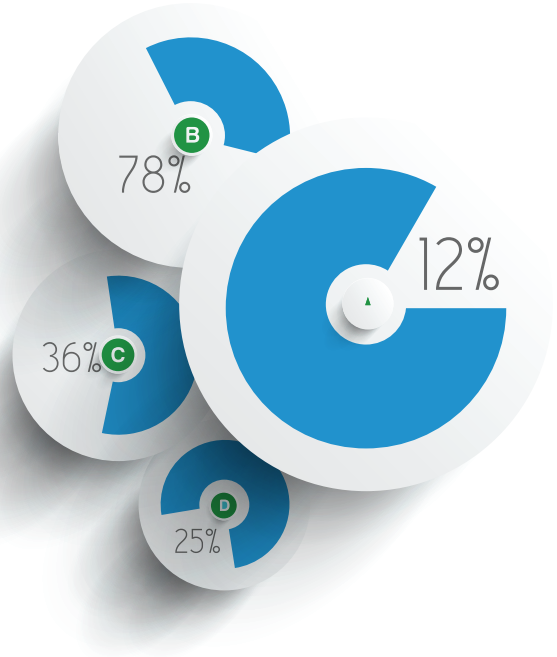
- The strength of recommendations should be expressed using two categories (weak/conditional and strong) for or against a management option and the definitions for each category should be consistent with those used by the GRADE Working Group. Different terminology to express weak/conditional and strong recommendations may be used, although the interpretation and implications should be preserved.

- Decisions about the strength of the recommendations should ideally be transparently reported. For complete and step-by-step guidelines on how to use GRADE approach as a framework for appraising the results of a systematic review, go to: http://www.gradeworkinggroup.org/publications/Minimum_criteria_for_using_GRADE_web.pdf

The DECIDE frameworks for moving from evidence to recommendations

Organizations and public health professionals worldwide compile results from scientific studies, and grade the evidence of interventions, in order to assist policymakers. However, quality of evidence alone is seldom sufficient to make a recommendation. Over the past decade, an international collaboration of methodologists and guideline developers have produced the Developing and Evaluating Communication Strategies to Support Informed Decisions and Practice Based on Evidence (DECIDE) framework for formulating evidence-informed policy recommendations. The framework aims to facilitate decision-making and to improve dissemination and implementation of recommendations in the healthcare and public health sector. More information on DECIDE framework can be found here: http://www.decide-collaboration.eu/.

Chapter 6



Synthesising Evidence For Decision-Making

Chapter 6

Synthesising Evidence for Decision-Making

The objective of this chapter is to develop knowledge and skills in critical review of multiple sources of evidence, synthesising these evidences into one new whole that provides clear policy options, implications and recommendations for tackling a policy issue. The chapter covers the skills in determining the usability and applicability of evidence to a different context from where it is generated, steps in conducting evidence synthesis, developing actionable recommendations, and writing effective policy briefs.

6.1 Evidence usability

Take a moment to reflect on your own experience or actions when deciding if a particular piece of evidence is usable to you and your situation. There are two main considerations to make when determining whether to use specific evidence within a particular institution or geography, namely, applicability and transferability. Usability therefore refers to the applicability and transferability of evidence.

Applicability refers to the feasibility of an innovation in a particular setting. In other words, is it possible to implement it in your context?

Transferability refers to the extent of generalisability of an innovation. In other words, is the innovation relevant to your context, and is it likely to generate the same type of impact in your setting as it did where it was tested? Another word for this is replicability.

Table 10 below provides criteria for assessing the applicability and transferability of evidence generated elsewhere to your context.

Table 10: Assessment of applicability and transferability

Applicability (feasibility)	Political acceptability or leverage	• Will the intervention be allowed or supported in current political environment? • Will there be public relations benefit for local government? • Will this programme enhance the stature of the organisation? • Will the public and target groups accept and support the intervention in its current format?
	Social acceptability	• Will the target population be interested in the intervention? Is it ethical?
	Available essential resources (personnel and financial)	• Who/what is available/essential for the local implementation? • Are they adequately trained? If not, is training available and affordable? • What is needed to tailor the intervention locally? • What are the full costs (supplies, systems, space requirements for staff, training, technology/administrative supports) per unit of expected outcome? • Are the incremental health benefits worth the costs of the intervention?

Transferability (generalisability)	Magnitude of health issue in local setting	• Does the need exist? • What is the baseline prevalence of the health issue locally? • What is the difference in prevalence of the health issue (risk status) between study and local settings?
	Magnitude of the "reach" and cost effectiveness of the intervention above	• Will the intervention broadly "cover" the target population?
	Target population characteristics	• Are they comparable to the study population? • Will any difference in characteristics (ethnicity, socio-demographic variables, number of persons affected) impact intervention effectiveness locally?
Other considerations	Safety, efficacy, sensitivity and specificity in the case of results from a random controlled trial, sustainability, etc.	

Source: Adapted from Buffet et al, 2007

6.2 Synthesising evidence: What is it?

"Synthesis is the process of ordering, recalling, retelling, and recreating into a coherent whole" (Zimmermann and Hutchins, 2003). Synthesising evidence brings information from multiple sources together in new ways and helps you to interpret it for yourself and your audience. A synthesis consolidates summaries of several sources and points out their relationships. It enables you to provide background, explore causes and effects, contrast explanations, or consolidate support for your argument.

It is important to synthesise evidence because by using multiple sources you can:

- Provide more than one opinion
- Validate other sources
- Validate your research
- Defend your research
- Increase your understanding

6.2.1 Differences between summarising and synthesising evidence

Table 11. Differences between summarising and synthesising

Summary	Synthesis
Basic reading technique.	Advanced reading technique.
Pulls together information in order to highlight the important points.	You pull together information not only to highlight the important points, but also to draw your own conclusions.
Re-iterates the information.	Combines and contrasts information from different sources.
Shows what the original authors wrote.	Not only reflects your knowledge about what the original authors wrote, but also creates something new out of two or more pieces of writing.
Addresses one set of information (e.g. article, chapter, document) at a time. Each source remains distinct.	Combines parts and elements from a variety of sources into one unified entity.
Presents a cursory overview.	Focuses on both main ideas and details.
Demonstrates an understanding of the overall meaning.	Achieves new insight.

Source: Sarah Elaine Eaton 2010

6.2.2 Steps for synthesising evidence

6.2.2.1 *Identify* the role of a synthesis in one's writing as well as the kind of information readers will need. One needs to be clear on how synthesis will help in providing the information needed by the audience.

6.2.2.2 *Read* each of the information sources found from the searches and prepare a summary of each. Find the important ideas in all pieces of evidence.

6.2.2.3 *Focus* - decide on the purpose of the synthesis, and draft a summary of the conclusions about how the sources relate. Summarise before synthesising.

6.2.2.4 *Think* about what one already knows about these important ideas. Can one add something the authors have not mentioned? What are one's own ideas about the information? What observations can one make about this information?

6.2.2.5 *Arrange* - select a sequence for the sources in the synthesis. Think about how to rearrange or reorganise the information in a new way.

6.2.2.6 *Write* the synthesis, combining the summaries of the sources with the conclusions about their relationships. Combine them in one summary.

6.2.2.7 *Visualise* - diagrams are especially helpful tools for synthesising data. By visually representing relationships that one is seeing, one can communicate many concepts on one page.

