

The methodological quality of dengue clinical practice guidelines globally. A systematic review

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1 **Title: The methodological quality of dengue clinical practice guidelines globally. A**
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Abstract

Objective: This study aimed to systematically review the methodological quality of dengue clinical practice guidelines (CPGs) available globally.

Methods: This systematic review included CPGs on dengue clinical management (clinical diagnosis, investigation and treatment), and the development process of the guidelines, required to be evidence-based and including an expert review process. An electronic search was performed using Google, Google Scholar and PubMed. The search was last performed in September 2025. No language restriction was imposed. The selection of CPGs and cross-checking of data extracted were performed by two independent reviewers with a third to resolve any discrepancies. The Appraisal of Guidelines for Research and Evaluation II (AGREE-II) was used to assess the quality of CPGs by four independent reviewers.

Results: A total of 29 CPGs published from 2009-2025 in 18 countries were included for review. Overall, six CPGs rated as high quality. Among these six CPGs, only three reported the recommendations with GRADE. Four CPGs adapted other CPGs without transparent review process. Majority of the CPGs fail to demonstrate a robust scientific development process.

Conclusion: Despite the variability in the quality of the CPGs assessed in this review, several high-quality guidelines were identified as suitable for use. In contrast, a number of CPGs were found to rely heavily on adaptations of existing guidelines while lacking sufficient methodological rigour. Therefore, CPGs that adapt recommendations from other sources should still undertake a full and systematic development process consistent with the AGREE II framework.

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Introduction

The World Health Organization (WHO) documented over five million cases of dengue infection spread across 129 countries in 2019.¹ Dengue infection complications include hypovolaemic shock, myocarditis and plasma leakage leading to respiratory failure.² There were 5000 reported dengue-related deaths in early 2023.

A clinical practice guideline (CPG), as defined by the National Health and Medical Research Council (NHMRC) of Australia, is a set of recommendations developed through the systematic identification and synthesis of the best available scientific evidence to guide the care provided by health professionals.³ Comparable definitions are used by the Institute for Quality and Efficiency in Health Care (IQWiG) in Germany and the National Center for Complementary and Integrative Health (NCCIH) in the United States.^{4, 5}

The 2009 WHO CPG was an update from the 1997 WHO CPG with changes, particularly in the clinical classification of dengue severity: dengue without warning signs, dengue with warning signs, and severe dengue.^{2, 6} This recommendation was evidence-based and decided through a rigorous process of expert review.^{2, 7} The 2009 WHO CPG has been the key guideline that many countries adopted, which was subsequently updated in 2012 for better readability for clinicians.⁸ These country-specific dengue CPGs should be developed with rigorous methodology to ensure a high standard of clinical care for dengue-infected patients.

It is also possible that country-specific dengue CPGs directly adopted the 2009/2012 WHO CPG or other CPGs. This is acceptable if the referred CPGs were developed through a rigorous process, However, to our knowledge, no critical appraisal of dengue CPGs' quality including the 2009/2012 WHO guidelines has been conducted. The closest related work is the review by Santamaria et al., whose objective was to compare 13 CPGs to inform the development of the 2009 WHO dengue guideline. However, this study examined only a

limited number of CPGs prior to 2009, selected through purposive sampling, and no formal systematic search, synthesis of information, or quality assessment was performed.⁹ Hence, this study aimed to systematically review the methodological quality of dengue CPGs available globally.

Methods

This is a systematic review of dengue CPG conducted in accordance with the Preferred Reporting Items for Systematic reviews and Meta-Analysis (PRISMA) statement¹⁰ and the methodological guide of systematic reviews of CPGs.¹¹ This study was registered in OSF registry: osf.io/prav6.

Criteria for considering CPGs for this review according to PICAR schema

P: Population, clinical indications, and condition

CPGs that address populations affected by dengue infection and its clinical management (clinical diagnosis, investigation and treatment) were included.

I: Interventions

All interventions were considered in this review.

C: Comparator, comparison and key content

All comparators and comparisons were considered in this review. No key CPG content was specifically considered.

A: Attributes of eligible CPG

All languages and only the latest versions of the CPGs were considered. The CPGs included must be published from 2009 onwards. The development process of the guidelines must be evidence-based or a formal expert review process such as systematic review, working group

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100 and expert panel with consensus decision on the evidence. These criteria were based on the
101 definition of CPG.³⁻⁵

102 **R: Recommendations' characteristics**
103 No specific characteristics were imposed; all available recommendations were extracted.

104 *Search methods for identification of CPGs*

105 A preliminary search was performed to identify suitable databases such as Trip Database,
106 Epistemonikos, Guidelines International Network, Guideline Central, ECRI Guidelines Trust,
107 PAHO repositories, WHO repositories, Google Scholar and WHO IRIS. However, the result
108 of the search was no difference from Google, Scopus and PubMed. Hence, Google, Scopus
109 and PubMed were used to perform the final comprehensive with two independent reviewers
110 to screen them. The search was performed in June 2026. The search limited to only articles
111 published from 2009 onwards. No language restriction was imposed. (S1)

112 Where CPGs' language other than English, ChatGPT version GPT-4 Omni (Generative
113 Artificial Intelligence) was used to translate the language into English and was verified by a
114 native speaker of that language. Translation was undertaken for all Latin CPGs where two
115 Appraisal of Guidelines for Research and Evaluation II (AGREE-II) reviewers (GL and SFJ)
116 were non-native speakers of the respective languages. The first five CPGs were translated
117 with verification by a native speaker (CAMQ). For subsequent CPGs, translations were
118 assumed to be accurate. Additionally, CAMQ used generative AI to assist in translating
119 recommendations from the Latin CPGs into English, with all translations subsequently
120 verified by himself.

121 *Search Strategy.*

The keyword ‘dengue clinical practice guideline’ was used in both PubMed and Google searches. Additionally, the same keyword was used to search systematically in Google for each country listed as having frequent/continuous risk and risk varies by region on the Centers for Disease Control and Prevention (CDC) website, e.g., ‘dengue clinical practice guideline Australia’. The list of countries from the CDC included those affected by dengue outbreaks.¹² For Latin America and Caribbean countries, Spanish and English country names were used to in the search (e.g. Belize and Belice), combined with Boolean operator OR. Similarly, the English keyword “dengue clinical practice guideline” were used to combine with Spanish “Guías de práctica clínica del dengue” with OR. In addition, we piloted combinations of keywords with “guidance,” “recommendation,” “manual,” “protocol,” “clinical management,” “case management,” and “standard treatment guideline,” and found that the relevant articles were the same as those obtained using the keyword “clinical practice guideline” despite yielding higher citation counts; hence, we retained the original search term. For Portuguese and French language dominant countries, similarly the search terms were used in the respective languages: “Lignes directrices cliniques sur la dengue” and “diretrizes clínicas para o manejo da dengue”, respectively. The search strategy was detailed in supplementary materials (S1). We additionally sought any documents referenced within the CPGs that were relevant to comprehensively assess their quality.

Data collection and analysis

Selection of CPGs.

Deduplication was performed using url matching in R software for Google search results. Any remaining duplicates were filtered out manually after identifying similar titles, during the screening process and full-text review. For PubMed and Scopus, deduplication was performed using Covidence. Titles and abstracts and CPG content were screened

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3 146 independently by two reviewers, who were instructed to take an inclusive approach when
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5 147 uncertain so that full texts could be retrieved for detailed assessment. As CPGs generally do
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7 148 not include abstracts, reviewers have also directly accessed the content if uncertain at this
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10 149 stage. Any disagreement on the selection of CPGs was resolved by a third reviewer.
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12 150 Subsequently, full CPGs were retrieved for review independently by four reviewers. The full
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14 151 list of excluded articles with reason for exclusion were presented in S2.
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18 152 *Data extraction and management*
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21 153 A pre-piloted data extraction form was used to extract the data. The data were extracted and
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23 154 cross-checked for any discrepancies by two independent reviewers. Discrepancies were
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25 155 resolved by discussion among the reviewers. The items extracted were country, year of
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27 156 publication, guideline organisation/society/authors, guideline name(s)/abbreviation, target
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29 157 users, guideline development group, guideline review process, and search strategy for
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31 158 evidence. Additionally, the “recommendations” provided by the CPG were extracted
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33 159 whenever they were explicitly presented.
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38 160 *Quality assessment*
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41 161 The AGREE-II was used to assess the quality of CPGs by four independent reviewers as
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43 162 recommended in the manual for all CPGs.¹³ All reviewers underwent training using a sample
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45 163 CPG, followed by discussions to standardise the assessment approach. As assessments were
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47 164 conducted independently and scores were subsequently averaged in accordance with the
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49 165 AGREE II manual, no further comparison of scores between reviewers was undertaken.
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51 166 AGREE-II has 23 items organised into six domains followed by two global rating items for
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53 167 “overall assessment”: rating of the overall quality of the guideline and whether the guideline
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55 168 would be recommended for use in practice. Each item was evaluated using a 7-point rating
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57 169 scale with ‘1’ as strongly disagree and ‘7’ as strongly agree. Subsequently, each of the
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domain scores was calculated by summing up all the scores of the individual items in a domain and scaling the total as a percentage of the maximum possible score for that domain (see details in the manual cited).¹⁴ Apart from the six domains, the global rating of first item: “overall assessment”, was calculated the same as for the domains and it is an independent scores provided by the reviewers (not derived from the six domains). However, the second item is the recommendation for use in practice with options being: “No”, “Yes” and “Yes, with modifications”.

We used a classification informed by Johnston et al., along with the overall assessment, to support our summary of quality appraisal.¹¹ Briefly, Johnston et al.’s quality ratings were defined as follows: CPGs were classified as high quality if they scored 60% or more in at least three of the six AGREE II domains, including Domain 3; moderate quality if they achieved scores of 60% or more in three AGREE II domains, excluding Domain 3; and low quality if they scored less than 60% in two or more domains and less than 50% in Domain 3.¹¹ CPGs that could not be categorised using these three ratings were classified as missing. Additionally, we used the overall assessment as a comparison measure, for which no cut-off value was defined. The overall assessment (global rating) was considered a reliable representation of all domains, as correlations ranged from 0.65 to 0.94. (S4)

Synthesis methods

A narrative synthesis was performed along with tables to summarise each of the systematic reviews’ characteristics and AGREE-II ratings for each systematic review. We performed intraclass correlation coefficient (ICC) analysis to evaluate inter-rater reliability among the four raters for each AGREE II item. All ICC values were greater than 0.50, except for question 5, which had an ICC of 0.34 in the evaluation of CPGs from the Asia-Pacific region, including WHO and PAHO. Despite this, the Domain 2 scores, which include question 5, should not be affected, as the scores were averaged across the four reviewers and combined

with other questions (4 and 6) that demonstrated acceptable reliability (S3). Additionally, after investigating the normality of the distribution of each domain scores and overall assessment scores of all CPGs (stratified by the two groups: Asia-Pacific and the Latin America and the Caribbean), Pearson correlation analyses were conducted between the domain scores and the overall assessment to determine whether the overall assessment adequately represents all domains (S4). R version 4.5.1 was used for the analysis.

Results

A total of 29 CPGs were identified and included in this systematic review. A PRISMA flow diagram of the article retrieval process and reasons for exclusion is provided in Figure 1. The CPGs were published from 2009-2025 from 18 countries: Australia¹⁵, Bhutan¹⁶, India¹⁷, Malaysia^{18, 19}, Maldives²⁰, Pakistan²¹, Philippines²²⁻²⁴, Singapore²⁵, Southern Thailand²⁶, Sri Lanka²⁷⁻³⁰, Timor-Leste³¹, Argentina³², Brazil³³, Honduras³⁴, Mexico³⁵, Nicaragua³⁶, Paraguay³⁷ and Perú³⁸. Three were published by the WHO^{2, 8, 39} and two by PAHO^{40, 41}. Most CPGs specified the target users as healthcare providers (n=24), but five did not. The majority of CPGs were developed by a multidisciplinary team which includes clinicians and specialists in various diseases such as immunology and public health (n=20). This is followed by CPGs that did not specify their guideline development group (n=7), were written by a single author (n=1) and one CPG involved local health authority and community²⁶. The working group was involved during the guideline review process in 23 of the CPGs, a single author review with external peer review in one CPG and five did not report. Fifteen CPGs did not specify the review process and four adapted other CPGs without clear review process. Systematic and manual searches of evidence were mentioned only in eight CPGs, and two CPG conducted a literature review. The characteristics of the included CPGs are tabulated in Table 1.

219 *Quality Assessment*

220 **Clinical Practice Guideline from Asia-Pacific (English CPGs including WHO and PAHO)**

221 By using Johnston et al.'s quality ratings, four CPGs were identified to have high quality:
222 Malaysia 2015, Malaysia 2020, Philippines 2023 and WHO 2025.^{18, 19, 39, 41} PAHO 2022 is
223 the only CPG where the rating could not be assigned (domains scores fall between 50% and
224 60% that was not defined).⁴¹ The corresponding overall global ratings of AGREE-II were
225 between 70.8%-91.7%. Only WHO 2025 CPG achieved more than 60% in all domains,
226 followed by Malaysia 2015 and 2020 with five domains and Philippines 2023 with three
227 domains. In domain 3: Rigour of Development, the four high quality CPGs scored between
228 62.5%-75.5%. The quality assessment of all the CPGs using AGREE-II is tabulated in Table
229 2.

230 **Clinical Practice Guideline from the Latin America and the Caribbean (Latin American 231 Spanish)**

232 By using Johnston et al.'s quality ratings, two CPGs, Argentina 2024 and Perú 2016, were
233 identified to have high quality.^{32, 38} The corresponding overall global ratings of AGREE-II
234 were 83.3% and 91.7%, respectively. Only Perú 2016 CPG achieved more than 60% in all
235 domains, followed by Argentina 2024 with four domains. In domain 3: Rigour of
236 Development, Argentina 2024 and Perú 2016 scored 69.3% and 86.5%, respectively. The
237 quality assessment of all the CPGs using AGREE-II is tabulated in Table 2.

