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Impact of health system governance on healthcare quality in low-income and middle-income countries: a scoping review

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ABSTRACT

Introduction Improving healthcare quality in low-/middle-income countries (LMICs) is a critical step in the pathway to Universal Health Coverage and health-related sustainable development goals. This study aimed to map the available evidence on the impacts of health system governance interventions on the quality of healthcare services in LMICs.

Methods We conducted a scoping review of the literature. The search strategy used a combination of keywords and phrases relevant to health system governance, quality of healthcare and LMICs. Studies published in English until August 2023, with no start date limitation, were searched on PubMed, Cochrane Library, CINAHL, Web of Science, Scopus, Google Scholar and ProQuest. Additional publications were identified by snowballing. The effects reported by the studies on processes of care and quality impacts were reviewed.

Results The findings from 201 primary studies were grouped under (1) leadership, (2) system design, (3) accountability and transparency, (4) financing, (5) private sector partnerships, (6) information and monitoring; (7) participation and engagement and (8) regulation.

Conclusions We identified a stronger evidence base linking improved quality of care with health financing, private sector partnerships and community participation and engagement strategies. The evidence related to leadership, system design, information and monitoring, and accountability and transparency is limited.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ This review provides an extensive map of the studies that assess the impacts of a range of governance interventions on quality of care in low-/middle-income countries settings.
⇒ The findings highlight the need for more robust approaches to evaluating the impacts of governance interventions using comparable designs and measurement metrics.
⇒ In the absence of a commonly agreed framework for governance of quality, the interventions included in this study may not be an exhaustive list.
⇒ This review did not analyse the contextual, social and relational factors influencing the governance environment and its impacts on quality.
⇒ The heterogeneity of study designs and indicators measured in included studies makes comparisons across studies difficult.

INTRODUCTION

Achieving the health-related goals of the sustainable development goals (SDG) demands a renewed focus on improving the quality of healthcare services, particularly in the context of low-/middle-income countries (LMICs). The commitment to provide Universal Health Coverage (UHC) is an opportunity to give greater prominence to the agenda of quality of care (QoC). Mere expansion of access to health services, without intentional efforts to improve the quality, will compromise the prospects of UHC.[1] Low QoC significantly contributes to excess mortality in developing countries. Improving health service quality will have a more significant overall effect on mortality than expanding service coverage alone.[2] The 2018 Lancet Global Health Commission on High Quality Health Systems in the SDG era implored the national health systems to govern for quality.[3]

Several definitions and frameworks have been used to describe the different dimensions of quality.[4–8] The Institute of Medicine described effectiveness, safety, people-centredness, timeliness, equity, integration and efficiency as the elements of quality.[1 9] In this review, we adopted the Lancet Commission's recommendation to evaluate health systems based on their impacts on people, such as competent care, user experience, health outcomes and confidence in the system.[3]

The Lancet Commission's Framework describes governance as one of the foundations of high-quality health systems.[3] There is no commonly agreed description of what

constitutes health system governance in the context of QoC. The frequently mentioned health governance functions are leadership,[3 10 11] formulating laws and policies,[3 10–16] system design,[10 12] accountability,[3 12 14–16] transparency,[13–15] information and monitoring,[3 10 11 13 16] participation,[13–16] regulation,[10 12 16] partnerships[3 10 12] and financing.[3 11]

In most LMICs, quality improvement initiatives primarily focus on clinical outcomes as opposed to addressing upstream governance and management practices.[17] Identifying appropriate governance approaches to improve quality in LMICs is also challenging. Rigorous evaluations of the impact of interventions for non-facility determinants of quality, such as policies and management of healthcare organisations, are rare.[18–21] The adaptation of available evidence from high-income countries to the unique contexts of LMICs is another barrier.[21]

Earlier reviews have provided valuable insights into the linkages between governance mechanisms and healthcare quality in LMICs.[11 22–24] A review of experiences from 25 countries highlighted promising practices such as the explicit inclusion of quality as a priority in health planning, establishing dedicated institutional structures, establishing mechanisms to monitor quality and allocating resources to improve quality.[23] This paper did not analyse the impacts of those interventions on QoC at the service delivery level. An evidence-gap map of primary healthcare policy and governance in LMICs identified gaps in social accountability, public–private partnerships (PPP) and intersectoral collaboration.[24] Other reviews have analysed the impacts of specific governance interventions such as demand-side and supply-side health financing strategies,[25–34] stakeholder and community engagement,[35 36] social accountability mechanisms,[37–39] private sector partnerships[40–46] and regulatory approaches.[43 47–49] However, a broader mapping of the various governance interventions linked to the quality of healthcare services in LMICs is absent. This scoping review addressed this gap by mapping the available evidence on the impacts of health system governance interventions to improve healthcare quality in terms of care processes and quality impacts.

The review questions were: (1) What is known about the impacts of health system governance strategies or interventions on healthcare quality in LMICs? (2) What are the knowledge gaps regarding effective governance interventions to improve healthcare quality in LMICs?

METHODS

Study design

This scoping review follows the established methodology for conducting and reporting scoping reviews.[50–56] The study findings were analysed for effects on processes of care and quality impacts. We adopted the categorisation used by the Lancet Global Health Commission, which also incorporates the concepts from several other frameworks, to analyse and group the effects on QoC under care processes and quality impacts (table 1).[3]

The study protocol was registered with Open Science Framework (https://doi.org/10.17605/OSF.IO/BF75P). We present our findings in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews checklist (see online supplemental file 1).[55]

Eligibility criteria

We included English language research studies or programme publications presenting quantitative and/or qualitative data published on or before 31 August 2023 with no start date limitations. These studies investigated the impact of one or more governance interventions on healthcare quality in one or more LMICs. The following studies were excluded: those that did not report on healthcare quality in terms of care processes or quality impacts; those that reported effects only on the utilisation of services; those that implemented only clinical improvement tools (eg, clinical audit); and those that focused

Table 1 Definitions of quality healthcare applied in this review (*adapted from Kruk et al.*)[3]

	Components
Quality impacts	
Better health	Level and distribution of patient-reported outcomes; function, symptoms, pain, well-being, quality of life, and avoiding serious health-related suffering
Confidence in system	Satisfaction, recommendation, trust, and care uptake and retention
Economic benefits	Ability to work or attend school, economic growth, reduction in health system waste and financial risk protection
Processes of care	
Competent care and systems	Evidence-based, effective care: systematic assessment, correct diagnosis, appropriate treatment, counselling, and referral Capable systems: safety, prevention and detection, continuity and integration, timely action, and population health management
Positive user experience	Respect: dignity, privacy, non-discrimination, autonomy, confidentiality, and clear communication User focus: choice of provider, short wait times, patient voices and values, affordability, and ease of use

only on improving infrastructure, training of health human resources or pharmaceutical quality.

Data sources and literature search

The research strategy was developed based on a preliminary literature review to identify the essential governance functions and related interventions. The search strategy (see online supplemental file 2) used a combination of keywords and phrases relevant to health system governance, quality of healthcare and LMICs. The countries included were those classified as low-income, lower-middle-income and upper-middle countries based on the World Bank Atlas method for the 2021 fiscal year.[57] We conducted searches of peer-reviewed journals and grey literature in seven electronic databases: PubMed, Cochrane Library, CINAHL, Web of Science, Scopus, Google Scholar and ProQuest Central. We also searched the reference list of included systematic and scoping reviews to identify additional primary studies relevant to this review. The websites of international development organisations were also searched to identify publications.

Study selection

All references searched from electronic databases were imported into Covidence (www.covidence.org), and duplicates were removed. Two reviewers (JG and TS) screened the titles and abstracts and reviewed the shortlisted full-text articles. Conflicts at both stages were resolved through discussion. Relevant primary studies from previous reviews and additional publications from grey literature were identified by JG and reviewed by TS before inclusion into the review.

Data charting and extraction

Data were extracted by JG using a data extraction template, which was refined and modified by JG and TS based on the experiences from the extraction of the first few papers. The information extracted included the study title, country, year of publication, objectives, study design, intervention(s), health services and the descriptive results on care processes, user experience, health outcomes, confidence in health systems and economic benefits. The country income classification was assigned using the World Bank list for 2021.[57]

Analysis and reporting

The analysis framework was developed by JG and reviewed by the TS. A numerical summary of the studies that reported any of the impacts on QoC was prepared. The descriptive findings were analysed using the content analysis method. The studies were grouped by the nine governance domains identified by the authors *a priori* based on the preliminary review of literature on the key functions of health sector governance and related interventions. Studies that used multiple governance interventions were grouped under a new category of 'multiple domains.' Content analysis was conducted for each of the governance domains and each type of quality impact.

The results were reported to show a numerical mapping of the availability of evidence on QoC under each of the governance domains. The findings from the content analysis were summarised by governance domain and type of interventions. JG conducted the analysis with support from TS. SJ, RG, and TC reviewed the analysis reports and provided comments.

Consultation with stakeholders

A summary of the findings of this review was shared with 19 stakeholders who have expertise in supporting LMIC health systems for improving healthcare quality, seeking their perspectives, and exploring any additional studies for inclusion. The inputs from the consultation were incorporated into the final report.

Patient and public involvement

None

RESULTS

Search results

A total of 8299 articles were retrieved, 7407 articles underwent abstract screening, and 203 papers were selected for full-text review, of which 109 were excluded after the review. Snowballing identified an additional 107 primary studies. A total of 201 articles were selected for the final review (see figure 1). A list of excluded papers and reasons for exclusion are presented (see online supplemental file 3).

Characteristics of included primary studies (n = 201)

Overall, 64% (n=128) of the studies were conducted in lower-middle-income countries, followed by 25% (n=49) in low-income countries, 9% in upper-middle-income countries (n=18) and 3% (n=6) in multiple countries. Study designs included 39 randomised controlled trials, 65 quasi-experimental, 77 observational or descriptive studies and 20 qualitative studies. Most studies evaluated the quality impacts on reproductive, maternal, newborn and child health (RMNCH) services (n=135). General primary care (n=52), hospital inpatient care (n=11) and communicable diseases (n=3) accounted for the remaining studies.

Findings from included studies

This section presents a numerical summary of the types of impacts on QoC reported by the included studies. Most studies reported impacts on competent care and systems (n=149), and confidence in health systems, primarily evidenced by improved utilisation of services, were reported by 105 studies. Evidence on user experience (n=94), better health (n=62) and economic benefits (n=41) were reported by fewer studies (see table 2). It is pertinent to highlight that several studies reported using composite QoC scores, which are presented here under competent care and systems.

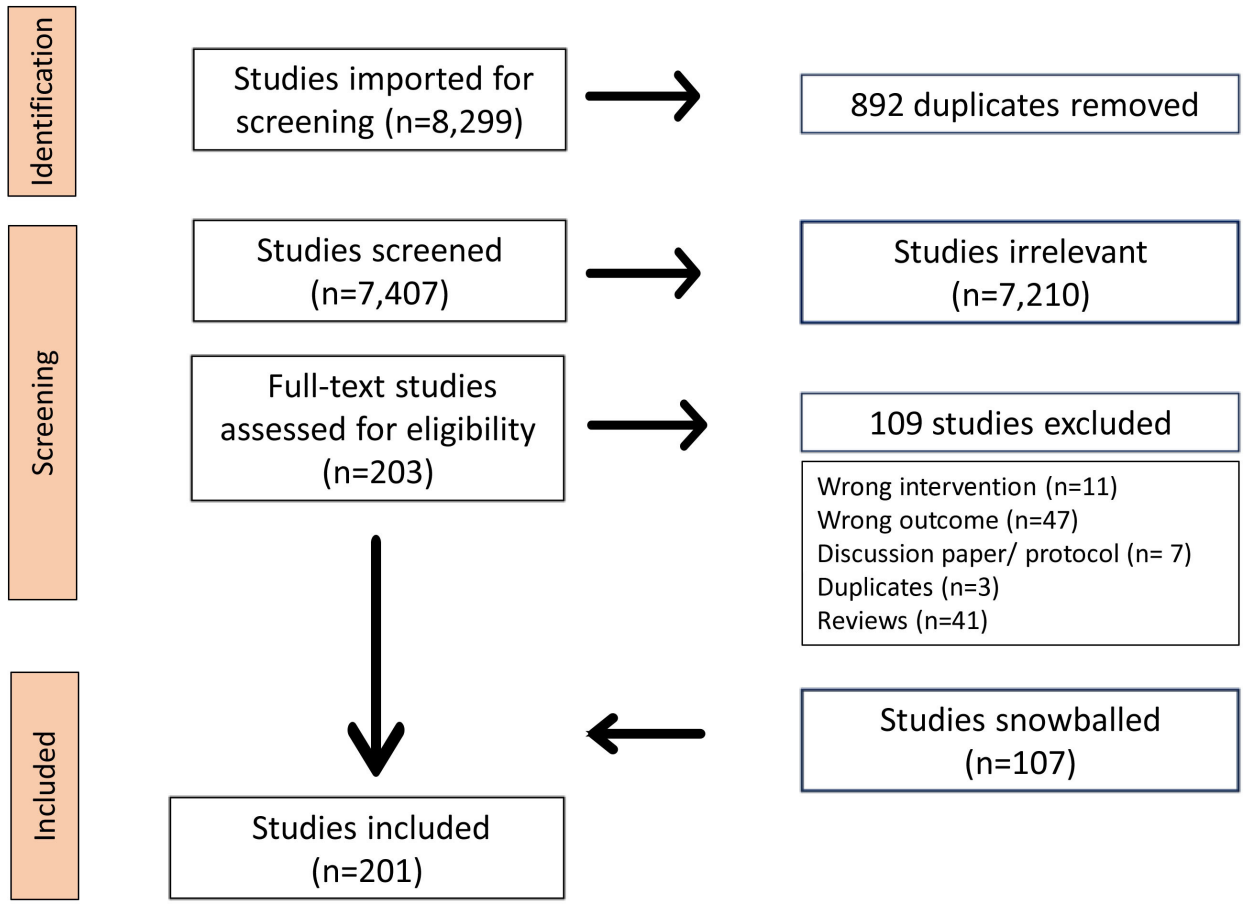

Figure 1 Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram.

Impacts on quality by governance domains (n=201)

This section summarises the descriptive findings from all primary studies (n=201). Health financing interventions (n=114) accounted for the majority (57%) of studies analysed, followed by engaging the private sector (n=24) and regulation (n=11). Leadership (n=3), information and monitoring (n=8), accountability and transparency (n=7), system design (n=8), and participation and engagement (n=9) had fewer studies (see online supplemental file 4).