6.2.2.8 *Revise* so that the synthesis is easy to read and readers can easily identify the sources of the various ideas.

6.2.2.9 *Document* - indicate clearly the sources for the synthesis using a standard style of documentation.

Note: Although we have listed these steps as if it is a linear process, in reality it is a back and forth process. Some of the steps can take place concurrently.

6.2.3 Analysing evidence on policy options for tackling the policy issue

Critical analysis of the evidence on the potential policy options for tackling the policy issue is an important step in the synthesis process. Basically, if one is going to propose policy solutions/options for tackling the problem, one needs to have a good understanding of the current options being implemented and why they are not working, and strong evidence on other policy options, explaining clearly why these are likely to work compared to the current options. This critical review should be well laid out by the way one discusses the evidence on the different potential policy options. This is why systematic reviews come in handy as noted earlier. Where there are not systematic reviews, results from single studies must be critically analysed and appraised before informing policy decisions.

6.2.4 Tips for presenting evidence

There are several ways of presenting evidence from multiple sources. Besides synthesis as text in the body of the paper, one can use as quotes or paraphrase. Sometimes one might include graphs, charts, or tables; excerpts from an interview; or photographs or illustrations with accompanying captions.

Using quotes means one is reproducing another writer's words exactly as they appear on the page. Here are some tips to help in deciding on when to use quotations:

- Quote if one can't say it any better and the author's words are particularly brilliant, witty, edgy, distinctive, a good illustration of a point you're making, or otherwise interesting
- Quote if one is using a particularly authoritative source and one needs the author's expertise to back up a point
- Quote if one is analysing diction, tone, or a writer's use of a specific word or phrase
- Quote if one is taking a position that relies on the reader understanding exactly what another writer says about the topic

To paraphrase implies taking a specific section of a text and putting it in one's own words. This does not mean just changing or rearranging a few of the author's words. To paraphrase well and avoid plagiarism, try setting one's source aside and restating the sentence or paragraph that one has just read, as though one is describing it to another person. Paraphrasing is different from summary because a paraphrase focuses on a particular, fairly short bit of text (like a phrase, sentence, or paragraph). One has to indicate when paraphrasing someone else's text by citing the source correctly, just as one does with a quotation.

When might one want to paraphrase?

- Paraphrase when one wants to introduce a writer's position, but his or her original words aren't special enough to quote
- Paraphrase when one is supporting a particular point and needs to draw on a certain place in a text that supports one's point. For example, when one paragraph in a source is especially relevant
- Paraphrase when one wants to present a writer's view on a topic that differs from their own position or that of another writer; one can then refute the writer's specific points in their own words after paraphrasing
- Paraphrase when one wants to comment on a particular example that another writer uses
- Paraphrase when one needs to present information that is unlikely to be questioned

6.2.5 Tips for writing compelling and concise syntheses

Present an evidence-based message by complementing quantitative and qualitative evidence, i.e. using statistics as well as stories. Also:

- Simplify complex evidence
- Present it in a compelling manner

Keep your message short by:

- Focusing on the policy problem
- Presenting only three main findings/points
- Presenting a conclusion/implication and recommendations to address the problem

Keep your message simple by unpacking complex issues into simple messages. Table 12 gives examples of complex versus simplified messages.

Table 12. Example of unpacking complex issues into simple messages

58% adult Malawians own a bicycle	OR	Nearly 6 in ten Malawians own a bicycle
There exist a positive correlation between the level of education and the number of times a woman attends antenatal care clinics, the correlation is especially significant for women who have attained secondary school education and above	OR	Education helps improve the health of mothers; women with secondary school education or higher are more likely to seek care during pregnancy than women with lower levels of education

6.2.6 Format for presenting your synthesis

Table 13 proposes a possible format for presenting a synthesis of evidence. Essentially, the synthesis should include introduction (background to the policy issue), methods (brief indication of how you gathered the evidence and mention of key document/research you drew from), policy options (critical analysis of the potential policy options for tackling the issue – the evidence that you found and conclusions), policy recommendations (based on the evidence presented in policy options, one identifies a few recommendations of what should be done to tackle the issue).

Table 13. Format of an evidence synthesis

Component	Description
1. Introduction (Background)	• A clear statement of the problem or issue • A short overview of the root causes of the problem • A clear statement of the policy implications of the problem that clearly establishes the current importance and policy relevance of the issue
2. Methods	• A brief highlight of how one gathered the information being presented in the synthesis • It can also list some of the key research documents that one reviewed, e.g. a list of the five recent systematic reviews that one read
3. Policy Options	• A critical overview of the policy options, including the current and proposed options • Should explain why current option is failing, and present other potential policy options • It is the critical presentation of the evidence on how the policy issue should be tackled
4. Policy Recommendations	• Gives the policy recommendations informed by the discussion in the Policy Options section
5. References	• Lists all the references used in the synthesis

6.3 Writing actionable recommendations

A policy recommendation is simply written policy advice prepared for some group or individual that has the authority to make decisions, whether that is the cabinet, council, committee or other body. Policy recommendations are in many ways the chief product of the work of government managers to create and administer public policy.

The impact of policy recommendations partly depends on how well the issue and the arguments justifying the recommended course of action are presented. Therefore, in addition to keeping the recommendations short/concise and readable (simple), they need to have the highest level of accuracy. One therefore needs to review findings from systematic reviews and elsewhere before making recommendations for policy change.

When thinking about recommendations for responding to a policy issue, one needs to critically ask themselves the following:

- What specifically needs to be changed?
- How will this change come about?
- What resources will be needed? Where will these resources come from?
- What is the overall benefit to the policymaker and to society?

The word 'actionable' suggests that the recommendations should be active. Therefore, use active language - words like use, engage, and incorporate, among others.

Examples of policy recommendations:

- As a global public health recommendation, infants should be exclusively breastfed for the first six months of life to achieve optimal growth, development and health
- Require hospitals to establish representative Medicines and Therapeutics Committees with defined responsibilities for monitoring and promoting quality use of medicines

6.4 Writing policy briefs

6.4.1 Function and elements of policy briefs

Policy briefs are concise, stand-alone documents focusing on a particular issue requiring policy attention. They can be particularly effective in bridging the research and policy divide. Typical policy briefs have four main functions to:

- Explain and convey the urgency of the issue
- Present policy recommendations or implications on the issue
- Provide evidence to support the reasoning behind those recommendations
- Point the reader to additional resources on the issue

Policy briefs remain an important research product for use by policymakers. In the 2014 SECURE Health study on status of research use within the health sector, many technical staff within MoH and parliament indicated that they required skills in developing policy briefs to be able to synthesise evidence and present it to senior policymakers in a more effective way.

