

Review Article

Healthcare Workers' Perspectives on Barriers to Maternal, Newborn, and Child Health (MNCH) Services in Pakistan: A Narrative Review

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ABSTRACT

Background: Pakistan continues to experience substantial maternal, neonatal, and child-health challenges despite longstanding investment in community- and facility-based MNCH programmes. Although barriers encountered by women and families have been widely examined, the experiences of healthcare workers responsible for delivering these services remain dispersed across programmes, professional cadres, and geographical settings. **Objective:** To synthesise healthcare workers' perspectives on barriers to MNCH service delivery in Pakistan and examine how these barriers operate across community, facility, and programme-management levels. **Methods:** A narrative review informed by structured literature-identification and thematic-synthesis principles was conducted using literature published between 2010 and 2025. PubMed/MEDLINE, PubMed Central, Google Scholar, relevant institutional and technical sources, and reference-list searching were used to identify eligible qualitative, mixed-methods, programme-related, and contextual evidence. Sixteen sources contributed to the workforce-centred synthesis. Provider-derived findings were distinguished from community-only evidence and synthesised using an inductive thematic approach. **Results:** Six interconnected themes emerged: health-system and infrastructural constraints; human-resource shortages and workload; training, skills, and supervision gaps; managerial, governance, and financing limitations; sociocultural and community-interface challenges; and additional barriers affecting underserved, remote, displaced, and refugee populations. Barriers operated across levels of the health system, with frontline workers frequently dependent on facility functionality, supply chains, referral systems, supervision, and managerial capacity beyond their direct control. **Conclusion:** Strengthening MNCH delivery in Pakistan requires coordinated improvement of workforce capacity, facility functionality, supplies and referrals, training and supervision, managerial support, and community engagement rather than isolated demand- or workforce-focused interventions. **Keywords:** Maternal Health; Newborn Health; Child Health; Community Health Workers; Lady Health Workers; Health Workforce; Healthcare Delivery; Pakistan.

INTRODUCTION

Maternal, newborn, and child health (MNCH) remains a major public-health priority in Pakistan despite sustained efforts to expand reproductive, maternal, neonatal, and child-health services. Recent national and international estimates indicate that maternal and neonatal mortality remain substantial, with important inequalities between urban and rural populations and across provinces and districts (1,2). Pakistan also contributes disproportionately to the global burden of preventable maternal, neonatal, and child morbidity and mortality, underscoring persistent limitations in timely access to skilled care, continuity of essential services, referral systems, and health-system capacity (3). Improvements in national averages therefore coexist with substantial subnational variation in the availability, accessibility, and quality of MNCH services.

MNCH services in Pakistan are delivered through a mixed health system comprising community-based programmes and primary, secondary, and tertiary healthcare facilities. Basic Health Units and Rural Health Centres provide preventive and basic curative services, while the Lady Health Worker (LHW) Programme, established in 1994, constitutes one of the principal mechanisms for extending preventive, promotive, maternal, newborn, and child-health services to households and communities. The Expanded Programme on Immunisation and other vertical and integrated maternal and child-health initiatives complement this community and primary-care infrastructure (4). The governance environment changed substantially following the 18th Constitutional Amendment and devolution of health responsibilities to provincial governments in 2010. Although decentralisation created opportunities for locally responsive planning, it also increased provincial responsibility for programme coordination, financing, workforce deployment, logistics, supervision, and continuity of service delivery (5).

Much of the literature examining underutilisation of maternal and newborn healthcare in Pakistan has focused on barriers encountered by women, families, and communities. Financial constraints, geographical distance, transportation problems, inadequate awareness, restricted female mobility, limited decision-making autonomy, gender norms, mistrust of public healthcare facilities, and previous negative experiences of care have repeatedly been identified as determinants of service utilisation (6,7). These demand-side factors are important, but access to care is produced through an interaction between the willingness and ability of communities to seek services and the capacity of the health system to provide them. Reviews of neonatal and broader health-system failures in Pakistan have additionally identified weaknesses in service availability, referral systems, infrastructure, workforce capacity, and continuity of essential care (8). Consequently, explaining inadequate MNCH coverage primarily in terms of community behaviour may obscure important supply-side constraints affecting the healthcare workers responsible for delivering those services.

