



Submission to the Journal Of Biomedical Engineering Systems and Technologies for Low- and Middle-Income Countries (BEST-LMIC)

Instructions to authors

Use this template, replacing all parts highlighted in yellow by your own text (remove the highlighting). For **guidance** see the *Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly work in Medical Journals*.

<http://www.icmje.org/recommendations>

Before preparing manuscript for submission, read carefully the **submission guidance of the journal**:

Select 3-6 keywords

Each **bibliographic reference** in the text should be identified by a number in superscript¹ in order of appearance and be listed in numerical order at the end. That is, the piece of literature that is referred to first in the text should also be the first one in the list of references at the end, regardless of the alphabetic order. Word's *Insert Cross-reference* function (under the *References* pull-down menu / *Captions*) can be used to insert a **semi-automatically updating** reference in the text. Select *Reference type: Numbered item, Insert reference to: Paragraph number*, clear the box *Insert as hyperlink*. To refer to authors by name, use 'according to Author et al.² ...'. Software for referencing such as [EndNote Basic](#), [Mendeley](#) (free), [RefWorks](#), [Zotero](#) (Select the "Vancouver (Superscript)" style template) can be used To refer to more than one piece of literature in the same place, list the references with commas between them ^{1,2}.

Apply the **referencing style** as used by the U.S. National Library for Medicine (NLM) for examples, see http://www.nlm.nih.gov/bsd/uniform_requirements.html

Abbreviations for journals can be found e.g. at

<http://www.ncbi.nlm.nih.gov/nlmcatalog/journals>

<http://www.efm.leeds.ac.uk/~mark/ISlabbr/>

This first page will not be included in the **double-blind review** process – reviewers will not know the identity of the author(s) and the author(s) will not know the identities of the reviewer(s). The author information will be moved to the final camera-ready submission.

Author information page

This page has to be submitted in a separate file which is clearly named Author Information for the manuscript on(title of the manuscript).

Title (style title)

First Author ^{1,*}, Second Author ², Third Author ^{1,3}

¹ First Institution, City, Country

² Second Institution, City, Country

³ Third Institution, City, Country

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Acknowledgements

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Abstract

Provide an abstract of up to 261 (headings included) words structured under the headings provided.

Background and Purpose: Provide a structured abstract of up to 256 words. Detail the clinical facility setting, asset profile, and baseline downtime barriers and or the healthcare sector affected and being studied or reported.

The Problem / Case Presentation: Detail the hardware failure modes, supply chain bottlenecks, or environmental factors that caused clinical service disruption.

Solution and Field Intervention: Summarize the clinical engineering repair workflow, localization adaptations, tool validation, or open hardware integrations executed.

Impact and Lessons: State the quantified improvements in percentages, recommendations and or policy conclusions.

Keywords: *First keyword*, *Second keyword*, *Third keyword*.

1 Introduction

Provide a thorough background establishing the global or regional significance of the biomedical engineering sector, therapeutic domain, diagnostic ecosystem, biomaterial platform, drug discovery pipeline, or health technology policy under examination. Clearly define the specific LMIC infrastructure constraints, market market failures, donor dependency loops, reagent cold-chain breaks, intellectual property barriers, or regulatory gaps being addressed across low-resource settings. State the explicit objectives, conceptual scope, and target audience of this review or systems perspective. (style Normal)

More text. (style Normal)

1.1 Subheading (style heading2)

Subheadings that support the presentation are encouraged, especially in the *Results* section. If subsections or sub-subsections are used, there must always be at least two of them within the higher level section in question.

More text. (style Normal)

1.1.1 Sub-subheading (style heading3)

Sub-subheadings are **not** recommended but can be used if needed for clarity. (style Normal)

More text. (style Normal)

1.1.2 Sub-subheading (style heading3)

Sub-subheadings are **not** recommended but can be used if needed for clarity. (style Normal)

More text. (style Normal)

1.2 Subheading (style heading2)

Subheadings that signpost the presentation are encouraged. (style Normal)

The use of figures and tables is encouraged. To insert a figure, first add a paragraph using the style *image* and then insert the figure (select *Wrapping: In line with text*). Then click the figure, select *References -> Insert caption* (Select *Label: Figure*) and enter the caption text. Then click the caption text and change the paragraph style to *figurecaption*. See the example below. A figure must always be explained in the text (Figure 1).