A policy brief needs to strike a balance between a convincing problem description, which highlights the relevance of the policy issue, an analytical, evidence-driven section explaining policy options for tackling the issue, and the recommendations for tackling the issue (Global Debate and Public Policy Challenge, undated). A policy brief should feature five key elements:

i. Focused on tackling a policy problem: A policy brief is practical and action-oriented. Its content must focus on the problem and centred on the policy and/or political dimensions of the issue, as well as the practical solutions that can be offered based on evidence.

ii. Analysis-driven: Building on facts and evidence, a policy brief demonstrates analytical thinking on the range of possible solutions for the given problem. The arguments put forward for and against different options should be the result of a measured and balanced consideration of the possible solutions. They should take into account the impact and feasibility of the alternate policies in a variety of ways, one of which is by considering the potential costs and benefits of suggested policy options.

iii. Evidence-based: A policy brief must be evidence-based in order to convince policymakers. For this, one needs to provide and cite convincing examples such as data, comparisons, and effects of inactions or policies taken in other countries on this issue. One needs to provide evidence from multiple reputable sources and cite these sources properly.

iv. Offers viable recommendations: The goal of a policy brief is to persuade a decision-maker to address a specific issue and implement the policy recommendations that one has devised. One therefore needs to promote one's ideas from the evidence. The recommendations should take centre stage, but one should also show the audience why proposed recommendations provide the best option for tackling the issue (i.e. the recommendations should be driven by the evidence).

v. Appealing layout: A professional looking layout helps make a favourable impression on the target audience. The layout and polished look of a policy brief serves to catch the eye of the audience and draw them into reading it. It shows that the ideas and recommendations should be taken seriously. Paragraphs and sub-headings can make the structure clearly visible at first glance. Recommendations can be numbered or listed using bullet points. An easy to read graph can help to illustrate the major argument or trend. Subtle use of images might also be considered. Keep in mind that a well-designed layout reinforces the substance of the message and does not distract the reader from the arguments.

6.4.2 Structure of policy briefs

Table 14 describes the structure of policy briefs.

Table 14. Structure of a policy brief

Title of policy brief	• Focus on the issue; make title memorable by choosing a provocative or surprising title, so that it sticks in the reader's mind • It is often best to communicate your key message and the need for change in the title
Key messages	• The Key Messages aim to convince the reader further that the brief is worth reading • It is especially important for an audience that is short of time to clearly see the relevance and importance of the brief in reading the summary. Keep executive summary to just 1-3 statements • The Key Messages section should be a text-box on the first page. This should not have more than 5 messages; in fact, just a list of 3-5 messages is ideal
Introduction (context and importance of problem)	The purpose of this element of the brief is to convince the target audience that a current and urgent problem exists which requires them to take action. The context and importance of the problem is both the introductory and first building block of the brief. As such, it usually includes the following: • A clear statement of the problem or issue in focus. What is the problem? What is the magnitude of the problem? Who is affected by the problem? Why is the problem important? • A short overview of the root causes of the problem • A clear statement of the policy implications of the problem that clearly establishes the current importance and policy relevance of the issue
Critique of the policy options – present the options and discuss their impact (based on evidence)	• The main part of your brief should provide a critical analysis of the potential policy options for tackling the issue – this is an evidence-driven section • Highlight the shortcomings of the current policy • Illustrate both the need to change and focus of where change needs to occur • Provide an overview of the potential policy options for tackling the issue and discuss their justification of why these options can address the issue
Recommendations	• Based on the evidence in the preceding section, propose 3-5 specific and feasible recommendations required to address the most pressing issues outlined at the beginning of your policy brief • Your recommendation should make it clear in detail what policymakers have to do to adopt your recommendations and why it is in their best interest to do so
Reference list	At the end of the brief, include a list of references to the materials that you cited in the main text

Adapted from: Global Debate and Public Policy Challenge (undated) and Community-Based Monitoring System (CBMS) Network Coordinating Team (undated).

In addition, a policy brief may contain the following:

- Boxes and sidebars
- Tables
- Graphics
- Photographs
- Authors
- Acknowledgements
- Publication details
- References

The length of a policy brief depends either on who the audience is or the type of briefing or both. For instance, a memo, which is a type of a briefing, is often just one page. Generally, policy briefs should not be more than four pages.

6.4.3 Benchmark for a policy brief

To guarantee the quality and effectiveness of a policy brief, one needs to ensure that the brief has critical ingredients outlined in Table 15 below.

Table 15. Key ingredients of a policy brief

Evidence	Persuasive argument	• Clear purpose • Cohesive argument • Quality of evidence • Transparency of evidence underpinning policy recommendations (e.g. a single study, a synthesis of available evidence, etc.)
	Authority	• Messenger (individual or organisation) has credibility in eyes of policymaker
Policy context	Audience context specificity	• Addresses specific context > national and sub-national • Addresses needs of target audience > social vs economic policy
	Actionable recommendations	• Information linked to specific policy processes • Clear and feasible recommendations on policy steps to be taken
Engagement	Presentation of evidence-informed opinions	• Presentation of author's own views about policy implications of research findings • But clear identification of argument components that are opinion-based
	Clear language/writing style	• Easily understood by educated, non-specialist
	Appearance/design	• Visually engaging • Presentation of information through charts, graphs, photos

Source: Jones and Walsh 2008.

6.4.4 Some tips for beginning to write your policy brief

Use these questions to begin thinking about your policy brief's purpose, audience, and contribution:

- What problem will your brief address?
- Who is the audience? Why is the problem important to them? What do you know about the audience (e.g., technical knowledge, political or organizational culture or constraints, exposure to the issue, potential openness to the message)?
- What other policy or issue briefs already exist? How will your brief differ (e.g., different information, perspective, aim, or audience)?

Use these questions to lay out the outline and basic content of your policy brief:

- What is the aim of the policy brief? Write one or two sentences from which the rest of the brief will follow.
- What is the best hook for the audience?
- What background information does the audience need?
- What data are most important to include for your audience?
- How will you present the data so it best conveys its message (e.g., in text, bar graph, line graph)?
- What are the policy options based on the evidence that you have reviewed (if appropriate to your topic/aim)?

6.5 Writing an elevator pitch to make compelling case for policy option

An elevator pitch is a brief, persuasive speech used to spark interest in a policy issue that one is concerned about. Elevator pitch is commonly used in the business and corporate world, but it can also be drawn upon by professionals in the public and NGO sectors to give a compelling case for a policy option. Some may know this type of speech to be called "a pitch, snapshot or one-minute message". A good elevator pitch should last no longer than a short elevator (lift) ride of one minute, hence the name. An elevator pitch should be interesting, memorable, and succinct. An important point to bear in mind when developing an elevator pitch for a health policy issue of concern is to focus on three main messages:

- The problem
- Supporting evidence
- Request (either for a meeting to discuss issue in detail, or appeal to audience to act on the issue)

An elevator pitch should be relevant to the audience it is intended. For instance, one needs to think about the hook that will get the target audience interested in the issue. One should ask themselves a number of questions: Why should the audience listen? What is in it for the audience?

An elevator pitch should be:

- Concise: contains as few words as possible, but no fewer than one minute
- Credible: explains why you are qualified/best placed to see the problem and to build your solution
- Compelling: explains the problem your solution solves
- Consistent: every version of an effective elevator pitch conveys the same basic message
- Conversational: instead of the intention being to close the deal, the goal of an elevator pitch is to just set the hook; to start a dialogue with the audience for your pitch

An important aspect of developing an effective elevator pitch is to practice. The textbox overleaf provides an example of an elevator pitch. Note that an elevator pitch is delivered orally; preparing a written one is only meant to help one thrash out the key message or the hook they want to use to capture the attention of the target audience, and for practicing purposes.

An example of an elevator pitch: Problem of early sexual debut among teenagers

Target audience is the Secretary for Health, and the data provided is hypothetical for illustration and does not represent actual statistics.

Problem and evidence

In the recent past, we have witnessed an exponential rise in the number of teenage girls seeking pregnancy-related services in our health facilities. This poses a huge challenge to our health system that is already overwhelmed with complex challenges. Our assessment of information coming from health facilities around the country for the last 12 months has revealed that 40 percent of all hospital admissions are of teenage girls seeking pregnancy-related services. This means that in every 10 admissions, four are young girls aged between 12-19.

