

Does hospital management matter for quality of care? A systematic review of the global evidence

Session: Quality of Care

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National Institute
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Care Research

- A high quality health system is essential for achieving Universal Health Coverage in all income settings
- Growing interest in the importance of organisation level evidence for improving quality of care
- Improving management in healthcare providers could lead to better quality of care
- Particularly important for hospitals
- Relationship is contentious

What is management in the health sector?

- Several ways to conceptualise management:

"Continuously developing the potential of an organisation to transform human and financial resources and other inputs into improved services and better health.¹"

Six key tasks: planning, allocating resources, coordinating the work of others, motivating staff, monitoring output and taking responsibility for the process.²

1. Vriesendorp S, delaPeza L, Cp P, Jb S, Oneil M, editors. Health systems in action: an ehandbook for leaders and managers. 2010.
2. Swanwick T Leadership and management: what's the difference? BMJ Leader 2019;3:99-100.

To review the global evidence base on the relationship between management practices and quality of care provided in hospitals

1. Research studies (excluding guidelines, opinion pieces and reviews)
2. Investigating the **empirical** relationship between adoption of **management practices** as an exposure and **quality of care** as an outcome;
3. Were conducted fully or partially in the **hospital** setting;
4. Had abstract available;
5. Published from 2000 onwards.

Studies of any **quantitative** design were considered for inclusion

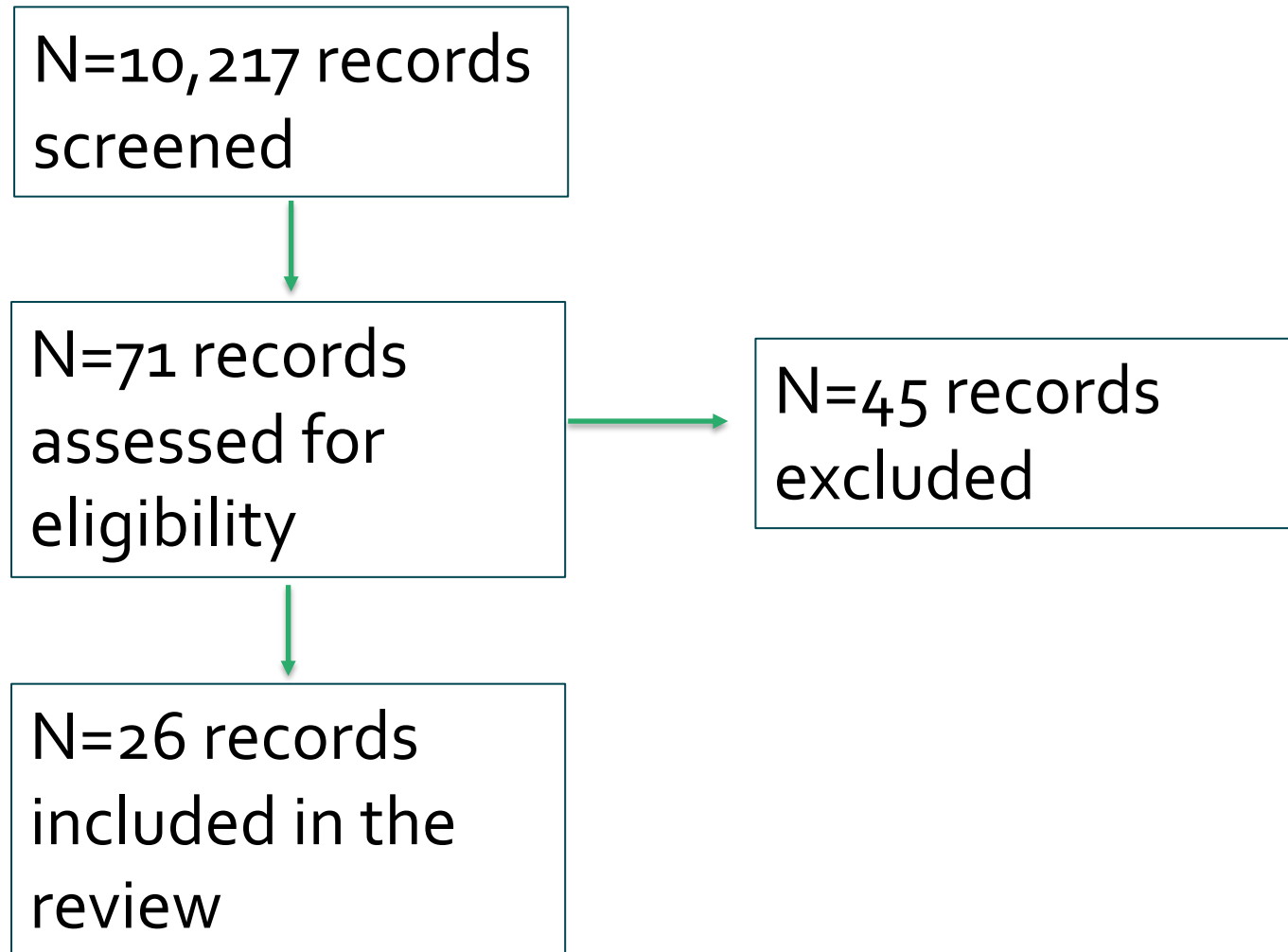
Studies conducted in any **geographical area** were considered for inclusion