Healthcare workers occupy different but interconnected positions within the MNCH system. Lady Health Workers and other community health workers operate at the interface between households and formal health services; nurses, midwives, physicians, and other facility personnel translate available infrastructure and clinical resources into direct care; and district and provincial managers influence workforce deployment, supervision, financing, programme coordination, supply chains, and referral arrangements. Evidence from Pakistan indicates that these cadres may encounter high workloads, expanding responsibilities, insufficient incentives, limitations in training and supervision, weak logistics, restricted managerial authority, and shortages of essential commodities (3,9-11). Such constraints may affect counselling, antenatal and postnatal support, immunisation, family planning, childhood illness management, surveillance, referral, and continuity across the MNCH care pathway.

The role of healthcare workers extends beyond the technical delivery of biomedical services. Community-based workers frequently negotiate sociocultural conditions that influence whether available services are accepted and used, including restricted female mobility, household decision-making structures, misconceptions regarding healthcare interventions, low health literacy, and mistrust arising from previous encounters with healthcare facilities (7,10). In rural, peri-urban, remote, refugee, and otherwise underserved communities, these pressures can be intensified by geographical barriers, language differences, documentation difficulties, socioeconomic disadvantage, and limited local health-system capacity (12). Healthcare-worker perspectives can therefore reveal both deficiencies internal to the health system and the practical ways in which those deficiencies interact with community-level constraints at the point of service delivery.

The available evidence is distributed across studies addressing different professional cadres, provinces, programmes, and components of the MNCH continuum. Research has examined Lady Health Workers, other

community health workers, immunisation personnel, family-planning providers, community midwives, facility-level providers, surveillance teams, and programme managers, but their perspectives have seldom been synthesised together as interconnected components of the same service-delivery environment. This fragmentation makes it difficult to distinguish barriers experienced primarily at community level from those arising within facilities or programme-management structures and limits understanding of how these problems reinforce one another across the health system. A workforce-centred synthesis is therefore useful for moving beyond descriptions of service underutilisation toward an understanding of the conditions under which MNCH personnel are expected to deliver care.

Accordingly, this narrative review synthesised qualitative, mixed-methods, programme-related, and relevant contextual evidence concerning healthcare workers' perspectives on barriers to MNCH service delivery in Pakistan. The review addressed three questions: which barriers do healthcare workers identify as limiting MNCH service delivery; how do these barriers differ or overlap across community-based workers, facility-level providers, and programme managers; and what implications do these recurring experiences have for strengthening Pakistan's health workforce and MNCH programmes?

MATERIALS AND METHODS

This study was undertaken as a narrative literature review informed by structured principles of literature identification, eligibility assessment, evidence extraction, and thematic synthesis. A narrative approach was selected because the purpose was to integrate healthcare workers' perspectives reported across heterogeneous qualitative, mixed-methods, programme-related, and secondary evidence rather than to estimate pooled intervention effects or conduct a formal quantitative meta-analysis. The scope was restricted to barriers affecting maternal, newborn, and child-health service delivery in Pakistan from the perspective of personnel involved in community-based services, facility-level care, programme implementation, or health-system management.

Literature published in English between 2010 and 2025 was considered. Relevant evidence was identified through PubMed/MEDLINE, PubMed Central, Google Scholar, and selected grey-literature sources produced by international and Pakistani health-sector organisations and technical partners, including WHO, UNICEF, ThinkWell, and Aga Khan University. The search incorporated three principal concept domains. The first represented geographic and workforce context and included terms such as "Pakistan," "Lady Health Worker," "community health worker," "health worker," and "health provider." The second represented the clinical and service-delivery domain and included "maternal health," "newborn health," "child health," "MNCH," "barriers," "perceptions," and "perspectives." The third represented methodological approaches and included "qualitative," "focus group," "in-depth interview," and "thematic analysis." Terms were combined using Boolean operators according to the functionality of the individual information source. Reference lists of relevant publications were additionally examined through backward citation searching to identify further potentially relevant evidence.

