STANDARD OPERATING PROCEDURES

Evidence Based Guidelines

सत्यमेव जयते

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DISCLAIMER

The Standard Operating Procedure (SOP) for the development and implementation of the Evidence-Based Guidelines has been prepared by the Department of Health Research (DHR). The SOP describes the processes, methods, and responsibilities for guideline development based on systematic reviews and meta-analyses of randomized controlled trials addressing clearly defined review questions. The SOP is intended to ensure that the guideline development process is transparent, methodologically rigorous, and aligned with accepted standards of evidence synthesis. While every effort has been made to ensure that the procedures described in this SOP are accurate and appropriate at the time of publication, it is possible that methodological standards, regulatory requirements, or scientific practices may evolve after publication.

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ABBREVIATIONS & ACRONYMS

Abbreviation	Full form
AMSTAR	A Measurement Tool to Assess Systematic Reviews
CDC	Commonwealth Development Corporation
CEG	Centre for Evidence Based Guidelines
CHC	Community Health Centres
CPG	Clinical Practice Guidelines
CSV	Comma-Separated Values
CTRI	Clinical Trials Registry of India
DGHS	Directorate General of Health Services
DHR	Department of Health Research
DOI	Declaration of Interests
DTA	Diagnostic Test Accuracy
ERG	External Review Group
ETD	Evidence to Decision
GDG	Guideline Development Group
GOI	Government of India
GRADE	Grading of Recommendations Assessment, Development and Evaluation
GRC	Guideline Review Committee
HTA	Health Technology Assessment
ICMJE	International Committee of Medical Journal Editors
ICMR	Indian Council of Medical Research
IQR	Interquartile range
ITT	Intention-to-treat
JBI	Joanna Briggs Institute
JCE	Journal of Clinical Epidemiology
MCID	minimal clinically important difference
MoHFW	Ministry of Health and Family Welfare
NGO	Non-Governmental Organization
NHSRC	National Health System Resource Centres
NICE	National Institute for Health and Care Excellence
NRCT	Non-Randomized Controlled Trials
OIS	Optimal Information Size
PECO	Population, Exposure, Comparison, Outcome
PHC	Primary Health Centres
PICO	Population, Intervention, Comparison, Outcome
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
RCT	Randomized Controlled Trials
RIS	Research Information Systems
ROB	Risk of Bias
ROBINS	Risk of Bias in Non-randomized Studies - of Interventions
SMD	Standardized mean differences
SOF	Summary of Findings
SOP	Standard Operating Procedure
TRC	Technical Resource Centres
TRH	Technical Resource Hubs
WHO	World Health Organization

CONTENTS

CHAPTER 1:

INTRODUCTION TO EVIDENCE BASED GUIDELINE DEVELOPMENT

1.1 Introduction

India operates a three-tiered public healthcare system: primary care via Primary Health Centres (PHCs), secondary care through Community Health Centres (CHCs), and tertiary care at district hospitals and medical colleges. The public also accesses private facilities. Healthcare decisions often involve complexity, impacting health outcomes, quality, equity, and resource use. Evidence-based guidelines integrate scientific evidence, expert judgment, and contextual factors to support informed decisions. The Department of Health Research (DHR) under the Ministry of Health and Family Welfare (MoHFW) leads this nationally, establishing the Centre for Evidence Based Guidelines (CEG) in February 2023. This chapter outlines the foundations, procedures, roles, and methodologies for guideline development.

1. 2 What is an Evidence-Based Guideline?

Evidence-based guidelines are systematically developed documents using the best evidence to guide contextually relevant decisions. The actionable component of these guideline documents are ‘recommendations’, which inform end-users on what they could do to achieve the best possible outcomes. Based on transparent systematic reviews, they incorporate stakeholder views (policymakers, practitioners, researchers, public). When making healthcare management decisions, patients and clinicians need to carefully consider the benefits and potential harms of alternate approaches. Guidelines help weigh benefits against harms, acknowledging evidence limitations. They use grading systems to indicate evidence quality and balance of effects, ensuring clear communication.

1.3 Why Are Evidence-Based Guidelines Needed?

These guidelines reduce practice variability, improve outcomes, and adapt to evolving disease burdens, demographics, technology, and societal needs. Government faces increasing pressure to expand the services (quantitatively and quantitatively) whilst

ensuring accountability, transparency, and value for money. Evidence-informed decisions enhance credibility and reduce variations. According to WHO, they boost outcomes, efficiency, and system performance in resource-limited settings. Bodies like NICE (UK) and CDC (US) stress consistency, quality, and trust. Guidelines promote beneficial interventions, discourage harmful ones, and minimize bias compared to consensus-based approaches.

1.4 Principles of Evidence-Based Guideline Development

The general principles underpinning evidence-based guideline development undertaken by the DHR are:

- **Scientific Rigor**: Use of validated methods for evidence synthesis, appraisal, and decision-making via systematic reviews.
- **Transparency**: Documentation of steps and making accessible to public
- **Inclusivity and Community Engagement**: Involve diverse stakeholders (practitioners, policymakers, methodologists, statisticians, lived-experience representatives) for relevance and equity.
- **Equity**: Ensure recommendations are implementable and accessible across healthcare settings.
- **Adaptable and Flexible**: Updation with new evidence and address emerging topics.
- **Equality and Diversity**: The guidelines and recommendations developed by DHR shall never discriminate based on age, disability, gender identity, geography, pregnancy and maternity status, occupation, race, religion or belief, sexual orientation or socioeconomic status and shall use evidence-based approaches to reduce inequalities in the healthcare system.

1.5 Aim of the Standard Operating Procedure (SOP)

The SOP aligns with six global quality domains: scope/purpose, stakeholder involvement, rigorous methods, clarity, implementation, and interest management. It provides a framework for DHR to develop, implement, and evaluate guidelines to improve health outcomes and resource allocation. This SOP is expected to ensure that policies and practices are scientifically sound, socially relevant, and ethically responsible.

1.6 Contents of the SOP

This document details guideline development processes, stakeholder engagement, evidence appraisal, drafting, dissemination, and monitoring by DHR.

1.7 Types of Guidelines

DHR produces various guidelines:

- **Clinical Practice Guidelines**: These are statements aiding practitioner-patient decisions for specific conditions. They promote beneficial interventions, reduce morbidity/mortality, improve quality of life, and ensure consistent care. Cover treatments, diagnostics, screening, prognostics, and resource use.
- **Public Health and Preventive Guidelines**: These focus on population-level issues, disease prevention, and management affecting many. Influence policy, highlight research gaps, and identify under-recognized problems.
- **Health System and Service Delivery Guidelines**: Evidence support for a practice or intervention in funding decisions by governments, NGOs, or insurers for evidence-backed practices.
- **Health Technology and Intervention Assessment Guidelines**: Issued when new data on existing technologies warrants updates.
- **Emergency and Outbreak Response Guidelines**: Provide urgent guidance to save lives and optimize resources in crises.

1.8 The Process of Guideline Development

- **Identifying the Relevant Topic**: Analyze policy/practice gaps; prioritize based on importance, feasibility, resources. Consider public health burden, need, knowledge gaps, existing guidelines, literature base, DHR responsibility, time, and resources. Avoid duplicating efforts.
- **Establish a Guideline Steering Group (SG)**: Co-chaired by DHR Secretary and DGHS, with MoHFW stakeholders. **Scope**: Define guideline purpose; appoint GDG; ensure SOP compliance; manage interests; review drafts; appoint external reviewers; endorse/modify; approve for publication.

- **Establish the Scope**: Define target audience (e.g., providers, policymakers), settings (e.g., community, inpatient), and beneficiaries (e.g., subgroups by age, behaviour, geography).
- **Establish the Guideline Development Group** (GDG): Multidisciplinary team of stakeholders affected by guidelines, including subject experts, policymakers, economists, statisticians, methodologists, and lived-experience representatives. The scientists at the DHR Secretariat helm the GDG work, without being part of the GDG itself.
- **Declaration of Interests (DoI) and Management of Conflicts (CoI):** All SG/GDG members declare financial/non-financial interests via DHR form. Details in separate SOP.
- **Identification and Prioritization of Questions**: Use surveys, expertise, literature, or existing guidelines to identify; prioritize via discussion or scoring. Frame in PICO (Population, Intervention, Comparator, Outcome) format; define study eligibility. Consider patient/disease factors, treatment details, alternatives, and clinically relevant outcomes.
- **Evidence Synthesis**: Allocate questions to Technical Resource Centres using systematic review methods (e.g., Cochrane). Steps:
  1. Prepare/register protocol (e.g., PROSPERO).
  2. Systematic literature search (databases: PubMed, Embase, Cochrane Library, Scopus) by experts; include appropriate designs (e.g., RCTs for interventions).
  3. Assess study quality (tools: ROB-2 for RCTs, AMSTAR for reviews, ROBINS-I for non-randomized).
  4. Synthesize qualitatively/quantitatively (e.g., meta-analysis).
  5. Appraise evidence certainty using GRADE (risk of bias, inconsistency, imprecision, indirectness, publication bias).
- **Evidence to Decisions and Framing Draft Recommendations**: GDG develops recommendations considering effects balance, evidence certainty, values/preferences, equity, acceptability, feasibility, costs. Include lived-experience input to reduce bias. Categorize as strong (benefits outweigh risks) or conditional (uncertain); recommend research if no evidence.
- **Establish an External Review Team**: Independent panel (experts, end-users, stakeholders) reviews for robustness, clarity, relevance; identifies

errors/omissions without altering recommendations. The DHR may also make the draft guideline available for public feedback and comments

- **Dissemination:** Distribute widely via print/digital formats, peer-reviewed publications, and DHR website. Document process, evidence, and recommendations publicly.
- **Implementation**: Translate recommendations into practice via policy integration, barrier identification, and mitigation. Improve care quality, consistency, and outcomes.
- **Monitoring and Evaluation**: Use systems to assess effectiveness/impact via outcome indicators, data analysis, and research on uptake. Propose disaggregated indicators for systematic tracking.

CHAPTER 2:
PRIORITIZATION OF GUIDELINES

2.1 Introduction

The development of health guidelines is a resource-intensive process that requires careful planning, coordination, and methodological rigor. Given finite financial, technical, and human resources, it is neither feasible nor desirable to develop guidelines for all potential health topics simultaneously. Prioritization is therefore a critical early step in guideline development, ensuring that guideline efforts are directed towards areas of greatest public health importance, uncertainty, and potential impact. It is thus emphasized that systematic prioritization is essential to maintain the relevance, credibility, and effectiveness of guideline work. This chapter outlines the principles, criteria, and processes for prioritizing guideline topics, key questions, and outcomes, in alignment with global standards for guideline development.