Implications of this evidence

The MoH needs to move fast to address this worrying trend. We have in mind winning interventions that the MoH could implement to address this issue. These have worked in resource limited settings like .., where the number of teenage girls admitted in hospital for pregnancy-related complications have been significantly reduced from 50 percent in 2013 to only 10 percent in 2015.

The ask

How may I contact you to discuss these data and interventions further? Could I have your business card? Here is my card. I will contact you in a week to follow-up on this issue.

6.6 Tips for developing effective presentations

PowerPoint presentations are commonly used to share evidence with decision-makers. For these presentations to be effective in sharing evidence with policymakers, they need to be presented in a clear and compelling manner. Here are some tips for preparing effective presentations:

- Keep the number of slides to a minimum; for example, if one has 15 minutes of presentation time, keep slides to a minimum of 10-12
- Limit the information on the slide to a single point or idea - no more than six lines, and not more than six words per line (i.e. the 6 by 6 rule)
- Keep slides simple with plenty of open space – avoid complicated figures, complex animations, or long and complex chunks of text
- Use “powerful” titles that communicate the point of the slide
- Use ‘power-points’ not sentences – present one point per line
- Use visuals – graphics, pictures
- Use large readable type
- Use strong colour contrast
- Use slide master to create consistent slides

6.6.1 Tips for delivering an effective PowerPoint presentation

When delivering a PowerPoint presentation:

- Practice is critical. Don't read the presentation verbatim; rather practice so as to deliver from the 'power-points' without reading word by word
- Show up early to ensure your equipment works
- Test the presentation on the actual presentation computer – don't assume it will work
- Spend about one minute on every slide
- Stay on time
- Turn off screen saver (if any)
- Monitor the audience's behaviour/body language to gauge their reaction
- Avoid moving the pointer unconsciously
- Ask the audience to hold questions until the end

Chapter 7

Optimising Opportunities for Evidence Uptake in Decision-Making

Chapter 7

Optimising Opportunities for Evidence Uptake in Decision-Making

Chapter 7 focuses on developing knowledge and skills on the application of the evidence as well as the indicators of evidence use. Application of evidence is the final stage in the evidence-informed policymaking (EIPM) process. This Guide looks at application of evidence broadly as including: reach, use, capacity building, and collaboration. In general, the chapter is emphasizing on how to optimize opportunities for applying evidence. However, as discussed in Chapter 2, decision-making process can be complex hence the need to consider other factors beyond evidence.

7.1 Reaching policy-makers at the right time with evidence

There are two important domains to consider when reaching policymakers, namely:

- The policy system
- The human element

7.1.1 The policy system

A first step in reaching policymakers at the right time is to understand the basics of the political system where one intends to have influence. This includes the differing roles of parliament compared to government, how laws are made, and the role of the civil service. It is also important to understand how policy on the topic of interest is made and what relevant policy processes are ongoing. There may be a special team responsible for the topic or that responsibility is devolved to county government bodies. Therefore, a first step in knowing how to reach policymakers at the right time is to identify the "policy window" in the policy-making process.

Kingdon (2003) argues that a "policy window" for influence opens when the three streams flowing independently merge or align (i.e. problem, politics, and policy - see Annex 1). Some of the things that you can do with evidence to couple the three streams in order to open a policy window of influence include:

- Networking
- Talking one-on-one
- Engaging with the system
- Writing documents and strategies
- Preparing a document for a technical working group (TWG)
- Serving on steering committee or task group for TWG
- Getting on the agenda/presenting at TWG or other key audience
- Better packaging of evidence

7.1.2 The human element in reaching policy-makers

Besides understanding the policy system, it is essential to cultivate relationships with the policymakers you are seeking to influence with the evidence. ,Two systematic reviews (conducted in 2002 and 2014) of how evidence influence decision-makers found that the absence of personal contact between researchers and policymakers and the lack of timeliness or relevance of research were the most common constraints (Innvaer et al, 2002; Oliver et al, 2014).

The important take-aways from the findings of the two systematic reviews are:

- Each policymaker has different ways they like to be contacted. Take time to check how they prefer to receive information. Knowing the background of policymakers informs communication strategies
- Timeliness is a critical element in influencing policymakers

7.2 Developing a communications strategy

Building on the foregoing section, it is important to have a clear strategy on how you will communicate your evidence to a targeted policymaker in order to in facilitate its uptake. Before going through the various stages of the developing a communications strategy, it is important to define the meaning of 'policy communications'..

Policy communications is defined as the exchange of information that is relevant to policy audiences. Information exchange can be either formal or informal (like coffee with an influential leader), but whatever form it takes - communication is an integral part of the policy process that we looked at earlier.

7.2.1 Step 1: Define your communication objectives

What does one want to achieve with communications activities? Define this in simple, clear and measurable terms. Communication objectives will be informed by the issue that one is seeking to address. For instance, if the issue that one is seeking to address is not on the policy agenda, then the communication objectives will focus on setting the agenda for the issue, and this will largely involve increasing awareness and understanding of the issue and its implications for development. On the other hand, if the issue that one is seeking to address is already on the agenda but there is no policy response, then the focus should be on communicating clear policy options for addressing the issue. The communication objective for such an issue will seek to generate support for implementing certain policy options in response to the issue. Often, people confuse communication objectives and programme objectives, especially if communications activities are part of a specific programme. Table 16 below illustrates examples of communication objectives versus programme objectives. What is most important is to think critically about what can actually be achieved by communication activities. This process helps one refine the communication objectives only to what can be achieved by communications activities.

Table 16. Communications versus programme objectives

Communications Objectives	Program objectives
Raise awareness among policymakers about the need for increased resources for maternity services	Increase the number of women who receive free maternity services by 30% in 2016
Increase support for the revision of the current free maternity health services guidelines	Revise the current free maternity health services guidelines
Increase understanding among health policymakers about the need to prioritize community health workers	Increase funds allocated to the community health worker program in the country
Promote the increase of resource allocations to health research	Increase resource allocation to health research

After defining the communications objectives, the next important thing to do is to define the specific outcome(s) for each communication objective. The outcome(s) will demonstrate success that a specific communication objective has to achieve. Table 17 below provides some examples of communication objectives and their potential outcomes.

Table 17. Expected outcomes for communication objectives

Communications Objective	Expected Outcome
Help the Principal Secretary and Director of Medical Services better understand what works in reducing child deaths	Adoption of effective interventions for reducing child deaths
Increase understanding among health policymakers about the need to prioritize community health workers	Increased resource allocations to the community health worker program

An important point to bear in mind is that policy change is an incremental process, and so the communications objectives will need to be informed by this reality. Being realistic on what one can actually achieve with communications activities means that one does not set himself/herself up for failure.

7.2.2 Step 2: Identify and analyse your audiences

An important first step in analysing the target audience is categorising them so that one is clear on:

- Who is the Primary Audience? – The policymaker who can directly affect policy on the issue in question
- Who is the Secondary Audience? – Policymakers and other actors who can influence the primary audience (allies)
- Who are the Opponents? – Policymakers and other actors opposed to the policy reform suggestions

The next step in analysing the target audience is to find out:

- What do they know about the topic?
- Are they interested in the topic?
- Who do they listen to?
- What are their information needs about the topic?
- What are their current sources of information?
- What are the best ways to reach them? (formats and channels)

A good understanding of the target audience will inform the next steps of communication, i.e. developing compelling messages for each of the different audiences and choosing effective formats and channels for reaching them.