Sources were eligible when they were conducted in Pakistan; addressed barriers to access, implementation, or delivery of maternal, newborn, or child-health services; and contained perspectives from at least one healthcare-worker cadre, including Lady Health Workers, other community health workers, nurses, midwives, physicians, facility-level providers, or programme and health-system managers. Primary qualitative and mixed-methods studies were eligible, together with relevant programme evaluations, secondary syntheses, and technical evidence when these contributed directly to understanding healthcare-worker or health-system barriers. Studies involving both providers and service users were retained when provider-specific findings could be distinguished from client or community accounts. Evidence derived exclusively from patients, caregivers, or community participants was not treated as evidence of healthcare-worker experience, although selected sources were retained for epidemiological or contextual background. Studies conducted outside Pakistan, non-empirical opinion pieces without relevant evidence, and sources without accessible usable information were excluded.

Potentially relevant records were first assessed on the basis of title and abstract, followed by full-text assessment of sources considered relevant to the review questions. Sixteen sources constituted the principal evidence base for the healthcare-worker synthesis. Collectively, these sources covered Punjab, Sindh, Khyber Pakhtunkhwa, Balochistan, Gilgit-Baltistan, and national programme or health-system perspectives and represented community-based workers, Lady Health Workers, immunisation personnel, midwives, facility-level providers, and programme

managers. References used exclusively to describe national mortality, service utilisation, or broader contextual conditions were treated separately from the provider-perspective evidence base.

Information was extracted according to publication year, geographical setting, study or evidence design, healthcare-worker cadre, other participant groups where applicable, MNCH domain, and provider-reported barriers to service delivery. Particular attention was given to mixed participant studies so that healthcare-worker accounts were distinguished from barriers reported exclusively by women, caregivers, or other community participants. Findings were organised by the level at which barriers operated, while preserving the context and cadre from which each observation originated.

The extracted evidence was synthesised using an inductive thematic approach informed by the three-stage thematic-synthesis method described by Thomas and Harden (13). Relevant provider-reported barriers and experiences were initially coded from each source; related codes were subsequently organised into descriptive categories; and these categories were integrated into broader analytical themes representing recurrent patterns across settings and healthcare-worker cadres. The synthesis was guided by the review questions rather than by a predetermined health-system taxonomy. This process generated six overarching domains: health-system and infrastructural constraints; human-resource shortages and workload; training, skills, and supervision gaps; managerial, governance, and financing constraints; sociocultural and community-interface challenges; and additional barriers affecting healthcare workers serving remote, displaced, refugee, or otherwise underserved populations.

The synthesis was interpretive rather than quantitative. The number of publications mentioning a barrier was not treated as an estimate of prevalence, effect size, or relative importance, and comparisons between healthcare-worker cadres were interpreted as patterns in the available evidence rather than formal statistical comparisons. No meta-analysis was undertaken because the evidence was heterogeneous in design, participant composition, geographical setting, programme focus, and form of reported findings. Formal study-level risk-of-bias scoring or certainty grading was not applied because the review was designed as a narrative synthesis rather than a systematic review or meta-synthesis. Potential selection bias arising from the narrative search and literature-selection process was therefore considered when interpreting the evidence, together with the restriction to English-language and accessible published or institutional sources.

RESULTS

Sixteen sources contributed to the workforce-centred synthesis and represented a heterogeneous body of evidence spanning community-based programmes, maternal and newborn services, childhood illness management, immunisation, family planning, surveillance, refugee health, and health-system governance. The evidence included primary qualitative and mixed-perspective investigations, programme evaluations, quasi-experimental research, policy or programme analyses, and structured secondary syntheses. Although the methodological approaches and settings differed, the provider-derived findings converged around six interconnected domains of service-delivery constraint. Table 1 summarises the principal characteristics and contribution of the evidence used in the thematic synthesis.