Leadership

Three studies analysed interventions related to leadership, policies and strategic plans.[58–60] Government stewardship of private clinics was associated with improved

Table 2 Summary of studies reported impacts on healthcare quality

	Number of studies reporting impact on quality				
Intervention domains investigated in this study	**Competent care and systems**	**User experience**	**Better health**	**Confidence in health systems**	**Economic benefits**
Leadership	3	–	1	–	–
System design	5	7	–	4	2
Accountability and transparency	5	2	1	6	2
Financing (demand-side)	34	34	22	29	15
Financing (supply side)	54	26	10	36	7
Engaging the private sector	16	15	8	11	9
Information and monitoring	6	1	2	–	2
Participation and engagement	6	2	7	7	2
Regulation	10	2	2	2	–
Multiple domains	10	5	9	10	2
All	149	94	62	105	41

overall QoC and care processes.[60] Formulating a national quality policy and strategy in Lebanon and Jordan led to improved licensing and regulatory systems.[58] No patient-level impacts were reported. Developing and implementing governance action plans in Afghanistan resulted in mixed effects on care processes and quality impacts.[59]

System design

We included eight studies[61–68] that analysed system design interventions. The interventions included decentralised prioritisation and planning, initiatives to improve managerial efficiency and local-level policy initiatives. Positive effects included reduced medication errors,[61] increased screening of pregnant women for HIV,[63] high patient satisfaction with the services[61 62 64 65 68] and trustful relations between the providers and users.[61 62] Negative effects were reduced access and affordability of services and client satisfaction,[67] decreased utilisation of services and additional costs incurred in procuring the drugs from private providers.[68]

Decentralisation

Decentralisation of decision-making, planning and implementation had varied impacts on QoC.[65–68] In Sudan, decentralisation resulted in the deterioration of the overall QoC and utilisation of services. Availability and affordability of services were reduced, and inequity in service accessibility increased.[67] In Nigeria, the low availability of equipment, drugs and supplies left many clients dissatisfied with the services.[68] Increased autonomy of hospitals in Indonesia for decentralised planning, budgeting, and management showed overall positive results in structural quality and client satisfaction.[65] In Kenya, decentralisation was helpful to improve accessibility and availability of services, but the QoC remained low owing to low investments in infrastructure and staffing. Stakeholders also believed that quality needs to be emphasised better in the priority-setting process.[66]

Strengthening management systems

In Tanzania, strengthening management systems and community engagement resulted in improved availability of reproductive health services, structural readiness, client-perceived QoC and high levels of client satisfaction.[64] The integrated supervision system in Nigeria improved a few aspects of clinical quality but no changes in the coverage of services like immunisation.[63]

Local-level policy initiatives

The treatment-before-deposit policy in China[62] and no-class-wards in Indonesia[61] reduced perceptions of discrimination and improved trust in providers. The perceptions of quality and satisfaction also improved.

Accountability and transparency

All eight studies analysed the effects of community scorecards or other social accountability tools.[69–76] Studies in the Democratic Republic of Congo[75] and Malawi[74] analysed the use of community scorecards to strengthen the accountability of health service providers. Positive effects included improved quality of antenatal counselling, provider attitudes, and rapport and fairness, and reduced incidence of bribes. Community meetings and tools for citizen voices and action were implemented in Uganda, India, Cambodia, Afghanistan and Ghana. Positive effects included a better screening of children,[69 71] improved provider courtesy and provision of information,[70 72] improved nutritional status among children and decline in child mortality,[69] and enhanced trust and confidence in providers and higher utilisation rates of services. In Kenya, the clients reported being treated respectfully, though some negative provider behaviours and long waiting times persisted.[76] In India, the results were not so positive, with no changes in maternal and newborn care service quality or outcomes.[73] None of the studies reported any negative effects.

Demand-side financing

A total of 55 studies[77–131] examined interventions such as the removal or exemption of user fees (n=18), health insurance (n=19), vouchers (n=9) and conditional cash transfers (CCTs; n=9).

Complete or partial removal of user fees

Eighteen studies reported the effects of total or partial removal of user fees.[77–92 95 110] All except three studies[86 87 90] involved user fee exemptions specifically for maternal healthcare services. Partial or complete removal of user fees generally did not significantly alter the technical quality of services.[78 80–82 85 87 89 90 110] However, a few studies reported increased waiting times, reduced duration of consultations, worsening provider attitudes and inadequate drugs, supplies and equipment.[83 85 89 92 95] The utilisation of services, particularly for antenatal care, delivery, child vaccinations and management of delivery-related complications improved in most instances. Client satisfaction with the free services was high.[79 82 87 88 90 95 110] One study reported that the free services were only partially free as patients continued to pay for certain services, such as investigations or medicines, informal payments, and the indirect costs of seeking care.[85] Low staff morale among providers resulting from increased workload has also been documented.[84] Four studies reported better health outcomes.[80 82 87 110]

Some of the negative consequences include low privacy, poor hygiene, lack of compliance with obstetric care standards, neglect by the providers, longer waiting times, reduced availability of drugs and decreased trust due to unofficial payments.[83–85 89]

Insurance or risk-pooling

The effects of health insurance were analysed in 19 studies.[93 94 96–109 129–131] The results ranged from improved perceived and actual QoC[93 94 104 107] to the perceived worsening of quality.[96 100 105] Increased service utilisation has been reported by several studies, particularly for antenatal care, outpatient visits and facility births. Client

satisfaction levels show wide variations across schemes. The study from China concluded that insurance increased unnecessary service provision and substantial costs for the poor.[105] Better health outcomes were reported by two studies[102 107] and economic benefits by four studies.[93 97 103 107] In contrast, the study from Costa Rica challenged the notion that insurance can lead to significant reductions in infant and child mortality.[99] There was no difference between insured and uninsured clients in the perceived responsiveness of outpatient services in Ethiopia.[130] In Zambia, insurance was associated with greater confidence in health systems and improved care experiences.[129 131] As in the case of user fee exemptions, QoC may need more investments to improve structural quality in health facilities.[93 101]

Vouchers

Nine studies examined the effects of voucher schemes on the quality of reproductive health or maternal healthcare services.[111 112 115 116 118 119 124 127 128] Generally, voucher schemes improved the demand for family planning and maternal health services and reduced inequities in the utilisation.[111 112 115 116 124 127 128] The effects on clinical QoC were varied, with four reporting positive effects.[111 115 118 119] Client satisfaction levels were generally positive.[118 124 127 128] Two studies reported better health outcomes.[112 115] None of the studies reported adverse effects on care processes or quality impacts.

Cash transfers

Nine studies analysed the effects of CCTs on the quality of maternal, newborn and child health services.[113 114 117 120–123 125 126] Three studies from India, which examined the effects of the *Janani Suraksha Yojana*, reported that the intervention led to a substantial increase in the uptake of maternal health services.[117 121 123] Two of them suggest a possible decline in neonatal mortality.[117 123] Three studies from Brazil, which analysed the impact of *Bolsa Familia* on the quality of child health services, reported a significant reduction in child mortality resulting from postneonatal conditions. The effects were more prominent for mortality related to malnutrition and diarrhoea.[122 125 126] One study also reported increased child vaccination coverage and antenatal care and reduced admission of under-5 children to hospitals.[122] The study on *Oportunitades* in Mexico showed significant improvements in the quality of antenatal care for low-income rural women,[113] and that of *Progresa* showed a significant reduction in infant mortality rate, particularly in areas with low socio-economic indices.[114] The programme in Nigeria[120] positively affected the utilisation and quality of maternal health services, but there was no reduction in mortality. None of the studies reported any negative effects of CCT on care processes or quality impacts.

Supply-side financing

Fifty-nine studies[132–190] examining supply-side financing interventions are included.

Financial incentives

Incentivised payments linked to healthcare performance are known by several names—performance-based incentives (PBI), pay-for-performance, results-based financing (RBF), performance-based financing (PBF), and results-based incentives.

Though there are wide variations in the design of the schemes in different countries, the intervention works by providing additional financial payments linked to a set of performance indicators. In most designs, quality indicators are part of the performance criteria set for the payment. Incentives are often paid as bonuses to the service providers proportionate to achieving performance targets. Indirect incentives, which operate at higher levels of the system, are also included in many of the designs. This paper uses the term PBF to describe all these interventions.

Most of the supply-side financing studies (n=48) fall under this category. Most of the studies reported a positive impact of the incentives on service utilisation for the incentivised services. The improvements were greater for services with the highest incentive payment and those that required the least effort from the provider.[135] Most of the studies reported improvements in clinical QoC,[133 135 139–142 144 149 151 155 156 159 162 163 166 167 170–176 178 182 184 185 187] and client satisfaction levels.[132 133 143 144 146 149 154 159 160 166 170–172 176 178 183 185–187 189] Three showed a reduction in mortality rates,[145 184 187] and two reported improvements in child nutritional status.[151 168] In Tanzania, the incentives significantly reduced bypassing of facilities.[137] The quality of non-incentivised services either improved or remained unchanged, resulting from the quality-multiplier effect.[132 179 183] Instances of disrespect, abuse and neglect were reported by women seeking care from PBF facilities in Malawi.[157] No studies reported negative consequences on quality impacts.

One study reported a decline in the use of non-targeted services for children,[138] and one reported no effects on non-targeted services. [154] The availability of demand-side incentives and addressing the weaknesses in the service delivery and management capacities are essential to the effectiveness of supply-side incentives.[141 148 157 161 163]

Non-financial incentives

Two studies from Malawi[180] and El-Salvador[136] reported the effects of non-financial incentives on RMNCH services. Both studies reported improvements in clinical QoC and utilisation of services.

Performance incentives, in combination with other interventions

A study in Bangladesh, which compared the effects of PBF, CCT and a combination of both,[172] reported that PBF and CCT led to significant improvements in clinical QoC, client satisfaction and utilisation of maternal healthcare. The clinical quality for antenatal and delivery care was better in the PBF group, while utilisation was higher in the CCT group. A combination of both interventions resulted in significantly higher client volumes. In China,

a policy initiative to pay a capitated budget proportionate to the number of clients to township health centres and village posts, along with PBF, improved drug prescribing practices and reduced cost per visit.[182] In the Philippines, the health insurance scheme combined with PBF for physicians resulted in sustained improvements in clinical quality scores.[170] The study in Burkina Faso, Ghana and Tanzania to implement an electronic decision-support system coupled with PBF did not show improvements in antenatal and childbirth care quality despite high acceptance of the new technology.[147] The RBF and CCT for maternal healthcare in Malawi led to improved clinical practices during childbirth and a corresponding decline in in-facility maternal mortality.[145] In Zimbabwe, implementing continuous quality improvement in facilities under the PBF scheme improved compliance with maternal healthcare services at the primary healthcare level. In contrast, no improvements were reported for other services or hospital services.[190]

Cost recovery approaches

All three studies on the introduction of user fees were from low-income countries. Three studies from Zaire, Niger and Eritrea examined the effects of user fees on QoC.[134 152 181] The results show a mix of positive and negative effects. The positive outcomes include improved interpersonal aspects during the antenatal period and high levels of patient satisfaction. The negative consequences were more, which concerns about widening inequities and low QoC,[134] decreased client satisfaction related to waiting time,[152] bypassing of lower-level facilities,[134] reduced utilisation of services and increased cost of consultations.[152]

Engaging the private sector

A total of 24 studies which examined different types of health systems engaging with the private sector for health service delivery are included.

Franchising

The fourteen studies from Pakistan, Nepal, India, Vietnam, Myanmar, Cambodia, Ghana and Kenya evaluated various franchising models.[191–204] One analysed the results from the social franchising programmes in 17 Asian and African countries.[197] Almost all franchises provided reproductive health or maternal and child health services, except the one from Myanmar,[195] which implemented tuberculosis control interventions. Overall, franchising interventions improved the availability of services and supportive products and supplies, counselling and provision of information. Client satisfaction and client loyalty were found to be high, resulting in increased patient volumes. The quality of maternal and newborn care services in Pakistan and India remained low.[194 199 200 203] Studies on *Sky Health*, *Merrygold*, and *Matrika* franchising in India reported overall low quality of services, though improvements in provider behaviour and client satisfaction were reported.[194 199 203] An increase in the cost of care was reported as a negative effect.[192]

Contracting

Six studies examined the contracting of government-funded health services to non-governmental providers.[200 205–209] The results show a high degree of variation across countries. In Cambodia, there was improved management of diarrhoea, but the clients' perceptions of provider attitudes were negative.[206] In Pakistan, the clinical quality of services improved, but the overall quality remained low. However, the client's perception of quality and satisfaction levels were high. Utilisation rates and client-reported quality improved.[200 208 209] The results from Bangladesh were generally very positive, with improved availability and quality of services, higher utilisation rates, reduced mortality, improved nutritional status and high levels of client satisfaction.[205 207] One study from Bangladesh reported a reduction in mortality rates,[205] while the study from Cambodia reported reduced morbidity among children.[206]

Contracting negatively affected staff attitudes, provider competence and availability of equipment and supplies.[200 206]

Public–private partnership

PPP models are examined in four studies from India[210–212] and Lesotho.[213] The *Chiranjeevi Yojana* in India was associated with more and better clinical services, reduced waiting times and high patient satisfaction. The intervention was not associated with a change in the uptake of maternal and newborn care services or the management of complications.[211 212] The PPP hospital networks in Lesotho resulted in better health outcomes, such as lower hospital mortality rates, lower stillbirth rates, and improved survival of low birth weight newborns.[213] Poor equipment availability and inappropriate staff attitudes led to low user satisfaction.[210]

Private sector capacity strengthening

The only study from Kenya analysed the effects of an intervention to strengthen the capacity of the private sector to improve the quality of general healthcare services. The results were mixed, with improved interpersonal aspects of care and reduced unnecessary procedures and waste. However, the intervention was associated with a reduction in the correct management of outpatient cases and showed major deficiencies in laboratory quality. There were no changes in the patient perceptions of quality or client satisfaction.[214]

Information and monitoring

Eight studies that analysed various information and monitoring interventions are included in this review.[215–222] In Mexico, the study involved benchmarking by measuring effective coverage to monitor progress, foster accountability and create a culture of evidence. This improved effective coverage of maternal and child health services, though some inequities remained unchanged.[217]

Balanced scorecards used in Afghanistan as a national health service performance assessment tool showed improved availability, quality and equity of service provision and client and provider satisfaction.[216] Quality-of-care audits of perinatal mortality in South Africa did not establish an effect of the intervention on perinatal mortality. However, more facilities were able to identify modifiable factors and take remedial actions.[215] A dashboard-driven patient safety programme in India showed significant improvements in composite quality scores and compliance with patient safety protocols.[220] Healthcare performance evaluation in three districts of Ethiopia, Tanzania and Uganda showed improved quality and better governance in decision-making, accountability and allocation of resources.[222]

Holding quality contests among health facilities in Morocco improved the quality scores of the primary healthcare facilities participating.[219] In Kenya, the intervention to apply data-driven prioritisation at the health facilities contributed to significant improvements in structural readiness, better infection prevention and control, compliance with clinical protocols, reduced waiting times and reduced neonatal mortality.[218]

