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Development and Implementation of an Integrated Referral and Continuum-of-Care Framework 'Pathway of Care' for Maternal Mental Health in Rural India: Methodology Paper

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Development and Implementation of an Integrated Referral and Continuum-of-Care Framework 'Pathway of Care' for Maternal Mental Health in Rural India: Methodology Paper

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Abstract

Background: Identifying maternal mental health problems during the antenatal and postnatal period is the first step that ensures the health and well-being of the mother and child. In routine practice, women who screen positive may still face difficulties reaching appropriate healthcare services, particularly when referral, transport, communication and follow-up are not linked. We therefore developed a practical referral management approach within an ongoing maternal mental health project in District Samba, Jammu & Kashmir.

Approach: The framework was developed around the existing workflow of the AIIMS Vijaypur–ICMR project and informed by the WHO Health System Building Blocks and Proctor's implementation outcomes. It links community identification and screening with risk assessment, referral, specialist care, feedback and follow-up. The project team and frontline workers use standardised referral and follow-up tools, while higher-risk cases receive facilitated referral, including transportation and escort support. The pathway also includes procedures for referral refusal, teleconsultation and verification of referral completion.

Implementation framework: Women enter the pathway through ANC registration or community home visits. Those requiring further care are categorised according to EPDS scores and suicide-risk assessment and are referred for counselling, tele-mental health or psychiatric services as appropriate. Referral completion is followed beyond the issue of a referral slip: the team records whether the referral was accepted, whether assessment and management occurred, whether feedback was received and whether follow-up was completed.

Implications: The experience highlights that maternal mental health integration requires more

than adding a screening tool to ANC. A referral system needs clear responsibilities, practical support for access, communication between levels of care and active follow-up when women do not reach the healthcare system. The proposed approach provides a district-level model that can be evaluated prospectively for feasibility, referral completion, continuity of care and sustainability.

Keywords- Continuum of care, Mental Health, Postpartum depression, Implementation research, Proctors outcomes

1. Background

Worldwide about 10% of pregnant women and 13% of women who have just given birth experience a mental disorder, primarily depression.[1] The perinatal period, which includes both antenatal and postnatal phases, is very significant both for the mother as well as for her child.[2] The perinatal mental health disorders, when left undetected, not only affect the mother but are also linked to pregnancy complications like low birthweight and preterm birth and carry risks for long-term adverse effects on the child's cognitive, social and emotional development.[3] Antenatal depression places the mother at risk for numerous long-term health complications, including hypertension and diabetes, and when left untreated is one of the greatest risk factors for development of Postpartum depression (PPD) and PPD has been deemed the greatest risk factor for maternal suicide and infanticide.[4,5,6]

Women have frequent interactions with healthcare providers during pregnancy and postnatally, which offers numerous opportunities to screen for mental health problems.[3] However, the translation of a positive screen into completed care is frequently lost. Four recurring failure points can be identified:[7-11]

1. Stigma associated with a mental health diagnosis, which discourages disclosure and healthcare seeking.[7,8]
2. In rural areas and hilly terrain, poor physical and financial access to the secondary/tertiary health facilities where psychiatric and paediatric services are available.[9-11]
3. Poor linkage between the community health worker and the Primary Health Centre and higher centres, resulting in referrals that are generated but never tracked.[11]
4. Poor continuity of care- a woman or child, once seen at a health facility, lacks a systematic mechanism for their follow-up, relapse detection, or reintegration into community-based care.[11]

India has recogonized the importance of mental health determinants, which is reflected in mental health service architecture. The National Mental Health Programme and its District Mental Health Programme (DMHP) component extends the delivery of mental health services right to the primary care level. [12] Under the ambit of the National Tele Mental Health Programme (NTMHP), Tele Mental Health Assistance and Networking Across States (Tele-MANAS) is available as a toll free helpline (14416) which provides 24×7 tele-counselling, psychotherapy, including urgent care and onward linkage without barriers of distance or cost.[13] The specialist consultation has been made available by e-Sanjeevani portal, which addresses the mental health needs of populations through accessible health care free of cost at the comfort of their homes or the nearest health and wellness centre.[14,15] WHO's Mental Health Action Programme (mhGAP) offers integrated management of priority mental, neurological, and substance use disorder conditions using algorithms for clinical decision-making.[16]