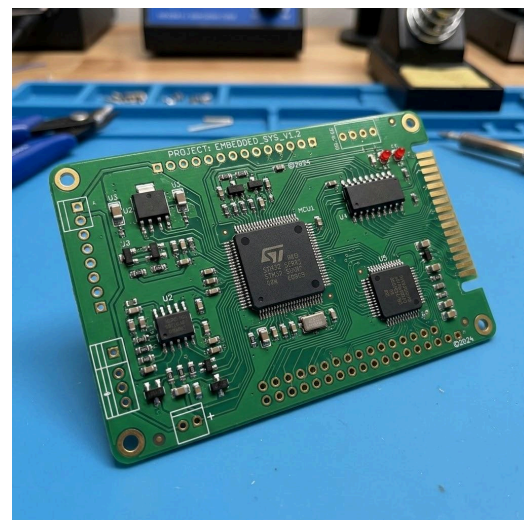


Figure 1. *This is caption text.*

The paragraph following a figure or table should be in the style *Normal*. A

table must always be explained in the text (Table 1). It must also have a caption (above the table) in the style *tablecaption*. See the example below.

Table 1. *This is a sample table caption.*

Table heading	Table heading	Table heading
Table entry	Table entry	Table entry
Table entry	Table entry	Table entry

The paragraph following a figure or table should be in the style *Normal*. A short quotation citing a person or taken word-by-word from can be embedded in the normal text in quotation marks in italics, indicating the source after the quotation: “*this is a quotation from B.A. Bauthor*”.² Longer quotations should be inserted as separate paragraphs in quotation marks as follows, indicating the source of the quotation:

“This is a verbatim quotation from what a person said.”
(Interviewee 23)

The paragraph following a quotation should be in the style *Normal*.

- This is an example of a bulleted list. (style List Paragraph)
- This is an example of a bulleted list. (style List Paragraph)

2. Review Framework and Methodology

Detail the analytical protocol, literature retrieval method, or policy synthesis framework utilized. Describe search strategies, electronic databases

consulted (e.g., PubMed, Scopus, IEEE Xplore, PubChem, ClinicalTrials.gov, WHO IRIS), publication dates, inclusion/exclusion criteria, and quality appraisal steps. If presenting a non-systematic narrative, scoping review, or health technology policy perspective, outline the structural domains and conceptual frameworks used to guide the evaluation.

Provide specific search string parameters, Boolean logic combinations, and thematic categorization criteria. Detail how grey literature, regional ministry reports, open-source repositories, regulatory guidelines, or donor policy documents were sourced and vetted to ensure contextually grounded LMIC evidence.

3. Systems Evaluation and Evidence Synthesis

Present the main scientific evidence, technological developments, or policy findings in a logical, structured sequence using thematic subheadings. Synthesize evidence across LMIC regions, biological targets, or technology domains rather than providing a simple study-by-study list. Authors must include a structured evidence matrix or comparative evaluation grid below to summarize findings across key biomedical engineering domains

4. Strategic Challenges and LMIC Systemic Barriers

Analyze the underlying technical, biological, structural, economic, regulatory, and political challenges

that impedes sustainable biomedical engineering progress across LMICs. Explore critical systemic failure modes such as reagent import tariffs, lack of specialized laboratory infrastructure, IP and technology transfer barriers in drug discovery, missing regulatory standards for local biomaterial processing, supply chain fragmentation, or the lack of formal career structures for biomedical engineering professionals.

5. Recommendations and Governance Roadmap

Synthesize actionable, prioritized recommendations directed at specific stakeholders (e.g., Ministries of Health, national research councils, drug/diagnostic regulatory authorities, hospital procurement boards, technology incubators, and international engineering associations). Provide a realistic, scalable implementation roadmap emphasizing local biomanufacturing, regulatory harmonization, capacity building, and long-term financial sustainability.

The AI Declaration

Option A; If Generative AI or AI-Assisted Tools Were Utilized:

Tool / Engine Details: [Specify tool name and version, e.g., ChatGPT-4o, Claude 3.5 Sonnet, Grammarly Pro]

Operational Scope: Explicitly detail sections and tasks modified, e.g., "Generative AI

assistance was utilized strictly for grammatical refining, line-editing translation phrasing, and structural formatting in Section 2 (Material and Methods) and Section 4 (Discussion)."

Affirmation of Human Oversight: The authors formally affirm that all core scientific calculations, experimental findings, diagnostic data, biological assay results, and literature interpretations were verified by human oversight, and the authors assume full responsibility for the absolute authenticity and scientific integrity of the manuscript content.

Option B; If NO Generative AI Tools Were Utilized: "The authors declare that no generative artificial intelligence tools or automated language models were used during the creation, experimental analysis, translation, or structural formatting of this manuscript.

References

1. Author A, Bauthor BA, Cauthor C. Title of journal article: Subtitle of journal article. Journal Abbreviation. year;vol(number):firstpage-lastpage. Available from: <http://www.domain/page>
1. Bauthor BA. Title of Book: Subtitle of Book.

Publisher-hometown: Publisher;
year.

2. Cauthor C, Author A. Title of
conference paper. In: Editor E,
Editor F, editors. Title of
Proceedings. Conference Name;
conference-year month dates;
City, Country.
Publisher-hometown: Publisher;
year. p. firstpage-lastpage.

3. Website title [Internet].
Publisher-hometown: Publisher;
[cited year month date].
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