Participation and engagement

Four randomised controlled trials in Nepal, Bangladesh and Malawi evaluated the effects of participatory women's groups and strengthened health services for maternal and newborn care.[223–226] Three of these studies reported a significant reduction in neonatal mortality rates.[224–226] One study showed a decrease in maternal mortality,[226] while two trials did not affect maternal mortality.[223 224] One trial in Bangladesh, which did not show a reduction of neonatal mortality rate, highlighted the importance of appropriate design to reach the coverage of the intervention and address the contextual factors.[223]

Four other studies from India, Ghana and Malawi examined the effects of community mobilisation without inputs for health service improvements.[227–230] The results were mixed, with one study reporting improved care processes such as information provision and respectfulness, and one study showed a reduction in the rates of stillbirths, neonatal mortality and perinatal mortality. [230] The effects on the utilisation of health services varied. None of the studies reported negative effects on care processes or quality impacts. A study from Indonesia reported the low willingness and readiness of service recipients to engage in patient safety initiatives.[231]

Regulation

Eleven studies evaluated the impacts of various forms of regulation of health facilities on QoC.[232–242] In South Africa, hospital accreditation was associated with improved compliance with quality standards. It also improved patient satisfaction with care.[239] Both the studies from Egypt showed improved compliance with clinical protocols.[233 235] One study also reported reduced morbidity among children and improved family planning and maternal care services uptake.[235] In Turkey, accreditation improved quality management scores, improved infection prevention practices and improved hospital patient handling and medication practices.[242] Hospital accreditation in Thailand reduced hospital mortality related to stroke and sepsis and significantly increased client volumes.[240] Client satisfaction levels were high in two studies.[233 239] The quality improvement support for private hospitals through the *Manyata* certification resulted in significant improvements in the overall quality scores of the facilities.[241]

The accreditation of health service providers linked to insurance payments in the Philippines improved quality scores among physicians in both public and private hospitals.[238] Studies based on quality certification programmes were found in Egypt,[236] India[232] and Tanzania.[237] In Ethiopia, clinical and administrative standards implementation improved quality in all areas assessed.[234] The results from these four studies were heterogeneous, with Gold Star certification of family planning clinics in Egypt showing significantly improved availability of family planning products and quality of service provision.[236] The SafeCare certification in Tanzania did not lead to improved clinical quality.[237] The overall impact of National Quality Assurance Standards (NQAS) certification in India was low, though structural aspects of the quality, such as infrastructure, human resources and supplies, improved.[232]

Multiple governance domains

Sixteen studies included in this review implemented interventions across multiple governance domains.[243–258] Studies from the Philippines,[250] South Africa[243] and Madagascar[247] show remarkably positive effects on clinical quality, utilisation and health outcomes. CCT and the expansion of the Family Health Programme in Brazil resulted in a significant reduction in perinatal mortality rate over 12 years.[249] Decentralisation and regulatory changes in Indonesia did not significantly improve the QoC for prenatal and adult care. They led to inequities in the distribution of health human resources.[245]

The effects of several health governance interventions, including hospital accreditation, the introduction and subsequent withdrawal of PBIs, and the introduction of user fees, are reported in the study from Egypt.[246] Health insurance combined with local-level leadership for health sector reforms such as improved infrastructure, supplies, human resource development, service delivery, accountability and regulatory oversight in the Philippines resulted in increased uptake of institutional deliveries and a reduction in maternal mortality.[250] In Nigeria, the combination of health insurance and facility upgrades increased hospital deliveries but did not significantly impact maternal mortality.[244]

A social franchising intervention, along with free vouchers, training and accreditation of providers in Pakistan, reported high levels of user satisfaction, increased uptake of family planning services, and trust in providers.[254] A participatory community-led health

system intervention and quality improvement initiative in Tanzania significantly reduced the proportion of women experiencing disrespect and abuse during childbirth and improved client satisfaction.[252]

A combination of health insurance and franchise midwife clinics in the Philippines showed increased prenatal care, early initiation of prenatal care and facility births. The visits to franchise midwife clinics did not improve prenatal care standards.[251]

Contracting health services to the private sector and PBF in Cambodia led to a shift from delivery at home and private clinics to public health facilities. This change, however, did not translate into improved neonatal health outcomes due to deficiencies in the QoC at public facilities.[253] Supervision and incentives in the form of salary top-ups and housing arrangements to improve the quality of integrated management of childhood illnesses showed that the incentives were more effective in improving quality and patient satisfaction.[248]

Implementing SafeCare accreditation standards and health system improvements improved overall QoC standards and compliance with clinical protocols for surgery, anaesthesia and overall outpatient services in Nigeria.[255] Regulation of fees and health insurance reduced hospital admission rates for ambulatory care-sensitive conditions for hypertension in Ghana.[256] At-scale implementation of Every Mother Every Newborn Quality Improvement standards, including better information and monitoring and community engagement, improved compliance with maternal and newborn clinical standards, improved patient rights and better health outcomes for mothers and newborns in Bangladesh, Ghana and Tanzania.[257]

DISCUSSION

There is growing support for enhancing the quality of healthcare delivered in LMICs. Some recent global guidelines and publications supported LMICs in developing health policies and reform initiatives emphasising quality and safety in healthcare.[3 9 21 259 260] However, the efforts to establish a strong evidence base to inform and evaluate such initiatives remain inadequate. This review was able to map the available evidence linking governance interventions to impacts on QoC. The study has also pointed to areas where more robust research may be required.

This review identified a stronger evidence base linking improved QoC with health financing, private sector partnerships and community participation and engagement strategies. Studies related to leadership, system design, information and monitoring, and accountability and transparency are limited. Though one of the earlier reviews highlighted the potential links between leadership interventions and healthcare quality,[11] the evidence for a causal relationship between governance initiatives and health system performance is lacking, which makes it difficult for governments and donors to make investment decisions.[11 59] As previously noted by a review, there needs tobe more research evidence on the effectiveness of strategies involving legislation and regulatory mechanisms to improve health service quality.[22] Approaches involving an appropriate constellation of governance interventions involving demand and supply-side financing, accreditation and accountability mechanisms offer better prospects of improving QoC.

A wide range of factors influenced the achievement of positive impacts on quality. These include health system context, levels of quality at baseline, contextualisation of the intervention designs, acceptability of the intervention by the community, providers and stakeholders, quality of implementation, availability of other health systems inputs such as additional donor support, duration of implementation, technical support available, completeness and reliability of data, and the design and robustness of the evaluations. An important observation from this evidence-mapping exercise is the heterogeneity of results from similar interventions in multiple contexts. The broader social, political and economic contexts and the overall national governance environment also have considerable influence on the governance of QoC, which remains underinvestigated. Therefore, it is essential for studies evaluating the impacts of governance approaches on QoC to analyse and report the organisational and contextual factors influencing the outcomes. The causal pathways of how governance interventions lead to positive impacts on QoC also need to be better analysed and explained.

The findings presented are consistent with the conclusions of some of the earlier reviews on specific interventions. Previous reviews on the impacts of PBF have noted improvements in utilisation but inconclusive evidence on its effects on quality outcomes.[34] A review of women's groups' participation and learning significantly impacted maternal and newborn survival.[35] Other reviews reported inconclusive evidence for the effectiveness of hospital accreditation on quality and patient safety outcomes.[47 261]

Studies from high-income country contexts similarly indicate the importance of upstream governance and management practices influencing QoC.[262] The findings from a review of governance and leadership in seven developed countries show greater emphasis on evidence-based priority setting and performance monitoring. At the same time, uncertainty remains on optimal mechanisms for accountability.[263]

The main strength of this review is that it has strung together a range of governance strategies and interventions to analyse their impacts on healthcare quality at the service delivery level. This review has several limitations. First, there is no agreed-upon definition or framework that identifies all the governance functions or interventions to improve QoC. The governance interventions identified in this review are not an exhaustive list of potential interventions to improve quality. Second, the health systems operate in complex and highly variable environments. The impact of the interventions on QoC is also influenced by organisational, social and relational factors such as social norms, trust and values.[17 264] This review did

not analyse the interactions and relationships of these factors and their influence on quality, which is one of the limitations. Third, the heterogeneity in the design and metrics used to measure quality limits the comparability across studies. This has been identified as a challenge in a recent systematic review of the impacts of PPP on QoC.[46] Most studies limit their evaluations to changes in structural aspects of quality or utilisation of services, while many others use composite scores for overall quality of services.

The study findings will be valuable to inform future research priorities, including the need for a harmonised approach to selecting indicators for measurement while evaluating the impact of interventions on healthcare quality. This review is of broader relevance to governments, policy-makers and programme managers, donors and other development partners working to improve healthcare services in LMICs.

Conclusion

We identified more robust evidence linking improved QoC with health financing, private sector partnerships and community participation and engagement strategies. The evidence base related to leadership, system design, information and monitoring, and accountability and transparency needs to be improved. More robust evaluations of policy and health reform initiatives intended to impact QoC are required. Studies could use a more harmonised measurement framework, which incorporates aspects of care processes and quality impacts in their evaluations.

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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.	3
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			4, rows 20-38
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.	4-5
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.	
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.	5, rows 18-19
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.	5, rows 23-33
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.	5, rows 35-48
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	30
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	5
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.	5-6
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	
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).	6 NA
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	

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6, rows 10-25

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
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.	6-7
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	NA
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	Supplemental file 4, Pages 40-67
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.	7-14
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	14-15
DISCUSSION			
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.	165, rows 26-39
Limitations	20	Discuss the limitations of the scoping review process.	15, rows 46-55
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.	
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.	15, rows 57-59

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.
* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.
† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).
‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.
§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMAScR): Checklist and Explanation. Ann Intern Med. 2018;169:467–473. doi: 10.7326/M18-0850.

Supplemental file 2: Generic search strategy

Health System Governance (AND)	Quality of Care (AND)	Geographies
"health care" or "health care delivery" or "health care services" or "health system" or "health system governance" or "health stewardship" or "health policy" or "leadership" or "health services administration" or "organization and administration" or "universal health care" or "universal health coverage" or "accountability" or "health legislation" or "government regulation" or "quality policy" or "quality strategy" or "patient participation" or "stakeholder participation" or "provider network" or "empanelment" or "pay for performance" or "performance-based financing" or "clinical audit" or "accreditation" or "licensing" or "safety standard*" or "inspection" or "minimum quality" or "safety protocol" or "clinical competence" or "public report*" or "provider reimbursement" or "strategic purchasing" or "health information" or "quality of care data" or "quality measurement" or "transparency" or "capacity development" or "ethics review" or	"quality of care" or "quality improvement" or "quality of health care" or "quality assurance" or "quality control" or "total quality management" or "continuous quality improvement"	Afghanistan OR Angola OR Albania OR Argentina OR Armenia OR "American Samoa" OR Azerbaijan OR Burundi OR Benin OR "Burkina Faso" OR Bangladesh OR Bulgaria OR "Bosnia Herzegovina" OR Belarus OR Belize OR Bolivia OR Brazil OR Bhutan OR Botswana OR "Central African Republic" OR China OR "Côte d'Ivoire" OR Cameroon OR "Congo Democratic Republic" OR "Congo Republic" OR Colombia OR Comoros OR "Cabo Verde" OR "Costa Rica" OR Cuba OR Djibouti OR Dominica OR "Dominican Republic" OR Algeria OR Ecuador OR Egypt OR Eritrea OR Ethiopia OR Fiji OR Micronesia OR Gabon OR Georgia OR Ghana OR Guinea OR Gambia OR "The Gambia" OR "Guinea-Bissau" OR "Equatorial Guinea" OR Grenada OR Guatemala OR Guyana OR Honduras OR Haiti OR Indonesia OR India OR Iran OR "Islamic Republic of Iran" OR Iraq OR Jamaica OR Jordan OR Kazakhstan OR Kenya OR "Kyrgyz Republic" OR Cambodia OR Kiribati OR "Lao PDR" OR Laos OR Lebanon OR Liberia OR Libya OR "St. Lucia" OR "Saint Lucia" OR "Sri Lanka" OR Lesotho OR Morocco OR Moldova OR Madagascar OR Maldives OR Mexico OR "Marshall Islands" OR "North Macedonia" OR Mali OR Myanmar OR Montenegro OR Mongolia OR Mozambique OR Mauritania OR Mauritius OR Malawi OR Malaysia OR Namibia OR Niger OR Nigeria OR Nicaragua OR Nepal OR Pakistan OR Panama OR Peru OR Philippines OR "Papua New Guinea" OR Korea OR "Democratic People's Republic of Korea" OR Paraguay OR "West Bank and Gaza" OR Romania OR "Russian Federation" OR Rwanda OR Sudan OR Senegal OR "Solomon Islands" OR "Sierra Leone" OR "El Salvador" OR Somalia OR

"task shift*" or "consensus building" or "reward*" or "recognition" or "patient safety" or "public private partnership" or "private sector partnership" or "private sector engagement"		Serbia OR "South Sudan" OR "São Tomé and Principe" OR Suriname OR Eswatini OR "Syrian Arab Republic" OR Syria OR Chad OR Togo OR Thailand OR Tajikistan OR Turkmenistan OR "Timor-Leste" OR Tonga OR Tunisia OR Turkey OR Tuvalu OR Tanzania OR Uganda OR Ukraine OR Uzbekistan OR "St. Vincent and the Grenadines" OR "Saint Vincent" OR Venezuela OR Vietnam OR Vanuatu OR Samoa OR Kosovo OR Yemen OR "South Africa" OR Zambia OR Zimbabwe OR "low-income countries" or "low-and-middle-income-countries" or "LMIC*" or "middle-income-countries" or "developing countries" or "less developed countries" or "least developed countries" or "developing countries" or "LIC" or "LDC" or "developing countries" or "least developed countries" or "under developed nation" or "under-developed nation" or "third world countries" or "third world nation" or "developing nation" or "less developed nation" or "less-developed nation"