2.2 Prioritizing Guideline Topics

- **Public Health Importance (Relevance) and Burden of Disease:** A primary criterion for prioritizing guideline topics is their relevance to population health. Topics associated with a high burden of disease, significant mortality or morbidity, or substantial inequities across populations warrant particular attention.
- **Existence of Uncertainty or Variation in Practice:** Guidelines are most valuable when there is uncertainty about optimal practice or wide variation in policy or clinical decision-making.
- **Rapidly Evolving Evidence Area:** Emergence of recent updates requiring review health priority area. Topics where new interventions, technologies, or evidence have emerged or where existing practices lack a strong evidence base, are strong candidates for prioritization.
- **Alignment with GOI's Mandate and Strategic Priorities:** Public health emergencies, rapidly evolving evidence, or urgent requests from government organizations may justify accelerated or rapid advice guidelines. This includes

considering health system capacity, acceptability to end-users, and alignment with existing policies and infrastructures.

- **Feasibility and Resource Considerations:** Guideline prioritization must realistically account for available resources, expertise, and timelines. Developing a standard guideline with moderate number of question and feasible within 1 year.

2.3 Scoring criteria for Prioritisation: Following Criteria are used to determine the priority of the disease

A. Relevance of the Topic or Burden of Disease

1-3: Rare diseases or low disease burden
4-6: Moderate disease burden but not a national priority
7-10: High mortality/morbidity, major public health concern

B. Controversy in the area of management

1-3: Consensus exists with minimal controversy
4-6: Some inconsistencies in treatment approaches
7-10: Major variations in clinical practice, lack of standardized management protocols

C. Rapidly evolving evidence area

1-3: Stable evidence, infrequent updates needed
4-6: Some recent advances requiring review
7-10: Fast-changing field, frequent updates critical

D. Need for India-Specific Guidelines

1-3: International guidelines fully applicable
4-6: Some regional variations but largely adoptable
7-10: Significant local adaptation required due to unique healthcare needs

E. Feasibility and scope of development with a limited number of key questions

1-3: Requires extensive review, high resource investment
4-6: Moderate number of review questions, feasible within 1 year

7-10: Limited review questions, evidence available, rapid development possible

The scores are vetted through 2-3 experts and the final decision on scoring and prioritization are taken after vetting the scores by the key stakeholders of the guideline like Director General of Health services (DGHS), Department of Health Research (DHR), Program division of Ministry of Health and family welfare (MoHFW).

2.4 Prioritization of Key Questions and Outcomes

Prioritization continues beyond topic selection into the formulation of key questions and outcomes. DHR recommends limiting the number of key questions to those most critical for decision-making, as each question typically requires a dedicated systematic review.

Within each key question, outcomes are prioritized based on their importance to decision-makers and affected populations. Outcomes are classified as critical, important, or not important for decision-making, with emphasis placed on health outcomes rather than surrogate measures. This structured prioritization ensures that evidence synthesis and recommendation development focus on what matters most for health and well-being.

2.5 Conclusion

Effective prioritization by systematically selecting guideline topics, questions, and outcomes based on public health importance, uncertainty, feasibility, and equity ensures that the guidelines are relevant, credible, and impactful. It conserves limited resources and strengthens the likelihood that guidelines will be implemented and improve population health. As public health challenges and evidence continue to evolve, prioritization remains a dynamic and transparent process.

2.6 Dos and Don’ts

Do’s:

1. The scoring criteria to be followed while prioritisation

2. Involve 2-3 experts initially, then finalize with key stakeholders like DGHS, DHR, and MoHFW program divisions

Don’ts:

1. Not to finalize the topic without expert review and key stakeholder input to ensure credibility.

CHAPTER 3:

COMPOSITION, ROLES, AND RESPONSIBILITIES OF THE STEERING GROUP

3.1 Introduction

The Steering Group is a key governance body responsible for overseeing the development of evidence-based guidelines once a technical unit decides to initiate the process. It ensures that guideline development is coordinated, methodologically sound, transparent, and aligned with international standards. The Steering Group provides strategic direction, administrative coordination, and quality assurance throughout the guideline lifecycle. By bringing together relevant expertise from across departments and regions, the Steering Group supports consistent and standardized operationalization of guideline development across the division and Technical Resource Hubs.

3.2 Composition of the Steering Group

- The Steering Group shall be constituted after approval to proceed with guideline development.
- Members shall be drawn from relevant departments and regional offices whose work directly relates to the guideline topic.
- The group should ideally consist of **8–10 members** to ensure efficiency; however, larger groups may be constituted where broader representation is required.
- Members must be able to commit adequate time to the guideline development process.
- Senior staff unable to actively participate should not be appointed as members but may be consulted as needed.
- For jointly developed guidelines, representatives from collaborating organizations shall be included.

3.3 Roles and Responsibilities of the Steering Group

The Steering Group shall be responsible for:

- Providing administrative and logistical support for guideline development.
- Drafting the scope and objectives of the guideline.
- Identifying and appointing the systematic review team and guideline methodologist(s).
- Developing and finalizing the planning proposal for submission to the Guideline Review Committee (GRC) or equivalent authority.
- Overseeing evidence retrieval, appraisal, and synthesis.

- Selecting members of the Guideline Development Group (GDG) and the External Review Group.
- Collecting, reviewing, and managing declarations of interest in collaboration with relevant ethics or compliance units.
- Organizing and coordinating GDG meetings.
- Drafting recommendations based on GDG deliberations.
- Preparing the draft and final guideline documents in collaboration with a technical writer.
- Overseeing external peer review and incorporating feedback appropriately.
- Supporting submission, approval, publication, dissemination, and future updating of the guideline.

3.4 Do's and Don'ts

Do's

- Ensure representation from relevant departments and regions.
- Limit group size to maintain efficiency and effective coordination.
- Ensure members have adequate time commitment.
- Maintain transparency and proper documentation throughout the process.
- Adhere strictly to evidence-based and ethical guideline development standards.

Don'ts

- Do not appoint members who cannot actively contribute.
- Do not allow unmanaged conflicts of interest to influence decisions.
- Do not deviate from approved methodological or governance processes.
- Do not bypass external review or formal approval mechanisms.

CHAPTER 4:
DECLARATION OF INTERESTS

4.1 Introduction

Declaration of Interests (DOI) is essential to maintaining the scientific integrity, transparency, and credibility of evidence-based guideline development. In accordance with WHO, GRADE, and ICMR standards, all members of the Guideline Development Group (GDG) and other contributors must complete a Declaration of Interest form before participating in guideline development activities. The DOI form used for GDG members captures financial, non-financial, and intellectual interests to identify any actual, potential, or perceived conflicts.

4.2 Definition

A Declaration of Interest refers to the formal disclosure, through a standardized DOI form, of any financial, non-financial, or intellectual interests that may result in an actual, potential, or perceived conflict during guideline development.

4.3 Applicability

This DOI procedure applies to:

- Guideline Development Group (GDG) members
- Methodologists and technical experts
- External reviewers

4.4 Declaration Using the DOI Form

All GDG members and relevant contributors must complete the approved Declaration of Interest form circulated by the Secretariat/TRH. The form requires disclosure of the following:

- Personal and professional details
- Financial interests (e.g., employment, consultancies, grants, honoraria, travel support, patents)
- Non-financial interests (e.g., advisory or committee positions related to the guideline topic, irrespective of remuneration)
- Declaration of no interest, where applicable
- Signature and date confirming the accuracy of the declaration

4.5 Timeframe and Updating of Interests

Declarations must be submitted before participation in guideline activities and updated annually or whenever there is a change in interests.

4.6 Review and Management of Conflicts of Interest

The Steering Group or a designated Conflict of Interest Committee reviews all completed DOI forms. Based on the information provided, interests are assessed and classified as:

- No conflict of interest
- Manageable conflict of interest
- Significant conflict of interest

Appropriate management actions may include:

- Full disclosure of interests in guideline documents
- Restriction from participating in specific discussions
- Recusal from voting on affected recommendations
- Exclusion from sections of guideline development where conflicts are significant

4.6 Documentation and Record Keeping

The Secretariat or Technical Resource Hub securely maintains all completed and signed DOI forms. A summary of declared interests and their management shall be reported in the guideline methodology section to ensure transparency and accountability.

4.7 Do’s and Don’ts

Do’s

- Complete the DOI form accurately and honestly.
- Declare all relevant interests, including those perceived as minor.
- Update the DOI form when circumstances change.
- Comply with conflict management decisions.

Don’ts

- Do not omit or conceal relevant interests.
- Do not participate in decisions where a significant conflict exists.
- Do not submit unsigned or incomplete DOI forms.
- Do not allow personal or institutional interests to influence recommendations.

CHAPTER 5:

COMPOSITION, ROLES, AND RESPONSIBILITIES OF GUIDELINE DEVELOPMENT GROUP

5.1 Introduction

The Guideline Development Group (GDG) is the core technical body responsible for formulating evidence-based recommendations for the guideline. Composed primarily of external experts, the GDG ensures that recommendations are scientifically robust, contextually relevant, and responsive to the needs of end-users and affected populations. Established early in the guideline development process, the GDG works closely with the Steering Group to finalize the scope, key questions, and outcomes of interest. Through systematic consideration of evidence, values, feasibility, equity, and resource implications, the GDG plays a critical role in ensuring the credibility, relevance, and usability of the final guideline.

5.2 Composition of the Guideline Development Group

- The GDG shall be constituted once the Steering Group has defined the general scope and target audience of the guideline.
- The group should include 10–20 members, ensuring effective interaction while maintaining adequate diversity of expertise and perspectives.
- Membership shall reflect multidisciplinary expertise, balanced geographic representation, and gender equity.
- GDG members shall participate in their individual capacity and not as representatives of their affiliated institutions.
- Members shall not receive financial compensation, except reimbursement for direct expenses related to guideline development activities.
- Potential conflicts of interest shall be disclosed, assessed, and managed prior to confirmation of membership.

5.3 Roles and Responsibilities of the GDG

The GDG shall be responsible for:

- Providing input into refining the scope of the guideline.
- Assisting the Steering Group in developing and finalizing key questions using the PICO framework.
- Identifying, prioritizing, and ranking outcomes relevant to decision-making.
- Reviewing and interpreting evidence summaries, including GRADE evidence profiles or equivalent assessments.
- Interpreting evidence with explicit consideration of benefits, harms, and certainty of evidence.

- Formulating recommendations based on evidence, values and preferences, feasibility, acceptability, equity, and resource implications.
- Participating in GDG meetings (virtual and/or in-person), including at least one meeting focused on recommendation formulation.
- Reviewing and approving the final guideline document prior to submission for formal approval.

5.4 Categories of GDG Members

The GDG shall include, as appropriate:

- Technical experts in the guideline topic area
- End-users, such as programme managers, healthcare providers, and implementers
- Representatives of populations affected by the recommendations, including service users and disadvantaged groups
- Experts in evidence synthesis and guideline methodology
- Health economists, where resource implications are relevant
- Experts in equity, gender, and human rights, where applicable

This diversity ensures that recommendations are relevant, implementable, and sensitive to real-world contexts.