Databases: PubMed, EMBASE, Global Health, Econlit and Web of Science Core Collection

Search concepts:

- 1) management** e.g. “hospital management”, “management score”, “management performance”
- 2) quality of care** e.g. “hospital performance”, “clinical standard”, “quality of health care”
- 3) hospital setting** e.g. “hospital”, “department”, “ward”

Study selection



Risk of bias assessment using ROBINS-I tool¹

Study	Risk of bias domains							Overall
	D1	D2	D3	D4	D5	D6	D7	
Acharya (2022)	-	+	X	?	+	+	+	X
Adler-Milstein (2014)	-	+	-	?	+	+	+	-
Asaria (2020)	-	+	X	?	+	+	+	X
Bloom (2015)	-	-	+	?	+	+	-	-
Bloom (2020)	-	-	+	?	+	+	-	-
Byagambi (2017)	-	X	X	-	-	-	-	X
Faneli (2020)	-	-	+	?	?	-	-	-
Groene (2015)	-	-	+	?	-	+	+	-
Kim (2022a)	-	+	+	?	+	+	+	-
Kim (2022b)	-	+	+	?	+	-	+	-
Macarayan (2019a)	-	+	+	?	+	+	+	-
Macarayan (2019b)	-	+	+	?	+	-	+	-
McConnell (2013)	-	-	+	?	+	+	+	-
Mwencha (2017)	-	X	X	-	?	-	+	X
Mwihia (2018)	X	+	X	?	?	!	-	!
Plough (2017)	-	X	+	?	?	+	+	X
Salas-Ortiz (2019)	-	+	+	?	?	+	+	-
Salahnejad (2022)	-	+	X	?	+	+	+	X
Thatte (2015)	-	+	X	?	+	+	+	X
Tsai (2015)	-	-	+	?	?	+	+	-
Wang (2021)	-	X	+	?	-	-	+	X
West (2002)	-	-	-	?	?	-	-	-
Yoo (2019)	-	-	+	?	+	+	+	-
Zhu (2021)	-	-	+	?	-	X	+	X
Powell-Jackson (2022)	-	-	+	?	+	+	+	-
King (2021)	+	+	+	-	+	+	+	-
West (2006)	-	+	+	?	-	+	+	-
Pollack (2003)	-	!	+	?	-	+	+	!

