BMJ Open

Private sector delivery of maternal and newborn health care in low-income and middle-income countries: a scoping review protocol

Samantha R Lattof [iD],[1] Blerta Maliqi,[1] Nuhu Yaqub,[2] Anne-Sophie Jung[3]

[1]Department of Maternal, Newborn, Child and Adolescent Health and Ageing, World Health Organization, Geneve, Switzerland
[2]Universal Health Coverage Life Course Cluster, World Health Organization Regional Office for Africa, Brazzaville, Congo
[3]Faculty of Public Health and Policy, London School of Hygiene and Tropical Medicine, London, UK

Correspondence to
Dr Samantha R Lattof;
lattofs@who.int

ABSTRACT

Introduction Recent studies have pointed to the substantial role of private health sector delivery of maternal and newborn health (MNH) care in low-/middle-income countries (LMICs). While this role has been partly documented, an evidence synthesis is missing. To analyse opportunities and challenges of private sector delivery of MNH care as they pertain to the new World Health Organization (WHO) strategy on engaging the private health service delivery sector through governance in mixed health systems, a more granular understanding of the private health sector's role and extent in MNH delivery is imperative. We developed a scoping review protocol to map and conceptualise interventions that were explicitly designed and implemented by formal private health sector providers to deliver MNH care in mixed health systems.

Methods and analysis This protocol details our intended methodological and analytical approach following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for scoping reviews. Seven databases (Cumulative Index to Nursing and Allied Health, Excerpta Medica Database, International Bibliography of the Social Sciences, PubMed, ScienceDirect, Web of Science, WHO Institutional Repository for Information Sharing) and two websites will be searched for studies published between 1 January 2002 and 1 June 2021. For inclusion, quantitative and/or qualitative studies in LMICs must report at least one of the following outcomes: maternal morbidity or mortality; newborn morbidity or mortality; experience of care; use of formal private sector care during pregnancy, childbirth, and postpartum; and stillbirth. Analyses will synthesise the evidence base and gaps on private sector MNH service delivery interventions for each of the six governance behaviours.

Ethics and dissemination Ethical approval is not required. Findings will be used to develop a menu of private sector interventions for MNH care by governance behaviour. This study will be disseminated through a peer-reviewed publication, working groups, webinars and partners.

Strengths and limitations of this study

► By using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews and by sharing our codebook and data extraction template, we increase the potential usefulness, clarity and transparency with which we will report the results from this study.

► To minimise potential bias from the publication of positive results and to increase the validity of this scoping review, we will make a concerted effort to supplement our electronic database searches with grey literature and programmatic reports.

► We acknowledge a risk of bias in locating studies for two reasons: (1) it is possible that evidence on the provision of maternal and newborn healthcare by the private sector may be disseminated internally beyond public reach, and (2) the searches will be conducted in English with the risk of reproducing the bias of Eurocentrism and neglecting to incorporate research from under-represented geographies.

► Although we acknowledge that informal healthcare providers also play a role in the delivery of maternal and newborn healthcare, we are limiting our scoping review to the formal private sector since the term 'informal' is debateable and requires further discussion.

INTRODUCTION

Private sector delivery of healthcare services is by now part and parcel of health systems across the globe. In low/middle-income countries (LMICs), the private sector fills a critical gap in the delivery of maternal and newborn health (MNH) care. An analysis of 70 countries showed that the private health sector is responsible for providing over one-third of maternal health services.[1] Across LMICs, the private health sector accounts for a 44% mean market share among users of antenatal care and a 40% mean market share for delivery care.[2]

With an increasing proportion of mothers and newborns accessing care in the private sector, achieving universal health coverage requires engaging the private sector[3] and working with everyone involved in delivering MNH care in mixed health systems. Strengthening governments' stewardship of mixed

health systems is key to engaging the private sector. In recognition of existing governance weaknesses, the World Health Organization (WHO) launched a new strategy in 2020 on engaging the private health service delivery sector through governance in mixed health systems.[4] Now that the strategy is in place, one of the next tasks is to broaden the evidence base and opportunities for learning.

Despite the existence of comparative studies and systematic reviews on the performance of private and public healthcare services[5 6] and an analysis of opportunities and challenges of private sector delivery of child health interventions,[7] the role and extent of private sector services for the delivery of MNH care across LMICs remain insufficiently understood.[1] To begin filling these knowledge gaps, WHO and the Network for Improving Quality of Care for Maternal, Newborn and Child Health (the Network) initiated exploratory research on mechanisms for engaging the private sector in delivering MNH services with quality. At the country level, the project documented the lessons learnt from private sector delivery of quality MNH services in Bangladesh, Ghana and Nigeria. This research identified mechanisms and opportunities for collaboration between the public and private sectors.[8–10] At the global level, a systematic review[11] addressed how and to what extent the provision of quality healthcare by the private sector affects morbidity and mortality among mothers, newborns and children[12] as well as experiences of care among mothers, newborns and children using healthcare provided by the private sector.[13]

The Strategic and Technical Advisory Group of Experts (STAGE) on Maternal, Newborn, Child and Adolescent Health and Nutrition reinforced the need for this work. As part of WHO's private sector engagement strategy,[4] STAGE recommended that WHO identify key provisions and effective strategies for private sector engagement that are specifically necessary for, or will help to achieve, equity with improved outcomes for all women, children and adolescents as part of quality universal health coverage.[14] This scoping review will contribute to the identification of these strategies, starting with the identification of service delivery interventions for MNH services in the formal private sector. Issues of policy and administration, regulation and equity may be covered in future scoping reviews.

Aim and research questions

In order to analyse opportunities and challenges of private sector involvement in delivering MNH care in mixed health systems, as well as to address questions of how to effectively engage and sustain private sector involvement in delivering quality MNH care in LMICs, a more granular understanding of the private sector's involvement in delivering MNH care is imperative. We aim to systematically scope the literature for studies that evaluate service delivery interventions that have been explicitly designed and implemented by formal private health sector providers to deliver MNH care. As part of this aim, the scoping review will answer the following questions:

- ▶ What service delivery interventions have been explicitly designed and implemented by formal private health sector providers to deliver MNH care?
- ▶ How do these interventions align with the WHO private sector governance behaviours?

METHODS AND ANALYSIS

This scoping review protocol details our intended methodological and analytical approach based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR). The PRISMA-ScR outlines a systematic approach to mapping evidence and identifying main concepts and knowledge gaps; this approach and its checklist facilitate greater quality in the methodology and reporting of scoping reviews.[15]

The private sector includes individuals and organisations that are neither owned nor directly controlled by governments and are involved in the provision of health services (ie, for-profit and not-for-profit entities; providers in the formal and informal sectors; and domestic and international actors, charities, faith-based organisations, and non-governmental groups).[16] The scoping review uses a service delivery lens[17] to focus on formal private sector MNH service delivery (both for profit and non-profit) and the individuals using these services (women during pregnancy, childbirth, and postpartum; and newborns). Our focus on MNH service delivery includes the provision of care in the private sector, including preventive, promotive and curative services. Traditional and informal private sector providers are beyond the scope of this project, as are private service aspects in relation to service delivery (eg, supply chain, education/training, insurance providers).