Supplemental file 3: List of excluded papers with reason for exclusion

SL No	Article	Reason for exclusion
1	Dale EM. Performance-based payments, provider motivation and quality of care in Afghanistan. Ann Arbor: The Johns Hopkins University; 2014.	Wrong outcomes
2	Vieira-Meyer A, Machado M, Gubert FA, Morais APP, Paula Sampaio Y, Saintrain MVL, et al. Variation in primary health care services after implementation of quality improvement policy in Brazil. Fam Pract. 2020;37(1):69-80.	Wrong outcomes
3	Hirschhorn LR, Baynes C, Sherr K, Chintu N, Awoonor-Williams JK, Finnegan K, et al. Approaches to ensuring and improving quality in the context of health system strengthening: A cross-site analysis of the five African Health Initiative Partnership programs. BMC Health Services Research. 2013;13(SUPPL.2).	Wrong outcomes
4	Dhamanti I, Leggat S, Barraclough S, Rachman T. Factors contributing to under-reporting of patient safety incidents in Indonesia: Leaders' perspectives. F1000Research. 2022;10.	Wrong outcomes
5	WA M'NABEA L. Governance accountability mechanisms as a determinant of delivery of quality health services in Kenyatta National Hospital, Kenya: KeMU; 2020.	Wrong outcomes
6	Ngo DKL, Sherry TB, Bauhoff S. Health system changes under pay-forperformance: The effects of Rwanda's national programme on facility inputs. Health Policy and Planning. 2017;32(1):11-20.	Wrong outcomes
7	Baduy RS, Macruz Feuerwerker LC, Zucoli M, Borian JT. Healthcare regulation and healthcare management as tools to assure comprehensiveness and equity in health. Cadernos De Saude Publica. 2011;27(2):295-304.	Wrong outcome
8	Marquez L, Madubuike C. Country experience in organizing for quality: Chile. QA Brief. 1999;8(1):6-8.	Wrong outcome
9	Onwujekwe O, Mbachu CO, Okeke C, Ezenwaka U, Ogbuabor D, Ezenduka C. Strategic Health Purchasing in Nigeria: Exploring the Evidence on Health System and Service Delivery Improvements. Health Systems and Reform. 2022;8(2).	Wrong outcomes
10	Siddiqi S, Elasady R, Khorshid I, Fortune T, Leotsakos A, Letaief M, et al. Patient Safety Friendly Hospital Initiative: from evidence to action in seven developing country hospitals. International Journal for Quality in Health Care. 2012;24(2):144-51.	Wrong outcomes
11	Mansour W. Policy Transfer of Hospital Accreditation to Low-Middle Income Countries: Drawing Lessons from Eastern Mediterranean Countries: MANCHESTER BUSINESS SCHOOL; 2018.	Wrong outcomes
12	Wagenaar BH, Hirschhorn LR, Henley C, Gremu A, Sindano N, Chilengi R, et al. Data-driven quality improvement in low-and middle-income country health systems: Lessons from seven years of implementation experience across Mozambique, Rwanda, and Zambia. BMC Health Services Research. 2017;17.	Wrong outcomes
13	Stenson B, Syhakhang L, Lundborg CS, Eriksson B, Tomson G. Private pharmacy practice and regulation. A randomized trial in Lao P.D.R. International journal of technology assessment in health care. 2001;17(4):579-89.	Wrong outcome
14	Ridde V, Queuille L, Atchessi N, Samb O, Heinmüller R, Haddad S. The evaluation of an experiment in healthcare user fees exemption for vulnerable groups in Burkina Faso. Field Actions Science Report. 2012;8(SPL).	Wrong outcome
15	D'Aquino L, Pyone T, Nigussie A, Salama P, Gwinji G, van den Broek N. Introducing a sector-wide pooled fund in a fragile context: mixed-methods evaluation of the health transition fund in Zimbabwe. Bmj Open. 2019;9(6).	Wrong outcome

16	Rasheed MA, Hussain A, Hashwani A, Kedzierski JT, Hasan BS. Implementation evaluation of a leadership development intervention for improved family experience in a private paediatric care hospital, Pakistan. BMC Health Services Research. 2022;22(1):1-17.	Wrong outcome
17	Ejemai Amaize E, Nxumalo N, Ramaswamy R, Ibisomi L, Ihebuzor N, Eyles J. Effectiveness of the Diagnose-Intervene- Verify-Adjust (DIVA) model for integrated primary healthcare planning and performance improvement: an embedded mixed methods evaluation in Kaduna state, Nigeria. BMJ Open. 2019;9(3).	Wrong outcome
18	Jiang Y, Geng Q, Haffey J, Douglas E. Improving the quality of care in Chinese family planning programme. China Popul Today. 1994;11(5):5-8.	Wrong outcome
19	Dao HT, Waters H, Le QV. User fees and health service utilization in Vietnam: How to protect the poor? Public Health. 2008;122(10):1068-78.	Wrong outcome
20	Tabrizi JS, Farahbakhsh M, Iezadi S, Ahari AM. Design and implementation of pay-for-quality in primary healthcare: A case study from Iran. Australasian Medical Journal (Online). 2017;10(6):449-60.	Wrong outcome
21	Ejemai Amaize E, Nxumalo N, Ramaswamy R, Eyles J. Strengthening decentralized primary healthcare planning in Nigeria using a quality improvement model: how contexts and actors affect implementation. Health Policy and Planning. 2018;33(6):715-28.	Wrong outcome
22	Olaniran AA, Oludipe M, Hill Z, Ogunyemi A, Umar N, Ayorinde R, et al. Influence of context on quality improvement priorities: a qualitative study of three facility types in Lagos State, Nigeria. BMJ open quality. 2022;11(1).	Wrong outcome
23	Alhassan RK, Spieker N, van Ostenberg P, Ogink A, Nketiah-Amponsah E, de Wit TF. Association between health worker motivation and healthcare quality efforts in Ghana. Hum Resour Health. 2013;11:37.	Wrong outcome
24	Sutherns T. Exploring mechanisms for receiving and responding to citizen feedback in LMIC health system: a mixed methods evidence mapping of the Western Cape Province of South Africa: Faculty of Health Sciences; 2020.	Wrong outcome
25	Falisse J-B, Ndayishimiye J, Kamenyero V, Bossuyt M. Performance-based financing in the context of selective free health-care: an evaluation of its effects on the use of primary health-care services in Burundi using routine data. Health Policy and Planning. 2015;30(10):1251-60.	Wrong outcome
26	Cavalcanti P, Fernandez M, Junior GDG. Government-academia cooperation in the Brazilian National Health System: an analysis of the National Program for Access and Quality Improvement in Primary Care. Revista de Administracao Publica. 2022;56(2):291-308.	Wrong outcome
26	Babich LP. Experiences with the expansion of hospital accreditation into the developing world. Ann Arbor: Boston University; 2013.	Wrong outcome
28	Maeda A. Evaluating the effectiveness of user fee increase in improving the quality of care: Government primary health care services in Indonesia. Ann Arbor: The Johns Hopkins University; 2000.	Wrong outcome
29	Nyawira L, Tsofa B, Musiega A, Munywoki J, Njuguna RG, Hanson K, et al. Management of human resources for health: implications for health systems efficiency in Kenya. BMC Health Services Research. 2022;22(1).	Wrong outcome
30	Alhassan RK, Nketiah-Amponsah E, Spieker N, Arhinful DK, de Wit TFR. Assessing the Impact of Community Engagement Interventions on Health Worker Motivation and Experiences with Clients in Primary Health Facilities in Ghana: A Randomized Cluster Trial. Plos One. 2016;11(7).	Wrong outcome
31	Amporfu E, Agyei-Baffour P, Edusei A, Novignon J, Arthur E. Strategic Health Purchasing Progress Mapping: A Spotlight on Ghana's National Health Insurance Scheme. Health Systems and Reform. 2022;8(2).	Wrong outcome
32	Abrahams Z, Jacobs Y, Mohlamonyane M, Boisits S, Schneider M, Honikman S, et al. Implementation outcomes of a health systems strengthening intervention for perinatal women with common mental disorders and experiences of domestic violence in South Africa: Pilot	Wrong outcome

	feasibility and acceptability study. BMC Health Services Research. 2022;22(1).	
33	Schuele E, MacDougall C. The missing bit in the middle: Implementation of the Nationals Health Services Standards for Papua New Guinea. PLoS ONE. 2022;17(6 June).	Wrong outcome
34	Abuosi AA, Poku CA, Attafuah PY, Anaba EA, Abor PA, Setordji A, et al. Safety culture and adverse event reporting in Ghanaian healthcare facilities: Implications for patient safety. Plos one. 2022;17(10):e0275606.	Wrong outcome
35	Caldas BDN, Portela MC, Singer SJ, Aveling EL. How Can Implementation of a Large-Scale Patient Safety Program Strengthen Hospital Safety Culture? Lessons From a Qualitative Study of National Patient Safety Program Implementation in Two Public Hospitals in Brazil. Medical Care Research and Review. 2022;79(4):562-75.	Wrong outcome
36	Dohmen P, De Sanctis T, Waiyaiya E, Janssens W, Rinke de Wit T, Spieker N, et al. Implementing value-based healthcare using a digital health exchange platform to improve pregnancy and childbirth outcomes in urban and rural Kenya. Frontiers in Public Health. 2022;10.	Wrong outcome
37	Sitienei J, Manderson L, Nangami M. Community participation in the collaborative governance of primary health care facilities, Uasin Gishu County, Kenya. PloS one. 2021;16(3):1.	Wrong outcome
38	Desta BF, Abitew A, Beshir IA, Argaw MD, Abdlkader S. Leadership, governance and management for improving district capacity and performance: the case of USAID transform: primary health care. BMC Family Practice. 2020;21(1):1-7.	Wrong outcome
39	Atnafu DD, Tilahun H, Alemu YM. Community-based health insurance and healthcare service utilisation, North-West, Ethiopia: a comparative, cross-sectional study. Bmj Open. 2018;8(8).	Wrong outcome
40	Kaseje D, Olayo R, Musita C, Oindo CO, Wafula C, Muga R. Evidence-based dialogue with communities for district health systems' performance improvement. Global Public Health. 2010;5(6):595-610.	Wrong outcome
41	Robinson RS, Adams T. Building social accountability to improve reproductive, maternal, newborn and child health in Nigeria. International Journal for Equity in Health. 2022;21(1):1-18.	Wrong outcome
42	Belaid L, Ridde V. An implementation evaluation of a policy aiming to improve financial access to maternal health care in Djibo district, Burkina Faso. Bmc Pregnancy and Childbirth. 2012;12.	Wrong outcome
43	Dwicaksono A, Fox AM. Does Decentralization Improve Health System Performance and Outcomes in Low- and Middle-Income Countries? A Systematic Review of Evidence From Quantitative Studies. Milbank Quarterly. 2018;96(2):323-68.	Wrong outcome
44	Shawar YR, Djellouli N, Akter K, Payne W, Kinney M, Mwaba K, et al. Factors Shaping Network Emergence: A Cross-Country Comparison of Quality of Care Networks in Bangladesh, Ethiopia, Malawi, and Uganda. Cold Spring Harbor: Cold Spring Harbor Laboratory Press; 2023.	Wrong outcome
45	Seblewengel Lemma A, Callie Daniels H, Asebe Amenu T, Sarker M, Akter K, Nakidde C, et al. Opportunities to sustain a multi-country quality of care network: lessons on the actions of four countries Bangladesh, Ethiopia, Malawi, and Uganda. Cold Spring Harbor: Cold Spring Harbor Laboratory Press; 2023.	Wrong outcome
46	Fidele Kanyimbu M, Djellouli N, Akter K, Sarker M, Asebe Amenu T, Mwandira K, et al. Individual and organisational interactions, learning and information sharing in a multi-country implementation-focused quality of care network for maternal, newborn and child health: a social network analysis. Cold Spring Harbor: Cold Spring Harbor Laboratory Press; 2023.	Wrong outcome
47	Robinson RS, Adams T. Building social accountability to improve reproductive, maternal, newborn and child health in Nigeria. International Journal for Equity in Health. 2022;21(1):1-18.	Wrong outcome

48	Ivers N, Jamtvedt G, Flottorp S, Young JM, Odgaard-Jensen J, French SD, et al. Audit and feedback: effects on professional practice and healthcare outcomes. Cochrane Database of Systematic Reviews. 2012(6).	Wrong intervention
49	Pratiwi AB, Padmawati RS, Willems DL. Behind open doors: Patient privacy and the impact of design in primary health care, a qualitative study in Indonesia. Front Med (Lausanne). 2022;9:915237.	Wrong intervention
50	Tancred T. Implementation of community-level quality improvement in southeastern tanzania: a mixed methods process evaluation of what worked, what didn't, and why [Ph.D.]. Ann Arbor: University of London, London School of Hygiene and Tropical Medicine (United Kingdom); 2016.	Wrong intervention
51	Barber SL, Gertler PJ, Harimurti P. The contribution of human resources for health to the quality of care in Indonesia. Health Affairs. 2007;26(3):w367-w79.	Wrong intervention
52	Ochieng BM, Lattanzi G, Choge M, Kaseje DCO, Thind AS. Effect of health systems strengthening in influencing maternal and neonatal health outcomes in Bungoma County, Kenya. Pan African Medical Journal. 2022;41.	Wrong intervention
53	Waiswa P, Wanduru P, Okuga M, Kajjo D, Kwesiga D, Kalungi J, et al. Institutionalizing a regional model for improving quality of newborn care at birth across hospitals in Eastern Uganda: A 4-year story. Global Health Science and Practice. 2021;9(2):365-78.	Wrong intervention
54	Tancred T, Mandu R, Hanson C, Okuga M, Manzi F, Peterson S, et al. How people-centred health systems can reach the grassroots: Experiences implementing community-level quality improvement in rural Tanzania and Uganda. Health Policy and Planning. 2018;33(1):e1-e13.	Wrong intervention
55	Kim JH, Bell GA, Bitton A, Desai EV, Hirschhorn LR, Makumbi F, et al. Health facility management and primary health care performance in Uganda. BMC Health Services Research. 2022;22(1).	Wrong intervention
56	Agarwal S, Glenton C, Tamrat T, Henschke N, Maayan N, Fønhus MS, et al. Decision-support tools via mobile devices to improve quality of care in primary healthcare settings. Cochrane Database of Systematic Reviews. 2021(7).	Wrong intervention
57	Weldearegay HG, Kahsay AB, Godefay H, Petrucka P, Medhanyie AA. The effect of catchment based mentorship on quality of maternal and newborn care in primary health care facilities in Tigray Region, Northern Ethiopia: A controlled quasi-experimental study. PLoS ONE. 2022;17(11 November).	Wrong intervention
58	Kauchali S, Ashworth A. Building capacity to scale-up improved inpatient treatment of severe malnutrition: experiences of South Africa. Annals of Nutrition & Metabolism, suppl Supplement 1. 2023;79:256.	Wrong intervention
59	Shahraz S, Shahin S, Farzi Y, Modirian M, Shahbal N, Azmin M, et al. Iran Quality of Care in Medicine Program (IQCAMP): Design and Outcomes. Archives of Iranian Medicine. 2023;26(3):126-37.	Study protocol
60	Marquez L, Madubuike C. Country experience in organizing for quality: Niger. QA Brief. 1999;8(1):12-5.	Discussion paper
61	Marquez L, Madubuike C. Country experience in organizing for quality: Ecuador. QA brief. 1999;8(1):9-11.	Discussion paper
62	Zeng W, Gheorghe A, Nair D. A discussion paper of health system level approaches to addressing quality of care in low-and middle-income countries. World Bank, September. 2016.	Discussion paper
63	A "client perspective" helps improve services. Netw Res Triangle Park N C. 1998;19(1):10-1.	Discussion paper
64	De Walque, Kandpal E. Reviewing the evidence on health financing for effective coverage: do financial incentives work? BMJ Global Health. 2022;7(9)	Discussion paper
65	Marquez L, Madubuike C. Country experience in organizing for quality: Zambia. QA Brief. 1999;8(1):16-9.	Discussion paper