Domains:
D1: Bias due to confounding.
D2: Bias due to selection of participants.
D3: Bias in classification of interventions.
D4: Bias due to deviations from intended interventions.
D5: Bias due to missing data.
D6: Bias in measurement of outcomes.
D7: Bias in selection of the reported result.

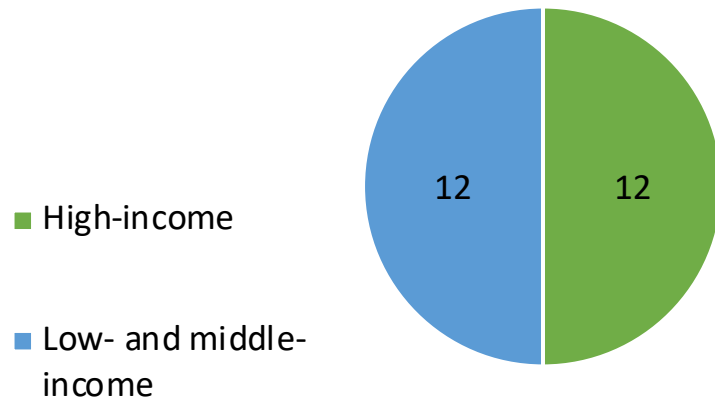
Judgement:
! Critical
X Serious
- Moderate
+ Low
? No information

- 15 studies with moderate risk of bias
- 9 studies with serious risk of bias
- 2 studies with critical risk of bias - excluded

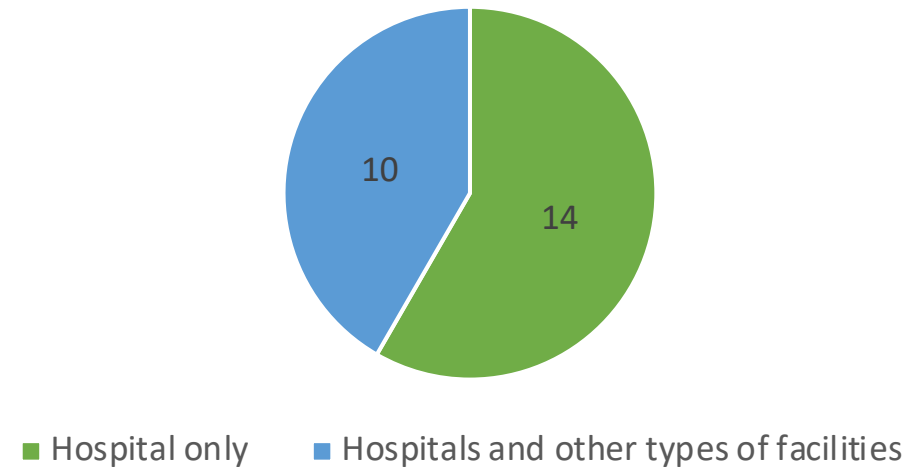
1. Sterne J A, Hernan M A, Reeves B C, Savovic J, Berkman N D, Viswanathan M et al. ROBINS-I: a tool for assessing risk of bias in non-randomised studies of interventions *BMJ* 2016; 355 :i4919 doi:10.1136/bmj.i4919