Inclusion/exclusion criteria

For inclusion, studies must evaluate service delivery interventions that have been primarily and explicitly designed to deliver MNH care by the formal private health sector in LMICs. LMICs include countries classified as having low-income economies, lower middle-income economies and upper middle-economies based on the World Bank Atlas method for the 2021 fiscal year.[18] As indicated in the Populations, Interventions, Control, Outcomes, Timeframe, Setting criteria in table 1, included studies must report quantitative, qualitative or mixed-methods data on at least one of the following outcomes:

- ▶ Maternal morbidity
- ▶ Maternal mortality
- ▶ Newborn morbidity
- ▶ Newborn mortality
- ▶ Components of quality care (ie, safety, effectiveness, timeliness, efficiency, equity, people-centred care)
- ▶ Experience of care, including respectful care
- ▶ Use of formal private sector care during pregnancy, childbirth and postpartum

Table 1 Populations, Interventions, Control, Outcomes, Timeframe, Setting (PICOTS) criteria used in the scoping review

PICOTS	
Populations	Women during pregnancy, childbirth, and postpartum; and newborns
Interventions	An implemented intervention that is primarily and explicitly designed to deliver maternal and newborn healthcare services by the formal private health sector
Control	Not necessary
Outcomes	Quantitative, qualitative, or mixed-methods data on: ► maternal morbidity ► maternal mortality ► newborn morbidity ► newborn mortality ► one of the six components of quality care (ie, safety, effectiveness, timeliness, efficiency, equity, people-centred care) ► experience of care, including respectful care ► use of formal private sector care during pregnancy, childbirth, and postpartum ► stillbirth
Timeframe	1 January 2002 to 1 June 2021
Setting	Low-income and middle-income countries

► Stillbirth.

For inclusion, items must be research articles, reports or descriptions of the implemented services/interventions. Items will be eligible if published in English, French, German or Italian between 1 January 2002 and 1 June 2021. We selected this starting point based on findings from a recent systematic review on the provision of quality maternal, newborn and child healthcare by the private sector; while the systematic review used 1 January 1995 as a starting point, 99% of included studies were published in 2002 or later.[13] As we are focused on service delivery, we are limiting the private health sector to formal private providers who deliver direct medical care (eg, private health facilities, private health providers, civil society organisations delivering MNH care, charities delivering MNH care). Since MNH needs may be met through primary health care,[19] titles and abstracts that mention primary health care without specific mention of MNH care will be moved forward to full-text screening for verification of the population and intervention.

Items will be excluded if they report on aggregated service delivery data (ie, public health sector and private health sector outcome data combined). The private non-health sector (eg, private cars or buses that transport pregnant women to health facilities) and private sector entities that do not deliver direct medical care will be excluded. For example, we will exclude private pharmaceutical providers (including pharmacies) and private health insurance companies. We will also exclude study protocols.

Search strategy and terms

We will search the following seven electronic databases that were assessed for their coverage, availability and relevance of literature on the private health sector:

► Cumulative Index to Nursing and Allied Health (CINAHL)
► Excerpta Medica Database (EMBASE)
► International Bibliography of the Social Sciences (IBSS)
► PubMed
► ScienceDirect
► Web of Science
► WHO Institutional Repository for Information Sharing (IRIS)

We will also search publications on two websites: Health Care Provider Performance Review (HCPPR) and the Maternal healthcare markets Evaluation Team (MET) at the London School of Hygiene & Tropical Medicine. The HCPPR database includes over 700 studies (including unpublished studies) from a systematic review on the effectiveness of strategies to improve healthcare provider performance in LMICs.[20] MET conducts multidisciplinary research on the role of public and private health sectors in delivering maternal healthcare.

We acknowledge risk of bias in locating studies. Our efforts to locate evidence on the provision of healthcare by the private sector may be limited, specifically when such evidence is only disseminated internally where it is beyond public reach or when it is published in languages not included in this review. Our test search of the English search terms in the LILACS (Latin American and Caribbean Health Sciences Literature) database returned no results, for example, so we excluded that database.

We will conduct our searches using combinations of search terms detailed in table 2. These terms were developed and tested for sensitivity in capturing all studies examining the private health sector and MNH. Search terms will be adapted to the basic search particulars (eg, wildcards (*), capacity for complex searches) of each electronic database.

Screening process

Searches and application of the inclusion/exclusion criteria will be conducted according to the PRISMA-ScR approach. Citations and abstracts for all items located by our searches will be exported into EndNote for screening. After removing duplicates, A-SJ and SRL will conduct duplicate title and abstract (TIAB) test screenings of at least 100 items in an effort to minimise bias and develop a consistent approach. A-SJ and a research assistant will then screen remaining items in duplicate for inclusion based on TIAB. If inclusion/exclusion cannot be determined based on the TIAB, then the item will be pushed forward for full-text screening. Once items are moved forward to full-text screening, A-SJ and SRL will conduct full-text

Table 2 Search terms and their combinations

1. Private health sector terms	2. Intervention/ study type terms	3. Population terms
private sector	arrangement*	*Antepartum terms*
for-profit	evaluat*	antenatal
for profit	initiative*	antepartum
public-private	intervention*	pregnan*
private enterprise*	model*	prenatal
NGO	package*	trimester
non-government*	pilot*	*Intrapartum terms*
self-financ*	program*	birth*
charit*	project*	childbirth
faith-based	provision*	intrapartum
private health sector	regime*	matern*
mixed health system*	scheme*	obstetric*
integrated health system*	strateg*	parturition
non-state	trial*	partus
non-profit		perinatal
not-for-profit		stillbirth*
		Postpartum terms
		mother*
		newborn*
		neonat*
		postnatal
		postpartum
		puerper*

test screenings of at least 20 items in an effort to minimise bias and develop a consistent approach. A-SJ will conduct the remaining full-text screening, seeking guidance from SRL on items considered borderline or problematic.

Data extraction
A-SJ and SRL will pilot the data extraction form (online supplemental file 1) with five initial randomly selected studies to assure quality in data extraction. Based on their extractions in Excel, the authors will compare their extractions and discuss changes to what, how, where and/ or why data are extracted. Any necessary changes to the data extraction form will then be discussed among the authors. Prior to full data extraction, this iterative process will be repeated until A-SJ and SRL reach consensus in their extractions and no further changes to the data extraction form are required.

Following the guidance in our codebook (online supplemental file 2), A-SJ will extract data for all studies into the data extraction template. Data will be extracted on the following categories:

- ► Background information (eg, author, date, setting, study objective)
- ► Intervention background information (eg, implementing agency, geographic level, study population)
- ► Intervention details (eg, intervention recipients, nature of intervention, health systems drivers that affect service delivery)
- ► Critical outcomes (both quantitative and qualitative):
  – Maternal morbidity or mortality
  – Newborn morbidity or mortality
  – Quality of care
  – Experience of care, including respectful care
  – Use of formal private sector care during pregnancy, childbirth, and postpartum
  – Stillbirth
- ► Evaluation/study details (eg, study type, data type, intervention claims, strategy effectiveness, cost data)
- ► WHO private sector governance behaviours (ie, build understanding, foster relations, align structures, enable stakeholders, deliver strategy, and nurture trust).

