

Key words and search strings

Keywords/search terms based on the PCC framework	Example Search string
Population: Pregnant women, mothers, newborns, infants, and children up to 5 years of age.	(Population): "maternal health" OR "child health" OR "mother-child" OR "pregnant women" OR "infant" OR "newborn"
Context: Economic evaluations, digital health interventions, cost-effectiveness analysis, cost-utility analysis, cost-benefit analysis, cost- minimization, mobile phones (mHealth), web-based platforms, Artificial Intelligence.	(Concept): "digital health" OR "mHealth" OR "telemedicine" OR "eHealth" OR "cost-effectiveness" OR "economic evaluation" OR "cost-utility" OR "cost-benefit"
Context: India.	"India"
Combined search string using Boolean operators	
("pregnant women" OR mothers OR newborns OR infants OR children OR "maternal health" OR "child health") AND ("economic evaluation" OR "cost-effectiveness" OR "cost-utility" OR "cost-benefit" OR "cost-minimization") AND ("digital health" OR mHealth OR "telemedicine" OR eHealth OR "digital intervention") AND (India OR Indian)	

Search strategy for published literature

Pub Med/Medline

Sl. No	Search terms	Results
1	(((Economic evaluation) AND (Digital Health Interventions)) AND (Maternal and child health care)) AND (India) ("cost benefit analysis"[MeSH Terms] OR ("cost benefit"[All Fields] AND "analysis"[All Fields]) OR "cost benefit analysis"[All Fields] OR ("economic"[All Fields] AND "evaluation"[All Fields]) OR "economic evaluation"[All Fields]) AND (("digital health"[MeSH Terms] OR ("digital"[All Fields] AND "health"[All Fields]) OR "digital health"[All Fields]) AND ("intervention s"[All Fields] OR "interventions"[All Fields] OR "interventive"[All Fields] OR "methods"[MeSH Terms] OR "methods"[All Fields] OR "intervention"[All Fields] OR "interventional"[All Fields])) AND (("maternally"[All Fields] OR "maternities"[All Fields] OR "maternity"[All Fields] OR "mothers"[MeSH Terms] OR "mothers"[All Fields] OR "maternal"[All Fields]) AND ("child health"[MeSH Terms] OR ("child"[All Fields] AND "health"[All Fields]) OR "child health"[All Fields] OR ("child"[All Fields] AND "health"[All Fields] AND "care"[All Fields]) OR "child health care"[All Fields])) AND ("india"[MeSH Terms] OR "india"[All Fields] OR "india s"[All Fields] OR "indias"[All Fields])	20
2	(((((((pregnant women) OR (mothers)) OR (newborns)) OR (infants)) OR (children)) OR (maternal health)) OR (child health)) AND (economic evaluation) OR cost effectiveness OR cost utility OR cost benefit OR cost analysis OR digital health OR mHealth OR telemedicine OR eHealth OR digital intervention AND (India OR Indian)	39,109
3	Applied filter – Free full text,	19,958
4	(((((((pregnant women) OR (mothers)) OR (newborns)) OR (infants)) OR (children)) OR (maternal health)) OR (child health)) AND (economic evaluation) OR cost effectiveness OR cost utility OR cost benefit OR cost analysis OR digital health OR mHealth OR telemedicine OR eHealth OR digital intervention AND (India OR Indian) Filters: Free full text, English, MEDLINE, from 2014 – 2025 Title and Abstract/textword *2014 because pre -2014 efforts lacked public health integration strategies	9,781

Scopus

Sl. No	Search terms	Results
1	TITLE-ABS-KEY(pregnant women OR mothers OR newborns OR infants OR children OR maternal health OR child health AND economic evaluation	9

	OR cost effectiveness OR cost utility OR cost benefit OR cost analysis OR digital health OR mHealth OR telemedicine OR eHealth OR digital intervention AND India OR Indian)	
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Web of Science