Study characteristics

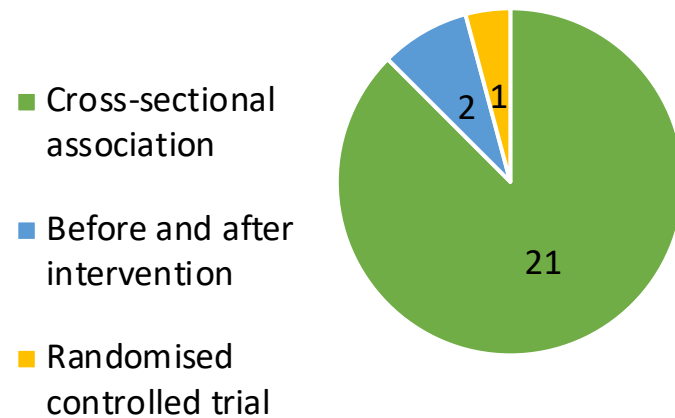
Income setting



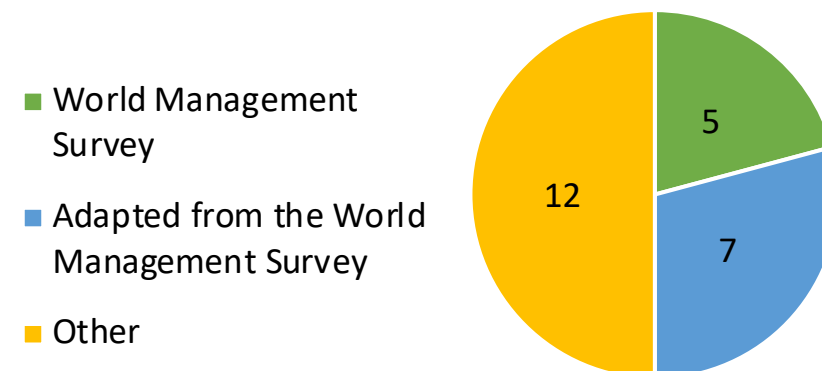
Health facility type



Study design



Management measure



Examples of how studies measure management

Survey approach	Data collection method	Source of information	Format of answers	What is included in the management measure?
World Management Survey	Interview	Interviewee responses	Score from 1 to 5 (1=low, 5=high)	Responses about four management “domains”: operations, performance, targets, talent

<p><u>1) Layout of Patient Flow</u></p> <p><i>Tests how well the patient pathway is configured at the infrastructure level and whether staff pro-actively improve their own work-place organisation</i></p> <p>Score:</p> <p>1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> -99 <input type="checkbox"/></p>	<p>a) Can you briefly describe the patient journey or flow for a typical episode? b) How closely located are wards, theatres, diagnostics centres and consumables? c) How often do you run into problems with the current layout and pathway management?</p>		
	<p>Score 1: Lay-out of hospital and organisation of workplace is not conducive to patient flow (e.g. ward is on different level from theatre or consumables are often not available in the right place at the right time)</p>	<p>Score 3: Lay-out of hospital has been thought-through and optimised as far as possible; work place organisation is not regularly challenged/ changed (or vice versa)</p>	<p>Score 5: Hospital layout has been configured to optimize patient flow; workplace organization is challenged regularly and changed whenever needed</p>

Examples of how studies measure management

Survey approach	Data collection method	Source of information	Format of answers	What is included in the management measure?
Non-World Management Survey	Observation	Record review	Categorical response (yes/no)	Availability of documents to demonstrate the presence or absence of a management system e.g. Standard operating procedures available, job descriptions documented

Examples of how studies measure management

SECTION 3 – CLIENT FEEDBACK			
301	<p>Do you collect information about clients' opinion in any of the following ways?</p> <p><i>Read each option out loud and select all methods that apply.</i></p>	Suggestion box 1/0 Client survey form 1/0 Structured interviews with clients..... 1/0 Official meeting with community leaders ... 1/0 Informal discussion with client/ community 1/0 Other 1/0 None of the above-77 Don't know.....-88 No response-99	009a =1
302a	<p>Is there a procedure for reviewing or reporting on clients' opinions?</p>	Yes 1 No 0	301≠ -77
302b	<p>Ask to see a report or form on which data are compiled or discussion is reported.</p>	Report seen..... 1 Report not seen.....2	302= 1
303	<p>In the past 6 months have any changes been made in the program as a result of client opinion?</p> <p><i>If yes, indicate if the change(s) are related to any of the listed topics.</i></p>	No 0 Yes, change in services or times offered or way services are provided..... 1 Yes, change for client comfort2 Other3 Don't know.....-88 No response-99	301 ≠ -77