Data synthesis
Once the data have been extracted, we will map the interventions by private sector governance behaviours. The resulting analysis will synthesise the evidence base on private sector MNH service delivery interventions for each of the six governance behaviours and will identify knowledge gaps. Data will be reported using a systematic narrative synthesis in which the results are presented narratively and organised thematically around the private sector governance behaviours. Tables of descriptive statistics on the included studies and their outcomes will be developed thematically to supplement the narrative synthesis.

Patient and public involvement
The need for this scoping review was initiated by discussions with members of STAGE and colleagues involved in developing WHO's private sector strategy. While patients were not involved in developing this scoping review protocol, we will capture outcome data on patients' experiences of care.

Members of STAGE will be engaged in the identification of studies and interpretation of the results. More specifically, members of the Knowledge Translation workstream (under which the private sector work is situated) will be asked to review a final list of included studies to see if any critical studies are absent. Later, the initial findings will be presented to all STAGE members to discuss and validate interpretation of the results.

FINAL SEARCH STRATEGY BY DATABASE
The full electronic search strategies for all databases, including limits and filters used, appear below.

CINAHL
Search strategy: we will search all sets of search terms (table 2).

Search options
► Search mode: Boolean/phrase
► Limit results:
  – Published date: January 2002 to June 2021
  – Language: English, French, German, Italian

Search terms: ("private sector" OR for-profit OR "for profit" OR public-private OR "private enterprise*" OR NGO OR non-government* OR self-financ* OR charit* OR faith-based OR "private health sector" OR "mixed health system*" OR "integrated health system*" OR non-state OR non-profit OR not-for-profit) AND (arrangement* OR evaluat* OR initiative* OR intervention* OR model* OR package* OR pilot* OR program* OR project* OR provision* OR regime* OR scheme* OR strateg* OR trial*) AND (antenatal OR antepartum OR pregnan* OR prenatal OR trimester OR birth* OR childbirth OR intrapartum OR matern* OR obstetric* OR parturition OR partus OR perinatal OR stillbirth* OR mother* OR newborn* OR neonat* OR postnatal OR postpartum OR puerper*)

EMBASE

Search strategy: we will search all search terms (table 2) using the multifield search in the title or abstract field.

Search options
► Limit results:
  – Publication year: 2002 to 2021
  – Language: English, French, German, Italian

Search terms: ("private sector" OR for-profit OR "for profit" OR public-private OR "private enterprise*" OR NGO OR non-government* OR self-financ* OR charit* OR faith-based OR "private health sector" OR "mixed health system*" OR "integrated health system*" OR non-state OR non-profit OR not-for-profit) AND (arrangement* OR evaluat* OR initiative* OR intervention* OR model* OR package* OR pilot* OR program* OR project* OR provision* OR regime* OR scheme* OR strateg* OR trial*) AND (antenatal OR antepartum OR pregnan* OR prenatal OR trimester OR birth* OR childbirth OR intrapartum OR matern* OR obstetric* OR parturition OR partus OR perinatal OR stillbirth* OR mother* OR newborn* OR neonat* OR postnatal OR postpartum OR puerper*)

HCPPR

Search strategy: for this systematic review database on the effectiveness of strategies to improve healthcare provider performance in LMICs, we will use a list of all HCPPR's included grey literature that we obtained directly from the project investigator. Literature on MNH services will be included for review.

Search options
► Limit results:
  – Publication year: 2002 to 2021

IBSS

Search strategy: we will search all sets of search terms (table 2) using the advanced search feature. To minimise extraneous results returned during test searches, searches will be conducted "anywhere except full text." Thus, the searches will use title and abstract, in line with our initial plans for TIAB screening.

Search options
► Limit results:
  – Publication date: 1 January 2002 to 1 June 2021
  – Language: English, French, German, Italian

Search terms: noft(("private sector" OR for-profit OR "for profit" OR public-private OR "private enterprise*" OR NGO OR non-government* OR self-financ* OR charit* OR faith-based OR "private health sector" OR "mixed health system*" OR "integrated health system*" OR non-state OR non-profit OR not-for-profit) AND (antenatal OR antepartum OR pregnan* OR prenatal OR trimester OR birth* OR childbirth OR intrapartum OR matern* OR obstetric* OR parturition OR partus OR perinatal OR stillbirth* OR mother* OR newborn* OR neonat* OR postnatal OR postpartum OR puerper*))

MET

Search strategy: we will export all grey literature (eg, policy briefs, reports) on the MET publications page.

PubMed

Search strategy: we will search all sets of search terms (table 2) using the advanced search builder.

Search options
► Limit results:
  – Publication dates: From 1 January 2002 to 1 June 2021
  – Language: English, French, German, Italian

Search terms: ("private sector" OR for-profit OR "for profit" OR public-private OR "private enterprise*" OR NGO OR non-government* OR self-financ* OR charit* OR faith-based OR "private health sector" OR "mixed health system*" OR "integrated health system*" OR non-state OR non-profit OR not-for-profit) AND (arrangement* OR evaluat* OR initiative* OR intervention* OR model* OR package* OR pilot* OR program* OR project* OR provision* OR regime* OR scheme* OR strateg* OR trial*) AND (antenatal OR antepartum OR pregnan* OR prenatal OR trimester OR birth* OR childbirth OR intrapartum OR matern* OR obstetric* OR parturition OR partus OR perinatal OR stillbirth* OR mother* OR newborn* OR neonat* OR postnatal OR postpartum OR puerper*)

ScienceDirect

Search strategy: Since this database does not support wildcards (*) or more than eight Boolean connectors per field, we will search a modified set of search terms (table 2) using the advanced search feature and limiting keywords to those most widely used. We will split the terms between articles and title, abstract or keywords, as detailed below.

Search options

▶ Limit results:
  – Year(s): 2002 to 2021

Search terms

▶ Find articles with these terms: (maternal OR maternity OR newborn OR antenatal OR prenatal OR childbirth OR pregnancy OR pregnant OR postpartum)

▶ Title, abstract or keywords: ("private sector" OR for-profit OR "for profit" OR public-private OR non-profit OR charitable OR NGO OR faith-based)

Web of Science

Search strategy: we will search all sets of search terms (table 2) using the advanced search feature and topic (TS) field tag.

Search options

▶ Limit results:
  – Year(s): 2002 to 2021
  – Language: English, French, German, Italian

Search terms: ("private sector" OR for-profit OR "for profit" OR public-private OR "private enterprise*" OR NGO OR non-government* OR self-financ* OR charit* OR faith-based OR "private health sector" OR "mixed health system*" OR "integrated health system*" OR non-state OR non-profit OR not-for-profit) AND (arrangement* OR evaluat* OR initiative* OR intervention* OR model* OR package* OR pilot* OR program* OR project* OR provision* OR regime* OR scheme* OR strateg* OR trial*) AND (antenatal OR antepartum OR pregnan* OR prenatal OR trimester OR birth* OR childbirth OR intrapartum OR matern* OR obstetric* OR parturition OR partus OR perinatal OR stillbirth* OR mother* OR newborn* OR neonat* OR postnatal OR postpartum OR puerper*)

WHO IRIS

Search strategy: given the limitations of this database for complex searches and filtering, we will search IRIS for the search term "private sector" and limit the results to the subject areas maternal and child health, maternal health, and maternal health services.