7.2.3 Step 3: Developing messages

This guide has already covered a lot of important elements in developing compelling messages, especially under development of actionable recommendations, policy briefs and elevator pitch. Here is a recap of four tips for developing effective messages.

- Keep the number of key messages for each group to a maximum of 2-3 messages, and deliver those same messages consistently to that group. One can certainly use different spokespersons - but everybody should be reading from the same script.

- Tailor the message to fit the audience – it is the audience that should drive message content. The policymaker is likely to be most interested in how the message can help him/her achieve the goals of the MoH or department

- Make sure the message is delivered by a credible source: The messenger is often as important or (sometimes) more important than the message itself

- Keep the message at the level of the audience: avoid technical jargon, use words or phrases that conjure positive images - better to say 'family planning' or 'child spacing' than 'population control', for instance

Effective policy messages often incorporate phrases that are in vogue in the popular culture or that are framed in terms of people's values or conjure positive images in people's minds about an issue.

7.2.4 Step 4: Select the channels to use

There are multiple channels that one can use for reaching the target audience, including:

- Face-to-face (interpersonal) - workshops, seminars (are there upcoming 'focus-generating events')
- Reports or policy memoranda, or letters, emails
- Mass media – press, broadcast (Radio &TV), mass mailings, and the Internet (websites, blogs)
- Social media - Twitter, Facebook

Select formats that are the most appropriate for the target audiences. This requires a good understanding of the target audience and their preferred sources of information.

7.2.5 Step 5: Create a work plan

Key questions to bear in mind when creating a work plan:

- For whom
- By when
- By what means
- By whom
- How often
- How many

The work plan should specify:

- Communication activities and the timelines
- The resources needed (human and financial)

The work plan should also factor in upcoming 'focus-generating events' that one can take advantage of in order to communicate the evidence to influence policy decisions. Such events may include:

- Global or national conferences
- Legislation for laws/regulations
- Annual budgeting process
- Periodic programme reviews/evaluations

Pretest the messages – this can dramatically improve the effectiveness of materials, and can be low cost and require minimal effort. For instance, one can use colleagues to pretest the message and receive feedback.

7.2.6 Step 6: Implement your communications activities

Nothing will be achieved unless one implements their communications work plan. Specifically:

- Guide and work with your team in designing and delivering interventions.
- Establish and sustain important relationships with external actors needed for the successful delivery of planned communications activities. These could be relationships with other government agencies, civil society, researchers, and media, among others.

7.2.7 Step 7: Monitor and evaluate your communication activities

Monitoring and evaluating communication activities is critical for understanding their impact as well as drawing lessons for informing future communications activities. M&E activities should assess:

- Performance: Were all the activities implemented, delivered, and on time?
- Evidence that the issue has gained the attention of policymakers (are senior policymakers talking about the issue, or starting initiatives to tackle the issue, e.g. setting up a task-force or TWG to draft a policy on the issue)
- Impact: Did activities bring about the desired change? (Is there a new policy or programme tackling the issue?)Evidence that the interventions have enhanced coalition efforts to increase the saliency of the issue
- Evidence of use of the information provided for policy learning

In summary, effective communication strategies rely on:

- Audience-centred approach
- Ongoing communications/engagement activities
- Disseminating information at the right time, for the right length of time

If well designed, communications activities will create demand for more information on the issue and/or trigger a change in policy or programme.

Note that one can learn more on this through an online tutorial that addresses health communication with these objectives: Appreciate the role of health communication in public health and development; understand key steps in the development, implementation, and evaluation of high-quality health communication interventions; and access additional resources for health communication planning and guidance, at: http://www.globalhealthlearning.org/course/health-communication-managers.

7.3 What are the indicators of evidence application?

How does one know that evidence has been used?

- New policies or amended policies incorporate the evidence
- Recommendations adopted by implementing (and other) institutions
- guidelines revised to reflect the evidence
- Getting evidence discussed in higher-level policy dialogues or by high-level policymakers, e.g. getting the Cabinet Secretary for Health talking about the issue in other forums, or having the issue discussed in Cabinet or meeting of the heads of the five Departments at the MoH.

- Inclusion on agenda of technical working groups or other key meetings
- Changes in level of funding
- Number of policies, programmes, or products developed on basis of the evidence
- Frequency and quality of interactions with high level policy-makers
- Incidence of similar projects
- Changes made to programme or services
- Scaling of the original programme within geographic area

It is very complex to measure use of evidence. Acknowledging this complexity is a helpful reminder to articulate SMART indicators, but remain flexible. Even experts in developing and monitoring indicators allow for the fact that different people categorise measures differently and the important thing is to develop something that works for the context that one is working in.

Sometimes evidence is directly applicable, for instance, when policy guidance is developed around it. It can also be applied, but not so obvious - evidence seen in collaboration activities or funds leveraged. Since there are multiple ways that evidence can be applied in the real world, there are also multiple ways to indicate that evidence use has occurred.

Chapter 8

Conclusion

Chapter 8

Conclusion

This guidelines document has provided guidance for Ministry of Health policy-makers and technical staff in policymaking and using evidence in decision-making processes. The emphasis on EIPM is because the advantages of the EIMP approach to policymaking have been widely recognized by policymakers and researchers alike. It is worth noting though that EIPM is a process that requires both sustained attention and resources. Even then, the advantages of EIPM, listed below, justify the resource investment:

- Helps ensure that policies are responding to the real needs of the community, which in turn, can lead to better outcomes for the population in the long-term
- Can highlight the urgency of an issue or problem, which requires immediate attention. This is important in securing funding and resources for the policy to be developed, implemented and maintained
- Enables information sharing amongst other members of the public sector, in regard to what policies have or haven't worked.
- Can reduce government expenditure, which may otherwise be directed into ineffective policies or programs which could be costly and time consuming
- Can produce an acceptable return on the financial investment that is allocated toward public programmes by improving service delivery and outcomes for the community
- Ensures that decisions are made in a way that is consistent with our democratic and political processes, which are characterized by transparency and accountability.

This guidelines document shall be reviewed regularly at three years interval. This will allow for regular checking of whether the guidelines are still relevant or whether some aspects need review. The monitoring and evaluation exercise shall also serve to assess the effect of the guidelines on evidence uptake and use among policy-makers when making decisions.

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Annexes

Annex I: Theories in Public Policy-Making

The Multiple Streams Theory

A1.1 The multiple streams theory, proposed by John Kingdon in 1984 (Kingdon 1984), focuses on the agenda-setting for policy issues or ideas. The theory argues that the public policy process has a random character, with problems, policies and politics flowing along in three independent/parallel streams. The problems stream contains the broad problems and conditions facing societies, some of which become identified as issues that require public attention. The policy stream refers to the set of policy options that researchers and others propose to address the problems in society. This stream contains ideas and technical proposals on how problems may be solved. The politics stream contains political transitions, national mood and social pressure. The theory argues that at particular times, the streams merge, and windows of opportunity emerge and governments decide to act on a policy problem.