5.5 Do's and Don'ts

Do's

- Ensure multidisciplinary, gender-balanced, and geographically diverse representation.
- Select members with the ability to contribute actively and independently.
- Provide orientation and support to GDG members, especially service-user representatives.
- Base recommendations on systematic evidence assessment and transparent deliberation.
- Document all decisions and rationale clearly.

Don'ts

- Do not allow any single expertise or interest group to dominate discussions.
- Do not include members with unmanaged conflicts of interest.
- Do not treat GDG members as institutional representatives.
- Do not formulate recommendations without explicit consideration of benefits, harms, and feasibility.

CHAPTER 6:

PICO QUESTIONS FOR CLINICAL PRACTICE GUIDELINES

6.1 Introduction

Clinical practice guidelines (CPGs) depend on *clearly framed, answerable clinical review questions* to guide evidence synthesis by systematic review teams and formulate clinical recommendations. The PICO framework is the most commonly used structured approach to formulate such review questions in evidence-based guideline development. Without PICO development, it is not possible to go ahead with guidelines development process as the process is likely to be very vague. A PICO question is a structured format consisting of Population(P), Intervention (I), Comparison (C), Outcome(O) and is widely used in clinical medicine/used in evidence-based medicine, to create clear, focused clinical questions for literature searches which are utilized for conducting systematic reviews. This helps to identify the best evidence for patient care.

6.2 Why PICO format is used

PICO questions facilitate efficient and reproducible literature searching. There are several benefits of PICO framework

a) **Focuses on Question:** PICO approach helps clinicians to identify core issues associated with clinical problem in question e.g. population or patient group/s, intervention/s, and outcome/s for a specific clinical scenario in consideration. Outcomes could be critical (important for decision making), important, or not important (could be excluded as well).

b) **Refines Search Strategy:** This approach helps identifies key terms and synonyms, making literature searches more precise/efficient for finding relevant evidence that could be utilized for systematic reviews.

c) **Improves Evidence-Based Decisions:** This is one of the most important aspects of PICO development as it leads towards more relevant and reliable research findings

d) **Transparency:** PICO approach provides a standardized framework for systematic reviews, thus increasing transparency and replicability of compiled evidence.

e) **Bias reduction:** Bias can distort entire guidelines development process-PICO approach thus helps minimize bias by clearly defining the research components before the search begins.

f) **PICO adaptation:** Though meant primarily for therapy questions but can be adapted for various question types, including diagnosis, prognosis, therapy, and prevention etc.

6.3 PICO in Clinical Practice Guidelines

Special Considerations

In clinical practice guidelines development, PICO questions often:

- Include ***multiple outcomes*** e.g. benefits, harms, and quality of life.
- Consider ***clinical settings*** and *subpopulations* (e.g., age groups etc).
- May require *multiple comparators* (e.g., different treatment options at the same time [network meta-analysis).
- Prioritize **outcomes** *before* evidence review.

6.4 Scope and Balance

It is important to critically examine the role of PICO questions in guidelines development; could be broad and narrow-each has its advantages and disadvantages.

a) **Too broad questions** can yield *heterogeneous evidence* that's hard to interpret, could be time consuming and hard to understand and interpret in the given time frame.

b) **Too narrow questions** may yield *limited evidence* hence effort can become wasteful.

The guideline panel must *strike a balance* between breadth and specificity.

6.5 Types of Review Questions in clinical guidelines development process

The PICO framework is most commonly used for therapy or intervention questions. However, it can be adapted to other types of questions commonly encountered in guideline development. For diagnostic test accuracy (DTA) questions, the framework may be adapted to include Population, Index test, target condition (PIT format as per Cochrane) and Outcomes such as true positives, true negatives, false positives and false negatives, and related measures of accuracy. For prognosis questions, the framework may be adapted to Population, Exposure or Prognostic factor, Comparator (if relevant), and Outcomes such as mortality, disease progression, quality of life, etc. Multiple alternative question frameworks beyond PICO may be more appropriate for certain research questions and can be selected following discussion with GDG members.

6.6 Steps to Formulate Well-Framed PICO Questions[3]

Formulation of PICO questions is not an arbitrary approach but is a systematic and transparent approach which is structured and needs teamwork. Team has to deliberate and input from team members is required. Following steps are necessary:

a) Clinical Problem

One should identify and define the clinical problem e.g. *who* the guideline is targeting including population characteristics e.g. age, disease severity [e.g.

school going young children (5-7 years) with treatment refractory epileptic seizures.

b) Intervention

Choose the intervention/s or strategy to evaluate (drugs e.g. levetiracetam/lamotrigine/topiramate etc)

c) Comparator

Select the most relevant alternative e.g. placebo/standard care/usual care.

d) Outcomes

Prioritize *patient-important outcomes* e.g. mortality, morbidity, hospitalization. One should divide outcomes into critical (important for decision making, important and not important. First two (critical & important are usual outcomes selected for guidelines making).

6.7 Role of Guideline development Group in PICO formation

Guidelines development group oversees the formation of PICO question,requirement of subgroup question, scoring and rating the priority of the questions (often a Delphi method is used to prioritise and finalise the question). The PICO questions should be finalised with consensus of all the members. GDG members must ensure that all review questions are answerable with available evidence. This is important as many a times there are questions that have been selected which may not have enough original articles leading to “empty reviews”.

6.8 Conclusion

- The PICO framework is important and *central to evidence - based guideline development process* and without PICO it is hard to perform systematic reviews & meta-analysis with proper and systematic literature search. PICO is essential to apply GRADE approach for certainty of evidence.
- PICO makes review questions *focused/searchable, and clinically relevant*; otherwise, it is very difficult and vague to do literature search.
- Well-framed PICO questions greatly improve the *efficiency and quality* of clinical guidelines and enhance their potential implementation as well.

6.9 Do’s and Don’t’s

Do’s:

a) Do involve all members of Guideline Development Group (GDG) in formulating the PICO:
b) Do ensure consensus of all the guideline members in the final set of PICO questions.

c) **Do consider special aspects in CPGs**: Include multiple outcomes, clinical settings, subpopulations, and prioritize for transparency, replicability, and bias reduction.

Don’ts:

Don't finalize PICO questions without full GDG agreement to ensure relevance and implementability.

CHAPTER 7:

CONDUCTING SYSTEMATIC REVIEWS

7.1 Introduction:

The purpose of this Standard Operating Procedure (SOP) is to establish a systematic and standardized approach for all systematic review teams conducting evidence synthesis for evidence-based guidelines. Adhering to these standards enhances quality and credibility, ensuring uniformity across the commissioned reviews to develop coherent guidelines tailored to Indian patients and providers.

7.2 General instructions

- Each team must include at least one subject expert, a methodologist/systematic review expert, and a statistician.
- The PICO (Population, Intervention, Comparison, Outcome) provided by the GDG (and confirmed by the SG) must not be altered, and critical/important outcomes remain unchanged.
- Adhere to PRISMA-P 2015 for protocols and PRISMA 2020 for reporting to ensure transparency.
- For diagnostic/prognostic questions, follow Cochrane protocols/templates.
- Prepare and ideally register protocols in PROSPERO.

7.3 Review question

- The question is provided by the GDG; no alterations allowed.
- Seek clarification from DHR Nodal Scientist if unclear.
- Preserve a priori subgroups.

7.4 Study design selection for systematic reviews

a) **Intervention questions:** Include only RCTs; if unavailable, consider NRCTs, comparative cohort studies (with ≥2 groups evaluating intervention vs. comparator) if specified in protocol/GDG.
b) **Prognosis questions:** Prefer cohort studies; if unavailable, include case-control.
c) **Diagnosis questions:** Include DTA studies or diagnostic RCTs.
d) **Other questions:** Choose appropriate designs with justification.

7.5 Literature search

- Develop comprehensive strategies per database using keywords/MeSH aligned to PICO.
- Refer to high-quality reviews (e.g., Cochrane) for additional terms.
- Document strategies in detail under PICO, including dates, avoiding filters/limits for reproducibility. Filters, if used, should be documented.
- Search only PubMed, Embase, Scopus, Cochrane Library.
- Validate by checking for landmark studies via experts or similar reviews.
- Include only peer-reviewed published articles; no grey literature.
- Perform citation tracking/reference checking.
- Search up to DHR-set date; update if >90 days gap to review completion.
- Follow PRISMA-S (Preferred Reporting Items for Systematic reviews and Meta-Analyses literature search extension); use PRESS (Peer Review of Electronic Search Strategies) to validate strategies.

7.6 Exporting articles & title/abstract screening

- Export searches to compatible formats (e.g., RIS/CSV); use software like Rayyan/Covidence.
- Note: AI screening may differ from manual.
- Screen titles/abstracts independently by ≥2 reviewers using predefined criteria; resolve discrepancies via discussion/third reviewer.
- Document all decisions; record Title/Abstract exclusion reasons.

7.7 Full-text screening

- Retrieve full texts, contact authors if needed.
- Assess full texts independently by ≥2 reviewers for inclusion.
- Resolve discrepancies via consensus; consult third adjudicator if needed.
- record full-text exclusion reasons

7.8 Data extraction

- Extract minimum: study characteristics (design, criteria, status, dates, sites), participants (number, age, illness duration, presentation time, baseline details, treatments), intervention/comparator details, critical/important outcomes with GDG-specified time-points, additional info.
- Use pilot-tested standardized sheet (refer Cochrane Handbook Ch.5 Table 5.3.a).
- Contact authors for ambiguities/missing data.

- Extract independently by ≥2 reviewers; resolve discrepancies via discussion/third reviewer.
- Extract data separately for all pre-specified subgroups (e.g., intervention dose, route of administration, duration of treatment, or other subgroup variables defined in the protocol). Subgroup-specific data should be retained separately and pooled only if consistent with the predefined review protocol.
- Extract outcome data for all reported follow-up time points. For meta-analysis, use the time points predefined in the review protocol or specified by the GDG. Additional time points should be retained in the data extraction sheet and may be included in the narrative synthesis or additional analyses, as appropriate.
- For biological parameters in different units, note units and convert to standard post-extraction.
- For continuous variables, note measures (mean/median) and convert to single format.
- Maintain raw datasheet separate from meta-analysis sheet.
- If data in text/tables/figures mismatch, extract both, flag, contact authors.
- Use online tools for graphical data extraction.
- Ensure participant numbers per outcome.