Search options

▶ Limit results:
  – Date issued: 2000 to 2021
  – Subjects: Maternal and child health, maternal health, and maternal health services

Search term: "private sector"

Ethics and dissemination

Formal ethical approval is not required for this research, as it is based on secondary publicly available data, which are not identifiable.

We expect to conclude this scoping review by 31 December 2021. Findings from this review will be used to inform the WHO's strategy for private sector engagement and develop models for effective collaboration of the private and public sectors in implementing quality of care for mothers and newborns. In addition to publishing our findings in a peer-reviewed journal, we will share the findings via relevant mailing lists, webinars, social media and relevant working groups (eg, Global Hub for Private Sector Engagement in Healthcare, Health Systems Governance Collaborative, STAGE).

Should we need to amend this protocol following its publication, we will ensure that future publications arising from this protocol provide the date of each amendment, describe the change(s), and report the rationale for the change(s).

ORCID iD
Samantha R Lattof http://orcid.org/0000-0003-0934-1488

REFERENCES

1 Grépin KA. Private sector an important but not dominant provider of key health services in low- and middle-income countries. *Health Aff* 2016;35:1214–21.
2 Campbell OMR, Benova L, MacLeod D, *et al*. Family planning, antenatal and delivery care: cross-sectional survey evidence on levels of coverage and inequalities by public and private sector in 57 low- and middle-income countries. *Trop Med Int Health* 2016;21:486–503.
3 Clarke D, Doerr S, Hunter M, *et al*. The private sector and universal health coverage. *Bull World Health Organ* 2019;97:434–5.
4 WHO. *Engaging the private health service delivery sector through governance in mixed health systems: strategy report of the who Advisory group on the governance of the private sector for universal health coverage*. Geneva: The Health Systems Governance and Financing Department, World Health Organization, 2020.
5 Basu S, Andrews J, Kishore S, *et al*. Comparative performance of private and public healthcare systems in low- and middle-income countries: a systematic review. *PLoS Med* 2012;9:e1001244.

6 Morgan R, Ensor T, Waters H. Performance of private sector health care: implications for universal health coverage. *Lancet* 2016;388:606–12.

7 Awor P, Peterson S, Gautham M. Delivering child health interventions through the private sector in low and middle income countries: challenges, opportunities, and potential next steps. *BMJ* 2018;362:k2950.

8 Otchi E, Dsane-Aidoo P, Asiedu EK. *Engaging the private sector in delivering quality maternal and newborn health services in Ghana: Multi-stakeholder workshop report*. Accra: Ministry of Health of Ghana and World Health Organization, 2021.

9 Otchi E, Fikre M, Lattof SR, *et al*. Private sector delivery of quality maternal and newborn health services in Ghana. In: *Private sector delivery of quality maternal and newborn health services in Ghana*. Accra: Ministry of Health of Ghana and World Health Organization, 2021.

10 MaMoni MNCSP. *Mechanisms for engaging the private sector in planning, delivering and demonstrating accountability for quality maternal and newborn health services: evidence from Bangladesh*. Dhaka: USAID MaMoni MNCSP, 2020.

11 Lattof SR, Maliqi B. Private sector delivery of quality care for maternal, newborn and child health in low-income and middle-income countries: a mixed-methods systematic review protocol. *BMJ Open* 2020;10:e033141.

12 Lattof SR, Strong J, Maliqi B, *et al*. *Impact of private sector delivery of quality care on maternal, newborn, and child health outcomes in low- and middle-income countries: a systematic review*. Geneva: WHO, 2021.

13 Strong J, Lattof SR, Maliqi B, *et al*. Experiences of private sector quality care amongst mothers, newborns, and children in low- and middle-income countries: a systematic review. *BMC Health Serv Res*. In Press;2021.

14 World Health Organization. *Report: 3rd meeting of the who strategic and tag of experts for MNCAH and nutrition*. Geneva: World Health Organization, 2021.

15 Tricco AC, Lillie E, Zarin W, *et al*. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med* 2018;169:467–73.

16 Klinton J. The private health sector: an operational definition. Geneva WHO; 2020.

17 George A, LeFevre AE, Jacobs T, *et al*. Lenses and levels: the why, what and how of measuring health system drivers of women's, children's and adolescents' health with a governance focus. *BMJ Glob Health* 2019;4:e001316.

18 World Bank. World bank country and lending groups n.d. Available: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups

19 UNICEF, WHO. A vision for primary health care in the 21st century: towards universal health coverage and the sustainable development goals. Geneva WHO; 2018.

20 Rowe SY, Peters DH, Holloway KA, *et al*. A systematic review of the effectiveness of strategies to improve health care provider performance in low- and middle-income countries: methods and descriptive results. *PLoS One* 2019;14:e0217617.

					Background information					
Reviewer's initials	Number assigned to each article/study (e.g., 001, 002)	First author's surname	Full name of the study or article	Year of publication	State the exclusion criteria for the study, or state "none." *If study meets any of the exclusion criteria, end data extraction.*	Does this study meet all inclusion criteria? Check PICOTS, language, and year. If all criteria are met, state "all."	To which organization(s) do the authors belong?	Based on the first author's affiliation, in which country is s/he located?	Type of publication	If PubTyp = 5, give details.
Reviewer	**Study ID**	**Author**	**Study Name**	**Publication Date**	**Exclusion Criteria**	**Inclusion Criteria**	**Authors' Affiliations**	**First Author Country**	**Publication Type$1**	**Publication Type$2**

Detail any other publications linked to the study (e.g. papers describing methods, additional analyses)	Language of publication	List all countries in which the study was conducted	Country(ies) income group	World region(s)	State the primary or main objective(s)/aim(s) of the study	Give (Month/Year) or (Year)	Give (Month/Year) or (Year)	Intervention duration in months	Which agency or agencies designed and initiated the intervention?	Details
Other Publications	**Language of Publication**	**Country**	**Country Income Group**	**World Region**	**Study Objective**	**Intervention Start Date**	**Intervention End Date**	**Intervention Duration**	**Initiating Agency$1**	**Initiating Agency$2**

Intervention background information										
Which agency or agencies implemented the intervention?	Details	Which agency or agencies funded the intervention?	Details	At which geographical level did the study occur?	Give specific detail for previous response (e.g. Bongo district (17 villages, 6,158 inhabitants))	What was the main identifying characteristic of the population targeted?	Give specific detail for previous response (e.g., women in the third trimester). Use author's words (with quotation marks)	Provide the number enrolled in the Intervention population	Provide the number enrolled in the control population	Provide the mean age of the intervention population
Implementing Agency$1	**Implementing Agency$2**	**Funding Agency$1**	**Funding Agency$2**	**Geographic Level$1**	**Geographic Level$2**	**Study Population$1**	**Study Population$2**	**Study Population$3**	**Study Population$4**	**Study Population$5**