238 **Recommendations from the CPGs**

239 Thirteen CPGs have listed the recommendations but only five reported the The Grading of
240 Recommendations Assessment and Development and Evaluation (GRADE)⁴² assessment for
241 each of the recommendations (level of evidence, strength of recommendation): PAHO 2022,
242 Philippines 2017 and 2023, WHO 2025 and Argentina 2024.^{23, 24, 32, 39} Among those five,
243 three were of high quality: Philippines 2023, WHO 2025 and Argentina 2024.^{24, 32, 39} The

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quality rating and extracted recommendations and GRADE assessments were tabulated in the recommendations matrix. (Table 3)

Discussion

This systematic review included 29 CPGs on dengue infection management across the world with six CPGs rated as high quality.^{18, 19, 32, 38, 39, 41} Among these six CPGs, only three reported the recommendations with GRADE.^{24, 32, 39} Majority of the CPGs fail to demonstrate a robust scientific development process as indicated in Domain 3 which reflected in the quality assessment using the sample provided by Johnston et al.¹¹ Domain 2, which assesses stakeholder involvement including consumer participation, was scored low across most CPGs. The finding indicate that greater consultation with consumers and people with lived experience is needed to improve the quality of CPGs. In Domain 5, representing applicability also received low scores in the majority of CPGs. Many CPGs provide limited guidance on how their recommendations can be operationalised within diverse clinical settings, particularly those with constrained resources. CPGs should provide clearer guidance on implementation, including potential facilitators and barriers, recommended implementation strategies, required resources, and plans for monitoring and auditing. This is particularly relevant because recommendations about fluids, monitoring, hospitalization, diagnostic tests, and referral depend strongly on health-system resources. The guideline committees should also explicitly declare their funding sources and any conflicts of interest as low scores were identified in Domain 6 on editorial independence.

The WHO 2009 dengue CPG was the first to include a new case classification based on evidence generated by a WHO working group following on the DENCO study.^{2, 9} Further studies have provided stronger evidence that the new dengue case classification is useful in

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clinical management.⁷ Since then, this new case classification has been adopted globally, as evidenced by the CPGs published after 2009. Despite the WHO 2009 and 2012 CPGs being based on evidence, the adequacy of reporting the methodology was lacking.^{2, 8} This could be due to the lack of guidance in the year 2009 on how to report the guideline development process and methodology.^{13, 43} AGREE-II, an updated quality appraisal tool, was introduced in 2013.¹⁴ The WHO 2012 CPG received a low score in the AGREE II quality assessment, including Domain 3, which may be attributed to its aim of simplifying information for clinicians.⁸ Nevertheless, the WHO 2012 guideline is likely to be of high methodological quality, as it was adapted from the WHO 2009 guideline²; however, this adaptation process should have been more explicitly reported. Another reason why some CPGs achieved lower quality assessment scores may relate to their adaptation from existing guidelines, particularly the WHO CPGs and the Malaysia 2015 guideline.^{2, 8, 18} Such adaptations require a transparent methodology, including selection of the source guideline, appraisal of its methodological quality, assessment of currency, and evaluation of applicability to the local context. Considerations should also include resource implications, feasibility, equity, and stakeholder values and preferences, alongside clear and comprehensive reporting of the adaptation process.

The overall assessment in AGREE-II was evaluated separately from the six domains, and we suspect that there may be discordance between the overall assessment and the six domains. We performed an additional statistical analysis to investigate the degree of discordance. The overall assessment was correlated with all six domains in AGREE-II with a correlation coefficient of more than 0.65 (Supplementary S2). Hence, the overall assessment of our scores derived from the total scores of all appraisers is deemed to be representative of all the domains assessed and can be used as a guide to the overall CPG's quality. However, AGREE-II does not recommend using any cut-off, and hence, interpreting the quality of

CPGs should be based on a scale for relative comparison among the CPGs rather than a dichotomous category of “good” and “bad”.¹³

Most of the recommendations were similar despite the varying quality of the CPGs. There are some minor differences such as the diagnosis using IgM and IgG, which were recommended either within five days or seven days of illness. Similarly, NS1 Ag to diagnose dengue infection was recommended either within three or five days of illness. In the “treatment” part, the recommendation that differed was the indication of intravenous fluid in PAHO 2022, which stated that at least one warning sign must be present as opposed to the Malaysia 2015 guidelines, which had very specific indications: (1) dengue patients with vomiting, unable to tolerate oral fluids or severe diarrhoea, (2) increasing haematocrit (with other signs of ongoing plasma leakage) despite increased oral intake, and (3) patients with persistent warning signs with increasing or persistently high haematocrit.^{18, 41} This difference in indication is important in dengue infection. Due to the risk of fluid overload where the extravasation of fluid can lead to pleural effusion and pericardial effusion, it is important to be cautious in instituting intravenous fluid.⁴⁴ Hence, Malaysia 2015, PAHO 2022 and Philippines 2023 have recommended that the oral rehydration is the mainstay of treatment whenever orally tolerated despite the presence of warning signs such as mucosal bleed and abdominal pain.^{18, 24, 41}

The WHO 2025 CPG was not developed specifically for dengue infection.³⁹ Nevertheless, we decided to include WHO 2025 CPG in our evaluation as a sensitivity analysis, given that it is produced by an international organisation and the last internationally issued dengue-specific CPG was in 2012. Although not dengue-focused, its recommendations are broadly applicable across multiple arboviral diseases, and the guideline was developed with strong scientific rigour, resulting in a high-quality CPG. The CPG is therefore relevant to tropical countries affected by the co-circulation of all four major arboviruses: dengue, Zika, chikungunya, and

yellow fever. It also provides clinicians with a single, consolidated source of guidance, which is especially useful when facing differential-diagnosis challenges, given the overlapping clinical presentations of these arboviral infections.

A potential limitation to the level of evidence and strength of recommendation as a guide is that it was graded by an expert panel or working group which may have bias in evaluating the evidence. A well-balanced multidisciplinary expert panel in the working group should minimise this bias, a strategy adopted in the CPGs with good quality. However, the Malaysian CPGs did not specify the level of evidence and strength of recommendation despite using GRADE, which indicates the lack of transparent reporting. Hence, affecting the interpretation and comparison among the levels of evidence and strength of recommendation.

Another limitation of using the AGREE-II instrument is that its assessment of methodological quality does not always reflect the clinical usefulness of a guideline, particularly when reporting is inadequate. A guideline may receive low AGREE-II scores simply because key methodological steps were poorly documented, even if the underlying recommendations are clinically sound or adapted from high-quality source guidelines. Conversely, a guideline with excellent reporting may still offer weak or poorly justified recommendations if the methodological development was insufficient.

In principle, transparent reporting allows each methodological component to be rated accurately. However, when reporting quality is poor, it becomes impossible to determine whether the clinical recommendations are truly evidence-based or whether important steps in guideline development were omitted. This issue is especially relevant for CPGs that adapt recommendations from other high-quality guidelines. To enable an adequate AGREE-II assessment, CPGs that adapt existing guidance must clearly describe their adaptation process and methodological decisions.

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342 With the exception of WHO 2025 CPG, emerging evidence from new research may not be
343 captured in the CPGs reviewed in this study. Hence, the CPG recommendations summarised
344 in this study should be used with caution. New updated CPGs due to new evidence should be
345 considered in conjunction with the summary of the recommendations. The effectiveness of
346 CPGs should also be evaluated post implementation in the respective country and made
347 available in scientific literature for learning and improvement opportunity across the
348 countries affected by dengue infection.

349 **Conclusion**

350 Despite the variability in the quality of the CPGs assessed in this review, several high-quality
351 guidelines were identified as suitable for use. In contrast, a number of CPGs were found to
352 rely heavily on adaptations of existing guidelines while lacking sufficient methodological
353 rigour. Therefore, CPGs that adapt recommendations from other sources should still
354 undertake a full and systematic development process consistent with the AGREE II
355 framework. Future research should prioritise evaluating the effectiveness of CPG
356 implementation, disseminating the resulting evidence, and ensuring that subsequent updates
357 adhere to clear, transparent, and methodologically robust procedures.

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360 **Conflict of interest**

361 The authors declare that they have no conflict of interest.

362 **Declaration of generative AI and AI-assisted technologies in the manuscript**
363 **preparation process**

During the preparation of this work the authors used Copilot to check the grammar and clarity of the manuscript. After using this tool/service, the authors reviewed and edited the content as needed and takes full responsibility for the content of the published article. In addition, ChatGPT was used to support the translation of non-English CPGs and verified by a native speaker of the language.

Contribution statement

GKKL conceived the idea, designed the study, screened the data, performed the data extraction, reviewed and assess the quality of data and wrote the manuscript. CAMQ, OO, SFJ and SS screened the data, performed the data extraction, reviewed and assessed the quality of data, and contribute to the manuscript write up. LCS and MVL screened the data and performed the data extraction. MLC and VMG assessed the quality of data. OH performed searches and reviewed the manuscript.

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Patient and Public Involvement statements

It was not appropriate or possible to involve patients or the public in the design, or conduct, or reporting, or dissemination plans of our research.

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References

1. World Health Organization. World Health Organization. Disease Outbreak News; Dengue – Global situation. 2023 [updated 21 December; cited 2024 11 May]; Available from: <https://www.who.int/emergencies/disease-outbreak-news/item/2023-DON498>

2. World Health Organization. Dengue: Guidelines for Diagnosis, Treatment, Prevention and Control: New Edition. Geneva: WHO Press; 2009. 1-146 p.

3. National Health and Medical Research Council (NHMRC). Guidelines for Guidelines Handbook. 2016 [cited 2026 2 June]; Available from: <https://www.nhmrc.gov.au/guidelinesforguidelines/nhmrc-and-guidelines>.

4. Institute for Quality and Efficiency in Health Care (IQWiG). In brief: What are clinical practice guidelines? InformedHealthorg. updated 2020 Mar 25 ed. Cologne, Germany2006.

5. National Centre for Complementary and Integrative Health. Clinical Practice Guidelines. NIH; 2026 [updated 2 June; cited 2026 2 June]; Available from: <https://www.nccih.nih.gov/health/providers/clinicalpractice>.

6. World Health Organization. Dengue Haemorrhagic Fever: Diagnosis, Treatment, Prevention and Control. 2nd ed. Switzerland: WHO Press, Geneva,; 1997.

7. Barniol J, Gaczkowski R, Barbato EV, da Cunha RV, Salgado D, Martínez E, et al. Usefulness and applicability of the revised dengue case classification by disease: multi-centre study in 18 countries. BMC Infectious Diseases. 2011 2011/04/21;11(1):106.

8. World Health Organization. Handbook for clinical management of dengue. Geneva: WHO Press; 2012.

9. Santamaria R, Martinez E, Kratochwill S, Soria C, Tan LH, Nuñez A, et al. Comparison and critical appraisal of dengue clinical guidelines and their use in Asia and Latin America. Int Health. 2009 Dec;1(2):133-40. PubMed PMID: 24036557. eng.

10. Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ. 2021;372:n71.

11. Johnston A, Kelly SE, Hsieh S-C, Skidmore B, Wells GA. Systematic reviews of clinical practice guidelines: a methodological guide. Journal of Clinical Epidemiology. 2019 2019/04/01;108:64-76.

12. Centers for Disease Control and Prevention. Areas with Risk of Dengue. Centers for Disease Control and Prevention (CDC); 2026 [updated 4 June; cited 2024 5 June]; Available from: https://www.cdc.gov/dengue/areas-with-risk/?CDC_AAref_Val=https://www.cdc.gov/dengue/areaswithrisk/around-the-world.html.

Downloaded from <https://academic.oup.com/qjmed/advance-article/doi/10.1093/qjmed/fcac202/8742042> by guest on 28 July 2026