Sl. No	Search terms	Results
1	Economic evaluation of digital health interventions for maternal and child health in India (basic search)	39
2	("pregnant women" OR mothers OR newborns OR infants OR children OR "maternal health" OR "child health") AND ("economic evaluation" OR "cost effectiveness" OR "cost utility" OR "cost benefit" OR "cost analysis" OR "digital health" OR mHealth OR "telemedicine" OR eHealth OR "digital intervention") AND (India OR Indian) (Title)	48
3	("pregnant women" OR mothers OR newborns OR infants OR children OR "maternal health" OR "child health") AND ("economic evaluation" OR "cost effectiveness" OR "cost utility" OR "cost benefit" OR "cost analysis" OR "digital health" OR mHealth OR "telemedicine" OR eHealth OR "digital intervention") AND (India OR Indian) (All Fields) (for all years)	1,194

Cochrane

Sl. No	Search terms	Results
1	("pregnant women" OR mothers OR newborns OR infants OR children OR "maternal health" OR "child health") AND ("economic evaluation" OR "cost effectiveness" OR "cost utility" OR "cost benefit" OR "cost analysis" OR "digital health" OR mHealth OR "telemedicine" OR eHealth OR "digital intervention") AND (India OR Indian) in Title Abstract Keyword - (Word variations have been searched)	8