7.9 Handling and analysis of change scores

- Use provided change values with SDs; avoid simple subtraction or imputation unless justified/documented (refer Cochrane Handbook 6.5/10.5).
- For median (IQR), convert to mean (SD) only if pre-specified/cautiously interpreted.
- When continuous outcomes are reported as medians and interquartile ranges, conversion to means and standard deviations may be undertaken using validated methods. The conversion methods should be selected carefully, prespecified where possible, and the potential limitations clearly acknowledged.
- Extract from graphs with CIs using digitizers; exclude if no CI for meta-analysis but report in text.

7.10 Data synthesis

- Present narrative synthesis briefly with 'Characteristics of included studies' table.
- Consider meta-analysis per outcome if ≥2 studies.
- Present forest plots per outcome, then with subgroups; include single-study plots.
- Pool using fixed-effect or random effects model, as pre-specified; present estimates with 95% CI.
- For continuous: prefer mean difference; use SMD only for differing scales.

- For dichotomous: choose OR/RR/RD/HR a priori.

- Where different effect measures are reported across studies, appropriate statistical methods may be used to convert effect estimates to a common metric, provided that the assumptions underlying the conversion are met. Established methods for converting between different effect measures should be followed as described in Cochrane Handbook.

- If meta-analysis is not possible, data may be presented using the Synthesis Without Meta-Analysis (SWiM) guidelines. The use of harvest plots may be considered in the absence of forest plots.

7.10.1 Heterogeneity Assessment:

- Statistical heterogeneity should be assessed using visual inspection of forest plots, the Cochran Q test, and the I^2 statistic.
- The choice of statistical model (fixed-effect or random-effects) should be prespecified in the protocol and based on conceptual assumptions about the expected distribution of true effects across studies, rather than selected solely on the basis of the observed I^2 value.
- Analyze RCTs/observational separately.

7.10.2 ANALYSIS OF SUBGROUPS OR SUBSETS

- Perform based on GDG PICO subgroups.
- Outline methods/tests for differences, adjustments for multiple testing.
- Follow Cochrane Handbook 10.9; document deviations.

Authors should distinguish the following:

- Prespecified (a priori) subgroups: defined in the protocol or PICO before data analysis, along with anticipated direction of subgroup effects

- When subgroup effects are considered, their credibility should be assessed using established criteria for subgroup analyses.

7.10.3 Assessment of Robustness:

- Leave-one-out sensitivity: exclude each study to check influence.

7.10.4 Publication Bias Detection:

Funnel plot asymmetry should generally be assessed only when at least 10 studies are included in a meta-analysis, as visual interpretation is unreliable with smaller numbers of studies.

Statistical tests for small-study effects, such as Begg's rank correlation test and Egger's regression test, should also be used.

7.10.5 Narrative Synthesis:

- If no quantitative synthesis (high heterogeneity/insufficient data), summarize characteristics, findings, strengths/limitations.

7.11 Risk of bias (quality) assessment

- Done independently by ≥2 reviewers.
- RCTs: ROB2 with explanations/quotes.
- NRCT/Observational: ROBINS-I for NRCT; Newcastle-Ottawa/JBI for cohort/case-control/cross-sectional with rationale/quotes.
- Document reasoning; calibrate for consistency; quality control.
- For RCTs with ≥30% loss/violation in arms, present separate analysis excluding them.
- Risk of bias shall be done separately for each eligible outcome reported in a study

7.12 Certainty of evidence

- Apply GRADE per critical outcome, assessing bias, inconsistency, indirectness, imprecision, publication bias.

7.13 Overall risk of bias:

- Downgrade: >2/3 studies low risk = non-serious; 2/3-1/3 low = serious (downgrade 1); <1/3 low = very serious (downgrade 2) by weight.
- Review high-weight RCTs carefully; detail ROB-2 domains (refer GRADE series 4).

7.14 Imprecision:

- Assess the 95% CI of pooled estimate: if on one side of the MID, do not downgrade for imprecision.
- The concept of Optimal Information Size (OIS) is primarily relevant when the confidence interval suggests a large or important effect and does not cross the threshold of clinical importance. In such situations, OIS may be used to determine whether the accumulated sample size is sufficient to confirm the observed effect.
- When the confidence interval crosses one or more thresholds of clinical importance, judgments about imprecision should be based primarily on the width of the confidence interval relative to these thresholds, rather than on OIS alone.

- Consider MCID (GDG purview): <MCID = none/trivial; >MCID = small/moderate/large.
- Downgrade up to 3 levels (refer GRADE 6).

7.15 Inconsistency:

- Assess via forest plot (points/CIs overlap), I^2.
- Downgrade up to 2 levels (refer GRADE 6).

7.16 Indirectness:

- Assess PICO match: mismatch (e.g., adults extrapolated to children) = indirect.
- Indirectness should be assessed by determining whether differences between the study population, intervention, comparator, or outcomes and those of the review question are likely to result in different relative effects.
- Downgrade up to 2 levels (refer GRADE 8).

7.17 Publication bias:

- If suspected (asymmetry/Egger/Begg), downgrade 1 level max (refer GRADE 8).

7.18 Additional notes

- **Confidentiality:** Maintain strict confidentiality; no discussion / presentation / publication without DHR approval.
- **Publication embargo:** Remains until lifted by DHR in writing.
- **Authorship criteria:** If permitted, follow ICMJE; exclude DHR scientists.
- **Acknowledgement:** If published, acknowledge DHR funding/support.

CHAPTER 8:

ASSESSMENT OF THE CERTAINTY OF EVIDENCE: THE GRADE APPROACH

8.1 Overview

The GRADE (Grading of Recommendations Assessment, Development and Evaluation) system provides a systematic and transparent framework for assessing the certainty of evidence for each critical outcome individually and for determining the overall certainty of the entire body of evidence. This chapter describes a structured approach to the assessment of GRADE domains, ensuring consistency, transparency, and methodological rigor in evaluating the certainty of evidence.

8.2 Assessment of Individual GRADE Domains

The initial certainty rating is determined by the study design:

- Randomized Controlled Trials (RCTs) begin with **high certainty** of evidence.
- Observational studies (such as cohort and case–control studies) begin with **low certainty** of evidence.
- In some guideline questions, particularly those related to prognosis, the evidence may be derived from non-comparative observational studies, and pooled incidence or prevalence estimates may be presented.
- In such cases, the GRADE prognosis framework should be applied. Under this framework, well-conducted observational studies addressing prognosis questions begin at high certainty, rather than low certainty, before consideration of downgrading or upgrading factors.
- The choice of framework should therefore be aligned with the nature of the review question.

8.2.1 Criteria for Downgrading the Certainty of Evidence

Risk of Bias (RoB) Assessment

For Randomized Controlled Trials (RCTs):

- The RoB 2 tool must be used to assess risk of bias.
- A detailed justification must be provided for each judgment, including direct quotations from the manuscript or article with page and paragraph numbers to substantiate the assessment.

For Non-randomized and Observational Studies:

- The ROBINS-I tool must be used for assessing risk of bias in non-randomized studies.
- The Newcastle–Ottawa Scale or the Joanna Briggs Institute (JBI) tool should be used for assessing cohort, case–control, cross-sectional, or other observational study designs.

- A clear rationale must be provided for each judgment, supported by quotations from the manuscript or article with page and paragraph references.

Consistency in the application of risk of bias assessment tools across reviewers must be ensured. Any discrepancies should be resolved through discussion, with involvement of a third reviewer when required.

Quality control mechanisms should be implemented to verify the accuracy and reliability of risk of bias assessments conducted for both RCTs and observational studies.

RCTs reporting a loss of 30% or more participants in either study arm after randomization must be considered at very high risk of bias. Similarly, if 30% or more participants in either arm violate the protocol-mandated randomization, precluding intention-to-treat (ITT) analysis, or are lost to follow-up with unknown outcomes, thereby preventing ITT analysis, such studies should be handled with caution. In these situations, a separate pooled analysis excluding such studies must also be presented.

RCTs demonstrating extreme effects in pooled analyses should be carefully re-evaluated for serious limitations across all RoB 2 domains (D1–D5). The rationale for risk of bias judgments across each domain must be explicitly documented. It should be noted that the mere presence of a concern in the conduct of an RCT or non-randomized study does not automatically justify downgrading the certainty of evidence; downgrading is warranted only when the concern is likely to result in significant bias affecting the overall assessment of the evidence.

Overall Risk of Bias

While the initial assessment focuses on the risk of bias of individual studies for each critical outcome, GRADE requires determination of the overall risk of bias for the entire body of evidence for that outcome. Decisions regarding downgrading based on risk of bias should follow the criteria below:

- If more than two-thirds of the studies (weighted by contribution to the pooled analysis) are at low risk of bias (green), the overall risk of bias should be classified as **“not serious”**, and no downgrading is applied.
- If between one-third and two-thirds of the studies (by weight) are at low risk of bias, the overall risk of bias should be classified as **“serious”**, and the certainty of evidence should be downgraded by one level.
- If fewer than one-third of the studies (by weight) are at low risk of bias, the overall risk of bias should be classified as **“very serious”**, and the certainty of evidence should be downgraded by two levels.

Further guidance may be found in the Journal of Clinical Epidemiology (JCE) GRADE Guidelines, Guideline 4.

Inconsistency

Inconsistency should be assessed using the following criteria:

- Visual inspection of forest plots, focusing on the direction and magnitude of individual study effect estimates
- Degree of overlap of confidence intervals across studies
- I^2 statistic, interpreted using approximate thresholds as outlined in the Cochrane Handbook (Section 10.10.2)
- P-value of Cochran's Q (Chi^2) test; given the low power of this test when few studies or small sample sizes are involved, a significance threshold of 0.10 may be used instead of 0.05

Evidence may be downgraded by one or two levels for inconsistency. Clear justification for any downgrading decision must be provided in the footnotes. Additional guidance is available in JCE GRADE Guidelines, Guideline 7.

Imprecision

- Assessment of imprecision begins with defining the threshold of clinical importance, and judgments about imprecision should preferably be based on a threshold of clinical importance**,** such as the minimal important difference (MID or MCID), rather than the null effect alone.
- The impact of the upper and lower bounds of the 95% confidence interval on clinical decision-making must then be evaluated.
- If the confidence interval suggests precision, the Optimal Information Size (OIS) must still be calculated before concluding that the estimate is precise. OIS represents the sample size required for a single, adequately powered trial.
- If the total number of participants in the meta-analysis is less than the OIS, the evidence should be downgraded for imprecision.
- The concept of Optimal Information Size (OIS) is primarily relevant when the confidence interval suggests a large or important effect and does not cross the threshold of clinical importance. In such situations, OIS may be used to determine whether the accumulated sample size is sufficient to confirm the observed effect.
- When the confidence interval crosses one or more thresholds of clinical importance, judgments about imprecision should be based primarily on the width of the confidence interval relative to these thresholds, rather than on OIS alone.
- Decisions regarding imprecision should follow the most recent GRADE guidance and algorithms.