Table 1. Summary of Evidence Contributing to the Healthcare-Worker Synthesis

Source	Setting / Scope	Design / Evidence Type	Healthcare-Worker Sample or Perspective	Principal Contribution to Synthesis
Fatima et al. (3)	Pakistan	Qualitative discourse analysis	Community health workers	Workforce contribution to maternal and child-health delivery and health-system barriers
Muzammil et al. (4)	Pakistan	Health-system synthesis/perspective	Health-system and service-delivery perspective	Structural barriers affecting universal coverage and frontline service delivery
Sarfraz and Hamid (5)	Punjab / national-provincial-district programme levels	Qualitative study	MNCH programme managers	Programme design, financing, governance, logistics, leadership, and political commitment
Mumtaz et al. (6)	Rural Pakistan	Mixed community/service perspective	Community health workers alongside community participants	Facility dysfunction, access constraints, and interaction between supply- and demand-side barriers
Asim et al. (7)	Thatta, Sindh	Qualitative study	Healthcare/service-provider perspectives alongside community participants	Mistrust, sociocultural restrictions, mobility constraints, and facility access
Uzair et al. (8)	Pakistan	Structured review	Health-system/provider-related evidence	Access, quality, referral, and system failures affecting essential neonatal care

Source	Setting / Scope	Design / Evidence Type	Healthcare-Worker Sample or Perspective	Principal Contribution to Synthesis
Lady Health Workers Programme review (9)	Pakistan	Programme review	Lady Health Workers	Workforce shortages, programme responsibilities, coverage, and implementation challenges
Maternal and Child Surveillance study (10)	Peri-urban Karachi	Qualitative study	Community health workers alongside women	Workload, incentives, supervision, community engagement, and health literacy
Family-planning provider study (11)	Rural Sindh	Qualitative exploratory study	Healthcare providers alongside community participants	Commodity stock-outs, gender norms, financial autonomy, and service uptake
Shafiq et al. (12)	Quetta, Balochistan	Qualitative study	Healthcare providers alongside Afghan refugee women	Language, documentation, resource, pandemic-related, and systemic barriers
Perceived Barriers study (14)	Thatta and Chitral	Comparative service-delivery study	Health-service/provider-related perspective	Differences in maternal and neonatal service barriers across facility-management models
Polio Eradication Initiative study (15)	Punjab	Qualitative provider/manager study	Health workers and managers	Cold-chain weaknesses, logistics, training, monitoring, and limited managerial authority
District-level MNCH scale-up study (16)	Pakistan	Quasi-experimental programme study	Community health workers / LHW programme	Existing workload and feasibility of adding further MNCH responsibilities
Nigraan study (17)	Badin, Sindh	Qualitative implementation research	Community health workers	Knowledge, skills, training, and case-management limitations for childhood illness
ThinkWell LHW analysis (18)	Sindh	Programme/policy analysis	LHW programme and health-system perspective	Geographic coverage, financing, workforce distribution, and sustainability
LHW continuum-of-care study (19)	Pakistan	Observational analysis	LHW service-contact perspective	Role of LHW contact within prenatal and postnatal continuum-of-care delivery

Health-System and Infrastructural Constraints

Healthcare workers' accounts consistently situated MNCH delivery within a broader environment of unreliable infrastructure, inconsistent facility functionality, logistical weaknesses, and limited availability of essential resources. Evidence from rural settings indicated that difficulties encountered after referral to health facilities, including irregular staff availability, limited operating capacity, and inadequately functioning services, could weaken community confidence in referral advice delivered by frontline workers (6,14). These barriers were therefore not confined to physical access to facilities; they affected the credibility and effectiveness of community-based personnel whose work depended on functional downstream services.

Programme-specific evidence illustrated how infrastructure and logistics directly constrained particular components of MNCH delivery. Health workers and managers involved in immunisation activities described weaknesses in vaccine logistics, cold-chain systems, resource availability, monitoring, and operational support as barriers to effective implementation (15). Family-planning providers in rural Sindh similarly identified interruptions in commodity availability as an obstacle to translating counselling into actual service provision, demonstrating that provider knowledge and willingness alone could not compensate for absent supplies (11). Structured evidence concerning neonatal care likewise identified deficiencies in referral pathways, service availability, and quality of facility-level care as interconnected system failures affecting continuity of essential services (8).