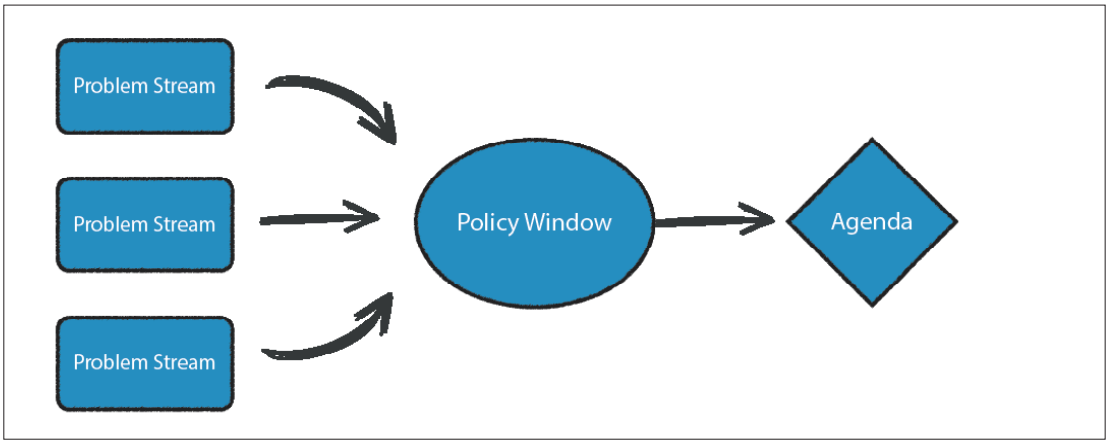

Figure A1: The Multiple Streams Theory

The RAPID Model of Policymaking

A1.2 The RAPID research-to-policy framework was developed by the Overseas Development Institute (ODI) in 2004. The framework explains how information (research evidence or other forms of evidence) can get to influence policy. The framework identifies factors that determine whether evidence is likely to be adopted by policymakers and practitioners. These factors are broadly divided into three overlapping areas, namely: the political context (politics and policymaking), the evidence (research, learning and thinking), and the links between policy and research communities (media, advocacy, networking). These three factors are influenced by external factors such as socio-economic and cultural influences, and donor policies, among others. The three factors interact with each other and are also influenced by the external environment, and the interaction ultimately determines whether or not knowledge is used in policy processes.

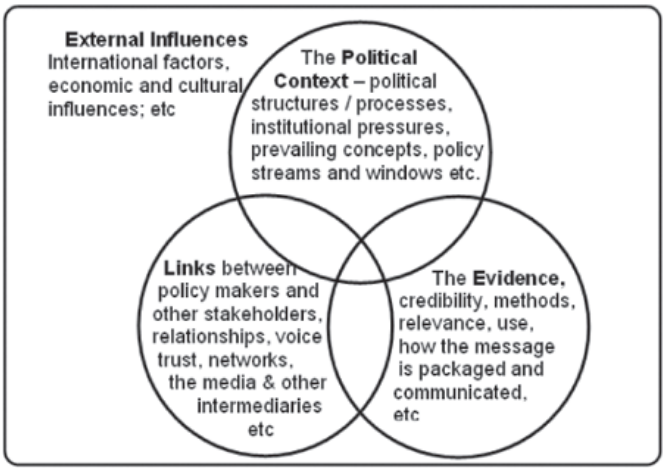

Figure A2: The RAPID Framework: Context, Evidence and Links

Annex II: Major Types of Research Designs

Action Research Design

Definition and Purpose

Action research...aims to contribute both to the practical concerns of people in an immediate problematic situation and to further the goals of social science simultaneously. Thus, there is a dual commitment in action research to study a system and concurrently to collaborate with members of the system in changing it in what is together regarded as a desirable direction. Accomplishing this twin goal requires the active collaboration of researcher and client, and thus it stresses the importance of co-learning as a primary aspect of the research process. (Gilmore et al, 1986).

What do these studies tell you?	What these studies do not tell you
1. This is a collaborative and adaptive research design that lends itself to use in work or community situations 2. Design focuses on pragmatic and solution-driven research outcomes rather than testing theories 3. When practitioners use action research, it has the potential to increase the amount they learn consciously from their experience; the action research cycle can be regarded as a learning cycle 4. Action research studies often have direct and obvious relevance to improving practice and advocating for change 5. There are no hidden controls or pre-emption of direction by the researcher	1. It is harder to do than conducting conventional research because the researcher takes on responsibilities of advocating for change as well as for researching the topic 2. Action research is much harder to write up because it is less likely that you can use a standard format to report your findings effectively [i.e., data is often in the form of stories or observation] 3. Personal over-involvement of the researcher may bias research results 4. The cyclic nature of action research to achieve its twin outcomes of action (e.g. change) and research (e.g. understanding) is time-consuming and complex to conduct 5. Advocating for change requires buy-in from participants

Case Study Design

Definition and Purpose

A case study is an in-depth study of a particular research problem rather than a broad statistical survey or comprehensive comparative inquiry. It is often used to narrow down a very broad field of research into one or a few easily researchable examples. The case study research design is also useful for testing whether a specific theory and model actually applies to phenomena in the real world. It is a useful design when not much is known about an issue or phenomenon.

What do these studies tell you?	What these studies do not tell you
1. Approach excels at bringing us to an understanding of a complex issue through detailed contextual analysis of a limited number of events or conditions and their relationships	1. A single or small number of cases offers little basis for establishing reliability or to generalise the findings to a wider population of people, places, or things
2. A researcher using a case study design can apply a variety of methodologies and rely on a variety of sources to investigate a research problem	2. Intense exposure to the study of a case may bias a researcher's interpretation of the findings
3. Design can extend experience or add strength to what is already known through previous research	3. Design does not facilitate assessment of cause and effect relationships
4. Social scientists, in particular, make wide use of this research design to examine contemporary real-life situations and provide the basis for the application of concepts and theories and the extension of methodologies	4. Vital information may be missing, making the case hard to interpret
5. The design can provide detailed descriptions of specific and rare cases	5. The case may not be representative or typical of the larger problem being investigated
	6. If the criterion for selecting a case is because it represents a very unusual or unique phenomenon or problem for study, then your interpretation of the findings can only apply to that particular case

Causal Design

Definition and Purpose

Causality studies may be thought of as understanding a phenomenon in terms of conditional statements in the form, "If X, then Y." This type of research is used to measure what impact a specific change will have on existing norms and assumptions. Most social scientists seek causal explanations that reflect tests of hypotheses. Causal effect (nomothetic perspective) occurs when variation in one phenomenon, an independent variable, leads to or results, on average, in variation in another phenomenon, the dependent variable.