Maternal mental health and well- being is recognized by the Indian health system infrastructure at the broader primary level healthcare framework, as well as in the National Health Programmes.[17-19] The perinatal mental health referral frameworks in India describe the screening instruments and prevalence extensively, however, none report the operational details[17] like referral completion, i.e., the proportion of positive screens that translate into formal clinical assessment, refusal management, a structured protocol for women or families who decline referral and their reasons, referral documentation which comprises of a standardized, colour-coded, level-specific tools that travel with the participant and record disposition, and continuity of care that details explicit mechanisms for back-referral and reintegration with the community health workers. These create an important implementation gap of not merely identifying the perinatal mental-health problems, but whether a positive screen triggers a cascade of care culminating in clinical assessment, appropriate intervention and documented follow-up.

This implementation gap constitutes the principal rationale of the present framework, which describes a referral and continuity-of-care model, the 'Pathway of Care' to address the critical point at which women identified through community-based screening may otherwise be lost to subsequent care. Guided by the principles of integrated perinatal mental healthcare and continuity of care, the *Pathway of Care* aims to establish a structured linkage between community-level workers and the existing district health system, which can enable the positive screen results to trigger documented referral, clinical assessment, appropriate management and subsequent follow-up.

The present research describes the development and implementation of this framework in District Samba, Jammu & Kashmir, with particular emphasis on documentation, risk categorization, referral, treatment, back- referral, and mechanisms for communication across the levels of care, to maintain women within care following initial identification using the WHO Health System Building Blocks and Proctor's implementation outcomes.[20,21] Rather than treating screening as an endpoint, the framework positions it as the entry point to a screen-assess-refer-manage-follow-up continuum, seeking to close the gap between identifying maternal mental-health needs and sustained engagement with appropriate healthcare.

2. Methods

2.1. Framework Development- The Pathway of Care was developed through a sequential, iterative process. This referral framework development was carried out as a part of the ongoing cohort research on postpartum depression, social support and its effect on child growth and development. The research is extramurally funded by the Indian Council of Medical Research (ICMR) and ethically approved by the Institute Ethics Committee of AIIMS Jammu, vide letter AIIMS/JMU/IEC/2025/67/EMP-11.

The successive stages of the framework development are as follows:

Step 1. Literature review of the existing national and international referral frameworks, intersectoral coordination, multi- disciplinary, and stepped-care models for perinatal mental health.

Step 2. Review of the national guidelines, including the National Mental Health Programme, the District Mental Health Programme, Tele-MANAS, and e-Sanjeevani operational guidelines, and the Reproductive, Maternal, Newborn, Child Adolescent Health and Nutrition (RMNCA+H) referral norms.

Step 3. Extensive consultation within the project's multidisciplinary faculty was carried out.

Step 4. A consultation with the Chief Medical Officer (CMO), District Samba, to align the pathway in line with the existing public health infrastructure and referral norms at the three medical blocks within the district.

Step 5. A structured consultation with the three Block Medical Officers in the district for sensitization of the ASHA, field support and cooperation.

Step 6. Consultation with the Consultant Psychiatrist in the project team as well as at the District Hospital for risk-stratification criteria, teleconsultation protocols, and the urgent-referral and refusal-management pathways.

Step 6. Consultation with the Department of Community Medicine for operational feasibility, community health worker integration, anticipated challenges and their mitigation, alongwith and health-system linkage was carried out.

Step 7.Sensitization of the front- line workers (ASHA, ASHA facilitator, ANM) regarding the framework and referral systems.

Step 8. Field piloting of the draft colour- coded, facility specific referral slips, teleconsultation proforma, and refusal SOP among an initial cohort of the enrolled participants.

Step 9. Revision of documentation tools and referral criteria based on field-team feedback and early operational experience.

Step 10. Finalisation of the framework, referral tools, and implementation-outcome indicators.

The development process was carried out from evidence-based principles and existing guidelines to multidisciplinary consultation, field piloting and revision. The iterative process is presented as the methodological backbone of the framework and is intended to strengthen both its face validity and its contextual fit to a rural district health system.