The evidence consequently suggests that frontline referral, counselling, and community mobilisation are dependent on the functionality of the facilities to which patients are directed. When facility services, equipment, supplies, or referral mechanisms are unreliable, healthcare workers may remain formally responsible for encouraging service utilisation while lacking control over the quality or availability of the care ultimately received.

Human-Resource Shortages, Workload, and Role Expansion

Workforce capacity emerged as a distinct and cross-cutting barrier. Reviews of the LHW programme have described persistent challenges related to workforce availability, programme coverage, responsibilities, and the capacity of community-based personnel to meet expanding service expectations (9). This is particularly important because Lady Health Workers occupy a central position within preventive, maternal, newborn, child-health, family-planning, surveillance, and community-mobilisation activities.

Evidence from programme scale-up demonstrated that additional maternal, newborn, and child-health responsibilities may be introduced into a workforce already carrying multiple routine obligations (16). Community health workers involved in maternal and child surveillance similarly described workload and the lack of adequate incentives for additional responsibilities as obstacles to sustained engagement with households and programme activities (10). Programme analyses from Sindh further indicate that workforce constraints are not limited to

individual workload but include unequal geographical coverage, deployment, financing, and longer-term programme sustainability (18). These findings indicate that workforce expansion cannot be considered solely in terms of increasing the number of tasks assigned to existing community cadres. The effectiveness of task expansion is conditioned by staffing levels, distribution, incentives, supervisory capacity, logistical support, and the extent to which new responsibilities can be incorporated without displacing existing duties.

Training, Skills, and Supervision Gaps

Limitations in training and supportive supervision were repeatedly identified in evidence involving frontline personnel. Community health workers participating in implementation research on childhood diarrhoea and pneumonia described knowledge and skill limitations affecting their confidence and capacity to manage childhood illness at community level (17). These findings are particularly relevant to MNCH programmes that depend on frontline personnel to identify illness, provide initial management, counsel caregivers, and determine when referral is necessary.

Similar limitations were identified within immunisation services, where health workers and managers described deficiencies in training and skills at different programme levels together with operational constraints that limited effective programme management (15). Community health workers involved in surveillance activities identified structured training, recognition, and supportive supervision as important conditions for effective programme participation, indicating that the absence or inconsistency of these supports could undermine implementation (10). Training limitations therefore appeared to operate in conjunction with wider workforce and managerial conditions rather than as isolated deficits in individual competence. Additional training is unlikely to compensate fully for excessive workload, inadequate supervision, lack of essential supplies, or limited authority to resolve operational problems.

Managerial, Governance, and Financing Constraints

Evidence from programme managers demonstrated that barriers to MNCH delivery extend above the level of individual healthcare facilities and frontline workers. Managers involved in community midwifery and MNCH programme implementation described weaknesses in stakeholder involvement during programme design, inadequate alignment between programme expectations and existing health-system capacity, financial constraints, and insufficient sustained political commitment (5). Frequent leadership changes and fragmented logistics or management arrangements further complicated implementation.

The decentralised health-governance environment was particularly relevant to these findings. Following devolution, provincial health systems assumed greater responsibility for workforce management, financing, programme implementation, and service organisation, increasing the importance of provincial and district managerial capacity (5). More recent programme analysis from Sindh has continued to identify unequal LHW coverage, financing constraints, and workforce-sustainability challenges, suggesting that managerial and resource-allocation problems remain relevant to the long-term functioning of community-based MNCH services (18). These findings indicate that frontline service barriers may originate in decisions made considerably upstream from the point of care. Staffing gaps, commodity shortages, inadequate supervision, and weak referral processes can therefore represent manifestations of broader managerial, financing, and governance limitations rather than isolated failures of individual workers or facilities.