Examples of how studies measure quality of care

Structural

- Availability of drugs, equipment, staff and guidelines

Clinical process

- Health care providers' compliance with care guidelines
- Patients' adherence to treatment

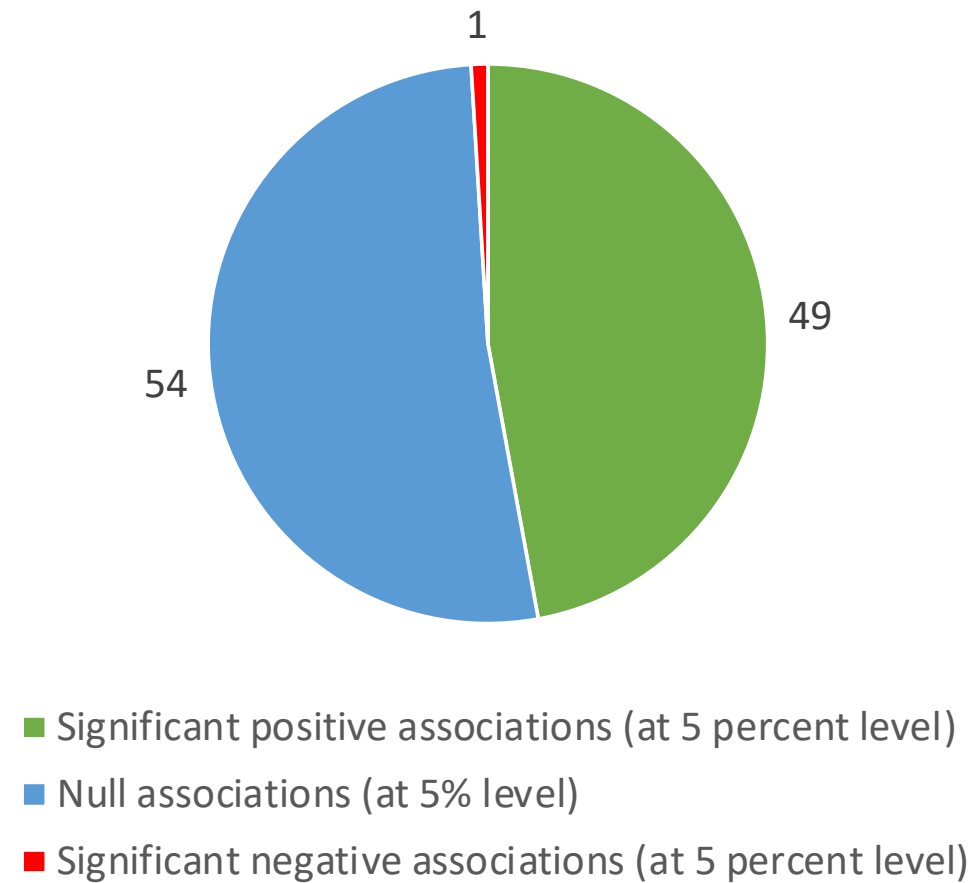
Health outcomes

- Mortality and morbidity indicators for specific conditions

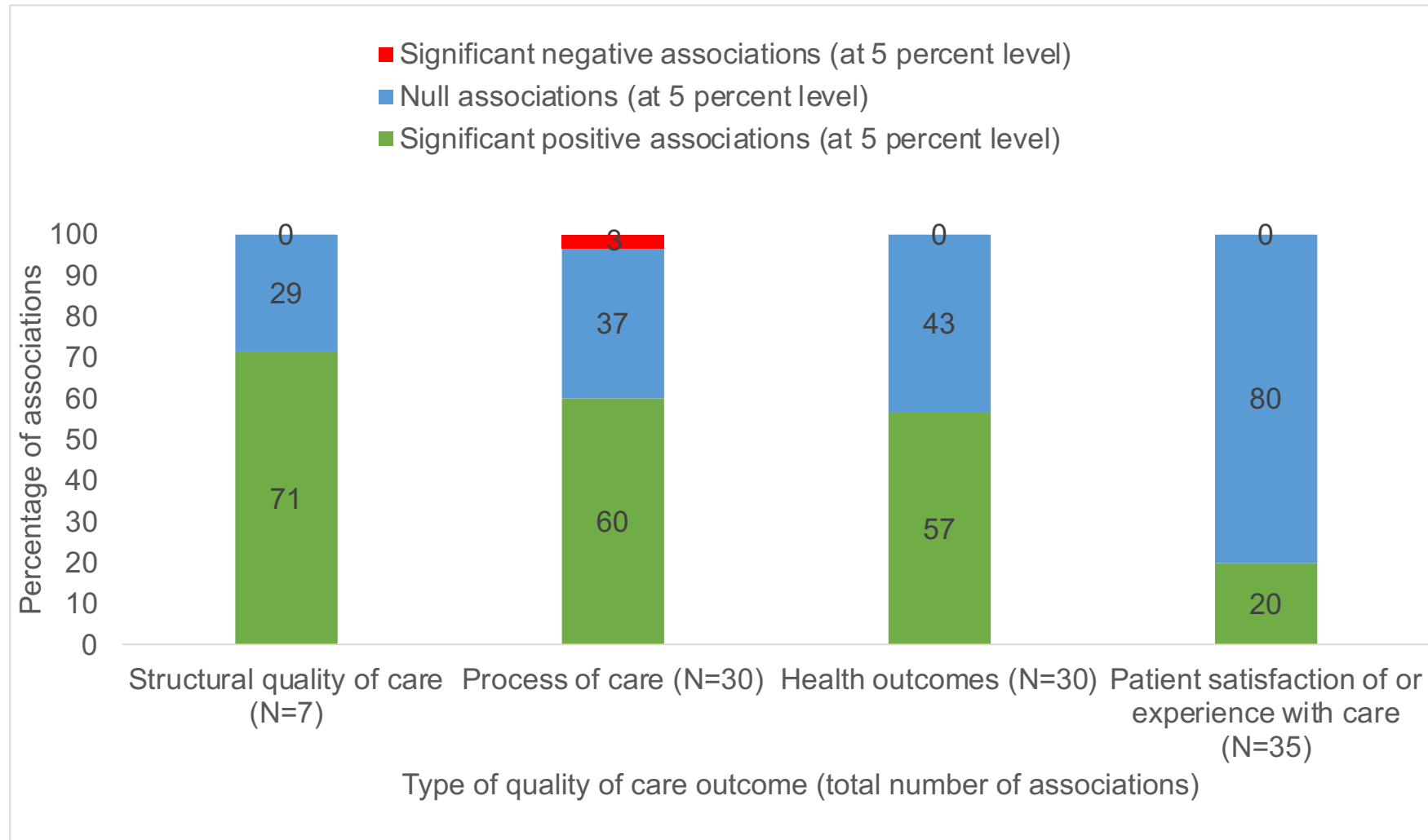