66	Ogunbekun I, Adeyi O, Wouters A, Morrow RH. Costs and financing of improvements in the quality of maternal health services through the Bamako Initiative in Nigeria. Health Policy Plan. 1996;11(4):369-84.	Duplicate paper
67	Colbourn T, Pulkki-Brannstrom AM, Nambiar B, Kim S, Bondo A, Banda L, et al. Cost-effectiveness and affordability of community mobilisation through women's groups and quality improvement in health facilities (MaiKhanda trial) in Malawi. Cost effectiveness and resource allocation. 2015;13(1).	Duplicate (cost-effectiveness analysis)
68	Khan S, Yousefinezhadi T, Hinchcliff R. The impact of hospital accreditation in selected Middle East countries: a scoping review. Journal of Health Organization & Management. 2022;36(1):51-68.	Review paper (Duplicate)
69	Deussom R, Mwarey D, Bayu M, Abdullah SS, Marcus R. Systematic review of performance-enhancing health worker supervision approaches in low- and middle-income countries. Human Resources for Health. 2022;20(1):1-12.	Review paper
70	Peters DH. Improving health service delivery in developing countries: from evidence to action: World Bank Publications; 2009.	Review paper (Book)
71	Lagarde M, Palmer N. The impact of user fees on access to health services in low- and middle-income countries. Cochrane Database of Systematic Reviews. 2011(4).	Review paper
72	Ekman B. Community-based health insurance in low-income countries: a systematic review of the evidence. Health Policy and Planning. 2004;19(5):249-70.	Review paper
73	Zeng W, Li G, Ahn H, Nguyen HTH, Shepard DS, Nair D. Cost-effectiveness of health systems strengthening interventions in improving maternal and child health in low- and middle-income countries: A systematic review. Health Policy and Planning. 2018;33(2):283-97.	Review paper
74	Khan G, Kagwanja N, Whyle E, Gilson L, Molyneux S, Schaay N, et al. Health system responsiveness: a systematic evidence mapping review of the global literature. International journal for equity in health. 2021;20(1):1-24.	Review paper
75	Ayanore MA, Amuna N, Aviisah M, Awolu A, Kipo-Sunyehzi DD, Mogre V, et al. Towards Resilient Health Systems in Sub-Saharan Africa: A Systematic Review of the English Language Literature on Health Workforce, Surveillance, and Health Governance Issues for Health Systems Strengthening. Annals of Global Health. 2019;85(1).	Review paper
76	Ansu-Mensah M, Danquah FI, Bawontuo V, Ansu-Mensah P, Kuupiel D. Maternal perceptions of the quality of Care in the Free Maternal Care Policy in sub-Sahara Africa: a systematic scoping review. Bmc Health Services Research. 2020;20(1).	Review paper
77	Herrera CA, Lewin S, Paulsen E, Ciapponi A, Opiyo N, Pantoja T, et al. Governance arrangements for health systems in low-income countries: an overview of systematic reviews. Cochrane Database of Systematic Reviews. 2017(9).	Review paper
78	Negero MG, Sibbritt D, Dawson A. How can human resources for health interventions contribute to sexual, reproductive, maternal, and newborn healthcare quality across the continuum in low- and lower-middle-income countries? A systematic review. Hum Resour Health. 2021;19(1):54.	Review paper
79	Oyugi B, Kendall S, Peckham S. Effects of free maternal policies on quality and cost of care and outcomes: an integrative review. Primary health care research & development. 2021;22.	Review paper
80	Dayal P, Hort K. Quality of care: what are effective policy options for governments in low and middle income countries to improve and regulate the quality of ambulatory care?: WHO Regional Office for the Western Pacific; 2015.	Review paper
81	Atun R, de Jongh TE, Secci FV, Ohiri K, Adeyi O, Car J. Integration of priority population, health and nutrition interventions into health systems: systematic review. BMC public health. 2011;11(1):1-10.	Review paper

82	Bosch-Capblanch X, Liaqat S, Garner P. Managerial supervision to improve primary health care in low-and middle-income countries. Cochrane Database of Systematic Reviews. 2011(9).	Review paper
83	Myint C-Y, Pavlova M, Thein K-N-N, Groot W. A systematic review of the health-financing mechanisms in the Association of Southeast Asian Nations countries and the People's Republic of China: lessons for the move towards universal health coverage. PloS one. 2019;14(6):e0217278.	Review paper
89	Christmals CD, Aidam K. Implementation of the National health insurance scheme (NHIS) in Ghana: lessons for South Africa and low-and middle-income countries. Risk Management and Healthcare Policy. 2020;13:1879.	Review paper
90	Dettrick Z, Firth S, Jimenez Soto E. Do strategies to improve quality of maternal and child health care in lower and middle income countries lead to improved outcomes? A review of the evidence. PLoS One. 2013;8(12):e83070.	Review paper
91	Diaconu K, Falconer J, Verbel A, Fretheim A, Witter S. Paying for performance to improve the delivery of health interventions in low-and middle-income countries. Cochrane Database of Systematic Reviews. 2021(5).	Review paper
92	Flodgren G, Gonçalves-Bradley DC, Pomey MP. External inspection of compliance with standards for improved healthcare outcomes. Cochrane Database of Systematic Reviews. 2016(12).	Review paper
93	Khan S, Yousefinezhadi T, Hinchcliff R. The impact of hospital accreditation in selected Middle East countries: a scoping review. Journal of health organization and management. 2021.	Review paper
94	Koehlmoos TP, Gazi R, Hossain S, Zaman K. The effect of social franchising on access to and quality of health services in low-and middle-income countries. The Cochrane Database of Systematic Reviews. 2009;2009(1).	Review paper
95	Lowe D, Ryan R, Schonfeld L, Merner B, Walsh L, Graham-Wisener L, et al. Effects of consumers and health providers working in partnership on health services planning, delivery and evaluation. Cochrane Database of Systematic Reviews. 2021(9).	Review paper
96	Nepal A, Dangol SK, van der Kwaak A. Improving maternal health services through social accountability interventions in Nepal: an analytical review of existing literature. Public health reviews. 2020;41(1):1-24.	Review paper
97	Odendaal WA, Ward K, Uneke J, Uro-Chukwu H, Chitama D, Balakrishna Y, et al. Contracting out to improve the use of clinical health services and health outcomes in low-and middle-income countries. Cochrane Database of Systematic Reviews. 2018(4).	Review paper
98	Leisher SH, Sprockett A, Longfield K, Montagu D. Quality measurement in family planning: past, present, future: papers from the Bellagio meeting on family planning quality, October 2015. Oakland, CA: Metrics for Management. 2016.	Review paper
99	Patel S. Structural, institutional and organizational factors associated with successful pay for performance programmes in improving quality of maternal and child health care in low and middle income countries: A systematic literature review. Journal of Global Health. 2018;8(2).	Review paper
100	Patouillard E, Goodman CA, Hanson KG, Mills AJ. Can working with the private for-profit sector improve utilization of quality health services by the poor? A systematic review of the literature. International journal for equity in health. 2007;6(1):1-11.	Review paper
101	Spaan E, Mathijssen J, Tromp N, McBain F, Have At, Baltussen R. The impact of health insurance in Africa and Asia: a systematic review. Bulletin of the World Health Organization. 2012;90:685-92.	Review paper
102	Schlein K, La Cruz D, York A, Gopalakrishnan T, Montagu D. Private sector delivery of health services in developing countries: a mixed-methods study	Review paper

	on quality assurance in social franchises. BMC Health Services Research. 2013;13(1):1-12.	
103	Tan SY, Melendez-Torres G. Do prospective payment systems (PPSs) lead to desirable providers' incentives and patients' outcomes? A systematic review of evidence from developing countries. Health policy and planning. 2018;33(1):137-53.	Review paper
104	Tello JE, Barbazza E, Waddell K. Review of 128 quality of care mechanisms: A framework and mapping for health system stewards. Health Policy. 2020;124(1):12-24.	Review paper
105	Wiysonge CS, Paulsen E, Lewin S, Ciapponi A, Herrera CA, Opiyo N, et al. Financial arrangements for health systems in low-income countries: an overview of systematic reviews. Cochrane Database of Systematic Reviews. 2017(9).	Review paper
106	Wiysonge CS, Abdullahi LH, Ndze VN, Hussey GD. Public stewardship of private for-profit healthcare providers in low-and middle-income countries. Cochrane database of systematic reviews. 2016(8).	Review paper
107	Ahmed SM, Rawal LB, Chowdhury SA, Murray J, Arscott-Mills S, Jack S, et al. Cross-country analysis of strategies for achieving progress towards global goals for women's and children's health. Bulletin of the World Health Organization. 2016;94(5):351-61.	Review paper
108	Lodenstein E, Dieleman M, Gerretsen B, Broerse JEW. Health provider responsiveness to social accountability initiatives in low- and middle-income countries: a realist review. Health Policy and Planning. 2017;32(1):125-40.	Review paper
109	Bitton A, Fifield J, Ratcliffe H, Karlage A, Wang H, Veillard JH, et al. Primary healthcare system performance in low-income and middle-income countries: a scoping review of the evidence from 2010 to 2017. BMJ Global Health. 2019;4.	Review paper

Supplemental file 4: Summary of results by governance domains

Table 1: Summary of Findings on Leadership

Intervention	Care Processes	Quality Impacts	Country Contexts and References
Government stewardship of small private providers, including pharmacies and chemical shops	- Significant association between clinic's stewardship index score and quality of care (QoC) score - High incorrect use of antibiotics - Majority of facilities performed less than half of necessary services. - Low proportion of providers correctly diagnosed acute gastroenteritis, and correctly identified the problem as being of viral aetiology	Not Reported (NR)	Ghana & Kenya (60)
National quality policy and strategy	- Emphasis on quality and accreditation in national health plans - Improved licensing of healthcare professionals and organizations - investment in health information systems	NR	Lebanon and Jordan (58)
Development, implementation, and self-assessment of governance action plan	- Significant increase in 8 of 10 composite quality indicators - No impact on Tetanus Toxoid (TT) vaccination to pregnant mothers	- No significant increase in Tuberculosis (TB) case detection rate and TB cure - Increased composite outcome - No change in new Family Planning (FP) use rate - Achieved less than 100 percent of the target for postnatal care (PNC) visits, institutional delivery; and more than 100 percent of target for antenatal care (ANC) and Pentavalent-3 (Penta-3) immunisation - Increased outpatient department (OPD) visits per person	Afghanistan (59)

Table 2: Summary of Findings on System Design

Intervention	Care Processes	Quality Impacts	Country Contexts & References
Decentralised priority setting, planning and management	*Indonesia:* - Poor clients not excluded from using the hospitals	*Indonesia:* - Additional costs incurred for drugs *Nigeria:*	- Indonesia (65) - Nigeria (68) - Kenya (66)

	- Increased availability of services and the positive attitude of hospital staff - Improved satisfaction with cleanliness, medical and inpatient services, and administrative service *Nigeria:* - Inadequate availability of basic equipment, drugs, and supplies made patients very dissatisfied with the service - Patient perceived satisfactory technical QoC *Kenya:* - Low access to level 3 care to poor living in remote areas - Improper staff attitude due to excess workload and stress - Perceived low quality of services provided at government facilities because of lack of drugs and supplies - Clinician errors were reported due to tiredness and lack of support - Long patient waiting times - Improved accessibility to services through home visits by Community Health Volunteers (CHV) - Increased availability of primary health facilities *Sudan:* - Perceived decline of quality, accessibility, and affordability of services	- Low levels of utilisation of services - Continuation of user fees resulted in worsened 'rich-poor divide' *Kenya:* NR *Sudan:* NR	- Sudan (67)
Strengthening management systems	*Tanzania:* - Nine-fold increase in the provision of treatment for sexually transmitted infections (STI) - Improved client perceptions of service quality - Improved health infrastructure and community participation in health service management - High levels of client satisfaction with services *Nigeria:* - Human resources for health and coverage of immunisation unchanged - Higher number of pregnant women screened for Human Immunodeficiency Virus (HIV)	*Tanzania:* NR *Nigeria:* NR	- Tanzania (64) - Nigeria (63)
Local level policy initiatives (No-Class ward, treatment-before-deposit)	*Indonesia:* - Increased use of standards and guidelines for reduction in medication errors, fulfilling patient satisfaction and safety - Accessible information	*Indonesia:* - Significantly increased use of hospital by poor and non-poor patients	- China (62) - Indonesia (61)

	- Friendly and dignified treatments by providers - Perception of non-discrimination in treatment - Positive user experience among insured and uninsured - Patients who benefitted from the policy had greater perceived service quality *China:* NR	- Trustful relationship between clients and service providers *China:* - High levels of patients' trust in their physicians	

Table 3: Summary of Findings on Accountability and Transparency

Intervention	Care Processes	Quality Impacts	Country Contexts & References
Community Scorecards	*Afghanistan:* - Low score for the number and cadre of service providers, particularly female providers, water, and power supply, waiting rooms, essential medicines, and equipment - High scores (>90%) for provider courtesy and QoC; patient-centredness (qualitative) *DR Congo:* - Perceived increase in access to services, improved patient-provider relationships, improved performance of service providers - Improved rapport and fairness by the providers - Increased transparency and community participation - Improved access resulting from changes in user fee policies and reduced bribes *Ghana:* - Improved client's perception of healthcare quality and availability of drugs - Perceived low quality in the provision of information, directional signs in clinics, drug availability, waiting times, and feedback on clients' complaints - Improved client experiences *Malawi:* - Higher provision of comprehensive antenatal care counselling, comprehensive antenatal counselling, and recording of ANC and PNC data - More home visits of pregnant women by health workers	*Afghanistan:* - Improved sense of mutual trust between the community and providers (qualitative) *DR Congo:* NR *Ghana:* - Enhanced trust, and confidence in healthcare providers *Malawi:* NR *Kenya:* NR	- Afghanistan (72) - DR Congo (75) - Ghana (70) - Malawi (74) - Kenya (76)

	Kenya: - Clients reported being treated with respect - Negative provider behaviours and absenteeism persisted. - Long waiting time		
Community meetings with report cards and citizen voice	*Uganda:* - Increased use of equipment for assessment of children - Improved provision of vitamin A, and child immunisations - Significantly improved treatment practices, waiting time, examination procedures, and staff absenteeism *India:* - No change in counselling on danger signs or TT immunisation during ANC *Cambodia:* - Better screening index and counselling index for children - Persistent socio-economic disparities	*Uganda:* - Significant increase in the weight of infants - Reduction in under-five mortality - Higher rates of utilization of OPD services in the treatment facilities *India:* - No effect on maternal and newborn care outcomes - No change in the utilisation of 4+ ANC *Cambodia:* - Improved service utilisation reported by supervisors	- Uganda (69) - India (73) - Cambodia (71)

Table 4: Summary of Findings on Financing (Demand-side)