- 1
2
3
4 419 13. Brouwers MC, Kho ME, Browman GP, Burgers JS, Cluzeau F, Feder G, et al. AGREE
5 420 II: advancing guideline development, reporting and evaluation in health care. Canadian
6 421 Medical Association Journal. 2010;182(18):E839-E42.
- 7
8 422 14. AGREE Collaboration. Appraisal of guidelines for research and evaluation II: AGREE
9 423 II instrument: AGREE Collaboration; 2009 (Updated 2013).
- 10
11 424 15. Communicable Diseases Network Australia (CDNA). Dengue. CDNA national
12 425 guidelines for Public Health Units.2015 27 June 2024:[1-23 pp.]. Available from:
13 426 [https://www.health.gov.au/sites/default/files/documents/2020/02/dengue-cdna-national-](https://www.health.gov.au/sites/default/files/documents/2020/02/dengue-cdna-national-guidelines-for-public-health-units.pdf)
14 427 [guidelines-for-public-health-units.pdf](https://www.health.gov.au/sites/default/files/documents/2020/02/dengue-cdna-national-guidelines-for-public-health-units.pdf).
- 15
16 428 16. Vector-Borne Disease Control Program Department of Public Health Ministry of
17 429 Health Gelephu Sarpang. National guideline for clinical management of dengue in
18 430 Bhutan version 1.2020 27 June 2024. Available from: [https://www.moh.gov.bt/wp-](https://www.moh.gov.bt/wp-content/uploads/ict-files/2014/11/Dengue-Clinical-Guideline-Final.pdf)
19 431 [content/uploads/ict-files/2014/11/Dengue-Clinical-Guideline-Final.pdf](https://www.moh.gov.bt/wp-content/uploads/ict-files/2014/11/Dengue-Clinical-Guideline-Final.pdf).
- 20
21 432 17. Indian National Guidelines for Clinical Management of Dengue Fever.2015 27 June
22 433 2024. Available from:
23 434 [https://www.researchgate.net/publication/309110433_Indian_national_guidelines_for_clinic](https://www.researchgate.net/publication/309110433_Indian_national_guidelines_for_clinical_management_of_dengue_fever)
24 435 [al_management_of_dengue_fever](https://www.researchgate.net/publication/309110433_Indian_national_guidelines_for_clinical_management_of_dengue_fever).
- 25
26 436 18. Ministry of Health Malaysia. Management of dengue in adults (Third edition).2015
27 437 30 June 2024. Available from:
28 438 [https://www.moh.gov.my/moh/resources/penerbitan/CPG/CPG%20Dengue%20Infection%](https://www.moh.gov.my/moh/resources/penerbitan/CPG/CPG%20Dengue%20Infection%20PDF%20Final.pdf)
29 439 [20PDF%20Final.pdf](https://www.moh.gov.my/moh/resources/penerbitan/CPG/CPG%20Dengue%20Infection%20PDF%20Final.pdf).
- 30
31 440 19. Ministry of Health Malaysia. Management of dengue in children (Second
32 441 edition).2020 30 June 2024. Available from:
33 442 [https://www.moh.gov.my/moh/resources/Penerbitan/CPG/Infectious%20Disease/CPG_Man](https://www.moh.gov.my/moh/resources/Penerbitan/CPG/Infectious%20Disease/CPG_Management_of_Dengue_in_Children_06072021.pdf)
34 443 [agement_of_Dengue_in_Children_06072021.pdf](https://www.moh.gov.my/moh/resources/Penerbitan/CPG/Infectious%20Disease/CPG_Management_of_Dengue_in_Children_06072021.pdf).
- 35
36 444 20. Faisal A. Guideline for management of dengue fever in Maldives (fourth
37 445 edition).2019 30 June 2024. Available from:
38 446 [https://www.academia.edu/39859355/2019_4_th_Edition_GUIDELINE_FOR_MANAGEMENT_](https://www.academia.edu/39859355/2019_4_th_Edition_GUIDELINE_FOR_MANAGEMENT_OF_DENGUE_FEVER_IN_MALDIVES_Guideline_for_management_of_Dengue_Fever_in_Maldives)
39 447 [OF_DENGUE_FEVER_IN_MALDIVES_Guideline_for_management_of_Dengue_Fever_in_Maldi](https://www.academia.edu/39859355/2019_4_th_Edition_GUIDELINE_FOR_MANAGEMENT_OF_DENGUE_FEVER_IN_MALDIVES_Guideline_for_management_of_Dengue_Fever_in_Maldives)
40 448 [ves](https://www.academia.edu/39859355/2019_4_th_Edition_GUIDELINE_FOR_MANAGEMENT_OF_DENGUE_FEVER_IN_MALDIVES_Guideline_for_management_of_Dengue_Fever_in_Maldives).
- 41
42 449 21. Development and Review Committee. Dengue GCP guidelines.2020 30 June 2024.
43 450 Available from:
44 451 <https://deag.punjab.gov.pk/system/files/Dengue%20GCP%20GUIDELINES%202020.pdf>.
- 45
46 452 22. Interim guidelines on fluid management of dengue fever and dengue
47 453 hemorrhagic fever.2010 30 June 2024. Available from:

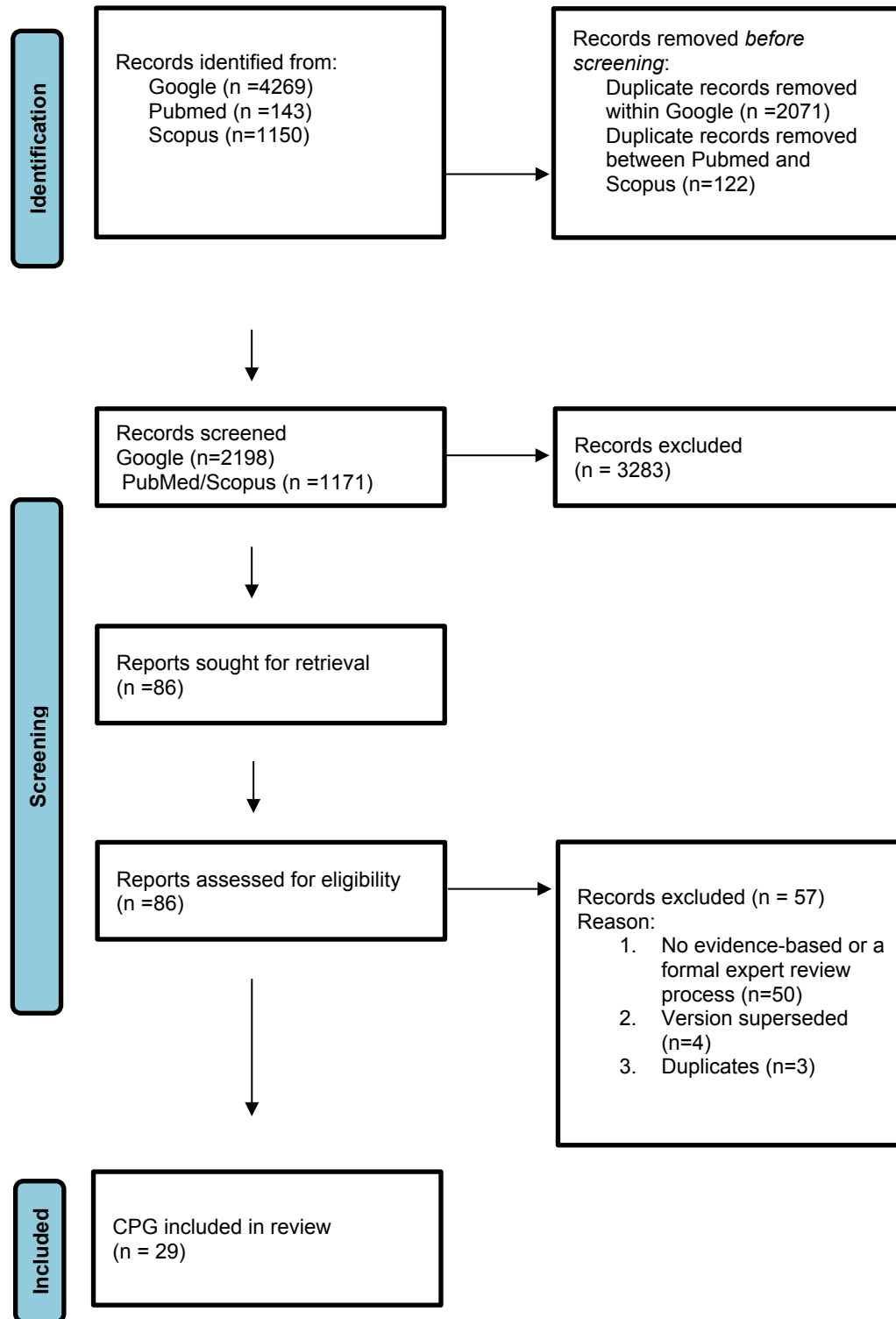
1
2
3
4 454 https://www.24hmb.com/voimages/web_image//upload/file/20140710/5933140498863203
5 455 [1.pdf](#).
6
7 456 23. Pediatric Infectious Diseases Society of the Philippines (PIDSP). Clinical practice
8 457 guidelines on dengue in children.2017 1 July 2024. Available from:
9
10 458 http://www.pidsphil.org/home/wp-content/uploads/2017/06/2017_Dengue_CPG_Final.pdf.
11 459 24. Dengue CPG Task Force. Clinical practice guideline on the diagnosis, management
12 460 and prevention of dengue for adult and pediatric Filipinos.2023 1 July 2024. Available
13 461 from: <https://doh.gov.ph/node/42436>.
14
15 462 25. National Centre for Infectious Diseases. Singapore National Dengue Clinical
16 463 Guideline2026.
17
18 464 26. Suwanbamrung C, Le CN, Maneerattanasak S, Satian P, Talunkphet C, Nuprasert Y,
19 465 et al. Developing and using a dengue patient care guideline for patients admitted from
20 466 households to primary care units and the district hospital: A community participatory
21 467 approach in Southern Thailand. One Health. 2020 2020/12/01/;10:100168.
22
23 468 27. Epidemiology Unit of Ministry of Health in collaboration with the Ceylon College
24 469 of Physicians Sri Lanka College of Obstetricians and Gynaecologists and College of
25 470 Anaesthesiologists Sri Lanka. Guidelines on management of dengue fever & dengue
26 471 haemorrhagic fever In adults.2012 1 July 2024. Available from:
27 472 [https://www.dengue.health.gov.lk/web/images/Guidelines_on_management_of_dengue_fev](https://www.dengue.health.gov.lk/web/images/Guidelines_on_management_of_dengue_fever_and_dengue_haemorrhagic_fever_in_adults_1.pdf)
28 473 [er_and_dengue_haemorrhagic_fever_in_adults_1.pdf](#).
29
30 474 28. Epidemiology Unit Ministry of Health in collaboration with the Sri Lanka Medical
31 475 Association Sri Lanka College of Obstetricians and Gynaecologists and the Ceylon
32 476 College of Physicians. Clinical management of dengue infection in pregnancy.2019 1 July
33 477 2024. Available from: [https://slma.lk/wp-content/uploads/2019/11/National-Guidelines-](https://slma.lk/wp-content/uploads/2019/11/National-Guidelines-on-Clinical-Management-of-Dengue-Infection-in-Pregnancy-Reprint-version_new.pdf)
34 478 [on-Clinical-Management-of-Dengue-Infection-in-Pregnancy-Reprint-version_new.pdf](#).
35
36 479 29. Epidemiology Unit Ministry of Health. Clinical Practice Guidelines for Primary Care
37 480 Doctors: Identification and management of acute dengue infection.2021 1 July 2024.
38 481 Available from:
39 482 [https://www.epid.gov.lk/storage/post/pdfs/en_646de42b29406_Clinical%20Practice%20Gui](https://www.epid.gov.lk/storage/post/pdfs/en_646de42b29406_Clinical%20Practice%20Guidelines%20for%20Primary%20Care%20Doctors.pdf)
40 483 [delines%20for%20Primary%20Care%20Doctors.pdf](#).
41
42 484 30. Paediatricians and National Dengue Control Unit. Guidelines on management of
43 485 dengue fever & dengue haemorrhagic fever in children and adolescents.2023 1 July
44 486 2024. Available from:
45 487 https://medicine.kln.ac.lk/depts/publichealth/Fixed_Learning/dengue%20guidelines/childre
46 488 [n.pdf](#).
47
48
49
50
51
52
53
54
55
56
57
58
59
60

- 489 31. Department of Communicable Diseases Ministry of Health Democratic Republic of
490 Timor-Leste. National guideline for clinical management of dengue.2022 1 July 2024.
491 Available from: [https://www.who.int/timorleste/publications/national-guideline-for-](https://www.who.int/timorleste/publications/national-guideline-for-clinical-management-of-dengue-2022)
492 [clinical-management-of-dengue-2022](https://www.who.int/timorleste/publications/national-guideline-for-clinical-management-of-dengue-2022).
- 493 32. Ministerio de Salud de la Nación (Argentina). Guía de práctica clínica sobre
494 diagnóstico y tratamiento del dengue.2024 3 Sept 2025. Available from:
495 https://www.argentina.gob.ar/sites/default/files/2024/09/gpc_dengue_vc_1012025.pdf.
- 496 33. Ministério da Saúde Brasil. Dengue: diagnóstico e manejo clínico: adulto e criança.
497 3 Sept 2025. Available from: [https://www.gov.br/saude/pt-br/centrais-de-](https://www.gov.br/saude/pt-br/centrais-de-conteudo/publicacoes/svsa/dengue/dengue-diagnostico-e-manejo-clinico-adulto-e-crianca)
498 [conteudo/publicacoes/svsa/dengue/dengue-diagnostico-e-manejo-clinico-adulto-e-](https://www.gov.br/saude/pt-br/centrais-de-conteudo/publicacoes/svsa/dengue/dengue-diagnostico-e-manejo-clinico-adulto-e-crianca)
499 [crianca](https://www.gov.br/saude/pt-br/centrais-de-conteudo/publicacoes/svsa/dengue/dengue-diagnostico-e-manejo-clinico-adulto-e-crianca).
- 500 34. Secretaría de Salud Honduras. Lineamientos para el Manejo Clínico de Pacientes
501 con Dengue.2019 3 Sept 2025. Available from:
502 [https://epidemiologia.unah.edu.hn/assets/Libros-MEPI/Lineamientos-de-Dengue-](https://epidemiologia.unah.edu.hn/assets/Libros-MEPI/Lineamientos-de-Dengue-LN25.pdf)
503 [LN25.pdf](https://epidemiologia.unah.edu.hn/assets/Libros-MEPI/Lineamientos-de-Dengue-LN25.pdf).
- 504 35. Secretaría de Salud (México), Consejo de Salubridad General. Protocolo Nacional
505 de Atención Médica (PRONAM): Dengue. Ciudad de México: Consejo de Salubridad
506 General2026.
- 507 36. Ministerio de Salud Nicaragua. Guía para el manejo clínico del dengue.2023 3
508 Sept 2025. Available from:
509 [https://www.minsa.gob.ni/sites/default/files/publicaciones/Normativa%20147.%20Guia%20](https://www.minsa.gob.ni/sites/default/files/publicaciones/Normativa%20147.%20Guia%20Dengue%20Pediatico.pdf)
510 [Dengue%20Pediatico.pdf](https://www.minsa.gob.ni/sites/default/files/publicaciones/Normativa%20147.%20Guia%20Dengue%20Pediatico.pdf).
- 511 37. Ministerio de Salud Pública y Bienestar Social (Paraguay). Dengue: Guía de
512 manejo clínico 2024. Asunción: Instituto de Medicina Tropical2024.
- 513 38. Instituto Nacional de Salud. Ministerio de Salud Peru. Versión extendida de la
514 Guía de práctica clínica de dengue: documento informado por evidencia.2016 3 Sept
515 2025.
- 516 39. World Health Organization. WHO guidelines for clinical management of arboviral
517 diseases: dengue, chikungunya, Zika and yellow fever.2025.
- 518 40. The International Technical Task Force on Dengue (GT-Dengue). Dengue:
519 Guidelines for patient care in the region of the Americas.2016 30 June 2024. Available
520 from: [https://iris.paho.org/bitstream/handle/10665.2/31207/9789275118900-](https://iris.paho.org/bitstream/handle/10665.2/31207/9789275118900-eng.pdf?sequence=1&isAllowed=y)
521 [eng.pdf?sequence=1&isAllowed=y](https://iris.paho.org/bitstream/handle/10665.2/31207/9789275118900-eng.pdf?sequence=1&isAllowed=y).
- 522 41. Pan American Health Organization. Guidelines for the clinical diagnosis and
523 treatment of Dengue, Chikungunya, and Zika.2022 30 June 2024. Available from:

1
2
3
4 524 [https://iris.paho.org/bitstream/handle/10665.2/55867/9789275124871_eng.pdf?sequence=](https://iris.paho.org/bitstream/handle/10665.2/55867/9789275124871_eng.pdf?sequence=1&isAllowed=y)
5 525 [1&isAllowed=y](https://iris.paho.org/bitstream/handle/10665.2/55867/9789275124871_eng.pdf?sequence=1&isAllowed=y).
6
7 526 42. Schünemann H, Brożek J, Guyatt G, Oxman A. GRADE handbook for grading
8 527 quality of evidence and strength of recommendations. Updated October 2013. The
9
10 528 GRADE Working Group, 2013. 2021.
11
12 529 43. Kredo T, Bernhardsson S, Machingaidze S, Young T, Louw Q, Ochodo E, et al.
13 530 Guide to clinical practice guidelines: the current state of play. International Journal for
14 531 Quality in Health Care. 2016;28(1):122-8.
15
16 532 44. Motla M, Manaktala S, Gupta V, Aggarwal M, Bhoi SK, Aggarwal P, et al.
17 533 Sonographic Evidence of Ascites, Pleura-Pericardial Effusion and Gallbladder Wall Edema
18 534 for Dengue Fever. Prehospital and Disaster Medicine. 2011;26(5):335-41. Epub
19 535 2011/11/26.
20
21
22
23 536
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27
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Figures

Figure 1: PRISMA flow diagram



Alt text: A PRISMA flow diagram illustrating the study selection process. It begins with the number of records identified through database searching and other sources. After duplicates are removed, the remaining records

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were screened by titles. Records excluded at this stage are noted. Full-text articles were then assessed for eligibility, with reasons provided for exclusions. The diagram ends with the final number of studies included in the qualitative and quantitative synthesis.

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Table 1: Characteristics of the included clinical practice guidelines.

Country	Year of publication	Guideline organisation/society/authors	Guideline name(s)/Abbreviation	Target users	Guideline development group	Guideline review process	Search strategy for evidence	Dengue Case classification Year
Clinical Practice Guideline from Asia-Pacific								
Australia ¹⁵	2015	Communicable Diseases Network Australia (CDNA)	Dengue. CDNA National Guidelines for Public Health Units	Public Health Units	Not specified	knowledge of experience professionals	Not specified	2009
Bhutan ¹⁶	2020	Vector-Borne Disease Control Program Department of Public Health, Ministry of Health Gelephu, Sarpang	National guideline for clinical management of dengue in Bhutan Version 1	Not specified	Multidisciplinary	series of consultations with national specialists in their relevant fields	Not specified	2009
India ¹⁷	2015	Not specified	Indian National Guidelines for Clinical Management of Dengue Fever	Clinicians	Not specified	National and international expert that prepares the guideline	Not specified	2009
Malaysia ¹⁸	2015	Development Group (DG) for these Clinical Practice Guidelines (CPG) were from the Ministry of Health (MoH)	Management of dengue in adults (Third edition)	Management of dengue infection in adults particularly healthcare professionals in primary and secondary/tertiary care (a list of users were provided)	Multidisciplinary	Working groups forming various level of committee, expert collaboration and external review.	Systematic and manual searches	2009
Malaysia ¹⁹	2020	Development Group (DG) for these Clinical Practice Guidelines (CPG) were from the Ministry of Health (MoH)	Management of dengue in children (Second edition)	Healthcare providers and relevant stakeholders in primary and secondary/tertiary care in the management of dengue in children (a list provided)	Multidisciplinary	Working groups forming various level of committee, expert collaboration and external review.	Systematic and manual searches	2009
Maldives ²⁰	2019	Single author	Guideline for management of dengue fever in Maldives (fourth edition)	Not specified	Single author	Author's expert with external peer reviews	Not specified	2009
PAHO ⁴⁰	2016	The International Technical Task Force on Dengue (GT-Dengue)	Dengue: Guidelines for patient care in the region of the Americas	Health care workers	Multidisciplinary	Working group	Systematic and manual searches	2009
PAHO ⁴¹	2022	Pan American Health Organization	Guidelines For The Clinical Diagnosis And Treatment Of Dengue, Chikungunya, And Zika	Health care professionals	Non-specified	Working group	Systematic and manual searches	2009
Pakistan ²¹	2020	Development and Review Committee	Dengue GCP guidelines	primary care family physicians, house officers, PGRs, senior registrars, public health personnel, nurses, medical officers & consultant physicians at DHQs, and critical care providers	Multidisciplinary	Working group	Not specified	2009

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3	Philippines ²²	2010	Not specified	Interim guidelines on fluid management of dengue fever and dengue hemorrhagic fever	pediatricians, family physicians, general practitioners, and other healthcare professionals of various specialties both in the private and government settings who are involved in the diagnosis and management of patients with dengue	Not specified	Working group	Not specified	both
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12	Philippines ²³	2017	Pediatric Infectious Diseases Society of the Philippines (PIDSP)	Clinical practice guidelines on dengue in children	primary care physicians, family medicine physicians, pediatricians, and other healthcare workers involved in the diagnosis and management of dengue in children	Multidisciplinary: pediatric infectious disease specialist, pediatric hematologist, pediatric intensive care specialist, clinical epidemiologist, fellow-in-training, director, president and member of various medical societies.	Working groups forming various level of committee, expert collaboration and external review.	Systematic and manual searches	2009
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21	Philippines ²⁴	2023	Dengue CPG Task Force	Clinical Practice Guideline on the Diagnosis, Management and Prevention of Dengue for Adult and Pediatric Filipinos	primary, secondary, tertiary care management of dengue in Filipino adult and children	Multidisciplinary	Working groups forming various level of committee, expert collaboration and external review.	Systematic and manual searches	2009
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25	Singapore ²⁵	2026	Multiple organisation from Ministry of Health and various agencies.	Singapore National Dengue Clinical Guideline	Clinicians	Multidisciplinary	Working groups	Adapted from two guidelines from the World Health Organisation (WHO) Literature review	2009
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29	Southern Thailand ²⁶	2020	Authors	Developing and using a dengue patient care guideline for patients admitted from households to primary care units and the district hospital: A community participatory approach in Southern Thailand	Local authorities: Health care providers	integrated community participatory action and the Iowa model of evidence-based practice to promote quality care approach	Not specified		2009
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34	Sri Lanka ²⁷	2012	Epidemiology Unit of Ministry of Health in collaboration with the Ceylon College of Physicians, Sri Lanka College of Obstetricians and Gynaecologists and College of Anaesthesiologists Sri Lanka	Guidelines on Management of Dengue Fever & Dengue Haemorrhagic Fever In Adults	Not specified	Multidisciplinary	Working group	Not specified	2009
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38	Sri Lanka ²⁸	2019	Epidemiology Unit, Ministry of Health in collaboration with the Sri Lanka Medical Association, Sri Lanka College	Clinical Management of dengue infection in pregnancy	Clinicians	Multidisciplinary	Working groups	Not specified	1997
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Sri Lanka ²⁹	2021	of Obstetricians and Gynaecologists and the Ceylon College of Physicians Epidemiology Unit, Ministry of Health	Clinical Practice Guidelines for Primary Care Doctors: Identification and management of acute dengue infection	First contact level of health care provision in both public and private settings in Sri Lanka for the management of Dengue and Dengue Haemorrhagic Fever patients.	Multidisciplinary	Working groups	Not specified	1997
Sri Lanka ³⁰	2023	Paediatricians and National Dengue Control Unit	Guidelines on Management of Dengue Fever & Dengue Haemorrhagic Fever in Children and Adolescents	Paediatricians and healthcare professionals	Multidisciplinary	Working groups	Not specified	2009
Timor-Leste ³¹	2022	Department of Communicable Diseases, Ministry of Health, Democratic Republic of Timor-Leste.	National guideline for clinical management of dengue	Not specified	Not specified	Expert panel	Not specified	2009
WHO ⁸	2012	Multiple lead authors engaged by WHO	Handbook for Clinical Management of Dengue	Clinicians	Not specified	Working groups	Not specified	2009
WHO ²	2009	Multiple lead authors engaged by WHO	Dengue guidelines, for diagnosis, treatment, prevention and control (New Edition)	Clinicians	Not specified	Working groups	Not specified	2009
WHO ³⁹	2025	WHO Steering Committee, Guideline Development Group (GDG) of Multiple lead authors engaged by WHO	WHO guidelines for clinical management of arboviral diseases: dengue, chikungunya, Zika and yellow fever	Health care providers	Multidisciplinary	Working groups	Systematic review	2009
Clinical Practice Guideline from the Latin America and the Caribbean								
Argentina ³²	2024	Ministry of Health, Republic of Argentina	Clinical Practice Guide on the Diagnosis and Treatment of Dengue	Health personnel	Multidisciplinary	Not specified. Process of adaptation of the PAHO (Pan American Health Organization) guideline Not specified	The PAHO guideline was used as the reference.	2009
Brazil ³³	2024	Ministry of Health. Secretariat of Health and Environmental Surveillance. Department of Transmissible Diseases	Dengue: Diagnosis and Clinical Management: Adult and Child	Health personnel	Multidisciplinary		Reviews of recent literature, guidelines published by the WHO/PAHO.	2009
Honduras ³⁴	2019	Secretariat of Health. Government of the Republic of Honduras	Guidelines for the Clinical Management of Patients with Dengue	Health personnel	Multidisciplinary		Clinical practice guidelines from WHO/PAHO and Dengue Guides by Secretariat of Health of Honduras. 2019.	2009

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3	Mexico ³⁵	2026	Ministry of Health. General Health Council.	National Medical Care Protocol Dengue (Protocolo Nacional de Atención Médica -PRONAM-Dengue)	non-specified	Multidisciplinary	A list of experts	Non-specified	2009	
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6	Nicaragua ³⁶	2023	Ministry of Health	Guideline for the Clinical Management of Dengue	Healthcare personnel	Multidisciplinary	Not specified. Review of previous national and international guidelines	Not specified	2009	
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8	Paraguay ³⁷	2024	Institute of Tropical Medicine. Ministry of Public Health and Social Welfare.	Dengue: Clinical Management Guideline	non-specified	Multidisciplinary	Expert panel	Adapted from two guidelines from the Panamerica Health Organisation (PAHO) and from the previous Paraguay CPG 2012	2009	
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17	Perú ³⁸	2016	National Institute of Health, Ministry of Health	Extended version of the Dengue Clinical Practice Guide: Evidence-Informed Document	Health personnel, policy makers, public health specialists, researchers	Multidisciplinary	Expert panel	Systematic review	2009	
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Table 2: Quality assessment of the clinical practice guidelines with AGREE-II.

Clinical Practice Guideline from Asia-Pacific								Global rating			
Country, year	Domain 1	Domain 2	Domain 3	Domain 4	Domain 5	Domain 6	Summary domains ≥60%	Overall Assessment	No, n(%)	Yes, n(%)	Yes, with modifications, n(%)
Australia 2015	43.1%	33.3%	0.5%	66.7%	40.6%	16.7%	D:4	12.5%	3(75)	0	1(25)
Bhutan 2020	27.8%	37.5%	7.8%	37.5%	20.8%	12.5%	None	16.7%	3(75)	1(25)	0
India 2015	61.1%	36.1%	13.5%	41.7%	17.7%	14.6%	D:1	16.7%	3(75)	1(25)	0
Malaysia 2015	84.7%	72.2%	71.9%	84.7%	63.5%	33.3%	D:1,2,3,4,5	83.3%	0	4(100)	0
Malaysia 2020	86.1%	69.4%	67.2%	77.8%	65.6%	45.8%	D:1,2,3,4,5	83.3%	0	4(100)	0
Maldives 2019	16.7%	12.5%	2.1%	29.2%	9.4%	16.7%	None	20.8%	2(50)	2(50)	0
PAHO 2016	59.7%	58.3%	44.3%	65.3%	31.2%	12.5%	D:4	75.0%	0	4(100)	0
PAHO 2022	72.2%	59.7%	53.6%	77.8%	54.2%	37.5%	D:1,4	70.8%	0	4(100)	0
Pakistan 2020	75.0%	50.0%	18.2%	43.1%	26.0%	31.2%	D:1	41.7%	1(25)	2(50)	1(25)
Philippines 2010	36.1%	23.6%	11.5%	48.6%	11.5%	6.2%	None	16.7%	3(75)	0	1(25)
Philippines 2017	41.7%	50.0%	31.2%	59.7%	35.4%	31.2%	None	54.2%	1(25)	3(75)	0
Philippines 2023	63.9%	59.7%	62.5%	65.3%	58.3%	50.0%	D:1,3,4	70.8%	1(25)	3(75)	1(25)
Southern Thailand 2020	40.3%	23.6%	7.8%	37.5%	14.6%	31.2%	None	33.3%	1(25)	2(50)	0
Singapore 2026	76.4%	50.0%	43.2%	81.9%	59.4%	41.7%	D:1,4	66.7%	0	100(100)	0

Sri Lanka 2012	19.4%	29.2%	6.8%	30.6%	17.7%	6.2%	None	25.0%	2(50)	2(50)	0
Sri Lanka 2019	34.7%	31.9%	9.4%	22.2%	15.6%	10.4%	None	25.0%	2(50)	2(50)	0
Sri Lanka 2021	33.3%	34.7%	9.4%	26.4%	19.8%	10.4%	None	33.3%	1(25)	2(50)	1(25)
Sri Lanka 2023	30.6%	37.5%	9.9%	34.7%	17.7%	6.2%	None	16.7%	1(25)	3(75)	0
Timor-Leste 2022	48.6%	54.2%	20.8%	44.4%	25.0%	22.9%	None	58.3%	0	3(75)	1(25)
WHO 2012	43.1%	38.9%	26.6%	52.8%	36.5%	52.1%	None	50.0%	0	3(75)	1(25)
WHO 2009	70.8%	59.7%	49.0%	68.1%	43.8%	50.0%	D:4	79.2%	0	3(75)	1(25)
WHO 2025	84.7%	69.4%	75.5%	81.9%	63.5%	75.0%	D:1,2,3,4,5,6	91.7%	0	4(100)	0

Abbreviations: D, domain.