Patient reported outcomes

- Satisfaction with care
- Experience with care

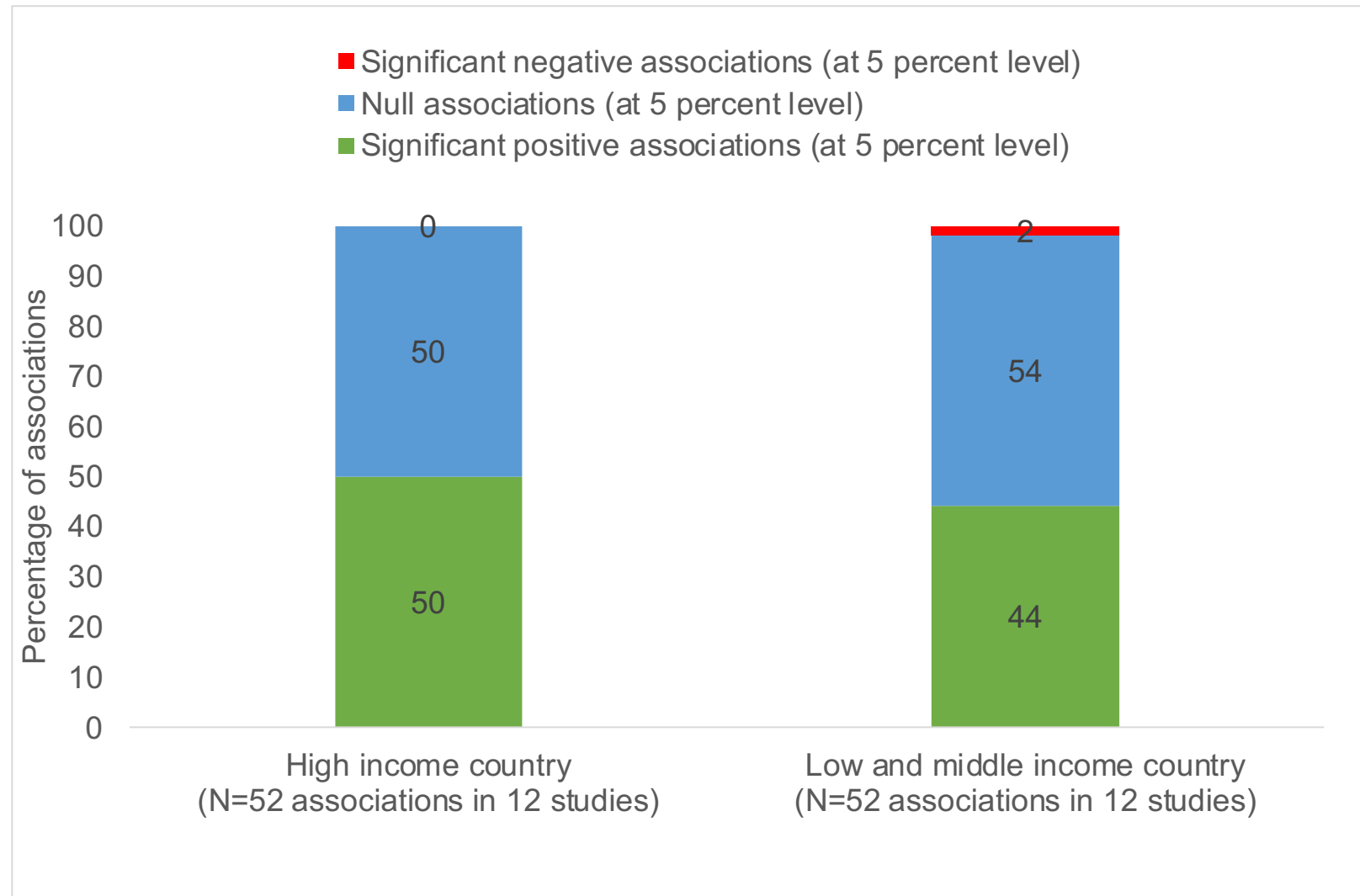
All studies
(N=104 associations in 24 studies)