Intervention	Care Processes	Quality Impacts	Country Contexts & References
Free Maternal Health Care/ Reduction or Abolition of user-fees/ Obstetric Subsidy	- No change in the clinical quality - Low quality care for women n admission - Providers ill-prepared to deal with the obstetric conditions. . - Low QoC scores for management of the first stage of labour, use of the partograph and for immediate post-partum monitoring of mother and baby - Low QoC in hospitals resulted in many potentially avoidable deaths - Equity gains for the poorer patients - Providers more respectful and friendly, and facilities clean - High levels of satisfaction with	- Health facility deliveries increased considerably - Statistically non-significant reduction in delivery-related maternal mortality ratio (MMR) - Increased numbers of women with hypertensive disease, haemorrhage and those undergoing Caesarean-Section (CS) - Increase of women with complications seeking care, and drop in referrals for treatment - Variable relationships between health workers and clients, ranging from positive to antagonistic	Ghana (77-79, 91)
	- No change in the perceived QoC - Most visitors to the rural health centres received drugs and most were satisfied with the QoC - Worsened drug availability - No change in waiting time, quality of consultation and staff courtesy	- Mixed response on reduction in costs of seeking care	Zambia (86)

	- Technical quality of services improved or unchanged - Positive Perception that health workers were hardworking, good, and dedicated to their work - Negative perceptions of staff being too few, rude, not available when required, and being unqualified - Poorer health workers attitudes in the public health units than the private-non-profit-facilities	- Favourable final illness outcomes for most patients who sought care in public, and the private-non-profit-facilities	Uganda (87)
	- Observed and perceived quality increased across facilities but did not differ by fee removal status - Improved perceived QoC, did not differ by fee status of the facility.	- Four-fold increase in utilization at facilities for curative care, but no increase in institutional deliveries - Increases in ANC utilization not sustained.	Afghanistan (90)
	- Women's perceptions on QoC remained very positive - High level of satisfaction in both the intervention and control - No difference on satisfaction between rich and poor women - High overall satisfaction with waiting times, quality of treatment received, costs of care, and availability of drugs	- Significant increase in institutional deliveries - Hospitals with the best level of implementation of the subsidy had lowest health care near-misses - Reduced household payments for institutional deliveries	Burkina Faso (82, 88)
	NR	- Small reduction in maternal deaths, small increase in neonatal deaths - Significantly increased direct admissions at hospital - Significantly more major obstetric interventions - Post-operative complications significantly dropped for patients presenting with non-Absolute Maternal Indication	Guinea (80)
	- Improved early initiation of ANC and processes of care during ANC and postnatal care (PNC) - Almost universal levels of recommended ANC practices - Low privacy, poor hygiene, and low consultation time - Negative perceptions regarding the queue system, increased waiting time and availability of drugs - Moderate levels of satisfaction regarding communication by health workers, staff availability in the delivery rooms and wards, and availability of drugs and supplies - Lengthy stay in healthcare facilities were negatively associated with the satisfaction	- Increased occurrence of complications: ante partum haemorrhage, ruptured uterus, and sepsis - Reduced use of public facility-based ANC among better-off women. - Positive effects on use of 4+ ANC among both richer and poorer women - Reduced use of primary care facilities for ANC	Kenya (81, 83, 89)
	- Very low quality of neonatal care in Benin and Burkina Faso - Newborn care quality worse than that of maternity care	- Increases in skilled birth attendance and CS and a narrowing of inequalities in all four countries	Benin, Burkina Faso, Mali, Morocco (92)

	- No evidence of negative effects on technical QoC on non-targeted services - High perceptions of the overall quality of the services, not correlating well with technical QoC scores - Poor provider-client interpersonal relationships	- High burden of perinatal mortality and neonatal near miss across all facilities - Significant reductions in financial burden on families - Positive trend in CS rates (Benin and Mali) - Increase in utilisation rates, reduced CS rates (Burkina Faso) - No change in institutional delivery rates or CS rates (Morocco)	
	- Fee exemption policy enabled midwives to alert the doctors that CS might be needed - The indication for CS mentioned in the records and that cited by the women matched in most cases - Perceived decline in QoC after the fee exemption policy - Perceived negligence and a lack of care and effort to help women deliver vaginally. - Perceived lack respect, bribes, lack of information about medical treatments and procedures, extra charges for non-authorised mate rials or services, and neglect	- Marked reduction in payments for CS; considerable expenses remained for medications for newborn care	Benin (85)
	- Low overall quality of maternal health services - None of the five basic emergency obstetric care facilities were fully compliant with national standards, - Quality of ANC better at comprehensive emergency obstetric and newborn care (CEmONC) facilities than the other facilities, but remained low - High availability of delivery services, but very few had delivery rooms, delivery kits or portable water	NR	Sierra Leone (84)
	- Weaker technical quality of ANC care in public facilities than private facilities - Low proportion of women reporting verbal or physical abuse - Significant difference in perception regarding infrastructure, care during and after childbirth - Free delivery care perceived to be of better quality in the private sector than in the public sector	- Lower perinatal mortality rate (than the State average)	India (110)
	- High level of satisfaction with care received and positive birth outcome	NR	Nigeria (95)

	- High satisfaction with health workers' attitude and privacy, cleanliness of facilities and availability of and access to medicine - Dissatisfaction due to prolonged waiting-time, the limited scope of coverage, mistreatment, disrespect and abuse, inadequate infrastructure, and bed space		
Health insurance	- Significantly more extensive PNC, and better coverage of child vaccinations - Preventive care access to members of health insurance - No significant difference in perceptions of quality between insured and uninsured patients - No significant difference in patient perceptions of fairness of car, adequacy of resources - Higher negative perception of QoC among the insured - Higher patient perception that 'treatment is effective for recovery and cure'	- The uninsured are more likely to delay seeking care, develop birth complications and experience maternal or foetal death. - Perception of financial access to care improved - Pregnant women able to antenatal visits and skilled care at delivery at no cost or very minimal cost - Perinatal mortality rate declined by half - Deliveries by CS increased - Members more likely to be admitted to hospital - Non-members continue to face very high payments related to birth complications	*Ghana & Cameroon:* (97) *Ghana* (93, 96, 100, 102, 107)
	- Patients trade off the negative effects on QoC with expected financial gain - Reduced income-related inequality in utilisation of services - Reduced self-treatment with medicines bought privately - Dissatisfaction about long waiting time and staff attitudes - Strong, negative correlation between insurance membership and almost all aspects of patient satisfaction. - Satisfied with waiting time, provider attitude, advice and skill - General impression that patients making direct payments to service providers receive a substantially better service	- Members consistently paid less than non-members	Vietnam (103)
	NR	- Insurance expansion correlated with a small portion of the mortality reduction at the county level	Costa Rica (99)
	- Low provision of haemoglobin and urine tests during ANC - Majority of women received more ultrasound tests than recommended - Many women advised by doctors to take expensive prenatal tests	- No influence on women's decisions to make prenatal visits - High early initiation of ANC and 5+ANC visits - High out-of-pocket expenditure among the poor	China (105)
	- Significantly high patient perceived QoC except for "consultation by the nurse"	NR	Nigeria (94)

	- Patient perceived improvements in availability of trained personnel, nearness to home, availability of drugs, prompt attention and consultation with doctor		
	- No significant difference in the levels of satisfaction between the insured and uninsured patients. - Satisfied with the availability of doctors and medicines and the recovery by the patient. - Dissatisfied due to bad outcome of the therapy	- Almost all insured and uninsured felt better at the end of the treatment	India (98)
	- Positive effect on history taking, tests and examinations performed on the mother, and interpersonal care during PNC - Reduction in the proportion of women indicating that waiting time was too long - No differential wealth effects noted for any of the significant outcomes - Perception that the insured received services more quickly, spent less time queuing at facilities - High level of satisfaction with the QoC	- No effect on the utilisation of ANC, deliveries, PNC, childhood immunisation or FP - Community members generally not required to pay for seeking MNC services - Most patients appreciated the lower costs of care	Tanzania (104, 106)
	- High level of satisfaction among clients with the health services provided by the self-financed health scheme - High satisfaction with diagnostic services, explanation about the prescribed medicine, the surrounding environment of facility and the behaviour of health workers	NR	Bangladesh (108)
	- Improved the accessibility and utilization of healthcare services and improved QoC - High perception of technical competence of medical staff - Inequity in treatment between insured women and those who pay for the consultation. - Longer waiting time for insured patients - High overall satisfaction with the prenatal services - Complaints about the rudeness of some nurses, and the high price of the delivery kit - Improved provision of information on pregnancy, childbirth, and PNC during ANC visits - Health workers believed that the insurance scheme improved their ability to provide quality care	NR	Gabon (101)
	- Insurance may improve structural aspects of quality, but unlikely to influence process and outcome measures	- Improve care experiences of beneficiaries	Zambia (129, 131)

	- Positive association between insurance and patient satisfaction, driven by QoC - No difference between insured and unsured on perceived responsiveness	- Significantly increased OPD visits	Ethiopia (109, 130)
Vouchers	- Improved FP choice of methods, continuity in use, prevention of sexually transmitted infections and cumulative QoC score - Improved quality of the explanations given which remained better after the program ended	NR	Nicaragua (118)
	- Improved delivery and newborn care practice - Women in voucher scheme were least likely to report a problem with any of the quality components - Higher rates of early initiation of breastfeeding - Improved behaviour of doctors and nurses - Perceived improvement in availability of medicines and equipment, performance among providers - General satisfaction with the quality of the services - Longer waiting time, and poor provider behaviour	- Increased in 3+ ANC visits, institutional delivery - Reduced stillbirths and newborn deaths - No difference in maternal death rates, CS rates - Significantly lower out-of-pocket expenditures for ANC, PNC, and delivery care	Bangladesh (115, 124)
	NR	- Significantly higher increase in 3+ ANC use among women in the lowest quintile - Significant increases in institutional delivery among poor women	Pakistan (111)
	NR	- Significant increase in facility births, at least a tenth being new facility users - Estimated 20 deaths averted	Uganda (112)
	- Improved QoC and reduced inequities in the use of reproductive health services - Low awareness of FP and gender-based violence recovery services - Improved quality of FP counselling and return to fertility - High proportion of mothers are not being checked by any provider after delivery. - Improved overall maternal health quality scores - No changes in quality of newborn care or interpersonal skills domains, or on overall clinical processes - Improved rapport during PNC by providers at voucher facilities, lower in public facilities - Most women satisfied with their treatment	- More women at voucher facilities attended for infant immunisations, fewer for PNC - Improved coverage of ANC, no effects on PNC for mother or newborn	Kenya (119, 127, 128)

	- Health workers more committed to ensuring 24-hour services at health centres and to promote institutional deliveries - High satisfaction with the services at the health centres - Non-users dissatisfied due to poor staff attitudes and extra payments to midwives.	- Vouchers used for to get free care and for transportation costs - Most felt safer when delivering at the health centre; and get their child vaccinated after the delivery	Cambodia (116)
Conditional Cash Transfer	- Beneficiaries received higher rates of prenatal procedures - Significantly higher quality score	NR	Mexico (113)
	- Low unchanged quality of maternal health services - Improved provision of information related to pregnancy-related complications - Greater awareness of maternal and newborn care practices - No change in the conduct of recommended examinations when women were admitted for delivery - No change in the quality of PNC services	- Increased ANC and facility births - Significant negative association between JSY and SBA outside of a health facility - Slight reduction in maternal and newborn complications - Reduction of perinatal deaths and neonatal deaths; no change in maternal deaths - Perceived low quality of services in public sector health facilities deterred many women from accepting the benefits of JSY - Improved treatment-seeking for pregnancy and delivery related complications - High coverage of JSY associated with a decrease in CS rate and increase in assisted deliveries - The poorest and the least educated women did not consistently benefit from cash payments	India (*Janani Suraksha Yojana*, JSY) (117, 121, 123)
	NR	- Decline in rural infant mortality, concentrated in the causes such as intestinal and respiratory diseases, and nutritional deficiencies	Mexico (*Progresa*): (114)
	NR	- Decline in infant mortality rate (IMR) and post-neonatal infant mortality rate (PNMIR), not in neonatal mortality rate (NMR) - Increased coverage for child vaccinations and ANC - Reduced under-5 mortality rate (U5MR), overall and resulting from poverty-related causes, with significant association with interventions - Reduced under-5 mortality resulting from malnutrition - Reduction in diarrhoeal diseases and lower respiratory infections	Brazil (*Bolsa Familia, BSF & Family Health Programme, FHP)*: (122, 125, 126)

		- reduced rates of under-5 admissions to hospital	
	- Improvements in the quality of delivery care practices - Improved interpersonal quality - Improved overall satisfaction with care - Reduced physical or verbal abuse or mistreatment by the providers	- Significant increase in institutional deliveries and deliveries assisted by SBA - No reduction in preventable complications that led to maternal deaths - Some improvements in self-reported health	Nigeria (120)

Table 5: Summary of Findings on Financing (Supply-side)

Intervention	Care Processes	Quality Impacts	Country Contexts & References
Pay for performance (P4P)/ Performance-based Financing (PBF)/ Performance-based Incentives (PBI)/ Results-based Incentives (RBI)/ Results-based Financing (RBF)	- Improved compliance with standards - Improved prenatal quality - Equity gap in the use of facility deliveries reduced - Gap between provider knowledge and practice of clinical protocols for ANC - Higher skilled providers increased quality more than lower skilled providers in response to the same incentives - Improved continuity of care, through improved referral and counter referral mechanisms - Improved quantity and quality of clinical activities - High overall satisfaction with service, cost of drugs and services, cleanliness, time spent with provider - Dissatisfaction with long waiting time	- No difference in probability of reporting illness with diarrhoea, fever, or acute respiratory infections; or in seeking care - Limited impact on volume of services - Increased institutional deliveries, CS deliveries, use of contraception, preventive care and growth monitoring - Reduction in under-weight and stunting among under-five children	Rwanda (135, 151, 156, 160, 169, 174, 175, 179)
	- Overall low levels of quality - Improved quality of childcare practices, ANC, FP, instructions on caring for sick children - Reduced prescription of unnecessary medicines, better history taking, allowing questions, and follow up	NR	Egypt (155)
	- No effect on overall technical quality - Significantly increased patient perceived availability of drugs - No negative effect on service quality - Compliance with standards low for classic patients, prenatal visits, and postnatal visits.	- Lower direct payments to health facilities - High uptake of births in health facility. - Positive impact on most targeted MCH services - Improved care-seeking for children's illness - Improved curative visits, patient referral, children receiving vitamin A, HIV testing of pregnant women and assisted deliveries	DR Congo (154, 176, 185)