If the result is imprecise based on confidence interval assessment, the certainty of evidence should be downgraded by one or two levels depending on whether one or two thresholds are crossed. When downgrading by two levels, JCE GRADE Guidelines, Guideline 34 may be consulted for further clarification. All downgrading decisions must be clearly justified in the footnotes.

Indirectness

- Indirectness should be assessed by comparing the PICO characteristics of the included studies with the review question.

- Indirectness should be assessed by determining whether differences between the study population, intervention, comparator, or outcomes and those of the review question are likely to result in different relative effects.
- Differences in population characteristics (for example, adults versus children) do not automatically constitute serious indirectness. Instead, the key consideration is whether there is credible evidence or biological rationale suggesting that the relative effects would differ across these populations.
- Judgments about indirectness should therefore be linked to the credibility of subgroup effects and supported by clinical or methodological reasoning.
- All judgments related to indirectness must be clearly justified in the footnotes.
- Further guidance is available in JCE GRADE Guidelines, Guideline 8.

Publication Bias

- Publication bias should be suspected when asymmetry is observed in funnel plots.
- Statistical tests such as Egger's linear regression test and Begg's rank correlation test may be used when more than ten studies are included in a meta-analysis.
- For meta-analyses involving fewer than ten studies, Doi plots may be used.
- Trial protocols should be reviewed in trial registries such as ClinicalTrials.gov or the Clinical Trials Registry of India (CTRI).
- Particular attention should be paid to protocols for industry-funded studies or trials terminated early.
- Additional guidance may be found in JCE GRADE Guidelines, Guideline 5.

Summary of Downgrading Criteria

Domain	Criteria	Downgrading
Risk of Bias	Limitations in study design or conduct	−1 (serious) or −2 (very serious)
Inconsistency	Unexplained heterogeneity	−1 (serious) or −2 (very serious)
Indirectness	Misalignment with the PICO question	−1 (serious) or −2 (very serious)
Imprecision	Uncertainty in effect estimate	−1 (serious) or −2 (very serious)
Publication Bias	Suspected selective publication	−1

8.2.2 Criteria for Upgrading the Certainty of Evidence

Upgrading of certainty applies exclusively to observational studies. Evidence may be upgraded based on the presence of a large magnitude of effect, a dose–response relationship, or when all plausible residual confounding would increase confidence in the observed effect. Detailed guidance is available in JCE GRADE Guidelines, Guideline 9.

Upgrading for large or very large effects should be considered only when the body of evidence is at low risk of bias since high risk of bias may exaggerate treatment effects.

Domain	Criteria	Upgrading
Large Magnitude of Effect	Five-fold increase or reduction in risk	+2
Moderate-to-Large Effect	Two-fold increase or reduction in risk	+1
Dose–Response Gradient	Clear exposure–response relationship	+1
Residual Confounding	Confounding likely underestimates effect	+1

8.3 Overall Certainty of Evidence

The GRADE approach should be applied to assess the certainty of evidence for each critical outcome, considering risk of bias, inconsistency, indirectness, imprecision, and publication bias. The overall certainty of the body of evidence is determined by the lowest certainty rating among all critical outcomes.

An exception to this rule applies when effect estimates for all critical outcomes are in the same direction (either all favouring the intervention or the control), and when all but one outcome are rated as low certainty, with one outcome rated as very low certainty. In such cases, the overall certainty of evidence should be rated as low rather than very low. This exception prevents undue downgrading of the overall body of evidence when findings are directionally consistent.

8.4 Interpretation of the Four Levels of Certainty of Evidence

- **High:** There is very high confidence that the true effect lies close to the estimated effect.
- **Moderate:** There is moderate confidence in the effect estimate; the true effect is likely close to the estimate but may be substantially different.
- **Low:** Confidence in the effect estimate is limited; the true effect may be substantially different from the estimate.
- **Very Low:** There is very little confidence in the effect estimate; the true effect is likely substantially different from the estimate.

8.5 Limitations and Challenges of the GRADE Approach

- Application of GRADE requires methodological expertise and appropriate training.
- Certain domains involve subjective judgment.
- The approach can be time- and resource-intensive, particularly for large-scale reviews.
- GRADE may be less intuitive for non-interventional research questions, such as etiology, prognosis, or diagnostic test accuracy.
- There is a risk of mechanical application without sufficient consideration of clinical and contextual factors.

8.6 Reporting and Conflict Resolution

- Detailed explanations and justifications must be provided for all decisions to downgrade or upgrade the certainty of evidence; fields should not be left blank or completed arbitrarily.

- Given the subjective nature of some GRADE judgments, uncertainties and disagreements should be resolved in consultation with guideline methodologists and the DHR Secretariat.

CHAPTER 9:

REVIEW OF EVIDENCE PROFILES AND SOF TABLES

9.1 Introduction

Evidence Profiles (EPs) and Summary of Findings (SoF) tables are core instruments within the GRADE (Grading of Recommendations Assessment, Development, and Evaluation) framework for the structured presentation of evidence. These tools provide a concise, transparent, and user-friendly visual summary of systematic review findings, including effect estimates (both relative and anticipated absolute effects) and the certainty of evidence for each critical and important outcome.

This chapter describes the Standard Operating Procedure (SOP) for the preparation and presentation of Evidence Profiles and Summary of Findings (SoF) tables during the guideline development process. It also delineates the roles and responsibilities of the Technical Resource Centres (TRCs), Technical Resource Hubs (TRHs), and the Guideline Development Group (GDG).

9.2 Evidence Profiles and Summary of Findings (SoF) Tables

9.2.1 Evidence Profiles

Evidence Profiles are structured tabular summaries that document the detailed evaluation of evidence for each outcome of interest. They include explicit judgements across all factors that determine the certainty of evidence, as defined by the GRADE domains. An Evidence Profile contains the following elements:

- Critical outcomes
- Number of studies and total sample size
- Study design
- Risk of bias assessment
- Evaluation of inconsistency
- Assessment of indirectness
- Assessment of imprecision
- Other considerations, including publication bias
- Study-level event rates
- Relative effects and anticipated absolute effects
- Overall certainty of evidence

9.2.2 Summary of Findings (SoF) Tables

Summary of Findings tables are designed for a broader audience, including end users of systematic reviews and clinical practice guidelines. These tables provide a concise and accessible summary of key findings and include:

- Critical outcomes
- Number of participants and studies

- Relative effects and anticipated absolute effects
- Certainty of evidence
- Plain language summaries of study findings

9.3 Objectives of Evidence Profiles and Summary of Findings Tables

Evidence Profiles and Summary of Findings tables form an integral component of the final systematic review report submitted to the Secretariat. Their objectives include the following:

- **Enhancing transparency:** Providing clear justification for any upgrading or downgrading of the certainty of evidence.
- **Facilitating assessment of GRADE judgements:** Enabling verification of effect estimates and certainty ratings based on assessments of risk of bias, inconsistency, indirectness, imprecision, and publication bias.
- **Promoting standardization:** Ensuring consistency in the application and reporting of GRADE methodology across all systematic reviews contributing to a guideline.

9.4 Roles and Responsibilities in the Development of Evidence Profiles and SoF Tables

9.4.1 Technical Resource Centres (TRCs)

Technical Resource Centres play the primary role in evidence synthesis and are responsible for the following activities:

- Developing Evidence Profiles and Summary of Findings tables using the GRADEpro GDT tool.
- Responding to queries raised by the Secretariat and TRHs and implementing required revisions in a timely manner.
- Participating in GDG meetings to present evidence summaries and key findings.
- Ensuring that every final GRADE rating and its accompanying justification receive independent agreement from at least two review team members.

9.4.2 Technical Resource Hubs (TRHs)

Technical Resource Hubs function as an intermediary between the TRCs and the GDG, with a focus on oversight and quality assurance. Their responsibilities include:

- **Monitoring TRC outputs:** Conducting regular quality audits of systematic reviews and Evidence Profiles submitted by TRCs to ensure completeness and adherence to GRADE methodology.
- **Coordination and liaison:** Facilitating communication between the Secretariat, methodologists, and TRCs to address and resolve methodological issues.
- **Revision management:** Systematically tracking revisions to ensure documentation standards and version control are maintained.

- **Pre-GDG preparation:** Maintaining finalized documentation to support the presentation of review findings by TRCs to the GDG.

9.5 Evidence Profile Development Process

Step 1: Outcome Preparation

- Critical outcomes must be used exactly as specified by the GDG in the PICO framework. TRCs must not modify these outcomes.
- If TRCs identify a potentially important omission, they may communicate this concern to the designated Scientist responsible for the guideline at the DHR Secretariat.
- Surrogate outcomes must not be included unless they have been explicitly prespecified by the GDG.
- A maximum of seven critical outcomes may be included in Summary of Findings tables, unless otherwise prespecified by the GDG.

Step 2: Data Entry

Summary measures must be prepared for each outcome and include the following:

- Relative effect estimates, such as risk ratios, odds ratios, mean differences, or hazard ratios.
- Baseline risk estimates, derived from credible observational studies or control group event rates, for the calculation of anticipated absolute effects. Selection of baseline risk must be undertaken in consultation with the TRH and the DHR Secretariat.
- The use of standardized mean differences (SMDs) should be avoided whenever possible due to the difficulty of interpreting minimal clinically important differences in SMD units for the GDG.

Specific Methodological Considerations:

- For risk ratios, odds ratios, and mean differences, standard established calculation procedures must be followed.
- **Calculation of absolute effects from hazard ratios:** When only hazard ratios are available, absolute effects may be estimated using the following formula:

  $p_1 = \exp(\ln(p_0) \times HR) = p_0^{HR}$

  where:

  - p_1 represents the proportion of event-free individuals in the intervention group at a specified time point,
  - p_0 represents the proportion of event-free individuals in the control group at the same time point, and
  - *HR* is the hazard ratio comparing the intervention and control groups.

This method assumes proportional hazards and enables estimation of absolute effects when only relative measures are available. For detailed guidance, reference should be made to the Journal of Clinical Epidemiology (JCE) series, GRADE Guidelines 27, which outlines the calculation of absolute effects for time-to-event outcomes in Evidence Profiles and Summary of Findings tables.

Step 3: Software

- Evidence Profiles and Summary of Findings tables must be developed using the GRADEpro GDT tool.
- Relevant RevMan files should be imported into the tool, and the appropriate formats—GRADE Evidence Profile and GRADE Summary of Findings—must be selected.

9.6 Quality Assurance and Validation Process

9.6.1 Internal Review by TRCs and TRHs

Accuracy Verification:

- Verify that study characteristics accurately reflect the source publications.
- Confirm risk of bias assessments against detailed assessment records.
- Ensure all mandatory sections and data fields are fully completed.
- Validate the sources and calculations used to determine baseline risk estimates.
- Cross-check all effect estimates against the original systematic review results.
- Independently verify calculations of anticipated absolute effects.
- Ensure consistent terminology and formatting across all tables and supporting documents.
- Confirm that relative and anticipated absolute effect estimates indicate the same direction of effect (benefit or harm).
- Ensure that certainty of evidence ratings conform to GRADE criteria.