Sociocultural and Community-Interface Challenges

Healthcare workers also described barriers arising from the social environments in which MNCH services were delivered. Evidence from Sindh indicated that healthcare workers had to operate within communities where mistrust of public facilities, reluctance toward some biomedical interventions, restrictions on women's mobility, and household decision-making structures could limit the effectiveness of referral and counselling (7). These findings demonstrate that health workers function not simply as providers of technical services but also as intermediaries between formal health systems and household-level social structures.

Family-planning providers similarly described the influence of gender norms and women's limited financial autonomy on whether counselling and service availability translated into actual contraceptive uptake (11). Community health workers involved in surveillance activities reported that low health literacy and negative

experiences with healthcare facilities could undermine community engagement with programmes, even when frontline personnel maintained direct contact with households (10). The interaction between provider and community experience was therefore reciprocal: health workers confronted social barriers in communities while community trust was simultaneously shaped by the quality and reliability of the health system represented by those workers.

The evidence supports interpreting sociocultural barriers as part of the service-delivery environment rather than as characteristics of communities operating independently of health-system performance. Community engagement may be compromised when health workers are expected to build trust in services that remain difficult to access, under-resourced, or inconsistent.

Barriers in Underserved, Remote, and Displaced Populations

The interaction between health-system constraints and social disadvantage was particularly apparent in populations facing displacement or geographical marginalisation. Healthcare providers serving Afghan refugee women in Quetta described barriers associated with language, documentation, limited resources, broader systemic inequities, and pressures associated with the COVID-19 period (12). These difficulties operated alongside barriers reported by refugee women themselves, illustrating how administrative, socioeconomic, cultural, and health-system constraints can reinforce one another. Evidence from geographically diverse programme and service-delivery settings also suggests that the consequences of workforce shortages, referral limitations, and uneven programme coverage may be magnified where populations are remote or poorly served by existing infrastructure (9,18). In these contexts, the effectiveness of community-based personnel depends not only on their presence but also on the availability of functional referral facilities, transport pathways, commodities, supervision, and locally responsive programme management.

Integrated Synthesis Across Healthcare-Worker Levels

Taken together, the evidence indicates that healthcare-worker barriers operate at several mutually dependent levels rather than as discrete problems. Community-based workers encounter workload pressures, supervision limitations, and challenges negotiating trust, mobility, health literacy, and household decision-making. Facility-level service delivery is constrained by infrastructure, staffing, commodities, logistics, and referral capacity. Programme managers confront financing, governance, workforce-distribution, leadership, and implementation problems that shape the conditions under which both community and facility personnel work (5,10,11,15,18). This cross-level pattern suggests a cascading relationship between system design and frontline experience. Weak management and financing can contribute to inadequate staffing, supervision, and supply systems; these limitations can reduce facility reliability and provider capacity; and poor service experiences can subsequently weaken community confidence and make frontline engagement more difficult. The barriers identified by healthcare workers should therefore be interpreted as interconnected components of the MNCH delivery system rather than as isolated deficits attributable to individual cadres or communities.

The available literature also remains unevenly distributed across healthcare-worker groups. Community-based cadres, particularly Lady Health Workers and other community health workers, are comparatively prominent in the evidence base, whereas the perspectives of hospital-based nurses, physicians, specialists, and other secondary- or tertiary-level MNCH personnel are less visible. The synthesis consequently provides the strongest insight into community and programme-level barriers and identifies facility-based professional perspectives as an important area for further investigation.

DISCUSSION

This narrative review demonstrates that barriers to MNCH service delivery in Pakistan are experienced by healthcare workers as interconnected constraints operating across community, facility, workforce, managerial, and governance levels. The synthesis identified six recurring domains: deficiencies in infrastructure and essential resources; workforce shortages and excessive workload; limitations in training and supportive supervision; managerial, governance, and financing constraints; sociocultural challenges encountered at the community interface; and additional difficulties affecting service delivery in underserved, remote, displaced, and refugee populations. Rather than identifying a single dominant obstacle, the evidence indicates that frontline performance is shaped by the interaction between health-system capacity and the social environments within which services

are delivered. Community-based workers appear particularly exposed to the consequences of this interaction because they are expected simultaneously to provide preventive and promotive services, facilitate referrals, maintain community trust, and compensate for weaknesses elsewhere in the service-delivery pathway.