Provide the mean age of the control population	Provide the mean age of the combined population (intervention and control)	Copy all text describing the intervention; ensure comprehensive extraction of intervention characteristics	Did the study examine a single intervention or multiple interventions?	Was the intervention focused on supply-side or demand-side factors?	Was on-site support for quality improvement introduced/changed as part of the intervention? (Unless it is explicit, it is a no).	Were data systems introduced/changed as part of the intervention? (Unless it is explicit, it is a no).	Were learning systems introduced/changed as part of the intervention? (Unless it is explicit, it is a no).	Was program management selected/changed as part of the intervention? (Unless it is explicit, it is a no).	Was advocacy introduced/provided as part of the intervention? (Unless it is explicit, it is a no).	Was policy and strategy development introduced/provided as part of the intervention? (Unless it is explicit, it is a no).
Study Population$6	**Study Population$7**	**Intervention Description**	**Intervention Quantity**	**Intervention Supply--Demand**	**Nature of Intervention$1**	**Nature of Intervention$2**	**Nature of Intervention$3**	**Nature of Intervention$4**	**Nature of Intervention$5**	**Nature of Intervention$6**

on details										
Were other systems introduced or changed as part of the intervention?	Give specific details for previous responses (e.g., coaching, training, electronic data systems, community involvement) (Nature of intervention code:	Were women during pregnancy, childbirth and/or postpartum intervention recipients? (Unless it is explicit, it is a no).	Was a subgroup of women during pregnancy, childbirth, postpartum (e.g., women with HIV) the intervention recipient? (Unless it is explicit, it is a no).	Were women defined more generally (e.g., all women, all women of reproductive age) intervention recipients? (Unless it is explicit, it is a no).	Were newborns intervention recipients? (Unless it is explicit, it is a no).	Were health care providers intervention recipients? (Unless explicit, it is a no)	Were any others intervention recipients? (Unless it is explicit, it is a no).	Give specific detail for previous response (Intervention recipient code: "author's description")	Did the study report on the outcome 'maternal morbidity?'	In the author's words, include the text describing the measure/indicator used for the outcome 'maternal morbidity.'
Nature of Intervention$7	**Nature of Intervention$8**	**Intervention Recipient$1**	**Intervention Recipient$2**	**Intervention Recipient$3**	**Intervention Recipient$4**	**Intervention Recipient$5**	**Intervention Recipient$6**	**Intervention Recipient$7**	**Critical Outcome$1A**	**Critical Outcome$1B**

											Outcomes
Report all outcome data for 'maternal morbidity.'	Did the study report on the outcome 'maternal mortality?'	In the author's words, include the text describing the measure/indicator used for the outcome 'maternal mortality.'	Report all outcome data for 'maternal mortality.'	Did the study report on the outcome 'newborn morbidity?'	In the author's words, include the text describing the measure/indicator used for the outcome 'newborn morbidity.'	Report all outcome data for 'newborn morbidity.'	Did the study report on the outcome 'newborn mortality?'	In the author's words, include the text describing the measure/indicator used for the outcome 'newborn mortality.'	Report all outcome data for 'newborn mortality.'	Did the study report on the outcome 'quality of care?'	
Critical Outcome\$1C	**Critical Outcome\$2A**	**Critical Outcome\$2B**	**Critical Outcome\$2C**	**Critical Outcome\$3A**	**Critical Outcome\$3B**	**Critical Outcome\$3C**	**Critical Outcome\$4A**	**Critical Outcome\$4B**	**Critical Outcome\$4C**	**Critical Outcome\$5A**	

Supplemental material

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance placed on this supplemental material which has been supplied by the author(s)

BMJ Open

In the author's words, include the text describing the measure/indicator used for the outcome 'quality of care.' **Critical Outcome$5B**	Report all outcome data for 'quality of care' **Critical Outcome$5C**	Did the study report on the outcome 'experience of care, including respectful care?' **Critical Outcome$6A**	In the author's words, include the text describing the measure/indicator used for the outcome 'experience of care, including respectful care.' **Critical Outcome$6B**	Report all outcome data for 'experience of care, including respectful care.' **Critical Outcome$6C**	Did the study report on the outcome 'use of formal private sector care during pregnancy, childbirth, and postpartum?' **Critical Outcome$7A**	In the author's words, include the text describing the measure/indicator used for the outcome 'use of formal private sector care during pregnancy, childbirth, and postpartum.' **Critical Outcome$7B**	Report all outcome data for 'use of formal private sector care during pregnancy, childbirth, and postpartum.' **Critical Outcome$7C**	Did the study report on the outcome 'stillbirth?' **Critical Outcome$8A**	In the author's words, include the text describing the measure/indicator used for the outcome 'stillbirth.' **Critical Outcome$8B**	Report all outcome data for 'stillbirth.' **Critical Outcome$8C**

	Evaluation/study details									
What other outcomes were described or measured? Give details. Include all outcomes relating to stillbirth, childbirth, health system outcomes, and women's views and satisfaction.	Was the intervention evaluated?	What type of evaluation was done?	Give details with quotations	What was the design of the study?	Give details with quotations	Control or comparator group included?	If Control/ Comparator$1 = 1, give details	What type of data were presented in the evaluation findings/results?	Were the data longitudinal?	What claims are made for the effects of the intervention on the outcome/s relevant to quality of maternal, newborn, and child health care services?
Additional Outcomes	**Evaluated**	**Type of Evaluation$1**	**Type of Evaluation$2**	**Study Type$1**	**Study Type$2**	**Control/ Comparator$1**	**Control/ Comparator$2**	**Data Type**	**Longitudinal Data**	**Intervention Claim$1**

Intervention Claim$2	Strategy Effectiveness	Cost Data	Cost Effectiveness Data	Context	Notes	Enable Stakeholders$1	Enable Stakeholders$2	Deliver Strategy$1	Deliver Strategy$2	Nurture Trust$1
Give details. Use author's words (with quotation marks)	Copy any text about barriers/enablers to the intervention, factors influencing its delivery.	Extract all data on the cost of the intervention and cost compared to outcomes.	Extract all data on the cost effectiveness of the intervention.	In what context was the study conducted? Give details (e.g. regulatory environment, collaborative service delivery models).	Include any notes you think are relevant	Did the study illustrate the governance behaviour 'enable stakeholders?'	Give details with quotations	Did the study illustrate the governance behaviour 'deliver strategy?'	Give details with quotations	Did the study illustrate the governance behaviour 'nurture trust?'

Governance behaviours						
Nurture Trust$2	Did the study illustrate the governance behaviour 'align structures?' **Align Structures$1**	Give details with quotations **Align Structures$2**	Did the study illustrate the governance behaviour 'build understanding?' **Build Understanding$1**	Give details with quotations **Build Understanding$2**	Did the study illustrate the governance behaviour 'foster relations?' **Foster Relations$1**	Give details with quotations **Foster Relations$2**

Annex B: Codebook

Variable	Question and instruction	Response options
Background information		
Reviewer	State your initials	ASJ SRL
Study ID	Number assigned to each article/study (e.g., 001, 002)	#
Author	First author's surname	Text
Study Name	Full name of the study or article	Text
Publication Date	Year of publication	#
Exclusion Criteria	State the exclusion criteria for the study, or state "none." *If study meets any of the exclusion criteria, end data extraction.*	Text
Inclusion Criteria	Does this study meet all inclusion criteria? Check PICOTS, language, and year. If all criteria are met, state "all." *For the intervention, the study must have examined a service delivery intervention that was explicitly designed and implemented by formal private health sector providers to deliver maternal and newborn health (MNH) care. This intervention goes beyond the generic provision of MNH care services by the private sector.* *If all the inclusion criteria are not met, return to "exclusion criteria."*	All
Authors' Affiliations	To which organization(s) do the authors belong?	1 = Academia 2 = Domestic government 3 = Domestic non-profit organization (e.g., charity, academia, foundation, NGO) 4 = Domestic for-profit organization (e.g., self-financing facilities) 5 = International for-profit organization (i.e., industry) 6 = International non-profit organization (faith-based organizations, INGO) 7 = Multiple answers from list 8 = Other 9 = Foreign government organisation (e.g., USAID)