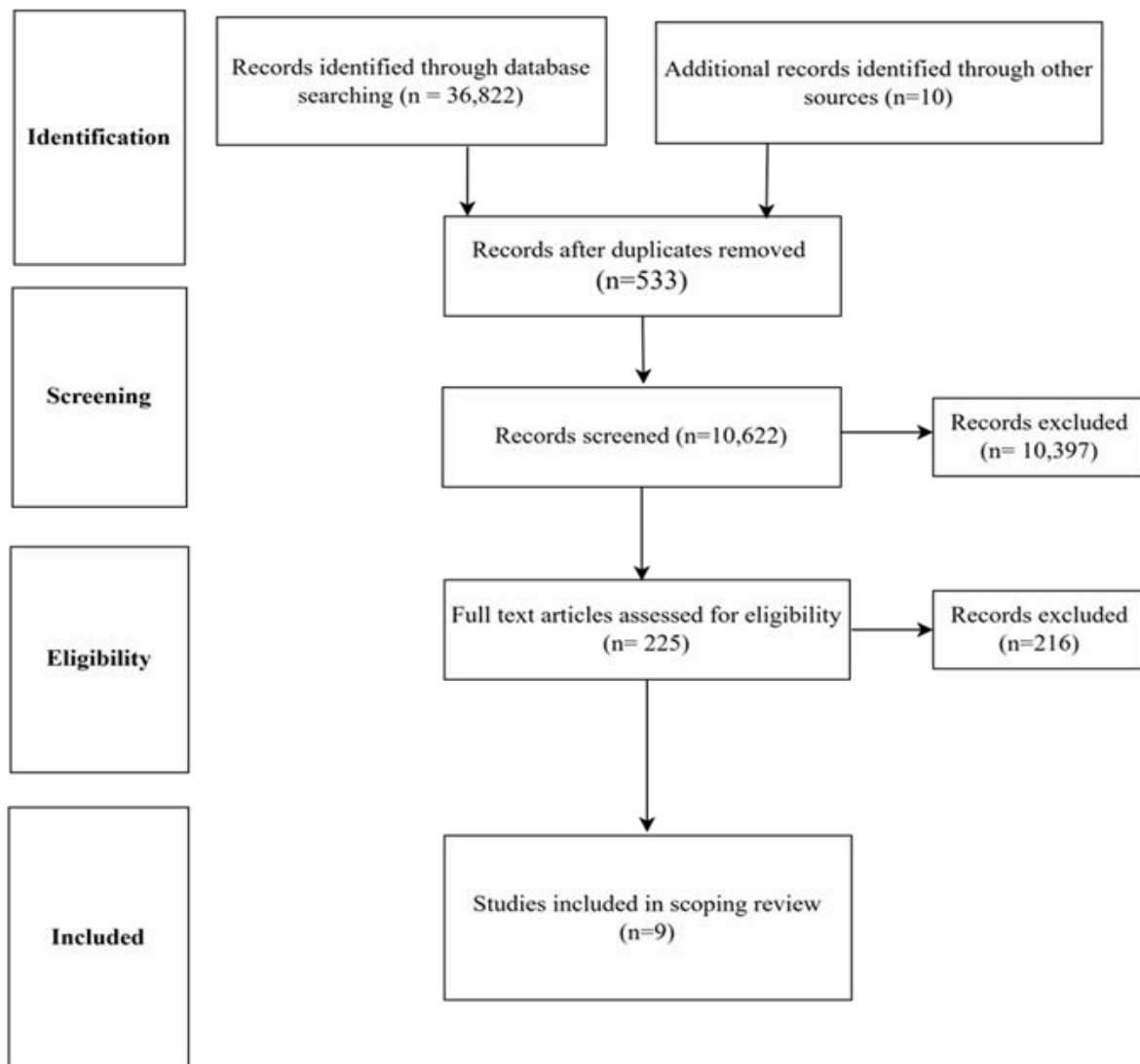
Ebsco

Sl. No	Search terms	Results
1	economic evaluation AND Digital Health Interventions AND Maternal health AND Child health AND India	12

Ovid/Medline

Sl. No	Search terms	Results
1	economic evaluation AND Digital Health Interventions AND Maternal health AND Child health AND India	535

PRISMA flow diagram



Data charting form

Elements of data charting form
Title of the article
Author
Year of publication
Study design
Intervention details a) Type of DHI b) Target population c) Program name d) Platform or technology used e) Implementation setting
Specifics of economic evaluation study a) Type of analysis b) Type of primary study c) Perspective d) Time horizon e) Discount rate
Type of MCH population a) Pregnant women b) Post partum women c) Women of reproductive age (15-49 years) d) Newborns (0 to 28 days) e) Infants (1-12 months) f) Young children (1-5 years)
Socio-demographic details
Key findings a) Total costs b) Incremental costs c) Outcomes measured d) Cost-effectiveness ratio e) Sub-national focus
Contextual factors a) Health system level b) Policy relevance c) Equity d) Distributional analysis
Conclusions
Study limitations
Funding sources
Any other relevant information

Methodological characteristics of included studies

Authors	Study (Primary Intervention)	Study Design	Sample/Cohort Size	Context & Location	Intervention/Comparator	Perspective & Time Horizon
LeFevre <i>et al.</i> , 2023	Kilkari - Cost-effectiveness	Cost-effectiveness using RCT data + List modeling	RCT data: 5,095 women; Costs cover 13 states	RMNCH improvement across 13 states in India	Kilkari (mobile communication program) vs. No exposure (status quo)	Program perspective; December 2014 – April 2019
Modi <i>et al.</i> , 2020	ImTeCHO Costing & CE	Cluster Randomized Controlled Trial (cRCT)	22 Primary Health Centres (11 intervention, 11 control); ~476,000 population; 5,754 live births	MNCH in tribal/rural Gujarat, India	ImTeCHO (mHealth job aid for ASHAs) vs. Routine MNCH programs	Program perspective; Implementation period February 2016 – January 2017 (Modeled extrapolation beyond trial)
Prinja <i>et al.</i> , 2018	ReMiND Cost effectiveness	Quasi-experimental design with Decision Trees	259 ASHAs in two blocks of Kaushambi district, Uttar Pradesh (~300,000 population)	Maternal and newborn mortality reduction in rural Uttar Pradesh, India	ReMiND (mHealth application for ASHAs) vs. Routine care	Health system and societal perspective; 10-year horizon
Saha <i>et al.</i> , 2022	TeCHO+ HTA Report	HTA (Difference-in-Difference analysis + Decision Tree modeling)	Surveyed: 385 postpartum women/230 children (Baseline); 357 women/157 children (Follow-up) from 3 districts (Saha <i>et al.</i> , 2022; 584).	Statewide mHealth implementation in Gujarat	TeCHO+ (mobile/web application for FHWs/ANMs) vs. E-Mamta (MCTS)	Health system perspective; Data comparison 2018–2020