The prominence of infrastructure, supply, and referral constraints is consistent with broader evidence that effective community-based healthcare programmes depend on functioning health facilities and reliable links between households and higher levels of care. Studies from Pakistan have shown that community referral is undermined when receiving facilities are perceived as unreliable or inadequately resourced and that facility-management arrangements can influence perceived access to maternal and neonatal services (6,14). Immunisation personnel have similarly identified weaknesses in logistics, cold-chain systems, monitoring, and resource availability as practical barriers to programme implementation (15), while family-planning providers in rural Sindh have described commodity availability as a prerequisite for converting counselling into effective service provision (11). These findings indicate that expanding community outreach without simultaneously strengthening the facilities, supplies, and referral systems supporting frontline workers risks transferring responsibility to individual providers without giving them the institutional capacity required to fulfil that responsibility.

Workforce shortages and role expansion represent a second important component of this problem. Pakistan's LHW programme has historically assigned community workers a broad portfolio spanning health promotion, maternal and child health, family planning, immunisation support, disease prevention, surveillance, and referral activities (9). Evidence from district-level scale-up and surveillance programmes suggests that adding responsibilities to already heavily tasked cadres can increase workload and may weaken sustained engagement when additional duties are not accompanied by sufficient incentives, supervision, or logistical support (10,16). More recent analyses of the LHW programme in Sindh additionally highlight disparities in geographic coverage, workforce distribution, financing, and programme sustainability (18). Collectively, these observations suggest that task shifting or programme expansion should be evaluated in relation to the total workload and operational environment of frontline personnel rather than assuming that additional responsibilities can be absorbed within existing staffing structures.

The findings concerning training and supervision reinforce this interpretation. Community health workers managing childhood diarrhoea and pneumonia in Sindh reported limitations in knowledge and skills that affected their ability to undertake community case-management responsibilities confidently (17), while immunisation workers and programme managers identified training deficiencies alongside wider organisational constraints (15). Surveillance-focused community health workers likewise described structured training, recognition, and supportive supervision as important facilitators of sustained programme participation (10). Training should therefore not be conceptualised as a stand-alone corrective intervention. Knowledge and competency development are likely to have limited impact when workers lack supplies, manageable workloads, supportive supervisory relationships, referral options, or authority to resolve recurring operational problems.

The synthesis also highlights the importance of managerial and governance conditions that are less visible in studies focusing exclusively on service users. Programme managers have described insufficient stakeholder engagement, limited financial resources, inadequate alignment between programme design and existing system capacity, leadership instability, fragmented logistics, and weak sustained political commitment as barriers to effective MNCH implementation (5). These concerns are particularly relevant within Pakistan's post-devolution environment, in which provincial health systems carry substantial responsibility for planning, financing, workforce management, programme implementation, and service coordination. Continued concerns regarding LHW financing, distribution, coverage, and sustainability in Sindh suggest that decentralisation alone does not resolve workforce or implementation problems unless accompanied by adequate managerial capacity and stable resource allocation (18). The barriers reported at community and facility levels may therefore represent downstream manifestations of governance and financing decisions made at district, provincial, or programme level.

A further finding is that sociocultural barriers should not be treated exclusively as characteristics of communities. Healthcare workers themselves must negotiate restricted female mobility, household decision-making structures, gender norms, mistrust of public facilities, low health literacy, and previous negative healthcare experiences while attempting to promote service utilisation (7,10,11). The effect of these barriers may be reinforced when communities encounter unreliable facilities or shortages after responding to frontline counselling or referral. This creates a reciprocal relationship in which community mistrust complicates the work of healthcare personnel, while

inadequate health-system performance can further weaken the credibility of the workers attempting to build that trust. Interventions focused only on educating communities or increasing demand may therefore have limited effectiveness when the corresponding supply-side capacity remains insufficient.