Version Management:

- Assign unique version numbers to all Evidence Profiles and Summary of Findings tables.
- Record every modification with the date and author identification.
- Maintain a detailed change log documenting the nature and rationale for each revision.
- Preserve all prior versions to ensure a complete and auditable version history.

9.6.2 Review by the Guideline Development Group

Evidence Profiles and Summary of Findings tables must be presented to the GDG for review. GDG members assess:

- The accuracy and appropriateness of GRADE judgements.
- The clinical relevance and applicability of the evidence.
- The clarity and comprehensibility of the presentation.

Common Areas of Disagreement:

- Certainty of evidence ratings, particularly the extent of downgrading across GRADE domains.
- Selection of baseline risk estimates, which may vary across populations and therefore require explicit justification.

Structured Feedback Process:

- Document all disagreements regarding GRADE ratings, including specific reasons.
- Revise Evidence Profiles and Summary of Findings tables in response to GDG feedback.

9.6.3 Resolution of Disagreements

To ensure transparent and unbiased resolution of disagreements:

- **Focused discussion:** Convene meetings dedicated to resolving disputed issues, ensuring that all perspectives are considered.
- **Independent consultation:** When methodological disagreements persist, seek input from an independent GRADE expert, in addition to discussions involving GDG members and methodologists.

9.6.4 Revised Evidence Profiles and Summary of Findings Tables

Following recommendations from the Guideline Development Group:

- TRC and TRH members revise Evidence Profiles and Summary of Findings tables accordingly.
- Revised documents are re-presented to the GDG for approval.
- Upon acceptance, final versions are formally locked and archived.

CHAPTER 10:

EVIDENCE-TO-DECISION (EtD) FRAMEWORK

10.1 Introduction

The Evidence-to-Decision (EtD) framework is a structured and transparent approach that supports healthcare and public health decision-making by systematically linking research evidence to recommendations. Within the national guideline development process coordinated by the Centre for Evidence-Based Guidelines, the EtD framework operationalizes the transition from graded evidence to context-appropriate, transparent, and justifiable recommendations.

In alignment with the WHO Handbook for Guideline Development and the GRADE Working Group guidance, the EtD framework ensures that Guideline Development Group (GDG) members explicitly consider not only the magnitude and certainty of effects but also values, resource implications, equity, acceptability, and feasibility before formulating recommendations. This structured approach enhances transparency, consistency, and accountability in guideline decision-making and enables end-users and policymakers to understand the rationale underpinning each recommendation.

10.2 Role of EtD in the Guideline Development Process

The guideline development process at the Centre for Evidence-Based Guidelines involves the following sequential steps:

- Collation of evidence through systematic reviews and meta-analyses based on well-defined review questions
- Assessment of the certainty of evidence using the GRADE approach
- Formulation of recommendations through structured application of the Evidence-to-Decision (EtD) framework

The EtD framework serves as the final integrative step, translating evidence into recommendations through a transparent, systematic, and documented decision-making process.

10.3 Purpose of the Evidence-to-Decision Framework

The EtD framework is designed to:

- Assist GDG members in using evidence systematically and transparently when making decisions
- Present all relevant benefits and harms of the intervention compared with the comparator
- Make explicit judgments underlying recommendations
- Enable end-users to understand how and why specific recommendations were formulated

- Allow policymakers to assess whether and how an intervention can be implemented in their specific context

10.4 Components of the EtD Framework

The EtD framework consists of three core components:

1. **Framing the Question**
2. **Assessment of the Evidence**
3. **Summary of Judgments**

In addition, the framework incorporates contextual considerations related to:

- Settings (place, person, and time)
- Perspectives (government, private sector, non-governmental organizations, etc.)
- Relevant subgroups
- Background and contextual factors

10.4.1 Framing the Question

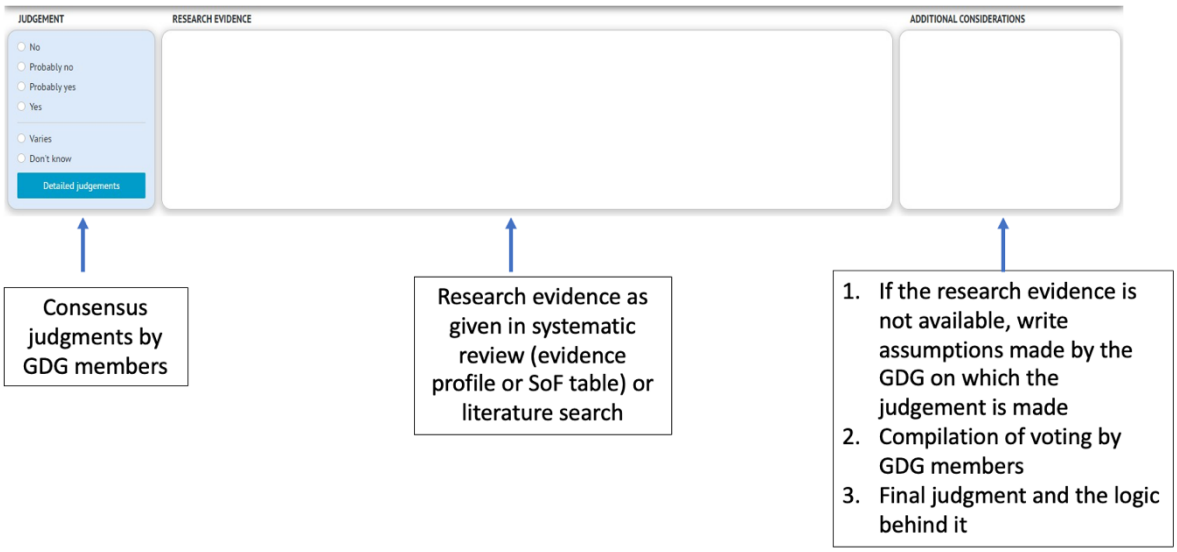
Questions addressed through the EtD framework are structured using the PICO format:

- **Population**
- **Intervention**
- **Comparator**
- **Outcome**

Clear framing of the question ensures that judgments are aligned with the scope of the guideline and the underlying evidence synthesis. The PICO guideline questions are framed by the GDG during the initial stages of the guideline development.

10.4.2. Assessment of the Evidence

The assessment of evidence in EtD is done in a systematic manner with proper documentation of judgements, research evidence and additional considerations as shown below:



The assessment of evidence within the EtD framework involves explicit judgments across the following criteria:

i. **Priority of the Problem**

- Is the problem serious?
- Is the problem urgent?
- Is the problem a recognized priority?
- The judgement for this question is always 'Yes' because the question is already prioritized by the Steering Group and GDG.

ii. **Desirable Effects**

- How substantial are the desirable effects?
- Judgments are based on evidence profiles and Summary of Findings (SoF) tables derived from the systematic reviews.

iii. **Undesirable Effects**

- How substantial are the undesirable effects?
- Judgments are based on evidence profiles and SoF tables derived from the systematic reviews.

iv. **Certainty of Evidence**

- What is the overall certainty of the evidence for each critical outcome?
- Certainty ratings are derived from GRADE assessments presented in evidence profiles and SoF tables.

v. **Values and Preferences**

- Is there important uncertainty or variability in how patients value the main outcomes? Please follow GRADE handbook for details on 'Values and Preferences'

vi. **Balance of Effects**

- Does the balance between desirable and undesirable effects favour the intervention or the comparator?
- The judgement is based on the following four domains:
  - Desirable effects
  - Undesirable effects
  - Overall certainty of evidence

- Values and preferences

vii. **Resource Requirements and its certainty**
   - What resources are required for the intervention and comparator (e.g., manpower, facilities, equipment, logistics)?
   - What is the certainty of evidence regarding resource requirements?

viii. **Cost-Effectiveness**
   - Does the cost-effectiveness favour the intervention or the comparator?
   - Look for any existing Health Technology Assessment (HTA) studies where available.
   - If no HTA evidence exists, an HTA study may be conducted to estimate cost-effectiveness.

ix. **Equity**
   - What is the anticipated impact on health equity?
   - Consideration is given to potential inequities based on socioeconomic status, gender, religion, or other relevant factors.

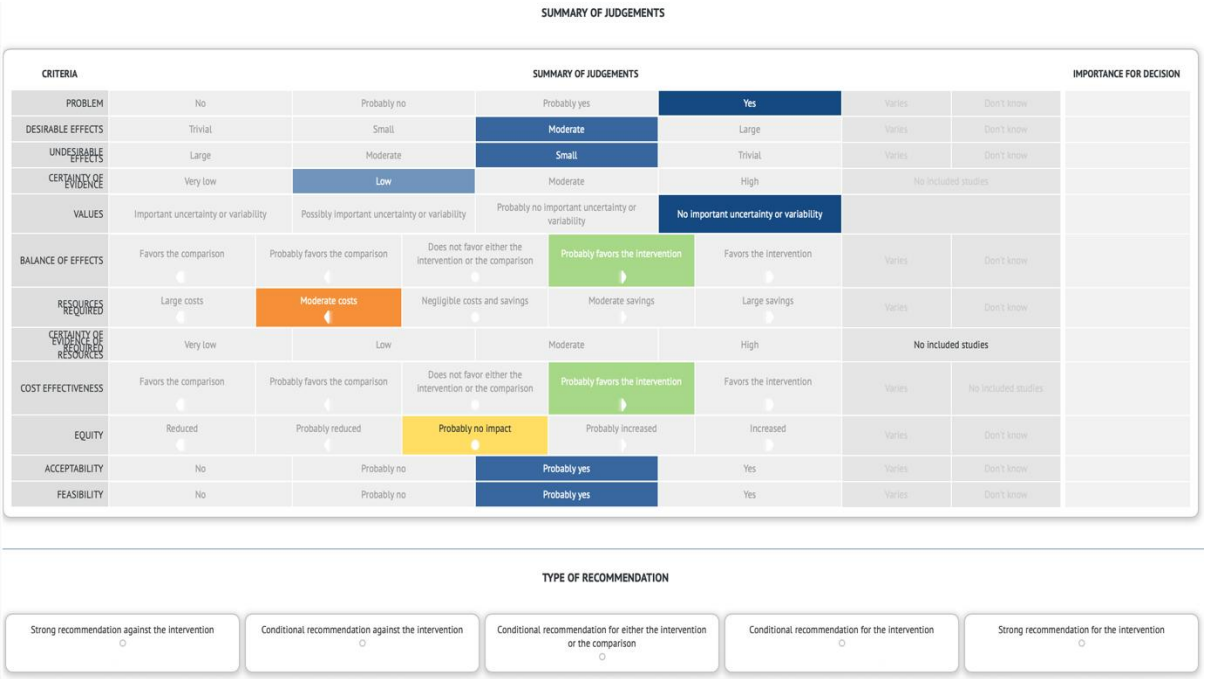
x. **Acceptability**
   - Is the intervention acceptable to:
     - Patients or patient groups
     - Clinicians
     - Policymakers
     - Other relevant stakeholders
   - Ethical considerations are included in this assessment.

xi. **Feasibility**
   - Is the intervention feasible to implement?
   - Consideration is given to barriers, facilitators, and sustainability.