1

Supplemental material

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance placed on this supplemental material which has been supplied by the author(s)

BMJ Open

Variable	Question and instruction	Response options
		10 = Intergovernmental Organizations (e.g., WB, WHO, IMF, UNICEF) 98 = Unclear/not specified
First Author Country	Based on the first author's affiliation, in which country is s/he located?	Text
Publication Type$1	Type of publication	1 = Peer-reviewed journal article 2 = Non-peer-reviewed journal article 3 = Report 4 = Book or book chapter 5 = Other
Publication Type$2	If PubTyp = 5, give details.	Text 99 = Not applicable
Other Publications	Detail any other publications linked to the study (e.g. papers describing methods, additional analyses)	Text
Language of Publication		1 = English 2 = French 3 = German 4 = Italian 5 = Other
Country	List all countries in which the study was conducted	Text
Country Income Group[1]	Country income group	1 = Low 2 = Lower-middle 3 = Upper-middle 4 = Multiple
World Region[2]	World region(s)	1 = Africa 2 = Asia 3 = Europe 4 = Latin America and the Caribbean 5 = Northern America 6 = Oceania 7 = Multiple
Study Objective	State the primary or main objective(s) or aim(s) of the study	Text
Intervention background information		
Intervention Start Date	Give (Month/Year) or (Year) [Give start date of implementation rather than preliminary work]	(MM/YYYY) or (YYYY) 98 = Unclear/not specified
Intervention End Date	Give (Month/Year) or (Year)	(MM/YYYY) or (YYYY) Ongoing= Ongoing at time of publication

[1] World Bank Atlas method groupings of countries by income:
https://datahelpdesk.worldbank.org/knowledgebase/articles/906519
[2] WHO region groupings: Africa, Asia, Europe, Latin America and the Caribbean, Northern America, Oceania:
https://unstats.un.org/unsd/methodology/m49/

2

Variable	Question and instruction	Response options
		98= Unclear/not specified
Intervention Duration	Duration of the intervention in months. If not straightforward, give details.	Text 98 = Unclear/not specified
Initiating Agency$1	Which type of agency or agencies designed and initiated the intervention?	1 = Domestic government (in the case of a public-private partnership) 2 = Domestic non-profit organization (e.g., charity, academia, foundation, NGO) 3 = Domestic for-profit organization (e.g., self-financing facilities) 4 = International for-profit organization (i.e., industry) 5 = International non-profit organization (faith-based organizations, academia, INGO) 6 = Multiple answers from list 7 = Other 8 = Foreign government organisation (e.g., USAID) 9 = Intergovernmental Organizations (e.g., WB, WHO, IMF, UNICEF) 98 = Unclear/not specified
Initiating Agency$2	If Initiating Agency$1 = 1-**9**, give details. (e.g., international NGO "Health Unlimited"…)	Text 99 = Not applicable
Implementing Agency$1	Which type of agency or agencies implemented the intervention?	1 = Domestic government (in the case of a public-private partnership) 2 = Domestic non-profit organization (e.g., charity, academia, foundation, NGO) 3 = Domestic for-profit organization (e.g., self-financing facilities) 4 = International for-profit organization (i.e., industry) 5 = International non-profit organization (faith-based organizations, academia, INGO) 6 = Multiple answers from list 7 = Other 8 = Foreign government

3

Variable	Question and instruction	Response options
		organisation (e.g., USAID) 9 = Intergovernmental Organizations (e.g., WB, WHO, IMF, UNICEF) 98 = Unclear/not specified
Implementing Agency$2	If Implementing Agency$1 = 1-12, give details. (e.g., international NGO "Health Unlimited"…)	Text 99 = Not applicable
Funding Agency$1		1 = Domestic government (in the case of a public-private partnership) 2 = Domestic non-profit organization (e.g., charity, academia, foundation, NGO) 3 = Domestic for-profit organization (e.g., self-financing facilities) 4 = International for-profit organization (i.e., industry) 5 = International non-profit organization (faith-based organizations, academia, INGO) 6 = Multiple answers from list 7 = Other 8 = Foreign government organisation (e.g., USAID) 9 = Intergovernmental Organizations (e.g., WB, WHO, IMF, UNICEF) 98 = Unclear/not specified
Funding Agency$2	If Funding Agency$1 = 1-11, give details. (e.g., international NGO "Health Unlimited"…)	Text 99 = Not applicable
Geographic Level$1	At which geographical level did the study occur?	1 = National 2 = Sub-national (e.g., region, state, county, district, whole city) 3 = Local (e.g., village, neighborhood) 4 = Health facility 5 = Global 6 = Multiple levels 7 = Other 98 = Unclear/not specified
Geographic Level$2	Give specific detail for previous response (e.g. Bongo district (17 villages, 6,158 inhabitants)). Provide name if only one location unit.	Text 99 = if GeoLvl$1 = 98

4

Variable	Question and instruction	Response options
Study Population$1	What was the main identifying characteristic of the population the study targeted?	1 = Pregnant women 2 = Women during childbirth 3 = Mothers postpartum 4 = Newborns 5 = Health care providers 6 = Multiple answers from list 7 = Other, specify 98 = Unclear/not specified 99 = Not applicable
Study Population$2	Give specific detail for previous response (e.g., women in the third trimester). Use author's words (with quotation marks).	Text
Study Population$3	Provide the number enrolled in the intervention population.	# 98 = Unclear/not specified
Study Population$4	Provide the number enrolled in the control population, if applicable.	# 98 = Unclear/not specified 99 = No control population
Study Population$5	Provide the mean age of the intervention population.	# 98 = Unclear/not specified
Study Population$6	Provide the mean age of the control population, if applicable.	# 98 = Unclear/not specified 99 = No control population
Study Population$7	Provide the mean age of the combined population (intervention and control), if applicable.	# 98 = Unclear/not specified 99 = No control population
Intervention details		
Intervention Description	Copy all text describing the specific intervention; ensure comprehensive extraction of intervention characteristics.	Text
Intervention Quantity	Did the study examine a single intervention or multiple interventions?	1 = Single intervention 2 = Multiple interventions 98 = Unclear/not specified
Intervention Supply – Demand	Was the specific intervention focused on supply-side or demand-side factors?	1 = Supply side (e.g., staff training, change in types of staff, service environment, provider communication skills) 2 = Demand-side (e.g., education, peer encouragement for service use) 3 = Both 98 = Unclear/not specified
Nature of Intervention$1	Was on-site support for quality improvement introduced/changed as part of the intervention? (Unless it is explicit, it is a no).	0 = No 1 = Yes
Nature of	Were data systems introduced/changed as part of	0 = No