Clinical Practice Guideline from the Latin America and the Caribbean

Country, year	Domain 1	Domain 2	Domain 3	Domain 4	Domain 5	Domain 6	Summary domains ≥60%	Global rating			
								Overall Assessment	No, n(%)	Yes, n(%)	Yes, with modifications, n(%)
Argentina 2024	97.2%	70.8%	69.3%	95.8%	34.4%	50.0%	D:1,2,3,4	83.3%	3(75)	0	1(25)
Brazil 2024	41.7%	45.8%	11.5%	33.3%	18.8%	2.1%	None	29.2%	3(75)	1(25)	0
Honduras 2019	86.1%	56.9%	13.5%	62.5%	39.6%	8.3%	D:1,4	45.8%	2(50)	2(50)	0
Mexico 2026	90.3%	36.1%	16.1%	86.1%	15.6%	41.7%	D:1,4	62.5%	0	1(25)	3(75)
Nicaragua 2023	90.3%	36.1%	16.1%	86.1%	15.6%	41.7%	D:1,4	62.5%	2(50)	2(50)	0
Paraguay 2024	93.1%	62.5%	40.1%	66.7%	18.8%	16.7%	D:1,2,4	45.8%	2(50)	0	2(50)
Perú 2016	84.7%	83.3%	86.5%	95.8%	64.6%	79.2%	D:1,2,3,4,5,6	91.7%	0	4(100)	0

Abbreviations: D, domain.

Footnote:

Domain 1: Scope and Purpose

Domain 2: Stakeholder Involvement

Domain 3: Rigour of Development

Domain 4: Clarity of Presentation

Domain 5: Applicability

Domain 6: Editorial Independence

Table 3: Recommendations matrix

Country / year	CPG quality ^a	Recommendation	Level of evidence, strength of recommendation ^b	Comparative treatment preference	Agent, drug class or therapy mentioned
Clinical Practice Guideline from Asia-Pacific					
Australia, 2015	Low quality	No recommendations	N/A	N/A	N/A
Bhutan, 2020	Low quality	No recommendations	N/A	N/A	N/A
India, 2015	Low quality	No recommendations	N/A	N/A	N/A
Malaysia, 2015	High quality	Recommendation 1 • Baseline haematocrit (HCT) and white cell count should be established during the first visit in all patients with suspected dengue infection. • Serial full blood count and HCT must be monitored as dengue infection progresses.	N/A	N/A	N/A
		Recommendation 2 • Dengue rapid combo test or non-structural protein 1 antigen (NS1 Ag) should be taken as soon as dengue infection is suspected. • If dengue IgM is negative before day seven, a repeat sample must be taken in recovery phase. • If dengue IgM is still negative after day seven, dengue IgG should be done for diagnostic confirmation of secondary dengue infection.	N/A	IgG for confirmation of secondary dengue infection.	N/A
		Recommendation 3 • A repeat dengue serology should be obtained at the time of dengue death. • Suitable specimens for viral isolation and/or real time reverse transcriptase polymerase chain reaction (RT-PCR) and/or non-structural protein 1 (NS1) antigen detection should be done for confirmation of dengue infection.	N/A	Non-structural protein 1 (NS1) antigen detection for confirmation of dengue infection.	N/A
		Recommendation 4 • Dengue assessment checklist should be filled by the attending doctor for all patients with suspected dengue infection. • All dengue patients requiring admission should be immediately started on an appropriate fluid therapy [oral or intravenous (IV)]. o When indicated, IV fluid therapy should be initiated and adjusted accordingly. • In monitoring of dengue patients, the following must be done and documented: o serial monitoring of vital signs o strict monitoring of ongoing fluid losses and hourly fluid input/output charting • Dengue patients with deteriorating vital signs must be uptriaged accordingly	N/A	N/A	Oral or intravenous (IV)
		Recommendation 5 • In dengue patients without co-morbidities who can tolerate orally, adequate oral fluid intake of two to three litres daily should be	N/A	-Oral or intravenous (IV) -Graded fluid bolus in patients with persistent warning signs	IV Graded fluid bolus Crystalloids solution

encouraged. These patients may not require intravenous (IV) fluid therapy. • IV fluid should be instituted in dengue patients with: o vomiting, unable to tolerate oral fluids or severe diarrhoea o increasing haematocrit (with other signs of ongoing plasma leakage) despite increased oral intake • In patients with persistent warning signs with increasing or persistently high HCT, the graded fluid bolus may be initiated with caution. • Crystalloids solution should be the fluid of choice for non-shock dengue patients			with increasing or persistently high HCT	
Recommendation 6 • Crystalloids solution is the preferred choice in Dengue Shock Syndrome (DSS). • Patients with DSS who do not respond to initial crystalloid resuscitation should receive colloids as the second fluid bolus. • In DSS with persistent shock, other causes of shock should be aggressively looked for and treated accordingly.	N/A		Colloids as the second fluid bolus for patients with DSS who do not respond to initial crystalloid resuscitation	Crystalloids solution Colloids
Recommendation 7 • Dengue patients with mild bleeding do not require blood transfusion. • Transfusion with packed cells and/or blood component should be administered in dengue patients with significant bleeding.	N/A		Transfusion with packed cells and/or blood component for dengue patients with significant bleeding	Transfusion with packed cells and/or blood component
Recommendation 8 • Echocardiography is indicated in refractory shock despite adequate fluid resuscitation and in suspected myocardial dysfunction in dengue infection. • Adequate fluid resuscitation should be ensured before myocardial dysfunction can be diagnosed in dengue infection	N/A	N/A		Echocardiography
Recommendation 9 • In dengue patients with altered sensorium, the common causes for encephalopathy must be ruled out. • In dengue patients with suspected encephalitis, symptoms and signs suggestive of raised intracranial pressure should be looked for and treated accordingly	N/A	N/A		N/A
Recommendation 10 • Non-invasive ventilation may be beneficial in dengue patients who are alert, cooperative and haemodynamically stable with or without mild metabolic acidosis. • Caution should be exercised during intubation as sedatives and mechanical ventilation may worsen haemodynamic instability in dengue patients. • Intravenous fluid therapy is the mainstay of treatment in decompensated dengue shock syndrome (DSS). However, inotrope and vasopressors may be used as a temporary measure. • In DSS: o central venous pressure should not be used to guide fluid therapy o subclavian vein cannulation should be avoided	N/A		-Inotrope and vasopressors may be used as a temporary measure of treatment in decompensated dengue shock syndrome (DSS) -Real-time ultrasonography, recommended for central venous cannulation	Non-invasive ventilation Intravenous fluid therapy Inotrope and vasopressors Real-time ultrasonography

		o real-time ultrasonography is recommended for central venous cannulation if it is available and there is expertise			
		Recommendation 11	N/A	-Spontaneous vaginal delivery as the preferred mode of delivery in pregnant dengue patients.	Spontaneous vaginal delivery
		• All pregnant mothers with dengue infection should be managed in hospitals by a multidisciplinary team (physician, anaesthetist and obstetrician).		delivery in pregnant dengue patients.	Serology tests: dengue IgM, non-structural protein 1 [NS1] antigen, or reverse transcriptase polymerase chain reaction.
		• Intrapartum management in pregnant dengue patients are:		Serology tests (Dengue IgM, non-structural protein 1 [NS1] antigen), or reverse transcriptase polymerase chain reaction.	
		o spontaneous vaginal delivery is the preferred mode of delivery			
		o group and cross match must be done. Blood and blood products transfusion to be given only when indicated			
		o blood and blood products should be transfused as indicated when instrumental or operative delivery is decided			
		• Serology tests (Dengue IgM and non-structural protein 1 [NS1] antigen) or reverse transcriptase polymerase chain reaction should be performed in neonates when congenital dengue infection is suspected			
Malaysia, 2020	High quality	Recommendation 1	N/A	-Rapid test of NS1 Antigen alone on day 1 to day 5 of illness.	NS1 Antigen/IgM/IgG rapid test (dengue rapid combo test).
		• Children suspected of dengue infection should be tested with a combination of NS1 Antigen/IgM/IgG rapid test (dengue rapid combo test).		-Dengue serotyping for severe dengue or mortality cases in children	Dengue serotyping
		ı Rapid test of NS1 Antigen alone may be used on day 1 to day 5 of illness.			
		• Laboratory results should be correlated with clinical presentation of children suspected of dengue.			
		• Dengue serotyping should be done for severe dengue or mortality cases in children			
		Recommendation 2	N/A	N/A	-Viral isolation and polymerase chain reaction test
		• Tissue samples of suspected dengue infection from post-mortem cases should be sent for viral isolation and polymerase chain reaction test			
		Recommendation 3	N/A	N/A	N/A
		• Notification should be done for all suspected dengue cases from private and public health facilities by telephone/fax/e-notification to the nearest health office within 24 hours of diagnosis. Except for e-notification, other types of notification should be followed by written notification using the standard notification form.			
		Recommendation 4	N/A	N/A	N/A
		• All children with dengue infection who are treated as outpatient:			
		ı should have daily clinical and laboratory monitoring until resolution of critical phase			
		ı Should be provided with dengue monitoring card and dengue home care leaflet			
		Recommendation 5	N/A	-Colloid solutions in dengue patients with persistent shock. Together with the crystalloid solutions	Isotonic crystalloid solutions
		• Isotonic crystalloid solutions should be used in resuscitation and maintenance therapy in children with dengue.			Colloid solutions
		ı Colloid solutions may be used in persistent shock despite resuscitation with the crystalloid solutions			
		Recommendation 6	N/A	N/A	N/A

		• Close monitoring and frequent reassessment should be done to guide appropriate fluid management of children with dengue shock. ‡ They should be managed by senior staffs in hospitals with paediatricians. ‡ Those with prolonged and/or decompensated shock should be admitted to the high-dependency or intensive care unit.			
		Recommendation 7	N/A	N/A	Blood transfusion
		• Blood transfusion should be given in life-threatening condition and given as soon as severe bleeding is recognised (overt) or suspected (occult) in children with dengue. ‡ Selection of blood components is based on patient’s clinical condition or type of bleeding. ‡ It should be given cautiously to avoid fluid overload especially in neonates or infants			
		Recommendation 8	N/A	N/A	N/A
		• Dengue infection in infant should be managed in a hospital with paediatric services			
	Maldives, 2019	Low quality	No recommendations	N/A	N/A
	PAHO, 2016	Low quality	No recommendations	N/A	N/A
	PAHO, 2022	Low quality	Recommendation 1 What clinical findings and basic complementary studies allow arboviruses to be differentiated from each other and from other febrile diseases? The following table details the clinical and laboratory findings that are potentially useful for guiding the diagnosis of suspected arbovirus infection	The grading depends on the symptoms, and the details can be found in the CPG.	N/A
		Recommendation 2 What clinical findings and basic complementary studies should be used to identify patients at risk of progression to severe disease (warning signs)? It is suggested to use the following warning signs to identify patients with increased risk of progression to severe dengue: — Abdominal pain: progressive until it is continuous or sustained and intense, and at the end of the febrile stage — Sensory disorder: irritability, drowsiness, and lethargy — Mucosal bleeding: gingivorrhagia, epistaxis, vaginal bleeding not associated with menstruation or more menstrual bleeding than usual, and hematuria — Fluid accumulation: clinical, on imaging, or both, at the end of the febrile stage — Hepatomegaly: more than 2 cm below the costal margin and abrupt onset — Vomiting: persistent (three or more episodes in one hour or four episodes in six hours) — Progressive increase in hematocrit: on at least two consecutive measurements during patient monitoring	Quality of the evidence on the relationship between recommended prognostic factors and risk of severe disease: HIGH-MODERATE Strength of recommendation: CONDITIONAL	N/A	N/A