Sahoo <i>et al.</i> , 2024	P-AABR Cost-effectiveness	Model-based Cost-effectiveness Evaluation (Decision Tree)	Hypothetical cohort of 100,000 infants; cost data from 6 facilities in Odisha state	UNHS in India (Sahoo <i>et al.</i> , 2024).	Portable Automated ABR (P-AABR) device vs. Otoacoustic Emission (OAE) device	Societal and health system-based perspective; 1-year time frame
Patel <i>et al.</i> , 2019	M-SAKHI Protocol	Protocol for community-based cRCT (Planned)	Target: 2,480 mother–infant pairs across 40 clusters; 2,501 participants enrolled currently	BCC to reduce stunting in rural Maharashtra, India	M-SAKHI (BCC package via mobile platform for ASHAs) vs. Standard of care	Trial-based and modeled economic evaluation (lifetime projection planned); follow-up to 18 months
Sharda <i>et al.</i> , 2024	DiSS Protocol	Protocol for Quasi-experimental ITS analysis + Decision Tree-Markov Model	District-level routine data (PCTS) from 2 intervention districts and 2 comparator districts in Rajasthan	Digital Supportive Supervision (DiSS) of MCHN service delivery in Rajasthan, India	DiSS vs. Traditional paper-based supportive supervision	Health-system perspective; Lifetime horizon (for modeling)
Lohiya <i>et al.</i> , 2023	Breast Cancer Screening HTA	Model-based Cost-effectiveness Analysis (Markov Model)	Hypothetical cohort of 100,000 women above 30 years of age	Screening strategies for breast cancer in India	CBE, iBE, MMG, USG, BSE vs. No-screening	Societal perspective; 70-cycle (year) horizon
Neogi <i>et al.</i> , 2022	Point-of-care devices for the detection of anemia	Cost-effectiveness evaluation	16 health workers (ANM's and laboratory technicians, 4 per study site)	multicentric study conducted across four medical college sites in India	True Hb Digital Hemoglobinometer, HemoCue was used as the comparator	Health systems perspective/ one year

Snapshot of analysis in MS Excel

Title of the article	Author	Year of publication	Study design	Intervention details						Economic evaluation specifics		
Cost-effectiveness of a direct to beneficiary mobile communication programme in improving reproductive and child health outcomes in India. (Focuses on the Kilikari program, a major, scaled-up mobile health intervention).	Amnesty Elizabeth LeFevre , Jai Mendiratta, Youngji Jo , Sara Chamberlain, Osama Ummer , Molly Miller, Kerry Scott , Neha Shah , Arpita Chakraborty , Anna Godfrey, Priyanka Dutt, Diwakar Mohan	2023	Cost-effectiveness analysis	Kilikari Maternal messaging programme	Pregnant and post partum women	Kilikari	Mobiles	Bihar followed by entire India	Cost-effectiveness analysis	RCT, data from financial records were taken	Programme perspective	Analytic
Cost effectiveness of mHealth intervention by community health workers for reducing maternal and newborn mortality in rural Uttar Pradesh, India.	Shankar Prinja, Pankaj Bahuguna, Aditi Gupta, Ruby Nimesh, Madhu Gupta and Jarnail Singh Thakur	2018	Cost-effectiveness analysis	ReMIND (Reducing maternal and Newborn deaths) mHealth program	Maternal, neonatal, and child health services	ReMIND	Mobile phones	Rural areas of Uttar Pradesh India	Cost-effectiveness analysis (decision tree)	core effectiveness data that informed the model came from a quasi-experimental impact assessment study	health system perspective and the societal perspective	10 year

PRISMA ScR Checklist

Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	1
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	2
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	8-9
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	9-10
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	NA
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	13-14
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	13

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	14
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	14
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	15
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	15
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	15
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	15-17
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	18
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	18
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	18-23
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	20-22
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	20-23
DISCUSSION			

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	24-26
Limitations	20	Discuss the limitations of the scoping review process.	26-27
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	28-29
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	NA