10.4.3. Summary of Judgements

A summary of judgements is prepared where all judgements taken for each criterion by the GDG is presented. On the basis of this summary of judgements, the GDG draft the final recommendations.

A hypothetical summary of judgements is shown below:



Conduct of the EtD Process

The EtD process is conducted as follows:

- All EtD meetings are conducted by the DHR Secretariat, preferably in physical mode. In case of guidelines developed by TRH, EtD meetings will be conducted by the TRH.
- EtD meetings are conducted using **GRADEpro GDT** software tool or **interactive EtD (iEtD)** platforms.
- Once evidence synthesis and GRADE assessments are completed and approved by the GDG, an EtD table is populated by the DHR Secretariat.
- A draft EtD is prepared and presented to the GDG during a dedicated EtD meeting.
- Each EtD criterion is discussed in detail, considering the research evidence available.
- The research evidence is populated either from the systematic reviews (for criteria 2, 3 and 4) or from relevant literature search for criteria 5-11.
- Based on the discussion, each GDG member provide judgment for each criterion.
- The final votes are calculated. If consensus is reached, it is recorded as the final judgment.
- If consensus is not reached, majority voting is used.
- Where research evidence is unavailable, explicit assumptions made by the GDG are documented in the additional consideration box.
- Final judgments and the underlying rationale are clearly recorded.
- All EtD meetings must be recorded so that it is helpful for the DHR Secretariat to refer to the recording while writing the EtD document. The recording must be kept confidential through the process of the guideline development.

10.5 Do’s and Don’ts

Do’s

- All principles mentioned above must be followed when conducting EtD meetings
- In case of any discrepancy, guideline methodologist or co-ordinating scientist in the DHR Secretariat should be consulted.
- Voting must be obtained from all GDG members, attempts should be made to obtain the voting of those GDG members who did not attend the EtD meeting.
- Absolute confidentiality must be maintained while conducting the EtD meeting

Don’ts

- EtD meetings must not be conducted without the approval of the evidence by the GDG.

CHAPTER 11:

EXTERNAL REVIEWS

11.1 Introduction

The external peer review process involves a systematic review of the draft guideline document by individuals and organizations external to the Guideline Development Group (GDG), including key stakeholders who may be affected by the recommendations. This process shall be planned as an integral component of the guideline development cycle and coordinated by the Steering Group.

An External Review Group (ERG) may be constituted to review the draft final guideline prior to its publication. Review by external experts and stakeholders facilitates the identification of errors, omissions, and context-specific implementation considerations. For rapid or time-sensitive guidelines, the external peer review process may be conducted using accelerated procedures with abbreviated timelines.

11.2 Establishment of the External Review Group

- An External Review Group (ERG) shall be constituted to support the external peer review process.
- The ERG shall be established by the Steering Group during the guideline development process, preferably during the initial meeting of the Steering Group.
- The ERG shall include individuals who have an interest in the guideline topic and those who are likely to be affected by the recommendations.

11.3 Composition of the External Review Group

The External Review Group may include, but is not limited to, the following categories of members:

- Technical and subject-matter experts
- End-users of the guideline
- Programme managers and implementers
- Representatives of advocacy groups
- Individuals or groups affected by the condition addressed in the guideline

The ERG shall be balanced with respect to geographic representation, gender, and diversity of perspectives. Where key stakeholder perspectives are not adequately represented within the Guideline Development Group, such perspectives shall be included in the External Review Group.

11.4 External Review Group Members

- Members of the ERG may be identified through nominations by the Steering Group or the Guideline Development Group, or through an open call for interested individuals and organizations.

- All ERG members shall submit a declaration of interests prior to their participation in the external review process.

11.5 Role of the External Review Group

- The External Review Group shall review the final draft guideline document to identify errors or missing information, comment on clarity and internal consistency, highlight setting-specific considerations, and provide feedback on any other aspects deemed relevant.
- The ERG shall not modify, reformulate, or directly influence the recommendations developed by the Guideline Development Group.

11.6 Peer Review of the Final Guideline

- If members of the ERG raise major concerns regarding one or more recommendations, the Guideline Development Group shall convene to discuss and address these concerns.
- All deliberations and decisions arising from ERG feedback shall be appropriately documented.

11.7 Timelines and Accelerated Review

- The external peer review process may be conducted using an accelerated timeline, with reviewers provided 15–20 days to submit their comments to the DHR Secretariat, particularly in the case of rapid or time-sensitive guidelines.

11.8 Do’s and Don’ts

Do’s

- Establish the External Review Group during the guideline development process.
- Ensure balanced representation of stakeholders, geographic regions, and gender.
- Engage the ERG at appropriate stages of guideline development.
- Clearly document all comments received from the ERG and the corresponding responses.
- Discuss and address major concerns raised by the ERG during meetings of the Guideline Development Group.

Don’ts

- Do not involve External Review Group members in the formulation of recommendations.
- Do not include ERG members with unresolved or significant conflicts of interest.
- Do not bypass the external peer review process without documented justification.
- Do not finalize the guideline without addressing substantive feedback provided .

CHAPTER 12:

PUBLICATIONS OF GUIDELINES AND SYSTEMATIC REVIEWS

12.1 Introduction

Evidence-based health policymaking relies on the systematic generation, transparent appraisal, and responsible dissemination of scientific evidence. Consistent publication standards enhance credibility, reduce bias, protect institutional integrity, and support defensible health-system decisions related to safety, effectiveness, feasibility, equity, and resource utilisation.

This chapter defines the principles, processes, and responsibilities governing the publication of national guidelines, systematic reviews, and related protocol papers developed or commissioned under the Department of Health Research (DHR) for guideline development. This chapter aims to ensure transparency, accountability, scientific integrity, ethical authorship, and independence in all publications arising from guideline development and evidence synthesis activities.

12.2 Scope

This chapter applies to:

- National clinical or public health guidelines approved by the DHR Steering Group
- Systematic reviews and protocol papers commissioned or funded by DHR
- All individuals involved in guideline development, evidence synthesis, decision-making, and publication processes, including scientists of the DHR Secretariat, Guideline Development Groups (GDGs), Steering Groups, Technical Resource Hubs and Centres (TRHs/TRCs).

12.3. Publication of manuscripts related to National Guidelines

Authority to Publish

- National guideline manuscripts may be submitted for publication only after:
    - Formal approval of the guideline by the Steering Group, and
    - Written approval from the competent authority of the DHR.

Responsibility for Drafting

- When the guideline is coordinated by the DHR Secretariat, the coordinating scientist of the Secretariat shall draft the manuscript.
- For guidelines developed by a TRH, the Principal Investigator of the TRH shall draft the manuscript in consultation with the relevant co-ordinating scientist of the DHR Secretariat.

Consultation and Consent

- All members of the GDG must be provided the opportunity to review and comment on the draft manuscript.
- Written consent from all GDG members is mandatory prior to submission of the final version.

Compliance

- All guideline publications must comply with:
  - These principles mentioned in this chapter, and
  - The DHR Policy on Publications (link).

12.4 Authorship for manuscripts related to National Guidelines

Eligibility Criteria

Authorship shall be granted only to individuals who:

- Meet **all** ICMJE authorship criteria and accept full responsibility for the guideline content; and
- Have made substantial contributions to one or more of the following:
  - Defining the scope and key questions (PICO/PECO)
  - Prioritising outcomes and decision criteria
  - Interpreting evidence and certainty of evidence (GRADE)
  - Participating in EtD deliberations
  - Formulating recommendations
- Have drafted substantial sections of the manuscript
- Have critically reviewed the manuscript for significant intellectual content
- Have approved the final version
- Have completed CoI declaration and management procedures

Authorship Order

- Authorship order shall reflect the level of contribution and must be finalised through written agreement among authors.
- For DHR-coordinated guidelines:
  - First authorship may be assigned to the co-ordinating scientist of the DHR Secretariat
  - Last and/or corresponding authorship may be assigned to the guideline methodologist
- For TRH-developed guidelines:
  - Authorship decisions shall be made by the TRH Principal Investigators in consultation with the DHR Secretariat
- Where all GDG members have contributed equally, authorship may be assigned alphabetically by surname, subject to approval by the DHR Secretariat.
- Group authorship may also be given (e.g., *National Guideline Development Group*).
- Members of the Steering Group may be granted authorship following due consultation and documentation of substantive intellectual contribution.

- In case of disputes, the decision of the competent authority of the DHR shall be final and binding.

12.5 Acknowledgements (Non-Authorship Contributions)

The following contributions shall be acknowledged but do **not** qualify for authorship:

- Administrative or secretariat support
- Logistical coordination
- Funding or sponsorship
- External peer review only
- Technical editing or formatting

12.6 Prohibited Practices for Guideline Publications

The following practices are strictly prohibited:

- Honorary, guest, positional, or ghost authorship
- Inclusion of individuals who did not participate meaningfully throughout the guideline development process
- Failure to declare or appropriately manage conflicts of interest

12.7 Do's and Don'ts for Publication of National Guidelines

Do's

- Obtain written approval from the competent authority of the DHR prior to journal submission
- Adhere strictly to this Standard Operating Procedures
- Comply fully with the DHR Policy on Publications (https://dhr.gov.in/dhrguidelines/dhr-policy-publications)

Don'ts

- Do not include honorary, administrative, or positional authorship
- Do not permit political, commercial, or other external influence to compromise guideline independence
- Do not offer authorship to individuals who:
    - Provided only administrative or logistical support
    - Served only as funders or sponsors
    - Provided only external peer review comments
    - Were included solely due to designation, seniority, or affiliation
    - Participated only in data collection without intellectual contribution

12.8 Publication of Systematic Reviews and Protocol Papers

Authority and Responsibility

- Systematic reviews may be published only after approval by the GDG.

- The systematic review team shall retain sole discretion regarding publication decisions and authorship sequencing.

Acknowledgement

- DHR funding support must be acknowledged explicitly in the acknowledgements section of the manuscript.

Compliance

- All systematic review publications must comply with:
    - The principles mentioned in this chapter, and
    - The DHR Policy on Publications (https://dhr.gov.in/dhrguidelines/dhr-policy-publications).