Recommendation 3 What clinical findings and basic complementary studies should be used to identify patients who require inpatient hospital management? It is suggested to use the following criteria for the hospitalization of dengue patients: — Dengue with warning signs (see recommendation 2) — Dengue with criteria of severe disease, according to the WHO 2009 definitions — Oral intolerance — Difficulty breathing — Narrowing pulse pressure — Arterial hypotension — Acute renal failure — Prolonged capillary refill time — Pregnancy — Coagulopathy	Quality of the evidence: N/A LOW to HIGH (depending on the prognostic factor) Strength of recommendation: CONDITIONAL	N/A
Recommendation 4 In patients diagnosed with arboviral infection, should an intense oral hydration scheme be used? It is recommended to use an intense oral hydration scheme in dengue patients to decrease the progression to severe forms and the appearance of disease complications.	Quality of the evidence: N/A LOW Strength of recommendation: STRONG	Intense oral hydration scheme
Recommendation 5 In dengue patients with warning signs, should parenteral hydration be indicated? It is recommended to indicate parenteral hydration in dengue patients with at least one warning sign.	Quality of the evidence: N/A LOW Strength of recommendation: STRONG	Parenteral hydration
Recommendation 6 In patients with arboviral infection who receive parenteral hydration, should resuscitation with crystalloids or colloids be initiated? It is recommended to use crystalloids instead of colloids in the initial management of patients with dengue shock.	Quality of the evidence regarding the effect: LOW Strength of recommendation: STRONG	Crystalloids instead of colloids in the initial management of patients with dengue shock. Parenteral hydration Crystalloids
Recommendation 7 In dengue patients with thrombocytopenia, should the transfusion of blood components (platelet concentrate or fresh frozen plasma) be indicated? It is recommended to not transfuse blood components (platelet concentrate, fresh frozen plasma) to dengue patients with thrombocytopenia. The recommendation applies to all patients with dengue and thrombocytopenia, regardless of platelet count. The recommendation does not apply to patients with bleeding or additional conditions that predispose a person to bleeding (e.g., pregnancy). In these situations, the indication for the transfusion of blood components should be considered	Quality of the evidence: VERY LOW Strength of recommendation: STRONG	Transfusion of blood components to patients with bleeding or additional conditions that predispose a person to bleeding. Transfusion of blood components
Recommendation 8	Quality of the evidence: VERY LOW to LOW	Paracetamol (acetaminophen) or metamizole instead of Paracetamol (acetaminophen) or metamizole

		In patients with arboviral infection, what pharmacological interventions may be indicated to manage symptoms? Paracetamol (acetaminophen) or metamizole is suggested instead of nonsteroidal anti-inflammatory drugs, antihistamines, or steroids for initial symptomatic management in patients with arboviral infection.	Strength of recommendation: CONDITIONAL	nonsteroidal anti-inflammatory drugs, antihistamines, or steroids.	
		Recommendation 9 In patients with severe arboviral infection, should treatment with systemic steroids be indicated? It is suggested to not administer systemic steroids to patients with dengue shock	Quality of the evidence: VERY LOW to LOW Strength of recommendation: CONDITIONAL	N/A	N/A
		Recommendation 10 In patients with severe arboviral infection, should treatment with immunoglobulins be indicated? It is suggested to not indicate immunoglobulins for the treatment of severe dengue.	Quality of the evidence: VERY LOW to LOW Strength of recommendation: CONDITIONAL	N/A	N/A
		Recommendation 11 Should condom use be indicated to prevent non-vector-borne transmission of Zika virus? Condom use is recommended for the prevention of sexual transmission of Zika virus infection. * Not dengue, Zika related.	Quality of the evidence: VERY LOW Strength of recommendation: STRONG	N/A	Condom use
		Recommendation 12 Should the suppression of breastfeeding be indicated for women with suspected Zika virus infection? It is recommended to maintain breastfeeding in women with suspected or confirmed diagnosis of Zika virus infection. * Not dengue, Zika related.	Quality of the evidence: VERY LOW Strength of recommendation: STRONG	N/A	N/A
	Pakistan, 2020	Low quality No recommendations	N/A	N/A	N/A
	Philippines, 2010	Low quality No recommendations	N/A	N/A	N/A
	Philippines, 2017	Low quality Recommendation 1 Among patients with confirmed or presumptive diagnosis of dengue in the outpatient setting, patients with the following signs and symptoms should be admitted in a healthcare facility for closer monitoring and observation: · Shortness of breath · Irritability or drowsiness · Pleural effusion · Abdominal pain · Melena · Elevated hematocrit · Decreased or decreasing platelet count	Quality of the evidence: LOW and VERY LOW Strength of recommendation: STRONG	N/A	N/A
		Recommendation 2 Among patients with confirmed or presumptive diagnosis of dengue in the outpatient setting, there is insufficient evidence to say that	Quality of the evidence: VERY LOW Strength of	N/A	N/A

	vomiting is associated with more severe dengue. However, because patients with vomiting cannot tolerate oral rehydration fluids, consider admission	recommendation: STRONG		
	Recommendation 3 Patients with dengue who present with any one of the following clinical findings may be at increased risk for mortality. · Hypotension on admission · Narrow pulse pressure on admission · DHF stage 3 and 4 (severe dengue) · History of previous dengue · Prolonged shock · Respiratory failure · Liver failure (AST elevation > 200 u and INR > 1.3) · Renal failure (BUN >20 mg% and serum Creatinine >1.0mg %) · Significant bleeding including gastrointestinal bleeding · Severe plasma leakage in multiple sites (pleural effusion, pericardial effusion and ascites)	Quality of the evidence: N/A MODERATE, LOW and VERY LOW Strength of recommendation: STRONG	N/A	N/A
	Recommendation 4 The presence of two or more of the following warning signs in patients with dengue may increase the risk for mortality: · Severe abdominal pain · Arterial hypotension · Neurologic manifestation · Painful hepatomegaly · Hypovolemic shock · Liver failure · Myocarditis	Quality of the evidence: N/A VERY LOW Strength of recommendation: STRONG	N/A	N/A
	Recommendation 5 Patients with dengue who present with one or more of the following laboratory findings may be at increased risk for mortality and warrant hospital admission for close monitoring · Decline in Hgb by > 20% · Thrombocytopenia, with APC < 50,000/mm ³ · Hemoconcentration, with Hct > 40 % or 20% increase in lowest and highest hematocrit · Creatinine > 1 mg % · AST > 1000 u · Acidosis	Quality of the evidence: N/A MODERATE, LOW and VERY LOW Strength of recommendation: STRONG	N/A	N/A
	Recommendation 6 Prothrombin time (PT) and Partial Prothrombin Time (PTT) do not differentiate those who may be at increased risk for mortality and are not recommended as routine tests for patients with dengue	Quality of the evidence: N/A LOW Strength of recommendation: STRONG	N/A	N/A
	Recommendation 7 Among patients admitted because of dengue, the presence of one or more of the following clinical or laboratory findings may increase the risk of bleeding • Hypotension	Quality of the evidence: N/A LOW and VERY LOW Strength of recommendation: STRONG	N/A	N/A

• Narrow pulse pressure			
• Platelet count < 50,000/mm ³			
• WBC count < 5000/mm ³			
• Hepatomegaly			
• Elevated ALT (> 3x the normal value)			
Recommendation 8	Quality of the evidence:	N/A	N/A
Among patients admitted because of dengue, there is some evidence to suggest that the following signs and symptoms may be associated with significant bleeding.	LOW and VERY LOW		
• Vomiting	Strength of recommendation:		
• Abdominal pain	STRONG		
• Restlessness			
• Pleural effusion or ascites			
• Rash			
Recommendation 9	Quality of the evidence:	N/A	N/A
Prothrombin Time (PT) and Partial Thromboplastin Time (PTT) were not shown to be significantly associated with bleeding and should not be routinely done in patient with dengue.	VERY LOW		
	Strength of recommendation:		
	STRONG		
Recommendation 10	Quality of the evidence:	N/A	Isotonic fluids
There is insufficient evidence that the tonicity of the intravenous fluid has an effect on mortality in dengue patients without shock.	LOW		
• Isotonic fluids can be used as maintenance for dengue patients without shock.	Strength of recommendation:		
• The use of hypotonic IVF is associated with hyponatremia among hospitalized paediatric patients.	STRONG		
Recommendation 11	Quality of the evidence:	colloid IVF, however it is associated with more adverse reactions.	crystalloids or colloids IVF.
• In dengue patients with shock, either crystalloids or colloids may be used for fluid resuscitation.	LOW and VERY LOW		
• There is insufficient evidence to say that the use of colloid IVF compared to crystalloids will have an effect on mortality.	Strength of recommendation:		
• The use of colloids may be associated with more adverse reactions (e.g. bleeding, allergic reactions) compared to crystalloids.	STRONG		
Recommendation 12	Quality of the evidence:	N/A	N/A
• There is insufficient evidence to say that prophylactic platelet transfusion in patients with minimal or no active bleeding will improve platelet counts, prevent haemorrhage and reduce mortality.	MODERATE to VERY LOW		
• Children with dengue who have platelet count <50,000/mm ³ with minimal or no active bleeding should not be given prophylactic platelet transfusion	Strength of recommendation:		
	STRONG		
Recommendation 13	Quality of the evidence:	Plasma transfusion may be considered for children with signs of disseminated intravascular coagulopathy (DIC).	Plasma transfusion
• Among dengue patients with significant bleeding, there is insufficient evidence that plasma transfusion has an effect on controlling bleeding and reducing mortality.	LOW		
• The effect of plasma transfusion on platelet count recovery is not significant in dengue patients with bleeding.	Strength of recommendation:		
• In children exhibiting signs of disseminated intravascular coagulopathy (DIC), plasma transfusion may be considered.	STRONG		

		Recommendation 14 There is insufficient evidence to say that use of citronella-based repellents is more effective than DEET-based repellents in reducing dengue transmission	Quality of the evidence: N/A VERY LOW Strength of recommendation: STRONG	DEET-based repellents
Philippines, 2023	High quality	Recommendation 1 Among those with suspected dengue infections, we recommend the use of NS1 rapid diagnostic tests.	Certainty of evidence: N/A LOW Strength of Recommendation: STRONG	NS1 rapid diagnostic tests
		Recommendation 2 NS1 RDT is most useful in the following situations: • Individuals presenting within 3 days of symptom onset • Patients with no previous history of dengue infection	Certainty of evidence: N/A LOW Strength of Recommendation: WEAK	NS1 RDT
		Recommendation 3 Among patients with suspected dengue infection, we recommend the use of combined Dengue NS1/IgM/IgG rapid diagnostic test.	Certainty of evidence: N/A LOW Strength of Recommendation: STRONG	Combined Dengue NS1/IgM/IgG rapid diagnostic test
		Recommendation 4 Among patients with suspected dengue infection who present more than 5 days from onset of symptoms, we recommend the use of rapid diagnostic test with Dengue IgM/IgG antibodies.	Certainty of evidence: N/A LOW Strength of Recommendation: STRONG	Rapid diagnostic test with Dengue IgM/IgG antibodies
		Recommendation 5 Among adult and paediatric patients with dengue fever, we recommend using any one of the following clinical signs as a basis for in-hospital management: 1. Signs and symptoms a. Vomiting/persistent vomiting b. Abdominal pain/tenderness c. Lethargy/restlessness d. Mucosal bleeding e. Impaired consciousness f. Hepatomegaly g. Acute renal failure 2. Comorbidities a. Pregnancy b. Obesity c. Others (cardiac, renal, hematologic)	Certainty of evidence: N/A VERY LOW Strength of Recommendation: STRONG	N/A
		Recommendation 6 Among adult and paediatric patients with dengue fever, we suggest using any one of the following laboratory parameters as a basis for in-hospital management: a. Increase in hematocrit with or without decrease in platelet count b. Elevation of transaminases c. Impaired PT or PTT d. Thrombocytopenia	Certainty of evidence: N/A VERY LOW Strength of Recommendation: WEAK	N/A

Recommendation 7 For outpatients with suspected, probable, or confirmed dengue: 1. An initial CBC should be requested on the first visit to establish baseline hematocrit and platelet count. 2. Daily CBC determination may be done as part of disease monitoring. 3. Subsequent CBCs may be done based on the clinical course/presentation (e.g., volume status, urine output, temperature, ability to tolerate feeding, presence of warning signs). 4. CBC monitoring may be discontinued when the patient is in the recovery phase (e.g. increasing platelet count trend, 48 hours afebrile, adequate urine output, and improved sense of well-being/appetite).	Certainty of evidence: VERY LOW Strength of Recommendation: Not applicable (Good Practice Statement)*	N/A	CBC test
Recommendation 8 Among patients with probable or confirmed dengue fever, we recommend the use of oral rehydration solutions to prevent poor outcomes.	Certainty of evidence: VERY LOW Strength of Recommendation: STRONG	N/A	Oral rehydration solutions
Recommendation 9 Among patients with confirmed or probable dengue fever, we recommend against the use of acid suppressants for the prevention of gastrointestinal bleeding or abdominal pain.	Certainty of evidence: VERY LOW Strength of Recommendation: STRONG	Avoid the use of acid suppressants	N/A
Recommendation 10 Among patients with dengue fever, we recommend against the use of acid suppressants for the treatment of gastrointestinal bleeding or pain.	Certainty of evidence: VERY LOW Strength of Recommendation: STRONG	Avoid the use of acid suppressants	N/A
Recommendation 11 Among patients with confirmed dengue infection, we suggest giving papaya (Carica papaya) leaf extract or juice preparations as a supplement to standard therapy.	Certainty of evidence: VERY LOW Strength of Recommendation: WEAK	N/A	Juice preparations as a supplement to standard therapy
Recommendation 12 Among patients with confirmed dengue infection, we suggest against giving tawa-tawa (Euphorbia hirta) preparations as a supplement to standard therapy due to insufficient evidence.	Certainty of evidence: VERY LOW Strength of Recommendation: WEAK	Do not give tawa-tawa (Euphorbia hirta) preparations	N/A
Recommendation 13 Among patients with confirmed dengue infection, we recommend against giving guava (Psidium guajava) preparations as a supplement to standard therapy due to insufficient evidence (lack of clinical trials in humans).	Certainty of evidence: NONE Strength of Recommendation: STRONG	Do not give guava (Psidium guajava) preparations	N/A
Recommendation 14 Among individuals at risk for dengue infection, we suggest against the use of plant-based non-DEET extracts over DEET repellents for the prevention of dengue.	Certainty of evidence: LOW Strength of Recommendation: WEAK	Avoid using plant-based repellents	DEET repellents