Conditions necessary for determining causality:

- Empirical association -- a valid conclusion is based on finding an association between the independent variable and the dependent variable
- Appropriate time order -- to conclude that causation was involved, one must see that cases were exposed to variation in the independent variable before variation in the dependent variable
- Non-spuriousness -- a relationship between two variables that is not due to variation in a third variable

What do these studies tell you?	What these studies do not tell you
1. Causality research designs assist researchers in understanding why the world works the way it does through the process of proving a causal link between variables and by the process of eliminating other possibilities	1. Not all relationships are casual! The possibility always exists that, by sheer coincidence, two unrelated events appear to be related (e.g., Punxatawney Phil could accurately predict the duration of Winter for five consecutive years but, the fact remains, he's just a big, furry rodent)
2. Replication is possible	2. Conclusions about causal relationships are difficult to determine due to a variety of extraneous and confounding variables that exist in a social environment. This means causality can only be inferred, never proven
3. There is greater confidence the study has internal validity due to the systematic subject selection and equity of groups being compared	3. If two variables are correlated, the cause must come before the effect. However, even though two variables might be causally related, it can sometimes be difficult to determine which variable comes first and, therefore, to establish which variable is the actual cause and which is the actual effect

Cohort Design

Definition and Purpose

Often used in the medical sciences, but also found in the applied social sciences, a cohort study generally refers to a study conducted over a period of time involving members of a population which the subject or representative member comes from, and who are united by some commonality or similarity. Using a quantitative framework, a cohort study makes note of statistical occurrence within a specialised sub-group, united by same or similar characteristics that are relevant to the research problem being investigated, rather than studying statistical occurrence within the general population. Using a qualitative framework, cohort studies generally gather data using methods of observation. Cohorts can be either "open" or "closed."

- Open Cohort Studies [dynamic populations, such as the population of Los Angeles] involve a population that is defined just by the state of being a part of the study in question (and being monitored for the outcome). Date of entry and exit from the study is individually defined; therefore, the size of the study population is not constant. In Open Cohort Studies, researchers can only calculate rate based data, such as, incidence rates and variants thereof.

- Closed Cohort Studies [static populations, such as patients entered into a clinical trial] involve participants who enter into the study at one defining point in time and where it is presumed that no new participants can enter the cohort. Given this, the number of study participants remains constant (or can only decrease).

What do these studies tell you?	What these studies do not tell you
1. The use of cohorts is often mandatory because a randomised control study may be unethical. For example, you cannot deliberately expose people to asbestos; you can only study its effects on those who have already been exposed. Research that measures risk factors often relies upon cohort designs 2. Because cohort studies measure potential causes before the outcome has occurred, they can demonstrate that these "causes" preceded the outcome, thereby avoiding the debate as to which is the cause and which is the effect 3. Cohort analysis is highly flexible and can provide insight into effects over time and related to a variety of different types of changes (e.g., social, cultural, political, economic etc.) 4. Either original data or secondary data can be used in this design	1. In cases where a comparative analysis of two cohorts is made (e.g., studying the effects of one group exposed to asbestos and one that has not), a researcher cannot control for all other factors that might differ between the two groups. These factors are known as confounding variables 2. Cohort studies can end up taking a long time to complete if the researcher must wait for the conditions of interest to develop within the group. This also increases the chance that key variables change during the course of the study, potentially impacting the validity of the findings 3. Due to the lack of randomisation in the cohort design, its external validity is lower than that of study designs where the researcher randomly assigns participants

Cross-Sectional Design

Definition and Purpose

Cross-sectional research designs have three distinctive features: no time dimension; a reliance on existing differences rather than change following intervention; and, groups are selected based on existing differences rather than random allocation. The cross-sectional design can only measure differences between or from among a variety of people, subjects, or phenomena rather than a process of change. As such, researchers using this design can only employ a relatively passive approach to making causal inferences based on findings.

What do these studies tell you?	What these studies do not tell you
1. Cross-sectional studies provide a clear 'snapshot' of the outcome and the characteristics associated with it, at a specific point in time 2. Unlike an experimental design, where there is an active intervention by the researcher to produce and measure change or to create differences, cross-sectional designs focus on studying and drawing inferences from existing differences between people, subjects, or phenomena 3. Entails collecting data at and concerning one point in time. While longitudinal studies involve taking multiple measures over an extended period of time, cross-sectional research is focused on finding relationships between variables at one moment in time 4. Groups identified for study are purposely selected based on existing differences in the sample rather than seeking random sampling 5. Cross-section studies are capable of using data from a large number of subjects and, unlike observational studies, is not geographically bound 6. Can estimate prevalence of an outcome of interest because the sample is usually taken from the whole population 7. Because cross-sectional designs generally use survey techniques to gather data, they are relatively inexpensive and take up little time to conduct	1. Finding people, subjects, or phenomena to study that are very similar except in one specific variable can be difficult 2. Results are static and time-bound and, therefore, given no indication of a sequence of events or reveal historical or temporal contexts 3. Studies cannot be utilised to establish cause and effect relationships 4. This design only provides a snapshot of analysis so there is always the possibility that a study could have differing results if another time-frame had been chosen 5. There is no follow up to the findings

Descriptive Design

Definition and Purpose

Descriptive research designs help provide answers to the questions of who, what, when, where, and how associated with a particular research problem; a descriptive study cannot conclusively ascertain answers to why. Descriptive research is used to obtain information concerning the current status of the phenomena and to describe "what exists" with respect to variables or conditions in a situation.

What do these studies tell you?	What these studies do not tell you
1. The subject is being observed in a completely natural and unchanged natural environment. True experiments, whilst giving analysable data, often adversely influence the normal behaviour of the subject (also known as, the Heisenberg effect whereby measurements of certain systems cannot be made without affecting the systems) 2. Descriptive research is often used as a pre-cursor to more quantitative research designs with the general overview giving some valuable pointers as to what variables are worth testing quantitatively 3. If the limitations are understood, they can be a useful tool in developing a more focused study 4. Descriptive studies can yield rich data that lead to important recommendations in practice 5. Approach collects a large amount of data for detailed analysis	1. The results from a descriptive research cannot be used to discover a definitive answer or to disprove a hypothesis 2. Because descriptive designs often utilise observational methods (as opposed to quantitative methods), the results cannot be replicated 3. The descriptive function of research is heavily dependent on instrumentation for measurement and observation

Experimental Design

Definition and Purpose

A blueprint of the procedure that enables the researcher to maintain control over all factors that may affect the result of an experiment. In doing this, the researcher attempts to determine or predict what may occur. Experimental research is often used where there is time priority in a causal relationship (cause precedes effect), there is consistency in a causal relationship (a cause will always lead to the same effect), and the magnitude of the correlation is great. The classic experimental design specifies an experimental group and a control group. The independent variable is administered to the experimental group and not to the control group, and both groups are measured on the same dependent variable. Subsequent experimental designs have used more groups and more measurements over longer periods. True experiments must have control, randomisation, and manipulation.

What do these studies tell you?	What these studies do not tell you
1. Experimental research allows the researcher to control the situation. In so doing, it allows researchers to answer the question, "What causes something to occur?"	1. The design is artificial, and results may not generalise well to the real world
2. Permits the researcher to identify cause and effect relationships between variables and to distinguish placebo effects from treatment effects	2. The artificial settings of experiments may alter the behaviours or responses of participants
3. Experimental research designs support the ability to limit alternative explanations and to infer direct causal relationships in the study	3. Experimental designs can be costly if special equipment or facilities are needed
4. Approach provides the highest level of evidence for single studies	4. Some research problems cannot be studied using an experiment because of ethical or technical reasons.
	5. Difficult to apply ethnographic and other qualitative methods to experimentally designed studies

Exploratory Design

Definition and Purpose

An exploratory design is conducted about a research problem when there are few or no earlier studies to refer to or rely upon to predict an outcome. The focus is on gaining insights and familiarity for later investigation or undertaken when research problems are in a preliminary stage of investigation. Exploratory designs are often used to establish an understanding of how best to proceed in studying an issue or what methodology would effectively apply to gathering information about the issue.