This interaction is particularly important in displaced and otherwise underserved populations. Healthcare providers serving Afghan refugee women in Quetta encountered language, documentation, resource, and broader systemic barriers in addition to challenges intensified during the COVID-19 period (12). Such findings illustrate how structural vulnerability can amplify routine weaknesses in healthcare delivery. Similarly, uneven workforce coverage and referral capacity are likely to have greater consequences in remote settings where alternative sources of formal care are limited (9,18). These observations support the need for locally adapted service-delivery models rather than assuming that a uniform MNCH programme will function similarly across metropolitan, peri-urban, rural, remote, and displaced populations. The findings have several implications for MNCH policy and programme design. First, community health-worker programmes should be integrated with reliable facility, referral, supply-chain, and supervisory systems rather than functioning as substitutes for under-resourced primary healthcare infrastructure. Second, expansion of frontline responsibilities should be accompanied by realistic workload assessment, workforce planning, incentives, competency development, and supportive supervision. Third, programme managers require sufficient authority, continuity, financial resources, and logistical capacity to address implementation barriers before they become chronic frontline problems. Finally, community engagement should be treated as a structured component of service delivery, with healthcare workers supported in culturally responsive communication and trust building rather than being expected to negotiate complex sociocultural barriers as an informal extension of their clinical or programme responsibilities (5,10,11,18).

The review also identifies important gaps in the evidence base. Most of the available provider-focused literature concerns LHWs, other community health workers, programme-specific personnel, or managers. Comparatively less evidence directly examines the experiences of hospital-based nurses, physicians, obstetric personnel, paediatric personnel, and other secondary- and tertiary-level professionals involved in MNCH service delivery. The available studies also vary substantially in setting, participant composition, programme focus, and methodological approach, limiting direct comparison across cadres and provinces. Future research should therefore examine healthcare-worker perspectives across different levels of the referral system and should explicitly distinguish provider-derived findings from service-user accounts. Comparative qualitative and mixed-methods studies across provinces could further clarify which barriers are programme-specific and which reflect broader structural characteristics of Pakistan's health system.

Several limitations should be considered when interpreting this synthesis. The review used a narrative rather than systematic design, and the literature-selection process therefore does not provide the comprehensiveness expected from a prospectively registered systematic review. Formal study-level risk-of-bias assessment and certainty grading were not undertaken, preventing the findings from being interpreted as quantitatively weighted estimates of evidence strength. The evidence was heterogeneous with respect to geography, healthcare cadre, MNCH domain, and study methodology, and several studies incorporated both provider and community perspectives. Although provider-specific observations were prioritised during synthesis, the degree to which findings could be separated varied across sources. Restriction to English-language and accessible published or institutional material may also have excluded relevant provincial, programme, or locally disseminated evidence. Finally, the relative prominence of LHW and community-worker research means that the resulting synthesis reflects community and programme-level experience more strongly than hospital-based professional perspectives.

Notwithstanding these limitations, consideration of healthcare-worker accounts provides an important complement to conventional explanations of low MNCH service utilisation. The synthesis indicates that barriers attributed to communities frequently intersect with problems of staffing, training, infrastructure, commodities, referral, supervision, governance, and financing. Sustainable improvement in MNCH delivery is therefore unlikely to result from a single intervention directed at either service users or individual healthcare workers. A more coherent response requires simultaneous attention to workforce capacity, functioning facilities, reliable logistics, supportive management, referral continuity, and culturally responsive community engagement.

CONCLUSION

Healthcare workers delivering maternal, newborn, and child-health services in Pakistan operate within an interconnected set of infrastructural, workforce, training, managerial, financial, and sociocultural constraints. The evidence indicates that frontline barriers cannot be separated from the functionality of the wider health system or from the community environments in which care is provided. Strengthening MNCH services therefore requires coordinated investment in workforce capacity and workload management, supportive training and supervision, reliable commodities and referral pathways, facility functionality, managerial continuity, and culturally responsive community engagement. Future research should broaden the evidence base beyond community-based cadres to include nurses, physicians, specialists, and other facility-based personnel across different provinces and levels of care.

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