		Recommendation 15 Among individuals at risk for dengue infection, we suggest against the use of IR3535 over DEET repellents for the prevention of dengue.	Certainty of evidence: VERY LOW Strength of Recommendation: WEAK	Avoid using IR3535 repellents	DEET repellents
		Recommendation 16 Among individuals at risk for dengue infection, we suggest against the use of Citronella over DEET repellents for the prevention of dengue.	Certainty of evidence: VERY LOW Strength of Recommendation: WEAK	Avoid using Citronella repellents	DEET repellents
Singapore, 2026	Low quality	Recommendation 1 For the diagnosis of dengue infection, symptoms, signs and laboratory test results should be consistent with dengue infection. If there are inconsistencies, further evaluation should be pursued depending on the history, physical examination and/ or laboratory test results.	N/A	N/A	N/A
		Recommendation 2a In the first 7 days from symptom onset of suspected dengue infection, tests to detect both dengue virus NS1 antigen and dengue IgM antibodies in human serum, plasma or whole blood OR a dengue polymerase chain reaction (PCR) test on whole blood or plasma should be requested. In primary infection, IgM antibodies are detectable in 50% in the first 3–5 days of illness and IgG at the end of the first week.	N/A	virus NS1 antigen and dengue IgM antibodies or dengue polymerase chain reaction (PCR)	N/A
		Recommendation 2b After 7 days from symptom onset, dengue PCR test on whole blood or plasma generally should not be performed.	N/A	dengue polymerase chain reaction (PCR)	N/A
		Recommendation 3 Dengue is a notifiable disease and should be reported by medical practitioners to the Communicable Diseases Agency using the appropriate platform when suspected and when confirmed through point-of-care tests. Development of dengue haemorrhagic fever requires re-notification within 24 hours from time of diagnosis.	N/A	N/A	N/A
Southern Thailand, 2020	Low quality	No recommendations	N/A	N/A	N/A
Sri Lanka, 2012	Low quality	No recommendations	N/A	N/A	N/A
Sri Lanka, 2019	Low quality	No recommendations	N/A	N/A	N/A
Sri Lanka, 2021	Low quality	No recommendations	N/A	N/A	N/A
Sri Lanka, 2023	Low quality	No recommendations	N/A	N/A	N/A
Timor-Leste, 2022	Low quality	No recommendations	N/A	N/A	N/A
WHO, 2012	Low quality	No recommendations	N/A	N/A	N/A
WHO, 2009	Low quality	No recommendations	N/A	N/A	N/A

WHO, 2025	High quality	Recommendation 1 WHO suggests the use of protocolized oral fluid treatment compared with non-protocolized oral fluid treatment in patients with suspected or confirmed non-severe arboviral disease.	Conditional recommendation, low certainty evidence	N/A	Protocolized oral fluid treatment
		Recommendation 2 WHO suggests the use of paracetamol for the treatment of pain and/or fever in patients with suspected or confirmed non-severe arboviral disease.	Conditional recommendation, low certainty evidence	N/A	Paracetamol
		Recommendation 3 WHO suggests the use of metamizole for the treatment of pain and/or fever in patients with suspected or confirmed non-severe arboviral disease	Conditional recommendation, low certainty evidence	N/A	Metamizole
		Recommendation 4 WHO recommends against the use of non-steroidal anti-inflammatory medications (NSAIDs) in patients with acute suspected or confirmed arboviral disease, irrespective of severity.	Strong recommendation, low certainty evidence	Do not use non-steroidal anti-inflammatory medications (NSAIDs)	N/A
		Recommendation 5 WHO suggests against using corticosteroid treatment in patients with acute suspected or confirmed non-severe arboviral disease	Conditional recommendation, low certainty evidence	Do not use corticosteroid treatments	N/A
		Recommendation 6 WHO suggests using crystalloid fluid rather than colloid fluid in patients who require intravenous fluid treatment for suspected or confirmed severe arboviral disease	Conditional recommendation, low certainty evidence	Crystalloid IV fluid rather than colloid IV fluid	Crystalloid IV fluid
		Recommendation 7 WHO recommends the use of capillary refill time to guide intravenous fluid management in patients with suspected or confirmed severe arboviral disease	Strong recommendation, low certainty evidence	N/A	Capillary refill time
		Recommendation 8 WHO recommends the use of lactate measurement in addition to standard care to guide intravenous fluid management in patients with suspected or confirmed severe arboviral disease.	Strong recommendation, moderate certainty evidence	Lactate measurement in addition to standard care	Lactate measurement
		Recommendation 9 WHO suggests the use of passive leg raise test in patients in shock, with suspected or confirmed arboviral disease, when the clinician is uncertain if further intravenous fluid administration is warranted.	Conditional recommendation, low certainty evidence	N/A	Passive leg raise test
		Recommendation 10 WHO suggests against the use of systemic corticosteroids in the treatment of patients with suspected or confirmed severe arboviral disease.	Conditional recommendation, very low certainty evidence	Do not use systemic corticosteroids	N/A
		Recommendation 11 WHO suggests against the use of immunoglobulins in the treatment of patients with suspected or confirmed severe arboviral disease.	Conditional recommendation, very low certainty evidence	Do not use immunoglobulins	N/A
		Recommendation 12 WHO suggests against the use of prophylactic platelet transfusion in patients with suspected or confirmed severe arboviral disease and platelet count of <50,000 platelets/microlitre who have no active bleeding.	Conditional recommendation, low certainty evidence	Do not use prophylactic platelet transfusion	N/A

		Recommendation 13 WHO suggests the use of intravenous N-acetylcysteine in the treatment of patients with liver failure due to suspected or confirmed yellow fever.	Conditional recommendation, very low-certainty evidence	N/A	N-acetylcysteine
		Recommendation 14 WHO recommends the use of monoclonal immunoglobulin TY014 in the treatment of patients with yellow fever only in research settings.	Use only in research	N/A	Monoclonal immunoglobulin TY014
		Recommendation 15 WHO recommends the use of sofosbuvir in the treatment of patients with yellow fever only in research settings.	Use only in research	N/A	Sofosbuvir
Clinical Practice Guideline from the Latin America and the Caribbean					
Argentina, 2024	High quality	Recommendation 1 It is recommended to consider clinical and laboratory findings that may be useful to guide the differential clinical diagnosis when dengue infection is suspected.	Quality of evidence: Low to high	N/A	N/A
		Recommendation 2 It is suggested to use warning signs to identify patients at increased risk of progression to severe dengue.	Quality of evidence: Low to high	N/A	N/A
		Recommendation 3 It is suggested to apply hospitalization criteria for patients with dengue.	Quality of evidence: Low to high	N/A	N/A
		Recommendation 4 It is recommended to use an intensive oral rehydration regimen in patients with dengue to reduce progression to severe forms and the occurrence of complications from this disease.	Quality of evidence: Low	N/A	Intensive oral rehydration regimen
		Recommendation 5 It is recommended to indicate parenteral hydration in patients with dengue who present at least one warning sign.	Quality of evidence: Very low	N/A	Parenteral hydration
		Recommendation 6 It is recommended to use crystalloids instead of colloids in the initial management of patients with dengue shock.	Quality of evidence: Low	Crystalloids instead of colloids	Crystalloids
		Recommendation 7 It is recommended not to transfuse blood components (platelet concentrate or fresh frozen plasma) to patients with dengue and thrombocytopenia.	Quality of evidence: Very low	N/A	N/A
		Recommendation 8 It is suggested to use paracetamol (acetaminophen) or dipyrrone (metamizole) instead of non-steroidal anti-inflammatory drugs (NSAIDs), antihistamines, or steroids for initial symptomatic management in patients with dengue.	Quality of evidence: Very low to low	Paracetamol or dipyrrone instead of non-steroidal anti-inflammatory drugs (NSAIDs), antihistamines, or steroids	Paracetamol (acetaminophen) Dipyrrone (metamizole)
		Recommendation 9 It is suggested NOT to administer systemic corticosteroids to patients with dengue shock.	Quality of evidence: Very low	N/A	N/A
		Recommendation 10	Quality of evidence: Very low	N/A	N/A

		It is suggested NOT to indicate immunoglobulins for the treatment of severe dengue			
Brazil, 2024	Low quality	No recommendations	N/A	N/A	N/A
Honduras, 2019	Low quality	Recommendation 1 We must make every effort to prevent patients from requiring admission to the intensive care unit (ICU) by ensuring appropriate initial management measures, given the higher risk of invasive procedures.	N/A	N/A	N/A
		Recommendation 2 Important: If the shock period is prolonged and recurrent, it leads to hypoperfusion and organ dysfunction, metabolic acidosis, and consumptive coagulopathy. This, in turn, is the main cause of severe haemorrhage, which results in decreased haematocrit and leukocytosis, further aggravating shock and contributing to clinical deterioration.	N/A	N/A	N/A
		Recommendation 3 We must bear in mind that intravenous fluid administration during the Recovery Phase is added to the extravasated fluids returning to the intravascular space. This invariably results in fluid overload with consequent acute pulmonary edema, the main cause of mortality at this stage. For these reasons, timely detection of the onset of the Recovery Phase, with the corresponding limitation of parenteral fluids, is imperative to prevent dengue deaths.	N/A	N/A	Limitation of parenteral fluids
		Recommendation 4 Important: Patients with warning signs should be assessed considering vital signs, peripheral perfusion signs, and urine output every hour during the first 6 hours or until the patient stabilizes. Subsequent assessment can then be tailored to the patient's condition until the end of the Critical Phase.	N/A	N/A	N/A
		Recommendation 5 Regarding blood pressure in pregnant patients: Between weeks 7–37, hypotension should be considered whenever blood pressure is 10% below the minimum expected BP for a non-pregnant adult woman. Before week 7 and after week 37, use non-pregnant adult parameters. If the pregnant patient is 12–17 years old, assess blood pressure according to the age-specific table.	N/A	N/A	N/A
		Recommendation 6 Important: Hypotension should be regarded as a late sign of shock, often associated with prolonged shock, frequently complicated by significant bleeding.	N/A	N/A	N/A
		Recommendation 7 Important: Once a patient has experienced hemodynamic instability, even if recovery has occurred, relapse may occur during the 48 hours following defervescence (Critical Phase).	N/A	N/A	N/A
		Recommendation 8	N/A	N/A	Crystalloid solutions (KCl)

		Important: In the crystalloid solutions used, KCl should not be removed except in renal failure or inadequate diuresis (oligoanuria).			
		Recommendation 9 All infants under 1 year with suspected disease should be admitted to the dengue unit.	N/A	N/A	N/A
		Recommendation 10 Important: Remember that every pregnant woman with dengue should be admitted during the febrile phase and up to 48 hours after defervescence.	N/A	N/A	N/A
Nicaragua, 2023	Low quality	Recommendation 1 Assess and follow patients with dengue, providing guidance on careful monitoring of warning signs and how to identify them.	N/A	N/A	N/A
		Recommendation 2 Administer paracetamol (acetaminophen) to patients with fever and pain.	N/A	N/A	Paracetamol (acetaminophen)
		Recommendation 3 Measure haematocrit before and after the administration of each fluid bolus.	N/A	N/A	Fluid bolus
		Recommendation 4 Clinically assess hemodynamic status before and after administering each fluid bolus.	N/A	N/A	Fluid bolus
		Recommendation 5 Interpret haematocrit levels taking into account fluid administration and hemodynamic monitoring.	N/A	N/A	N/A
		Recommendation 6 Administer intravenous fluids in cases of vomiting or rapid rise in haematocrit.	N/A	N/A	Intravenous fluids
		Recommendation 7 Use isotonic solutions in cases of severe dengue or with warning signs.	N/A	N/A	Isotonic solutions
		Recommendation 8 Administer sufficient IV fluid volumes to maintain effective circulation during the plasma leakage period in severe dengue cases.	N/A	N/A	IV fluids
		Recommendation 9 Avoid intramuscular injections in patients with dengue.	N/A	N/A	N/A
		Recommendation 10 Adjust IV fluid therapy according to monitoring of vital signs, the patient's hemodynamic condition, and haematocrit measurements.	N/A	N/A	IV fluids
		Recommendation 11 Strictly control blood glucose (glycemic control).	N/A	N/A	N/A
		Recommendation 12 Stop or reduce IV therapy when hemodynamic stabilization occurs.	N/A	N/A	N/A
		Recommendation 13 Keep the patient supine (lying flat) during the critical phase of the disease.	N/A	N/A	N/A
		Recommendation 14	N/A	N/A	N/A