Variable	Question and instruction	Response options
Intervention$2	the intervention? (Unless it is explicit, it is a no).	1 = Yes
Nature of Intervention$3	Were <u>learning systems</u> introduced/changed as part of the intervention? (Unless it is explicit, it is a no).	0 = No 1 = Yes
Nature of Intervention$4	Was a <u>program management</u> selected/changed as part of the intervention? (Unless it is explicit, it is a no).	0 = No 1 = Yes
Nature of Intervention$5	Was <u>advocacy</u> introduced/ provided as part of the intervention? (Unless it is explicit, it is a no).	0 = No 1 = Yes
Nature of Intervention$6	Was <u>policy and strategy development</u> introduced/provided as part of the intervention? (Unless it is explicit, it is a no).	0 = No 1 = Yes
Nature of Intervention$7	Were other systems introduced or changed as part of the intervention?	0 = No 1 = Yes
Nature of Intervention$8	Give specific details for previous responses (e.g., coaching, training, electronic data systems, community involvement) (Nature of intervention code: "author's description")	Text
Intervention Recipient$1	Were women during pregnancy, childbirth and/or postpartum intervention recipients? (Unless it is explicit, it is a no).	1 = Indirect 2 = Direct 3 = Not a recipient
Intervention Recipient$2	Was a subgroup of women during pregnancy, childbirth, postpartum (e.g., women who experience birth complications, women with HIV) the intervention recipient? (Unless it is explicit, it is a no).	1 = Indirect 2 = Direct 3 = Not a recipient
Intervention Recipient$3	Were women defined more generally (e.g., all women, all women of reproductive age) intervention recipients? (Unless it is explicit, it is a no).	1 = Indirect 2 = Direct 3 = Not a recipient
Intervention Recipient$4	Were newborns intervention recipients? (Unless it is explicit, it is a no).	1 = Indirect 2 = Direct 3 = Not a recipient
Intervention Recipient$5	Were health care providers intervention recipients? (Unless it is explicit, it is a no).	1 = Indirect 2 = Direct 3 = Not a recipient
Intervention Recipient$6	Were any others intervention recipients? (Unless it is explicit, it is a no).	1 = Indirect 2 = Direct 3 = Not a recipient
Intervention Recipient$7	Give specific detail for previous response (Intervention recipient code: "author's description")	Text 99 = If Recipient$1-Recipient$7 = 3
Outcomes		
Critical Outcome$1A	Did the study report on the outcome 'maternal morbidity?'	0 = No 1 = Yes 98 = Unclear/not specified

Supplemental material

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance
placed on this supplemental material which has been supplied by the author(s)

BMJ Open

Variable	Question and instruction	Response options
Critical Outcome\$1B	In the author's words, include the text describing the measure/indicator used for the outcome 'maternal morbidity.'	Text 98 = Unclear/not specified 99 = If Outcom\$1A=0
Critical Outcome\$1C	Report all outcome data for 'maternal morbidity.'	Text 98 = Unclear/not specified 99 = If Outcom\$1A=0
Critical Outcome\$2A	Did the study report on the outcome 'maternal mortality?'	0 = No 1 = Yes 98 = Unclear/not specified
Critical Outcome\$2B	In the author's words, include the text describing the measure/indicator used for the outcome 'maternal mortality.'	Text 98 = Unclear/not specified 99 = If Outcom\$2A=0
Critical Outcome\$2C	Report all outcome data for 'maternal mortality.'	Text 98 = Unclear/not specified 99 = If Outcom\$2A=0
Critical Outcome\$3A	Did the study report on the outcome 'newborn morbidity?'	0 = No 1 = Yes 98 = Unclear/not specified
Critical Outcome\$3B	In the author's words, include the text describing the measure/indicator used for the outcome 'newborn morbidity.'	Text 98 = Unclear/not specified 99 = If Outcom\$3A=0
Critical Outcome\$3C	Report all outcome data for 'newborn morbidity.'	Text 98 = Unclear/not specified 99 = If Outcom\$3A=0
Critical Outcome\$4A	Did the study report on the outcome 'newborn mortality?'	0 = No 1 = Yes 98 = Unclear/not specified
Critical Outcome\$4B	In the author's words, include the text describing the measure/indicator used for the outcome 'newborn mortality.'	Text 98 = Unclear/not specified 99 = If Outcom\$4A=0
Critical Outcome\$4C	Report all outcome data for 'newborn mortality.'	Text 98 = Unclear/not specified 99 = If Outcom\$4A=0
Critical Outcome\$5A	Did the study report on the outcome 'quality of care?' *This includes outcomes involving:* • *Safe* • *Effective* • *Timely (a practice's ability to quickly provide care after recognizing a need)* • *Efficient (a comparison of delivery system outputs, such as physician visits, relative value units, or health outcomes, with inputs like cost, time, or material)* • *Equitable* • *People/patient-centred (requires that people have the education and support they need to make decisions and participate in their own*	0 = No 1 = Yes 98 = Unclear/not specified

7

Variable	Question and instruction	Response options
	care)	
Critical Outcome$5B	In the author's words, include the text describing the measure/indicator used for the outcome 'quality of care.' *Organize the information by the six domains of quality.*	Text 98 = Unclear/not specified 99 = If Outcom$5A=0
Critical Outcome$5C	Report all outcome data for 'quality of care.' *Organize the data by the six domains of quality.*	Text 98 = Unclear/not specified 99 = If Outcom$5A=0
Critical Outcome$6A	Did the study report on the outcome 'experience of care, including respectful care?'	0 = No 1 = Yes 98 = Unclear/not specified
Critical Outcome$6B	In the author's words, include the text describing the measure/indicator used for outcome 'experience of care, including respectful care.'	Text 98 = Unclear/not specified 99 = If Outcom$6A=0
Critical Outcome$6C	Report all outcome data for 'experience of care, including respectful care.'	Text 98 = Unclear/not specified 99 = If Outcom$6A=0
Critical Outcome$7A	Did the study report on the outcome 'use of formal private sector care during pregnancy, childbirth, and postpartum?'	0 = No 1 = Yes 98 = Unclear/not specified
Critical Outcome$7B	In the author's words, include the text describing the measure/indicator used for the outcome 'use of formal private sector care during pregnancy, childbirth, and postpartum.'	Text 98 = Unclear/not specified 99 = If Outcom$7A=0
Critical Outcome$7C	Report all outcome data for 'use of formal private sector care during pregnancy, childbirth, and postpartum.'	Text 98 = Unclear/not specified 99 = If Outcom$7A=0
Critical Outcome$8A	Did the study report on the outcome 'stillbirth?'	0 = No 1 = Yes 98 = Unclear/not specified
Critical Outcome$8B	In the author's words, include the text describing the measure/indicator used for the outcome 'stillbirth.'	Text 98 = Unclear/not specified 99 = If Outcom$8A=0
Critical Outcome$8C	Report all outcome data for 'stillbirth.'	Text 98 = Unclear/not specified 99 = If Outcom$8A=0
Additional Outcomes	What other outcomes were described or measured? Give details. Include all outcomes relating to stillbirth, childbirth, health system outcomes, and women's views and satisfaction.	Text
Evaluation/study details		
Evaluated	Was the intervention evaluated?	0 = No → skip to Study Type$1 1 = Yes
Type of Evaluation$1	What type of evaluation was done?	1 = Impact (quantitative change in relevant outcome (use of services))

8

Supplemental material

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance placed on this supplemental material which has been supplied by the author(s)