	- Drugs were prescribed to over a third of all patients without examining the patient - Improved, but low, provision of iron supplementation and preventive treatment for malaria during pregnancy - Improved availability of medicines, perceived QoC, hygiene of health facilities and being respected - High proportion of patients understand the diagnosis, next steps, and medications to take	- No change on use of maternal health services, 3+ ANC, postnatal care, assisted delivery, and family planning - Reduced coverage of DPT3 immunization - Reduced indirect payments to facilities	
	- Improved overall facility quality score - Improved ANC quality especially among the richest - No change in timeliness and number of ANC visits - Improved blood pressure (BP) measurement and TT vaccinations during pregnancy - No change in patient perception of drug availability, respect by providers, or waiting time - No significant effect other aspects related to the QoC - Improved quality scores of care management, outpatient care, prenatal care, and maternal care, and family planning - No effect on laboratory services and material management - Reduced satisfaction with waiting times	- Increased the probability of institutional delivery, ANC, and the use of modern FP - No effects on vaccination rates - Increased share of patients feeling cured	Burundi (139-141, 173)
	- Incentives alone resulted in significant increase in services - Beneficial impacts on quality and no adverse impacts on quality (qualitative)	- Greater trust in health facilities by the communities more people more willing to seek care in these health facilities (Qualitative)	Haiti (183)
	- Increased provision of MNCH services and improved operational management, but no improvement in quality - Midwifery capacities perceived to be limited by midwives and other stakeholders	- Increased overall number of ANC visits - Higher coverage in DPT hepatitis 2 and 3, and measles vaccinations	Cambodia (161)
	NR	- Improved general self-reported health - No change in the rates of wasting among children	Philippines (167, 168, 170)
	- Significant positive effect on QoC - Improved quality of history and physical examinations index, client counselling index and time spent with patients - No difference in equity measures - Increased overall client satisfaction and perceived QoC Index - High satisfaction with explanations, provider respectfulness and facility opening hours	- No substantial differences in coverage of modern contraception, ANC, skilled birth attendants, PNC, and childhood vaccination	Afghanistan (148, 177, 178)

	- No effect on content of ANC, except in the provision of anti-malarial drug - Improved availability of essential drugs and supplies; reduced the stock-out rate of essential drugs such as oxytocin - Increase in regular supervision visits - Improved health worker attitudes and behaviours with patients - Lack of equipment, supplies and adequate staff hampered quality of services - Shortened patient waiting times - No effect on patient satisfaction with interpersonal care - Improved provider kindness during delivery - Positive experiences in improving accessibility, availability, affordability, and quality	- Increase in coverage of institutional deliveries - Significantly reduced bypassing of facilities - Reduced out-of-pocket expenditures for deliveries	Tanzania (133, 137, 138, 143)
	- Reduced inappropriate prescription of anti-malarial drug - No effect on prescription of anti-malaria drug to malaria-positive patients	NR	Kenya (163)
	- Improved provision of malaria prophylaxis and iron supplements during t pregnancy - Positive effects on HIV testing and counselling and pregnant women's initiation on anti-retroviral treatment - No effects on counselling for FP service provision or skilled attendance at birth, child immunisation - Improved compliance with clinical protocols for monitoring and managing eclampsia - Negative effects for use of partograph and active management of third stage labour - Improved availability and functionality of equipment, stock of essential drugs - No significant effect on women's perceptions of technical care, quality of amenities and interpersonal relations - Overall positive effects on women's experiences of care - Instances of disrespect and overt abuse continued to overshadow the experiences of care - Perception that drugs, equipment, and supplies were readily available - Increased workload among staff	- Limited effects on use of skilled birth attendance	Malawi (142, 157, 162, 188)

	- Significant increase in composite process quality index and structural quality index - Improvement in correct classification of sick children for general danger signs, treatment of children with respiratory problems and vaccinating when due - Improvements in biomedical waste disposal, availability of iron tablets, folic acid, and urine dipsticks - Small improvements on staff attitude and operating hour - Higher client satisfaction index than control group - High satisfaction with privacy, waiting time and cleanliness - Improved job satisfaction of health workers and QoC - High aggregate satisfaction score for cleanliness, waiting time and consultation time, hours, courteousness, and perceived competence of staff - No effect on client satisfaction for child curative consultations	- No effect on utilisation of MNCH services apart from increased institutional deliveries	Zimbabwe (144, 149, 164)
	- Positive effect on QoC and responsiveness, but no impact on clinical productivity - Improved history-taking and physical examination for ANCs - No effect on quality of curative consultations - Improved quality score at health centre and district hospital - Greater level of satisfaction about staff attitude, competence, politeness, staff competence and responsiveness	- Low outpatient attendance	Benin (159, 166)
	- Increased availability of equipment and qualified health workers - No impact on the quality of child health consultations or ANC - No differences in ANC quality - Increase in satisfaction for the ANC visits and visits with children under-5	- Reduced formal and informal user-fees - Significant increases in utilization of child and maternal vaccinations, use of modern FP - Significant reduction in out-of-pocket expenditure	Cameroon (146)
	- No effects on quality of delivery or CS in any country - No effects on the primary or secondary outcomes in Zambia - Limited and variable effects on the utilization and quality of neonatal health care	- No effect on any of the health outcomes or intermediate outputs in the pooled analysis - No significant impact on neonatal health outcomes, health care utilization or quality - Improved facility delivery, ANC utilization or ANC quality among poor women in some countries	Burundi, Lesotho, Senegal, Zambia, and Zimbabwe (150)

		- A slight decline in early neonatal death in Zambia	
	- Significantly increased QoC of maternal, newborn and child health services - Improved initiation of ANC, PNC, post-operative care and neonatal care - Better readiness of labour room and sitting arrangements for attendants - High overall client satisfaction score - Improved provider behaviour - High client satisfaction for the availability of free medicines and services	NR	Bangladesh (171)
	- Improved quality of examination and curative care for children - Improved infection prevention and control - No impacts on the timing and number of antenatal consultations, coverage rates of child growth monitoring and vaccination, content of adult consultations - Weak evidence of improvements in provider competency - Significant impacts on the availability of essential drugs and diagnostic test kits, equipment - Higher satisfaction with the local primary care facilities - Limited impact on utilization - Higher perceived competence of providers and that the staff worked closely with and listened to the community - Improved satisfaction of providers and no effect on staff turnover	- Low levels of confidence in primary health facilities as one-third of women bypassed them	Tajikistan (132)
	- Better QoC indices for institutional deliveries, vaccinations, and injectable contraceptives	- Significantly better coverage and QoC for institutional deliveries, PNC, injectable contraceptives, malaria preventive treatment and vaccination - Significantly more lives saved of pregnant women and children under-five - Higher costs in results-based financing than input-based financing	Zambia (184, 186)
	- Improved quality audit scores - QoC for complex procedures, such as the use of a partograph did not improve	NR	Uganda (153)

	- Higher proportion of correct treatment of children with pneumonia, diarrhoea, and malaria		
	- Improved structural quality, but no effect on process quality - Decline in the proportion of health workers following national protocols for under-five examinations - Small improvements in adherence to ANC protocol - Most QOC indicators improved - PBF improved the quality of vaccinations, family planning and skilled birth attendants - Direct facility financing combined with PBF improved the quality of all services	- Improved coverage of Penta3 and use of modern contraceptives - Lower use of Penta3 vaccination and ITN - Higher institutional deliveries - Four-fold increase in estimated lives saved in PBF group; three-fold increase in direct facility financing group	Nigeria (158, 189)
	NR	- Improved the utilization of few selected maternal health services - PBF combined with equity measures did not produce better or more equitable results than standard PBF	Burkina Faso (165)
In-Kind Incentives OR Rewards (PBF and equipment/infrastructure) and Conditional Cash Transfer	- Significant effect on quality and timeliness of ANC and PNC, and community outreach - No evidence of shifting of effort from non-contracted services	- Small improvement in the utilization of health services, significant improvement for maternal and child health services	El Salvador (136)
	- Increased referrals of expectant mothers - All EmONC facilities met all quality criteria - Incentive payments correlated with improved service quality - Almost all maternal and neonatal deaths audited - High levels of resuscitation and postnatal checks for newborns - All cases of pre-eclampsia treated - All women for delivery with unknown HIV status tested and managed	- Increased utilisation of emergency obstetric and newborn care services by women - The proportion of women who stay full 2 days after delivery remained high	Malawi (180)
Performance-based Incentives, health insurance, system level incentives	- Improvements in QoC score - No change in history taking, physical examination, ordering tests, and diagnosis and treatment - Sustained high clinical performance by doctors - Very low rate of decay in CPV scores - Patient satisfaction scores and caseloads are strongly correlated with quality scores - Greater patient satisfaction, and increased caseloads correlated with quality score	- No substantive change in patient volumes in the hospitals that received bonuses compared to those who did not	Philippines (170)

Performance-based financing, along with community health insurance	- Equity gaps in facility deliveries reduced	- Increased use of maternal health services, more by the insured - Overall service remained low	Rwanda (169)
Performance-based financing (PBF), demand-side financing (DSF) for poor and strengthened referral	- High quality scores in ANC and PNC counselling, and institutional delivery - Improved use of partograph to manage labour, active management of third stage labour, and 24/7 availability of CEmONC - Highest overall client satisfaction score	- Improved client volume for ANC with a combination of PBF and DSF; moderate increase for PBF alone - Improved institutional delivery and PNC for both DSF and PBF	Bangladesh (172)
	- High positive perception of the insurance scheme - Satisfactory handling of patient complaints by the health facility - Increased vaccinations and ultrasounds during ANC - Increased proportion of first ANC within 20 weeks	- Faster decline in IMR in the intervention region compared to the national average - Improvement in the quantity and quality of services - Increase in average birth weight, decrease in incidence of very low-birth-weight (LBW) and reduction in neonatal mortality - Increased likelihood of children under-five attending well-baby check-ups	Argentina (Plan Nacer) (187)
Capitation plus pay for performance	- Reduced overprescribing and inappropriate prescribing of antibiotics	- A small reduction in total spending per visit to village posts	China (182)
Performance incentives along with decision-support system tools	- No improvement in quality scores - Deficiencies in quality of antenatal and childbirth care and in detection, prevention, and management of obstetric complications - Improvements in history taking, monitoring of mother, inter-personal performance, and in care and examination of the newborn	NR	Burkina Faso, Ghana and Tanzania (147)
Performance-based incentives to facilities & Conditional cash transfer to pregnant women	- Non-significant increases in infection prevention - Decline in prevention of post-partum haemorrhage - Improved effective childbirth care - Improved equipment maintenance and availability of selected drugs and consumables	- Reduced facility-based maternal mortality	Malawi (145)
Introduction of user-fees or cost recovery schemes	- Improved interpersonal qualities of nurses - Low rates of compliance of diagnostic examinations	- Decreased utilization of health services - Increased utilisation in some health centres, explained by good interpersonal qualities of nurses - Significant increase in costs of consultation and medications	Zaire (DR Congo) (152)

	- Improved welcoming the patient, history taking, monitoring vital signs, diagnostic examination, and communication	- Most of the patients intend to return to the same facility in the future	Niger (181)
	- Allocative inefficiency and inequity concerns - Gaps in QoC - Most of the clients using health centres reported quality as good to excellent - Most patients were satisfied with the services received	- Clients recommend reducing waiting time, and improving supplies - Three-fourth of patients bypassed nearby health facilities and sought care at apex of the system due to low satisfaction with care quality	Eritrea (134)
Performance-based financing and continuous quality improvement	- Improved compliance to clinical protocols for maternal health services at primary health care level - No other evidence of improvements in other services or hospital services	- NR	Zimbabwe (190)

Table 6: Summary of Findings on Engaging the Private Sector

Intervention	**Care Processes**	**Quality Impacts**	**Country Contexts & References**
Franchising / Provider Networks/ Social franchising	- Improved technical competence in clinical skills - Improved availability of contraceptive supplies and counselling skills - Higher mean total quality score than other private facilities - Better choice of methods, information given to clients, technical competence, interpersonal relations - Stronger mechanisms to encourage continuity, and appropriate constellation of services - Higher proportion of poor clients served than government facilities - Greater efficiency (lower cost per client) than government facilities. - Poor quality of CEmONC services due to shortage of staff, non-resident staff and shortages in blood - Lack of adherence to asepsis - Lower cost per client (Green Star) - Providers and other staff members more friendly and respectful - Most of the clients reported high satisfaction with quality of advice/ information received and affordability of service	- Increased lifetime use of any contraception and of any modern method - Most of the clients would recommend the franchise clinic to friends and relatives - Substantial reduction in the unmet need for FP	Pakistan (193, 200, 204)
	- Positive association with both general and FP client volumes, and the number of FP brands available	- No associations with franchise membership for reproductive health service outcomes	Pakistan, India (Bihar) and Ethiopia (202)

	- Mixed associations between franchise membership and client satisfaction in Bihar; a positive association in Pakistan; and a negative association in Ethiopia	- Intention to return to the same clinic high in Pakistan and low in Ethiopia	
	- No change in the coverage of TT during their last pregnancy - Significant increases along all dimensions of perceived quality and perceived access (SEWA) - Low patient referral - Insufficient information given to the clients regarding side effects and the limitations of the different methods of choice - Improved visual and auditory privacy; availability of separate examination and waiting rooms - High satisfaction with cleanliness, availability of essential equipment, and overall measure of quality - Clients report provider selection primarily upon perceived or expected QoC	- Marginally significant improvement in the use of family planning - Increased costs of care for clients - No change in client loyalty (SEWA)	Nepal (SEWA, PSSN and *Sangini* Franchises) (191, 192, 196)
	- No change in information provided by the doctor - Higher perceived quality regarding inter-personal relation and infrastructure - No difference in composite quality indicator - Weak referral linkages (Sky Franchise) - Overall low quality of services (Sky franchise) - Deficiencies in content of ANC, delivery, and newborn care practices (*Matrika*) - High client perceived quality in relation to staff behaviour; doctor behaviour and physical infrastructure (*Merrygold*) - High level of client satisfaction	- No significant effect on facility births (Sky, *Matrika*, *Merrygold*)	India (194, 199, 203)
	- Clients "pampered" by franchise staff; valued not being yelled or shouted at by staff, contrasted with their experiences in public facilities (Ghana) - staff were considerate and attended to quickly (Kenya) - Satisfied with perceived quality of medical care received, polite, friendly, and caring staff, short waiting times and facility cleanliness (Ghana & Kenya)	- Past experiences of getting better, having confidence in the franchise staff 's ability, staff conducted tests and procedures, and prescribed quality and effective medicine predicted use of franchise (Ghana & Kenya) - Intention to continue the care at the facility again	Ghana & Kenya (201)
	- Improved efficiency (measured as increased Couple Year Protection) - Mixed effects on provision of information on contraceptive methods and choices	- Averted estimated 4,958,000 unintended pregnancies and 7,150 maternal deaths - Marginal to moderate improvements in FP client volumes	Asia and Africa (197)