		Laboratory monitoring guided by the patient’s course: every 24 hours if warning signs are present.			
Perú, 2016	High quality	Recommendation 1 The diagnosis of dengue virus infection is fundamentally clinical. A patient with compatible symptoms, signs, and an epidemiologic link should be managed as a dengue case without requiring laboratory confirmation.	N/A	N/A	N/A
		Recommendation 2 In patients with clinical suspicion of dengue and negative immunochromatographic tests, confirmation should be performed with ELISA NS1 or ELISA IgM, and management should follow the clinical diagnosis until then.	N/A	ELISA NS1 or ELISA IgM tests for dengue confirmation	ELISA NS1 ELISA IgM
		Recommendation 3 In patients with a severe/critical clinical course whose ELISA-NS1 and ELISA-IgM were negative when taken early, request a second ELISA IgM (between the 2nd and 4th week of illness) and/or ELISA IgG (secondary infection), and/or consider other differential diagnoses.	N/A	ELISA IgG test for secondary infection Or other differential diagnoses	ELISA IgM ELISA IgG test Other differential diagnoses
		Recommendation 4 Any patient not requiring admission must be instructed—along with family/caregivers—to watch for warning signs and to seek immediate care at the nearest health facility if these occur.	N/A	N/A	N/A
		Recommendation 5 Every patient with suspected dengue should be evaluated holistically, also considering risk factors: pregnancy, comorbidities, age group, functional capacity, and the feasibility of outpatient follow-up for warning signs or clinical deterioration.	N/A	N/A	N/A
		Recommendation 6 In clinically stable patients who can be managed as outpatients, emphasize continuous oral hydration.	N/A	N/A	N/A
		Recommendation 7 Before an outpatient leaves the health facility, assess that perfusion and hydration are adequate.	N/A	N/A	N/A
		Recommendation 8 Start IV hydration in patients with persistent vomiting and/or inability to tolerate oral fluids or who show clinical signs of hypoperfusion.	N/A	N/A	IV hydration
		Recommendation 9 Lack of laboratory tests or delayed results should not delay the initiation of volume resuscitation in clinically hypoperfused patients with signs of hypovolemia.	N/A	N/A	N/A
		Recommendation 10 During volume resuscitation, evaluate: blood pressure stability, MAP (mean arterial pressure), improvement in pulse pressure, reduction in tachycardia, shortening of capillary refill time, return of	N/A	N/A	N/A

		normal skin colour in the extremities, and capillary refill < 2 seconds.			
		Recommendation 11 In shock patients who are critical and who remain hypoperfused despite fluids, colloids may be administered.	N/A	N/A	Colloids.
		Recommendation 12 Administer the minimum amount of IV fluids needed to maintain good perfusion, suggesting a baseline rate of 2–3 mL/kg/hour. Assess hemodynamic status every 1–3 hours and adjust fluid therapy according to response and tolerance.	N/A	N/A	IV fluids
		Recommendation 13 Avoid: giving unnecessary fluid boluses based solely on a rising hematocrit; do not give boluses if the patient is hemodynamically stable. IV fluid administration without clinical re-evaluation may induce fluid overload and pulmonary edema.	N/A	Avoid unnecessary fluid boluses	N/A
		Recommendation 14 For fever management in dengue patients, prioritize physical measures for temperature control.	N/A	N/A	N/A
		Recommendation 15 Antibiotics are not recommended routinely in the absence of clinical and laboratory parameters suggesting bacterial infection.	N/A	Antibiotics are not recommended	N/A
		Recommendation 16 In hospitalized patients, perform continuous monitoring of vital signs, fluid balance, and ancillary tests as guided by clinical evaluation.	N/A	N/A	N/A
		Recommendation 17 Patients with warning signs and signs of severity (indicating entry into the critical phase) should have at least 48 hours of hospitalization, with stabilization, adequate volume replacement, vital-sign monitoring, urine output, fluid balance, ancillary tests, and organ support.	N/A	N/A	N/A
Mexico, 2026	Low quality	Recommendations for dengue prevention are: - Educating the population on the identification of symptoms and warning signs based on evidence. - Community and household vector control, including the elimination of mosquito breeding sites. - Cleaning homes and removing discarded containers and debris. - Use of mosquito nets and bed nets. - Use of mosquito repellents. - Use of long-sleeved clothing. - Use of fans and air conditioning. - Reduction of vegetation in homes and gardens. - Fumigation depending on scenarios defined by entomovirological surveillance.	N/A	N/A	N/A
		Since 2025, the National Centre for Disease Prevention and Control (CENAPRECE) has recommended the use of a specific operational definition for the clinical care of patients in health facilities. This	N/A	N/A	N/A

		definition facilitates the clinical recognition of dengue and emphasizes the early identification of severe forms of the disease.			
Paraguay, 2024	Moderate quality	Recommendations for treatment (step-by-step approach to the management of patients with dengue)			
		<i>Step 1. General Assessment:</i>			
		Medical history. The medical history should include:	N/A	N/A	N/A
		- Date of onset of fever or illness			
		- Amount of oral intake			
		- Search for warning signs			
		- Loose stools			
		- Changes in level of consciousness: irritability, drowsiness, lethargy, fainting episodes, dizziness, seizures and vertigo			
		- Urine output: frequency, volume, and time of last urination			
		- Determine whether there are family members with dengue, dengue cases in the community, or a history of recent travel to dengue-endemic areas			
		- Coexisting conditions such as infants, adults over 60 years of age, pregnancy, obesity, asthma, diabetes mellitus, hypertension, etc.			
		- Walks in wooded areas or bathing in streams or waterfalls, considering the differential diagnosis of leptospirosis, typhus, malaria, yellow fever, and typhoid fever			
		- Recent unprotected sexual behaviour or drug use, considering HIV seroconversion syndrome			
		Physical examination:	N/A	N/A	N/A
		- Assess mental status using the Glasgow Coma Scale			
		- Assess hydration status			
		- Assess hemodynamic status. Take the pulse and blood pressure. Determine mean arterial pressure and pulse pressure or differential pressure			
		- Evaluate the presence of pleural effusions, tachypnea, and Kussmaul breathing			
		- Check for the presence of abdominal pain, ascites, and hepatomegaly			
		- Look for the presence of rash, petechiae, or Herman’s sign, described as a “red sea with white islands”			
		- Look for spontaneous or provoked haemorrhagic manifestations			
		- Tourniquet test: repeat if it was previously negative. It is frequently negative in obese individuals and during shock			
		<i>Laboratory. In patients with fever in whom dengue is considered a possible diagnosis, laboratory studies should include the following:</i>			
		Initial complete blood count:	N/A	N/A	N/A
		- The haematocrit determined during the early febrile phase represents the patient’s baseline value.			
		- A decrease in the leukocyte count makes the diagnosis of dengue more likely.			
		- A rapid decrease in the platelet count, concurrent with a haematocrit that increases in relation to baseline, is suggestive of progression to the critical phase of plasma leakage.			

Additional studies, in cases with warning signs, comorbidity, or severe cases:	N/A	N/A	N/A
- Liver function tests			
- Blood glucose			
- Albumin			
- Serum electrolytes			
- Serum urea and creatinine			
- Serum bicarbonate and lactate			
- Cardiac and hepatic enzymes			
- Urinalysis or, if unavailable, urine specific gravity			
Laboratory tests to confirm the diagnosis are not necessary for the clinical management of patients during the epidemic phase, but they are necessary during the interepidemic phase.	N/A	N/A	N/A
<i>Step 2. Diagnosis and assessment of the phase and severity of the disease</i>			
Based on the medical history, physical examination, and laboratory results, including complete blood count and hematocrit, physicians should be able to answer the following questions:	N/A	N/A	N/A
- Is it dengue?			
- What phase of dengue is it? Febrile, critical, or recovery phase?			
- Are there warning signs? Is there any comorbidity?			
- What is the patient's hemodynamic and hydration status? Is the patient in shock?			
- Does the patient require hospitalization?			
<i>Step 3. Treatment</i>			
Mandatory and immediate notification of the disease to the corresponding level, epidemiology.	N/A	N/A	N/A
Determine the IgM value from the sixth day onward.	N/A	N/A	IgM for dengue diagnosis
Clinical treatment decisions – depending on clinical manifestations and circumstances, patients may require:	N/A	N/A	N/A
- home treatment, Group A;			
- referral for management in a hospital or dengue ward, Group B; or			
- initiation of urgent treatment and emergency referral, Group C.			
Vector control recommendations			
Search for and eliminate mosquito breeding sites in and around the home. Use mosquito nets, bed nets, or canopies for sick patients. The patient should always be monitored by an adult trained in dengue care.	N/A	N/A	N/A
Recommendations for pregnancy and dengue			
<i>Imaging studies:</i>			
It is recommended that, in the late second trimester, from 24 weeks onward, and especially in the third trimester, fetal health should be monitored with a basic ultrasound and, if possible, with obstetric Doppler ultrasound, to assess placental function and fetal oxygenation. Obstetric Doppler ultrasound should be performed sequentially in all patients who have or have had dengue during that pregnancy, because of the risk of evident placental injury related to	N/A	N/A	N/A

the viral pathology itself, allowing early diagnosis and treatment of possible complications.			
Abdominal ultrasound images have been interpreted predominantly as normal in pregnant women with dengue without warning signs. Thickening of the gallbladder wall, with or without peri vesicular fluid, has been a frequent finding among pregnant women with dengue with warning signs and severe dengue. Other abnormalities, such as hepatomegaly, splenomegaly, and fluid in serous cavities, are the same as those observed in other patients with severe dengue.	N/A	N/A	N/A
The pregnant woman may continue the normal course of her pregnancy, although fetal health must be monitored. Fetal ultrasound is indicated to assess the volume of amniotic fluid, since oligohydramnios may occur in some cases, requiring the appropriate measures to be taken. The presence of ascites in the fetus may also be detected.	N/A	N/A	N/A
<i>Obstetric management:</i>			
Conservative management, both clinical and obstetric, is the treatment of choice. The ideal time to interrupt pregnancy, in situations that are not urgent and do not endanger the life of the maternal-fetal dyad, should be after the active phase of the disease, 7 to 14 days after symptom onset, in order to avoid exposing the mother to another noxious event in addition to the viral pathology itself, and to avoid vertical transmission of the disease to the newborn.	N/A	No	Conservative management
Dengue does not appear to affect the satisfactory outcome of the mother-child dyad during pregnancy in most cases; however, special attention should be given to pregnant women at term.	N/A	N/A	N/A
Sometimes abdominal pain, which is one of the warning signs of dengue, may simulate uterine contractions or be diagnosed as cholecystitis, leading the treating physician to perform an unnecessary surgical intervention that may cause potentially fatal complications.	N/A	N/A	N/A
The differential diagnoses of dengue include eclampsia and preeclampsia, as well as haemolysis, elevated liver enzymes, and low platelet count syndrome, HELLP syndrome, which may also cause abdominal pain and bleeding, in this case due to disseminated intravascular coagulation. Its clinical management differs from that of a patient with severe dengue due to plasma leakage.	N/A	N/A	N/A
Dengue does not present with haemolysis, except in some cases where it is an exceptionally rare complication. Other diagnoses that must be ruled out include pneumonia, pulmonary embolism, various causes of vaginal bleeding, and other infectious causes.	N/A	N/A	N/A
Pregnant women with diabetes or another underlying disease should receive care for that condition to achieve the best possible compensation, in addition to specific dengue management. For patients with a platelet count below 50,000 per mm ³ who are in labour and will undergo caesarean section, administration of platelet	N/A	No	Administration of platelet concentrate

concentrate should be considered as close as possible to the time of surgery.				
<i>Management during delivery and the puerperium:</i>				
The timing and mode of delivery of the product of pregnancy will depend on the obstetric condition. If a caesarean section is required, spinal or epidural anaesthesia is not recommended because it requires puncture. General anaesthesia is recommended if platelet counts are below 100,000/mm ³ and if the health facility has the capacity to provide care for the newborn in case of neonatal depression.	N/A		- Spinal or epidural anaesthesia is not recommended - General anaesthesia is recommended	General anaesthesia
In pregnant women with dengue, an important complication around the time of delivery is uterine bleeding, particularly if surgical procedures associated with severe haemorrhage are performed. Fatal cases may occur; however, most cases of surgical wound and postoperative bleeding are controllable.	N/A		N/A	N/A
During the puerperium, pregnant women who had dengue and received timely care do not have more complications than other postpartum women. On the other hand, any postpartum patient up to 15 days after delivery and/or abortion who acquires dengue should follow the same criteria for hospitalization and treatment recommended for pregnant women.	N/A		N/A	N/A
Among the differential diagnoses of dengue during this phase, febrile conditions in the mother should be considered, such as “milk coming in,” mastitis, and infections related to delivery or caesarean section.	N/A		N/A	N/A
<i>Management of the newborn:</i>				
It is necessary to notify the paediatric service of every newborn born to a mother with dengue at the time of delivery, since the newborn may show signs of the disease up to 12 days after birth.	N/A		N/A	N/A
Breastfeeding should be continued and encouraged, as long as the mother’s condition allows it.	N/A		N/A	N/A
Newborns born to mothers with dengue, or to mothers who had the infection up to one week before delivery, who present with thrombocytopenia, fever, hepatomegaly, and varying degrees of circulatory failure during the first week of life may be mistakenly diagnosed with neonatal sepsis. To avoid this, the epidemiological link should be considered.	N/A		N/A	N/A
Newborns of mothers who had dengue infection before or during pregnancy have received maternal antibodies, IgG, against dengue through the placenta and are at risk of developing severe dengue when infected with a different serotype of the virus.	N/A		N/A	N/A
Likewise, newborns of mothers who contracted the disease around the time of delivery may develop dengue and severe dengue if they are infected with a different serotype of the virus, even months later.	N/A		N/A	N/A
<i>General recommendations:</i>				
Mechanical or hybrid methods, such as the IUD or LNG-IUS, hormonal injectables, and implants should not be used during the active phase of the disease or in cases of thrombocytopenia with	N/A		N/A	N/A

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platelet counts below 100,000/mm³. These methods may be used once the acute stage of the disease has resolved, and the contraceptive method of choice may then be used according to WHO criteria, as in any postpartum woman who has not had dengue.

The interpregnancy interval for a subsequent pregnancy is the same as for any woman who has had a delivery, caesarean section, or abortion: 2 years between pregnancies, or 6 months between the end of one pregnancy and the beginning of another.	N/A	N/A	N/A
The ideal time that should elapse before becoming pregnant in a woman of reproductive age who is not postpartum and has had dengue should ideally be between 3 and 6 months, allowing for full recovery of clinical and/or laboratory parameters. This, in turn, will depend on the severity of dengue and the degree of patient involvement. Therefore, a multidisciplinary preconception consultation conducted by a clinician and an obstetrician-gynaecologist is advised before authorizing these patients to seek pregnancy.	N/A	N/A	N/A
Pregnancy is discouraged during epidemic periods because of the increased risk of infection and complications, such as miscarriage and others mentioned in the Guideline.	N/A	N/A	N/A

^a High quality 5 CPGs that scored 60% in at least three of six AGREE II domains, including Domain 3; moderate quality 5 CPGs with three AGREE II domains assessed a score of 60%, except Domain 3; low quality 5 CPGs that scored !60% in two or more domains and scored !50% in Domain 3.

^b The recommendations were assessed using GRADE, as specified in the CPGs.