BMJ Open

Variable	Question and instruction	Response options
		2 = Process (evaluation of intervention implementation) 3 = Impact and process 4 = Economic 5 = Multiple 6 = Other 98 = Unclear/not specified
Type of Evaluation$2	Give details with quotations	Text
Study Type$1	What was the design of the study?	1 = Randomized controlled trial 2 = Controlled clinical trial 3 = Cohort analytic (two groups pre + post) 4 = Case-control 5 = Controlled (one group pre + post (before and after)) 6 = Interrupted time series 7 = Qualitative 8 = Mixed methods 9 = Regression analysis 10 = Other 98 = Unclear/not specified
Study Type$2	Give details with quotations	Text 99 = Not applicable
Control/Comparator$1	Control/comparator group included?	0 = No 1 = Yes 98 = Unclear/not specified
Control/Comparator$2	If Control/Comparator$1 = 1, give details	Text 99= Not applicable
Data Type	What type of data were presented in the evaluation findings/results?	1 = Quantitative 2 = Qualitative 3 = Both
Longitudinal Data	Were the data longitudinal?	0 = No 1 = Yes 98 = Unclear/not specified
Intervention Claims$1	What claims are made for the effects of the intervention on the outcome/s relevant to MNH services?	1 = Positive 2 = Neutral 3 = Negative 4 = Mixed (give details) 5 = Other (give details) 98 = Unclear/not specified
Intervention Claims$2	Give details. Use author's words (with quotation marks).	Text
Strategy	Copy any text about barriers/enablers to the	Text

9

Variable	Question and instruction	Response options
Effectiveness	intervention, factors influencing its delivery.	
Cost Data	Extract all data on the cost of the intervention and cost compared to outcomes.	Text
Cost Effectiveness Data	Extract all data on the cost effectiveness of the intervention.	Text
Context	In what context was the study conducted? Give details (e.g. regulatory environment, collaborative service delivery models).	Text
Notes	Include any notes you think are relevant	Text
Governance behaviours[3]		
Enable Stakeholders$1	Did the study illustrate the governance behaviour 'enable stakeholders?' *Enabling stakeholders is about ensuring formal tools for implementation (i.e. use of powers, incentives, and sanctions). Good governance involves ensuring that the actors have the powers to do their jobs and to ensure that others do theirs.* *Possible MNH examples may include:* *- The government has contracted the MNH private health sector at the relevant operational levels and according to appropriate protocols and controls.* *- Coverage via insurance schemes includes MNH private providers through pooled funds.* *- The ministry has used voucher schemes involving the private health sector for MNH service delivery.* *- Private sector is included in MNH data analysis and planning.*	0 = No 1 = Yes
Enable Stakeholders$2	If Enable Stakeholders$1 = 1, give details with quotations.	Text
Deliver Strategy$1	Did the study illustrate the governance behaviour 'deliver strategy?' *Delivering strategy is about formulating strategic policy direction. It includes the articulation of health system goals and objectives, clear definition of roles, identification of policy instruments and institutional arrangements, outline of feasible strategies, guidance for prioritizing health expenditures, and outline of arrangements to monitor performance.* *Possible MNH examples may include:* *- The country has established a policy/strategy for*	0 = No 1 = Yes

---

[3] Governance behaviours come from the WHO strategy *Engaging the private health service delivery sector through governance in mixed health systems: strategy report of the WHO Advisory Group on the Governance of the Private Sector for Universal Health Coverage* (2020)

Variable	Question and instruction	Response options
	engaging with the MNH private health sector (e.g., public-private partnerships, health financing strategies, purchasing arrangements under the national health insurance, etc.). *- The MNH private sector was consulted while developing the policy/strategy.* *- The policy/strategy has been implemented to meet specified MNH goals.* *- There are monitoring and evaluation processes in place for the policy/strategy.*	
Deliver Strategy$2	If Deliver Strategy$1 = 1, give details with quotations.	Text
Nurture Trust$1	Did the study illustrate the governance behaviour 'nurture trust?' *Nurturing trust is about ensuring accountability and ensuring that all health system actors (public and private providers, players, producers of other resources, stewards) are held accountable for their actions for the population.* *Possible MNH examples may include:* *- MNH frameworks and guidelines to monitor accountability processes have been developed.* *- Mechanisms to address challenges in accountability for MNH have been established.* *- A vision regarding the respective MNH roles of public and private providers has been co-developed.* *- MNH data regarding service contracts, procurement processes, etc. are available to the public.* *- Ethical MNH frameworks exist that representative groups have signed (or require their members to sign).* *- Civil society partnerships are in place to foster transparency, quality, equity and accountability for MNH.*	0 = No 1 = Yes
Nurture Trust$2	If Nurture Trust$1 = 1, give details with quotations.	Text
Align Structures$1	Did the study illustrate the governance behaviour 'align structures?' *Aligning structures is about ensuring a fit between policy objectives and organizational structure and culture. It is also about ensuring the implementation of policies designed to achieve health system goals. This includes having and exercising the ability to guide the behaviour of different actors, "coalition building", and ensuring fit between policy and organizational structure and culture.*	0 = No 1 = Yes

11

Supplemental material

BMJ Publishing Group Limited (BMJ) disclaims all liability and responsibility arising from any reliance placed on this supplemental material which has been supplied by the author(s)

BMJ Open

Variable	Question and instruction	Response options
	Possible MNH examples may include: *- The government has set a framework for progressive realization of universal health coverage goals that includes the MNH private sector.* *- MNH private sector representatives are consulted during the development of national MNH policies, strategies, and plans.* *- The government has established MNH guidelines for standards of care.* *- The MNH private sector is organized into a federation led by a representative body/committee.*	
Align Structures$2	If Align Structures$1 = 1, give details with quotations.	Text
Build Understanding$1	Did the study illustrate the governance behaviour 'build understanding?' *Building understanding is about generating intelligence. This behaviour refers to the provision of reliable and up-to-date information on current and future trends in health and health system performance. This includes identifying important contextual factors and actors, documentation of the perceptions of different stakeholders on problems, and identifying policy options.* *Possible MNH examples may include:* *- The National Health Information system includes data from both public and private MNH providers at the appropriate level.* *- Private sector MNH data collected by the National Health Information system is used by the government to determine the most appropriate actions for private sector engagement (purchase, regulate, etc.).* *- The government has conducted a system level analysis to better understand the MNH private sector or has plans to do so.*	0 = No 1 = Yes
Build Understanding$2	If Build Understanding$1 = 1, give details with quotations.	Text
Foster Relations$1	Did the study illustrate the governance behaviour 'foster relations?' *Fostering relations is about building and sustaining partnerships and coalitions. To be fully effective and create positive change, relationships must be built and maintained to complement other, more formal ways of exerting influence through regulation, legislation, and similar means.* *Possible MNH examples may include:*	0 = No 1 = Yes

12

Variable	Question and instruction	Response options
	- There is an MNH multi-sectoral coordination mechanism for public and private health actors. *- There is a designated governmental focal point/team for facilitating MNH multi-sectoral dialogue and coordination.* *- The MNH private sector is consulted during national-level MNH decision making.* *- Registration and regulation of MNH private providers is in place. Regulation applies equally to both private and public MNH providers.*	
Foster Relations$2	If Foster Relations$1 = 1, give details with quotations.	Text