	- Staff were considerate, polite, and friendly, conducted tests and procedures, and prescribed quality and effective medicine - High average weighted client satisfaction score - Mixed effects on client satisfaction	- Mixed results on perceived increase in costs of seeking care from franchise clinics	
	- No association with client's assessment of staff expertise - High clients' perceptions of staff attitudes - Improved community perceptions of service quality and client satisfaction	- Higher likeliness of clients to return and recommend to others	Vietnam (198)
	- Increase in notification rate of new smear positive cases	- High treatment success rate for new smear-positive TB cases - Treatment delays for TB cases minimised	Myanmar (195)
Contracting	- Positive effect on the treatment of diarrhoea - Significant negative effects on views of staff attitudes; staff competence, and on how the facility was supplied - Negative average effects on quality perception for both health centres and outreach	- Reduced the possibility of reporting sick and seeking treatment - Reduced incidence of diarrhoea among children - No significant effect om child mortality - Substantial increase in per capita public health spending	Cambodia (206)
	- Major improvement in efficiency - Increase in women reporting improved availability of medicine and better quality of MNCH services - Better functionality of facilities, staff availability and client volumes - Improved technical process of care and staff capacities, but remained low - Poor drug availability, quality of provider-client relationships and quality of clinical care - Inequitably higher utilisation amongst more educated and affluent clients - Higher proportion of women reporting improved courteousness/ respectfulness of staff and improved skills of the health workers - Higher client reported improvements in services - Increased satisfaction with accessibility to health services	- No effect on the coverage of preventive services - Improved utilisation of ANC, PNC, and newborn care and contraceptive - Lower direct out-of-pocket expenditure (contracting-in); but higher indirect costs related to transport and diagnostics	Pakistan (200, 208, 209)
	- Improved per capita provision of services - Improved coverage, equity, QoC and efficiency - No effect on equity of ANC coverage	- Improved ANC, skilled birth attendance, contraceptive use rate, awareness of HIV/AIDS and STIs	Bangladesh (205, 207)

	- Improved awareness and avoidance of STI and HIV risk behaviours - High level of satisfaction with the proximity of health facilities, and perceived responsiveness of doctors and staff	- Reduction in neonatal, infant and under-five mortality rates, stunting and equity gaps in under-five mortality - Reduced prevalence of childhood diarrhoea, acute respiratory infections (ARI) and fever	
Public-Private-Partnership	- More and better-quality clinical services available - Increased availability of free CEmONC services - Not associated with birth-related complications - No preferential treatment for PPP (non-paying) clients compared to paying clients - High level of overall satisfaction with the services	- Lower out-of-pocket expenditures related to vaginal deliveries and CS - No changes in the level of institutional deliveries, management of maternal complications or use of ANC, PNC, and newborn intensive care - No significant relationship with delivery-related spending or mean hospital spending - Very low proportion of mothers received a completely cashless birth - Lower use of ANC and reduced length of stay after hospitalisation among beneficiaries	India *(Chiranjeevi Yojana)* (211, 212)
	- The time spent waiting for treatment, and manner of support staff, and explanation given regarding treatment significantly predicted satisfaction - Lack of equipment had negative influence on satisfaction in human resources	NR	India (210)
	- More clinical services and services of higher quality - Improved triaging on arrival at the hospital - Better stock of emergency management medications	- Improved survival rates for very LBW newborns - Lower hospital mortality rates and paediatric mortality due to pneumonia - Increased CS rates - Reduced proportion of fresh stillbirths - Lower average length of stay	Lesotho (213)
Private sector capacity strengthening	- Improved interpersonal care - Reduced unnecessary care and waste - Reduced correct management of outpatient cases - Low laboratory quality - Use of non-efficacious medicines for asthma - No change in client perceived QoC - No changes in client satisfaction or perceived availability of amenities at the hospital	NR	Kenya (214)

Table 7: Summary of Findings on Information and Monitoring

Intervention	Care Processes	Quality Impacts	Country Contexts & References
Benchmarking to foster accountability, monitoring of progress and promote a culture of evidence	- Improved effective coverage for MCH services - Inequities in effective coverage between lowest and highest quintiles unchanged	- Reduction in public spending	Mexico (217)
Balanced Score Card for National Health Service Performance Assessment	- Improved provision of ANC and delivery care, capacity for service provision, pro-poor and pro-female health services, and quality of services - All provinces achieved the national median score - Improved patient, community, and provider satisfaction - Improved provider satisfaction	- Availability of user-fee exemptions for poor patients	Afghanistan (216)
Quality of care audits to identify modifiable factors and motivate change	- Improved identification of contributing factors of perinatal mortality by some of the facilities: patient delay in seeking help when a baby was ill, lack of use of antenatal steroids, foetal distress not detected antepartum when the foetus is monitored and poor progress in labour with incorrect interpretation of the partogram	- One-third of facilities had increased mortality and another one-third did not have any change - Facilities with increasing perinatal mortality were less likely to identify modifiable factors - Lower rates of spontaneous preterm labour and unexplained intrauterine death among facilities, which reduced perinatal mortality rate	South Africa (215)
Quality contests	- Significantly improved QoC scores among facilities participated in quality contests	NR	Morocco (219)
Data-driven decision-making tool	- Improved infection prevention control, use of completed partographs, and an aversion of patients' deaths - Reduced shortages of staff and transport in remote areas - Reduced waiting time	- Significant reduction in neonatal mortality	Kenya (218)
Dashboard driven patient safety management	- Composite QoC score increased from 62 to 92 in nine years - Improved compliance to patient handover protocols - Improved handwashing and antimicrobial prophylaxis - Improved compliance to fall prevention	NR	India (220)
Application of health care performance evaluation systems for performance evaluation, benchmarking, and accountability	- Improved identification and management of maternal and childcare pathways - Heterogenous performance across the districts	NR	Ethiopia, Tanzania and Uganda (222)

Performance accountability monitoring tools	- Systemic barriers limited the effectiveness of accountability mechanisms	NR	Tanzania (221)

Table 8: Summary of Findings on Participation and Engagement

Intervention	Care Processes	Quality Impacts	Country Contexts & References
Participatory intervention with Women's Groups along with health facility strengthening	NR	- Improved coverage of ANC, iron supplements, institutional deliveries and birth attended by skilled birth attendants - More infant taken to hospital for illness - Reduced maternal and neonatal mortality	Nepal (226)
	- No evidence of impact on clinical practices in health centres and CEmONC facilities	- Reduced neonatal mortality and perinatal mortality - No effects on maternal mortality - Lower fresh stillbirth rates in intervention facilities - No effects on health facility deliveries	Malawi (224)
	- No difference in homecare practices or care-seeking behaviours	- No significant difference in NMR, perinatal mortality; MMR, stillbirth rate between intervention and comparison groups	Bangladesh (223)
	- Improved home delivery practices, essential newborn care, and feeding practices in the intervention	- Significantly lower NMR - Cost-effectiveness	Bangladesh (225)
Women's Groups and/or Community engagement	- Improved information provision to clients - Improved perception of healthcare quality across all the healthcare quality indicators - Improved perception of staff respectfulness/ courteousness towards clients and punctuality to work - Quality of services in public health facilities perceived to be worse than private facilities	NR	Ghana (227)
	India (229) - No differences in antenatal care, reported work, rest, and diet in later pregnancy, institutional delivery, early and exclusive breastfeeding, or care-seeking India: (230) NR	India: (229) - Lower stillbirth rate (non-significant) - Higher NMR in intervention - No difference in extended perinatal mortality rate - No population-level effects on health care or mortality India: (230)	India (229), (230)

		- No significant increase in 3+ANC, TT during pregnancy or skilled birth attendance - Lower neonatal mortality rate, stillbirth rate, post-neonatal mortality rate - No significant reduction in maternal depression	
	- Exclusive breastfeeding rates improved significantly	- Non-significant decreases in neonatal mortality rate - highly cost effective	Malawi (228)
Patient engagement for patient safety	- Varying levels of knowledge, perception and willingness to engage in patient safety - Low readiness and willingness of healthcare recipients to engage	- NR	Indonesia (231)

Table 9: Summary of Findings on Regulation

Intervention	Care Processes	Quality Impacts	Country Contexts & References
Accreditation of health facilities	- Improved compliance to critical standards - No change in patients' overall medication education score - Improved perceptions of QoC by nurses - Improved patients' satisfaction with care	NR	South Africa (239)
	Egypt: (233) - Improved availability of clinical guidelines and emergency drug list - Greater performance on standards for patient rights - Higher patient satisfaction scores regarding cleanliness, waiting area, waiting time, unit staff and overall satisfaction - No differences in provider satisfaction except for the overall satisfaction score Egypt: (235) - Higher proportion of women informed of the side effects of the contraceptives - Improved weight measurement, but lower BP measurement during ANC visits	Egypt: (233) NR Egypt (235) - Reduced the prevalence of acute respiratory infection, fever, and diarrhoea among children with access to accredited facilities - Improved 4+ ANC visits, FP institutional and skilled assistance during delivery among women with access to accredited facilities	Egypt (233), (235)
	- Improved medication and patient handling, analysing performance of care processes, and evaluating results	NR	Turkey (242)

	- Higher quality management index scores - Better infection control		
	NR	- Increased patient volumes for outpatient care and in-patient admission - Significant associations with lower standardized mortality ratios of acute stroke and sepsis - Reduced mortality rates for acute myocardial infarction, stroke and sepsis	Thailand (240)
Accreditation of physicians with performance incentives	- Accreditation and receipt of payments significantly associated with QoC score of physicians	NR	Philippines (238)
Certification of health facilities against set standards	- Higher provision of each of the contraceptive methods - Better availability of examination room supplies - Higher mean score of quality of FP services - Higher mean family planning quality score - Better adherence to standard practices in counselling and examination	NR	Egypt (236)
	- Two-third hospitals had scored >90% in their *Kayakalp* external assessment	NR	India (NQAS) (232)
	- Manyata certification resulted in improved composite quality scores from 9% to 80% - Improved grievance redressal actions, ensuring the confidentiality of patient information, and compliance standard treatment guidelines	NR	India *(Manyata)* (241)
	- Increase in met standards in all quality domains - High scores in leadership and governance, health centre-health post linkage, clean, and safe health facility, and health information systems	NR	Ethiopia (234)
	- Low QoC in intervention and control groups - Less than a third of standardised patients received the correct care for their condition - Low correct management those presenting with asthma and upper respiratory tract infection - Low compliance with IPC practices	NR	Tanzania (SafeCare) (237)

Table 10: Summary of findings on Multiple Interventions

Intervention	Care Processes	Quality Impacts	Country Contexts & References
Multiple governance and health system strengthening interventions (infrastructure, human resources, financing, medical products and equipment, service delivery, accountability, regulation)	Philippines: - Availability, quantity, and quality of essential health services improved South Africa: - Significant increase in the number of signal functions at the community healthcare centres and district hospitals Madagascar: - Improvements in rates of medication prescription and diagnostic test administration - Increased prescription rate for oral rehydration therapy among children with diarrhoea - Increase of all content of perinatal care indicators	Philippines: - Increased institutional deliveries - Maternal mortality ratio reduced from 254 to 114 in intervention province South Africa: - Reduced institutional MMR and case fatality rate for severe acute malnutrition cases - Reduction in all maternal deaths, and in direct maternal deaths Madagascar: - Slight increase in care-seeking for ANC, perinatal care, and sick childcare	- Philippines (250) - South Africa (243) - Madagascar (247)
Community-based PHC and Conditional Cash Transfer (*Bolsa Familia* Programme, BFP)	NR	- Increase in ANC visits per pregnancy - Decreased correlation between BFP and post-neonatal infant mortality - Increased correlation between prenatal care and BFP coverage	Brazil (*Bolsa Familia* Programme, BFP) (249)
Decentralisation & Regulatory changes	- The quality scores improved but remain low - Low QoC scores for nurses as solo provider - Modest QoC score for prenatal care for all providers; high QoC score for child curative care, and wide range in QoC score for adult curative care	NR	Indonesia (245)
Performance-based financing with Contracting-In and Contracting Out	- No effect on ANC and child vaccination - Deficient QoC due to lack of equipment and trained personnel adversely affected neonatal health outcomes	- Increased probability of institutional delivery among the non-poor - Shift from home birth to delivery in a public facility	Cambodia (253)
Health facility accreditation, performance-based-financing, introduction of user-fees, continuous quality improvement and performance monitoring	- No significant effects on most ANC outcomes	- Discontinuing the incentives had negative effect on knowledge of contraceptive methods, receiving ANC by skilled health personnel, receiving iron supplements during pregnancy and, under-five child mortality. - Combined interventions had no effects on utilization of FP and delivery care services, and child health status - User-fees did not affect access and utilisation.	Egypt (246)

		- Accreditation had multiple positive effects, especially on delivery care and child morbidity prevalence; not sufficient to sustain quality of FP and ANC - Lower prevalence of acute respiratory infection and fever among children with access to accredited facilities	
A participatory community and health system intervention; a client service charter and a facility-based, quality-improvement process	- Reduction in proportion of woman experiencing disrespect and abuse during childbirth - Improved respectfulness by providers and the overall QoC for delivery care	NR	Tanzania (252)
Health facility strengthening & Health Insurance	NR	- Increased hospital deliveries - No effect on the percentages of women of reproductive age who died. - Rapid increase of insurance coverage among women seeking care	Nigeria (244)
Supervision with Incentives	- No association between supervision and compliance with IMCI protocols - Positive association between financial incentives with both IMCI compliance and patient satisfaction - No association of top-down supervision with patients' satisfaction - Positive association of bottom-up supervision with patient satisfaction - Positive and significant association between patient satisfaction and salary top-ups and subsidized housing	NR	Tanzania (248)
Health insurance & Franchise midwife clinics	- Increased proportion of women receiving minimum standard care - Exposure to midwife clinics not associated with improved standards of ANC	- Statistically significant improvement in prenatal visits - Improved 4+ANC and ANC in the first trimester	Philippines (251)
Franchising and vouchers	- Clients satisfied with information provided and affordability	- Substantial reduction in unmet need for FP and increase in lifetime use of contraceptives - High rates of willingness to recommend the clinic to others	Pakistan (254)

Accreditation standards and health system improvements	- Composite QoC (SafeCare) standards improved from 45% to 68% - Compliance to standards improved for surgery, anaesthesia, outpatient services and primary health care - Waiting time reduced	NR	Nigeria (255)
Competition under regulated fees, health insurance	- Improved quality of hypertension management linked to improved doctor/population ratio	- Reduced hospitalisation rate for ambulatory care sensitive conditions for hypertension, associated with increases in doctor/population ratio	Ghana (256)
Every Mother Every Newborn Quality Standards with system improvements and community engagement	- Improved compliance to clinical care standards - Improved patient rights - Improved cross-cutting standards - Improved availability of equipment and drugs for maternal and newborn care - Mixed results in provider communication and respectful maternity care	- Reduced neonatal case fatality rate in Bangladesh and Tanzania - Reduction in institutional maternal mortality ratio in Ghana - Significant reduction in institutional stillbirth rate in Tanzania - Reduced institutional perinatal mortality rate in Tanzania	Bangladesh, Ghana and Tanzania (257)
Service expansion through public-private-partnership and health insurance	- Major improvements in quality of care for pregnant women - Improved timely care-seeking for ANC - Slight reduction in the quality of child and adult care	- Reduced travel time for care-seeking	Rwanda (258)