The goals of exploratory research are intended to produce the following possible insights:

- Familiarity with basic details, settings, and concerns
- Well-grounded picture of the situation being developed
- Generation of new ideas and assumptions
- Development of tentative theories or hypotheses
- Determination about whether a study is feasible in the future
- Issues get refined for more systematic investigation and formulation of new research questions
- Direction for future research and techniques get developed

What do these studies tell you?	What these studies do not tell you
1. Design is a useful approach for gaining background information on a particular topic	1. Exploratory research generally utilises small sample sizes and, thus, findings are typically not generalizable to the population at large
2. Exploratory research is flexible and can address research questions of all types (what, why, how)	2. The exploratory nature of the research inhibits an ability to make definitive conclusions about the findings. They provide insight but not definitive conclusions
3. Provides an opportunity to define new terms and clarify existing concepts	3. The research process underpinning exploratory studies is flexible but often unstructured, leading to only tentative results that have limited value to decision-makers
4. Exploratory research is often used to generate formal hypotheses and develop more precise research problems	4. Design lacks rigorous standards applied to methods of data gathering and analysis because one of the areas for exploration could be to determine what method or methodologies could best fit the research problem
5. In the policy arena or applied to practice, exploratory studies help establish research priorities and where resources should be allocated	

Historical Design

Definition and Purpose

The purpose of a historical research design is to collect, verify, and synthesise evidence from the past to establish facts that defend or refute a hypothesis. It uses secondary sources and a variety of primary documentary evidence, such as, diaries, official records, reports, archives, and non-textual information (maps, pictures, audio and visual recordings). The limitation is that the sources must be both authentic and valid.

What do these studies tell you?	What these studies do not tell you
1. The historical research design is unobtrusive; the act of research does not affect the results of the study	1. The ability to fulfil the aims of your research is directly related to the amount and quality of documentation available to understand the research problem
2. The historical approach is well suited for trend analysis	2. Since historical research relies on data from the past, there is no way to manipulate it to control for contemporary contexts
3. Historical records can add important contextual background required to more fully understand and interpret a research problem	3. Interpreting historical sources can be very time consuming
4. There is often no possibility of researcher-subject interaction that could affect the findings	4. The sources of historical materials must be archived consistently to ensure access. This may especially be challenging for digital or online-only sources
5. Historical sources can be used over and over to study different research problems or to replicate a previous study	5. Original authors bring their own perspectives and biases to the interpretation of past events and these biases are more difficult to ascertain in historical resources
	6. Due to the lack of control over external variables, historical research is very weak with regard to the demands of internal validity
	7. It is rare that the entirety of historical documentation needed to fully address a research problem is available for interpretation, therefore, gaps need to be acknowledged

Longitudinal Design

Definition and Purpose

A longitudinal study follows the same sample over time and makes repeated observations. For example, with longitudinal surveys, the same group of people is interviewed at regular intervals, enabling researchers to track changes over time and to relate them to variables that might explain why the changes occur. Longitudinal research designs describe patterns of change and help establish the direction and magnitude of causal relationships. Measurements are taken on each variable over two or more distinct time periods. This allows the researcher to measure change in variables over time. It is a type of observational study sometimes referred to as a panel study.

What do these studies tell you?	What these studies do not tell you
1. Longitudinal data facilitate the analysis of the duration of a particular phenomenon 2. Enables survey researchers to get close to the kinds of causal explanations usually attainable only with experiments 3. The design permits the measurement of differences or change in a variable from one period to another (i.e., the description of patterns of change over time) 4. Longitudinal studies facilitate the prediction of future outcomes based on earlier factors	1. The data collection method may change over time. 2. Maintaining the integrity of the original sample over an extended period of time can be difficult 3. It can be difficult to show more than one variable at a time 4. This design often needs qualitative research data to explain fluctuations in the results 5. A longitudinal research design assumes present trends will continue unchanged 6. It can take a long period of time to gather results. 7. There is a need to have a large sample size and accurate sampling to reach representativeness

Meta-Analysis Design

Definition and Purpose

Meta-analysis is an analytical methodology designed to systematically evaluate and summarise the results from a number of individual studies, thereby, increasing the overall sample size and the ability of the researcher to study effects of interest. The purpose is to not simply summarise existing knowledge, but to develop a new understanding of a research problem using synoptic reasoning. The main objectives of meta-analysis include analysing differences in the results among studies and increasing the precision by which effects are estimated. A well-designed meta-analysis depends upon strict adherence to the criteria used for selecting studies and the availability of information in each study to properly analyse their findings. Lack of information can severely limit the type of analyses and conclusions that can be reached. In addition, the more dissimilarity there is in the results among individual studies [heterogeneity], the more difficult it is to justify interpretations that govern a valid synopsis of results.

A meta-analysis needs to fulfil the following requirements to ensure the validity of findings:

- Clearly defined description of objectives, including precise definitions of the variables and outcomes that are being evaluated
- A well-reasoned and well-documented justification for identification and selection of the studies
- Assessment and explicit acknowledgment of any researcher bias in the identification and selection of those studies
- Description and evaluation of the degree of heterogeneity among the sample size of studies reviewed
- Justification of the techniques used to evaluate the studies

What do these studies tell you?	What these studies do not tell you
1. Can be an effective strategy for determining gaps in the literature	1. Small violations in defining the criteria used for content analysis can lead to difficult to interpret and/or meaningless findings
2. Provides a means of reviewing research published about a particular topic over an extended period of time and from a variety of sources	2. A large sample size can yield reliable, but not necessarily valid, results
3. Is useful in clarifying what policy or programmatic actions can be justified on the basis of analysing research results from multiple studies	3. A lack of uniformity regarding, for example, the type of literature reviewed, how methods are applied, and how findings are measured within the sample of studies you are analysing, can make the process of synthesis difficult
4. Provides a method for overcoming small sample sizes in individual studies that previously may have had little relationship to each other	4. Depending on the sample size, the process of reviewing and synthesising multiple studies can be very time consuming
5. Can be used to generate new hypotheses or highlight research problems for future studies	

Observational Design

Definition and Purpose

This type of research design draws a conclusion by comparing subjects against a control group, in cases where the researcher has no control over the experiment. There are two general types of observational designs. In direct observations, people know that you are watching them. Unobtrusive measures involve any method for studying behaviour where individuals do not know they are being observed. An observational study allows a useful insight into a phenomenon and avoids the ethical and practical difficulties of setting up a large and cumbersome research project.

What do these studies tell you?	What these studies do not tell you
1. Observational studies are usually flexible and do not necessarily need to be structured around a hypothesis about what you expect to observe (data is emergent rather than pre-existing)	1. Reliability of data is low because seeing behaviours occur over and over again may be a time consuming task and are difficult to replicate
2. The researcher is able to collect in-depth information about a particular behaviour	2. In observational research, findings may only reflect a unique sample population and, thus, cannot be generalised to other groups
3. Can reveal interrelationships among multifaceted dimensions of group interactions	3. There can be problems with bias as the researcher may only "see what they want to see"
4. You can generalise your results to real life situations	4. There is no possibility to determine "cause and effect" relationships since nothing is manipulated.
5. Observational research is useful for discovering what variables may be important before applying other methods like experiments	5. Sources or subjects may not all be equally credible
6. Observation research designs account for the complexity of group behaviours	6. Any group that is knowingly studied is altered to some degree by the presence of the researcher, therefore, potentially skewing any data collected

Source: University of Southern California Libraries, http://libguides.usc.edu/content.php?pid=83009&sid=818072

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