12.9 Authorship for Systematic Reviews

Authorship shall be granted only to individuals who:

- Meet all ICMJE authorship criteria and accept responsibility for the content
- Have made substantial contributions to one or more stages of evidence synthesis or GRADE assessment
- Have critically reviewed the manuscript for intellectual content
- Have approved the final manuscript
- Have agreed in writing to the authorship order based on contribution

Prohibited Practices for Systematic Reviews

- Honorary, guest, positional, or ghost authorship
- Inclusion of individuals who did not participate in evidence synthesis
- Undeclared conflicts of interest

12.10 Do’s and Don’ts for Publication of Systematic Reviews

Do’s

- Strictly adhere to this Standard Operating Procedures
- Comply with the DHR Policy on Publications (link)

Don’ts

- Do not include honorary, administrative, or positional authorship
- Do not allow political, commercial, or other external influence to compromise evidence synthesis
- Do not offer authorship to individuals who:
    - Provided only administrative or logistical support
    - Served only as funders or sponsors
    - Provided only external peer review comments
    - Were included solely due to designation, seniority, or affiliation

- Participated only in data collection without intellectual input.

CHAPTER 13:

UPDATE OF GUIDELINES

13.1 Introduction

Regular updating of guidelines is essential to ensure that recommendations remain current, relevant, and evidence informed. Each guideline should specify the timeline after which the recommendations may need revision. As new research evidence emerges or as contextual factors evolve, existing recommendations may require reassessment or revision.

The DHR Secretariat shall be responsible for ensuring that guidelines remain up to date. Updates may be undertaken at the specified time period or initiated earlier when substantial new evidence becomes available.

13.2 Revision of guidelines

- Each guideline should specify the timeline after which the recommendations may need revision
- The timeline shall be determined based on the following considerations:
    - The pace of new research in the relevant subject area
    - The presence of unanswered questions or areas supported by weak evidence
    - The likelihood that existing recommendations may require revision or replacement

13.3 Updating of Recommendations

- Where a substantial number of recommendations require updating, priority shall be accorded to:
    - Areas that are controversial
    - Recommendations for which new evidence has emerged
- When updates are planned to be implemented incrementally, the proposed approach shall be documented in advance and incorporated into the guideline planning process.

13.4 Early Updating of Recommendations

- Guidelines may be updated prior to the review-by date when substantial new evidence becomes available.
- Newly identified evidence shall be evaluated in the context of the totality of existing evidence and, where necessary, supported by an updated systematic review.
- Updates that result in changes to recommendations shall undergo appropriate review and approval processes.
- When concerns arise regarding the ongoing validity of recommendations, stakeholders and implementers shall be informed of the uncertainty and the proposed update plans through appropriate communication channels.

13.5 Do’s and Don’ts

Do’s

1. Specify a clear timeline date for every guideline.
2. Regularly monitor emerging evidence relevant to existing recommendations.
3. Prioritize the updating of recommendations that are controversial or sensitive to new evidence.
4. Inform stakeholders when recommendations may no longer be current.
5. Document all decisions related to guideline updating processes.

Don’ts

- Do not update recommendations without considering the complete body of relevant evidence.
- Do not modify recommendations without appropriate review and approval.

CHAPTER 14:

ROLES OF DHR SECRETARIAT, TECHNICAL RESOURCE HUBS AND TECHNICAL RESOURCE CENTRES

14.1 Introduction

The Department of Health Research, in collaboration with the Directorate General of Health Services (DGHS) and various program divisions of Ministry of Health and Family Welfare (MoHFW), established Centre for Evidence-based Guidelines (CEG) in the Department of Health Research (DHR). CEG has established a network of Technical Resource Hubs (TRHs) and Technical Resource Centres (TRCs) across the country. This hierarchical network is designed to operationalize a national evidence ecosystem for guideline development. Together, these entities perform complementary and interdependent functions within the national guideline programme.

This chapter describes the institutional architecture supporting evidence-based guideline development in India, with particular emphasis on the roles and responsibilities of TRHs and TRCs. It also presents clearly articulated do's and don'ts as a pragmatic guide for stakeholders involved in guideline development.

14.2 Role of DHR Secretariat

The DHR Secretariat will be the central unit in the network of guideline development process. The roles of the nodal officer in DHR Secretariat include the following:

14.2.1. Development of Evidence based guidelines: The concerned nodal officer will co-ordinate the evidence-based guideline development by

- To conduct Steering Group meetings to decide the scope of the guidelines and constitution of the GDG
- To conduct GDG meetings to formulate PICO questions
- To conduct regular meetings of the GDG to finalize the evidence generated by the systematic review teams
- To conduct EtD meetings with GDG to draft the recommendations
- To prepare guideline document in consultation with the GDG
- To do an external review of the recommendations
- To obtain public opinion on the draft recommendations
- Release and publications of the guidelines and guideline papers
- To ensure that above processes are followed after due approval of the competent authority in the DHR at each step

14.2.2. To coordinate and provide administrative & technical support to TRCs and TRHs

14.3 Role of Technical Resource Hubs (TRHs)

Technical Resource Hubs (TRHs) will function as technical and methodological units within the national guideline development process. Their mandate will encompass methodological oversight, quality assurance, and capacity building of TRCs. TRHs will support and coordinate the activities of Technical Resource Centres (TRCs) to ensure consistency, transparency, and methodological rigor across the guideline development lifecycle.

The roles of TRHs in national health guideline development include the following:

14.3.1. Providing methodological inputs to TRCs

TRHs will provide overarching methodological inputs to TRCs to ensure that evidence synthesis activities adhere to the standards established by the DHR. They will guide TRCs in the appropriate application of systematic review methods, and GRADE assessments.

14.3.2. Development of Evidence based Guidelines

TRH will also be mandated to develop evidence based guidelines in collaboration with DHR Secretariat with the following responsibilities:

- To conduct GDG meetings to formulate PICO questions
- To conduct regular meetings of the GDG to finalize the evidence generated by the systematic review teams
- To conduct EtD meetings with GDG to draft the recommendations
- To prepare guideline document in consultation with the GDG
- To do an external review of the recommendations
- Each of the above step will be undertaken after due approval of the competent authority in the DHR
- To help DHR Secretariat in any other Guideline Development related work

14.3.3. Protocol Review and Quality Assurance of Evidence Products

TRHs will review systematic review protocols developed by TRCs to assess clarity, completeness, and methodological robustness. TRHs will critically appraise systematic reviews, evidence profiles, and Summary of Findings tables submitted by TRCs.

14.3.4. Capacity Building and Training

TRHs will design and deliver structured training programmes for TRCs on systematic reviews, meta-analysis, GRADE methodology, and guideline development processes. They will also train GDG members in critical appraisal of evidence and the use of EtD frameworks.

14.3.5. Monitoring

TRHs will monitor the progress of TRCs against agreed timelines and deliverables. They will submit periodic technical and financial reports to DHR and cooperate with monitoring and evaluation activities of the TRCs.

14.4 Role of Technical Resource Centres (TRCs)

Technical Resource Centres (TRCs) will serve as the primary entities responsible for evidence synthesis in national guideline development. Their responsibilities will be to generate the evidence in a systematic, transparent, and reproducible method as per the standards laid by the DHR in this SoP.

The roles of TRCs include the following:

14.4.1. Evidence Synthesis

TRCs undertake comprehensive evidence synthesis activities, including:

- Development of systematic review protocols
- Systematic literature searches
- Study selection and data extraction
- Critical appraisal and risk-of-bias assessment
- Meta-analysis, where appropriate
- Assessment of certainty of evidence using GRADE (2)

14.4.2. Preparation of Evidence Profiles and Summary of Findings Tables

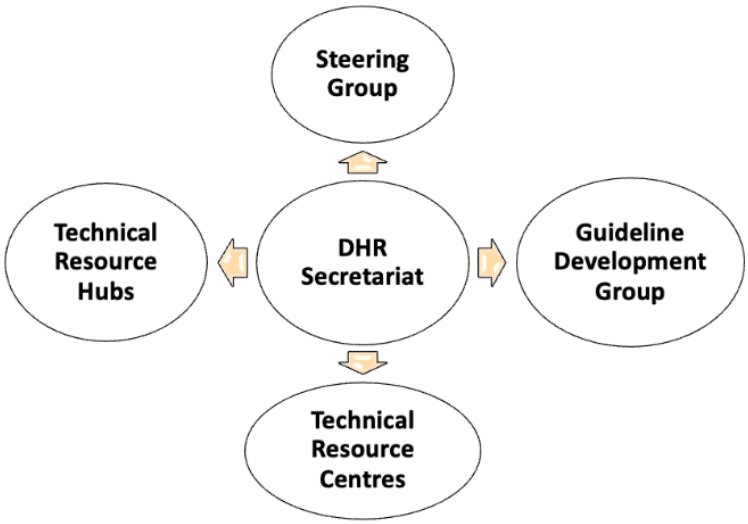
TRCs will prepare standardized evidence profiles and Summary of Findings tables that clearly present effect estimates and certainty ratings.

14.4.3. Timely delivery and responsiveness to any queries raised by DHR Secretariat/TRHs

TRCs will adhere to agreed timelines and respond promptly to feedback from DHR Secretariat or TRHs ensuring alignment with overall guideline development schedules.

14.5 Synergistic Relationship between DHR Secretariat, TRHs and TRCs

Both TRH and TRCs will function and report to DHR Secretariat with one of the scientist of the DHR as the nodal officer. Each TRCs will function under a TRH. The collaborative functioning of DHR Secretariat, TRHs and TRCs ensures the generation and application of high-quality, consistent, and efficient evidence for national guideline development. The following diagram shows the synergistic relationship between DHR Secretariat, TRHs and TRCs



14.6 Points to mention:

- All Steering group meetings will be conducted by the DHR Secretariat only.
- The GDG will be constituted by the Steering group.
- Release/launch of the guidelines will be done by the DHR Secretariat only.

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CENTRE FOR EVIDENCE-BASED GUIDELINES

The Centre for Evidence based Guidelines was established in February 2023 at the Department of Health Research in collaboration with DGHS, NHSRC, various program divisions of DoHFW, and other stakeholders under the umbrella of Ministry of Health & Family Welfare (MoHFW). The main mandate is to develop evidence-based guidelines by systematically reviewing available evidence and applying the GRADE methodology to assess the certainty of evidence. In addition, the centre conducts capacity-building activities, including workshops on systematic reviews and the GRADE approach, as well as training sessions to enhance the competency of Guideline Development Group (GDG) and other stakeholders in guideline development methodologies. Through these initiatives, it ensures that healthcare decisions are informed by the best available evidence, ultimately improving patient care and health outcomes. In September 2024, the Centre established Technical Resource Centers (TRCs) across the country to assist in evidence synthesis by conducting systematic reviews and meta-analyses, thereby enabling consistent, high-quality guideline development.

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