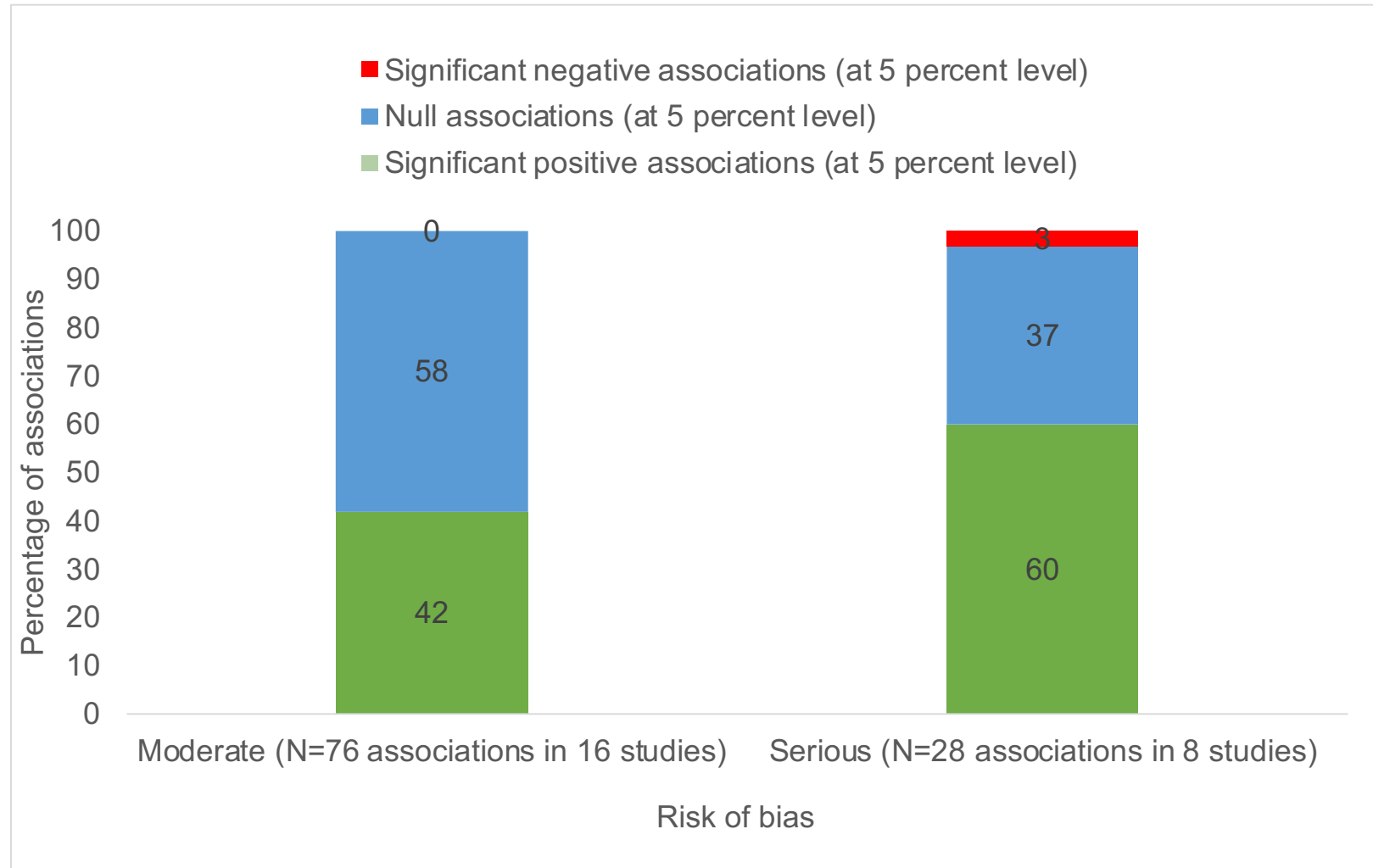
Results – by quality of care outcome



Results – by income setting



Results – by risk of bias



- Growing literature that measures management quantitatively
- Understanding the nature of the association between management and process of care could potentially improve provider behaviour and patient care
- Further research could investigate differences between types of facilities, domains of management or respondents within facilities
- Results warrant further research into the nature of the association, ideally with randomised intervention studies

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Use of ASReview active learning software

- Trade off between broad “catch all” search concepts and amount of time allocated to screening
- 10,000+ records to screen
- Independent, double screening for top 10% records with ASReview
- Manual screen for remaining 90%
- All eligible records identified through ASReview

