

INPLASY

Capacity Building Interventions to Improve Access to Paediatric Surgery in Low-and-Middle Income Countries: a Systematic Review

INPLASY202510105

doi: 10.37766/inplasy2025.1.0105

Received: 25 January 2025

Published: 25 January 2025

Malik, M; Bandyopadhyay, S; Hussain, SNF; Brar, A; Yoon, H; Cunningham, J; Lakhoo, K; Himidan, S.

Corresponding author:

Mahnoor Malik

mahnoori.malik@mail.utoronto.ca

Author Affiliation:

Case Western Reserve University
School of Medicine, Cleveland,
Ohio, USA.

ADMINISTRATIVE INFORMATION

Support - N/A.

Review Stage at time of this submission - Data analysis.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202510105

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 25 January 2025 and was last updated on 25 January 2025.

INTRODUCTION

Review question / Objective What capacity building interventions are being implemented in low- and middle-income countries to improve access to paediatric surgery, and what are their methods, outcomes and limitations/barriers?

Condition being studied Access to paediatric surgery defined by the six Lancet Commission on Global Surgery (LCoGS) indicators. Capacity-building initiatives take many forms, including training health care professionals, and establishing new hospitals or operating rooms. Many of these projects aim to align with the six LCoGS indicators: access to timely essential surgery, specialist surgical workforce density, surgical volume, perioperative mortality rate, and protection against impoverishing/catastrophic expenditure.

METHODS

Search strategy Electronic databases Ovid MEDLINE(R), Ovid Embase+Embase Classic, Cochrane Central Register of Controlled Trials, and Web of Science were searched from inception until May 5, 2023. Searches were not restricted by publication year.

Participant or population Inclusion: Paediatric patients requiring surgical interventions (newborn to age 18)
Exclusion: Adult patients (age > 18).

Intervention Inclusion: Capacity building interventions (defined as developing and strengthening the skills, abilities and resources for paediatric surgery)
Exclusion: Interventions that provide foreign aid but do not improve existing standard of care in the low- and middle-income countries.

Comparator Current standard of care for paediatric surgery in the low- and middle-income country.

Study designs to be included Conference abstracts, editorials, commentaries, historical reviews, systematic reviews, and clinical guidelines will be excluded.

Eligibility criteria Interventions implemented in low- and middle-income countries (defined by the World Bank in 2023) only will be included.

Information sources Electronic databases Ovid MEDLINE(R), Ovid Embase+Embase Classic, Cochrane Central Register of Controlled Trials, and Web of Science.

Main outcome(s) Change in access to surgery defined by addressing at least 1 of 6 LCoGS indicators: access to timely essential surgery, specialist surgical workforce density, surgical volume, perioperative mortality rate, or protection against impoverishing/catastrophic expenditure.

Additional outcome(s) Barriers/limitations of intervention, cost of intervention.

Data management A standardised data extraction form will be developed on Microsoft Excel and piloted before its use. The variables extracted will include country, population details, intervention description, outcomes defined by LCoGS indicators, complication rate, previous standard of care, barriers/limitations, and cost. Data extraction will be completed independently and in duplicate. If two or more studies have overlapping study populations and study periods, data will be extracted from the study with the larger study population.

Quality assessment / Risk of bias analysis Two independent reviewers will assess the quality of each study using the JBI Critical Appraisal Checklists for each study type. A score of one will be given to the answer yes, 0.5 for unclear, and zero for the answer no. Studies with a JBI score >70% will be classified as high quality, ≥50% - ≤70% as moderate, and <50% as low quality. The results of the assessment will inform interpretation of the results. In order to inform a holistic understanding of the current state of capacity building interpretations, low quality studies will not be excluded. Disagreements between reviewers will be resolved with discussion.

Strategy of data synthesis Preliminary searches and initial screening identified that the body of

literature applicable to this research topic utilizes heterogenous methodology and contains qualitative data, making it challenging to perform a meta-analysis. As such, a narrative synthesis will be used to summarize and interpret the findings.

Subgroup analysis Not applicable.

Sensitivity analysis Not applicable.

Language restriction Not applicable.

Country(ies) involved Canada, United States of America, England, Pakistan.

Keywords Pediatrics; surgery; low-middle income country; capacity-building.

Contributions of each author

Author 1 - Mahnoor Malik.

Email: mahnoori.malik@mail.utoronto.ca

Author 2 - Soham Bandyopadhyay.

Email: soham.bandyopadhyay@yahoo.co.uk

Author 3 - Syeda Namayah Fatima Hussain.

Email: namayah.hussain@gmail.com

Author 4 - Amanpreet Brar.

Email: amanpreet.preetbrar@gmail.com

Author 5 - Heewon Yoon.

Email: heewon.yoon1@nhs.net

Author 6 - Jessie Cunningham.

Email: jessie.cunningham@sickkids.ca

Author 7 - Kokila Lakhoo.

Email: kokila.lakhoo@paediatrics.ox.ac.uk

Author 8 - Sharifa Himidan.

Email: sharifa.himidan@uhhospitals.org