2.2. Guiding Principles- The Pathway of Care is underpinned by seven guiding principles drawn from health-systems and implementation science, which together shaped the design decisions described in the sections that follow.

Continuum of care[22] – Care is conceptualised as an uninterrupted trajectory from community screening through tertiary management and back to community follow-up, rather than as a series of disconnected encounters.

Stepped care[23,24] – Intensity of the intervention is evidence-based, where the service intensity is matched to individual need/ severity, so that the right service is delivered at the right place, and at the right time. The decision is driven by a person- centred approach. The intensity can then be either "stepped up" or "stepped down" depending on the level of client need

Integrated care[25,26] – Maternal mental health and child developmental surveillance are embedded within routine antenatal/postnatal and immunisation contact points rather than run as a parallel vertical programme.

Patient-centred care[23] – Referral is facilitated (counselled, mobilised, and escorted where needed) rather than merely advised, and refusal is met with continued engagement rather than case closure.

Implementation science[27,28] – The framework is developed from the beginning, which will be evaluated using a pre-specified set of implementation outcomes, not only clinical effectiveness.

Task-sharing[29-31] – Trained non-specialist project staff (Project Technical Support-III) undertake first-contact screening, counselling, and referral facilitation under the supervision of specialist faculty, extending the reach of scarce psychiatric and paediatric expertise.

Health systems strengthening[32-35] – The pathway is built to function through, and to strengthen, existing government structures (ASHA/ANM/AWW, PHC, DH, DMHP, Tele-MANAS) rather than to create a parallel referral channel.

2.3. Setting and Approach

The research is being carried out in District Samba, Jammu & Kashmir, with close association with the district and block health authorities and the wider maternal healthcare system.

The framework was developed for pregnant women who are in their 16 to 32 weeks of gestation, identified through community and facility-based maternal health services. The pathway is designed to continue beyond pregnancy through postnatal follow-up.

The approach was developed from the operational workflow of the ongoing maternal mental health project in District Samba, Jammu & Kashmir. Rather than treating the referral pathway as a stand-alone intervention, we mapped the activities already required to identify women, screen them, assess risk, arrange appropriate care and maintain contact after referral. Three complementary perspectives were then used to organise the framework. The WHO Health System Building Blocks (1) provided the health-system structure; the maternal mental health referral pathway (2) described the sequence of care; and Proctor's implementation outcomes (3) provided a way to assess how well the approach could be adopted and sustained.[20,21]

2.4. Conceptual Framework of Pathway of Care

The pathway of care brings together community identification, screening, risk assessment, referral, specialist care and follow-up. The scheme of the 'Pathway of Care' is presented in the Figure 1.



Figure 1. Illustrates conceptual framework of the Pathway of Care

2.4.1 Entry Point and Screening

Women enter the pathway through ANC registration and home visits. Screening can involve frontline or facility-based health workers, including ASHAs, ANMs, MLHPs and Medical Officers, within the project's defined eligibility period of women in 16 to 32 weeks of gestation.

2.4.2 Community Identification and Recruitment

The registered females in the antenatal line lists made by the ASHA worker is utilized to identify eligible women in the District. The project research team with the help of ASHAs visit the households of the antenatal women. During these visits, the team after rapport building and explaining the research and its objectives, obtains informed consent and assigns a unique

participant ID to the female. The unique id is so created to maintain the confidentiality of the participant and for longitudinal tracking purposes. This provides an early opportunity to identify women who may otherwise not present to a facility for mental health concerns.

2.4.3 Mental Health Screening

The project staff administers the Edinburgh Postnatal Depression Scale (EPDS, score range 0–30)[36] for screening maternal depressive symptoms. A positive response to EPDS Item 10 triggers a suicide-risk assessment. To assess the perceived social support scale, Multidimensional Scale of Perceived Social Support (MSPSS)[37], comprising Family, Friends, and Significant Other subscales, is used. Screening is therefore used as the entry point to a further assessment rather than as an endpoint.

Women with depressive symptoms are triaged against predefined referral criteria (Figure 2.) and, followed up with repeat assessment and home visits.

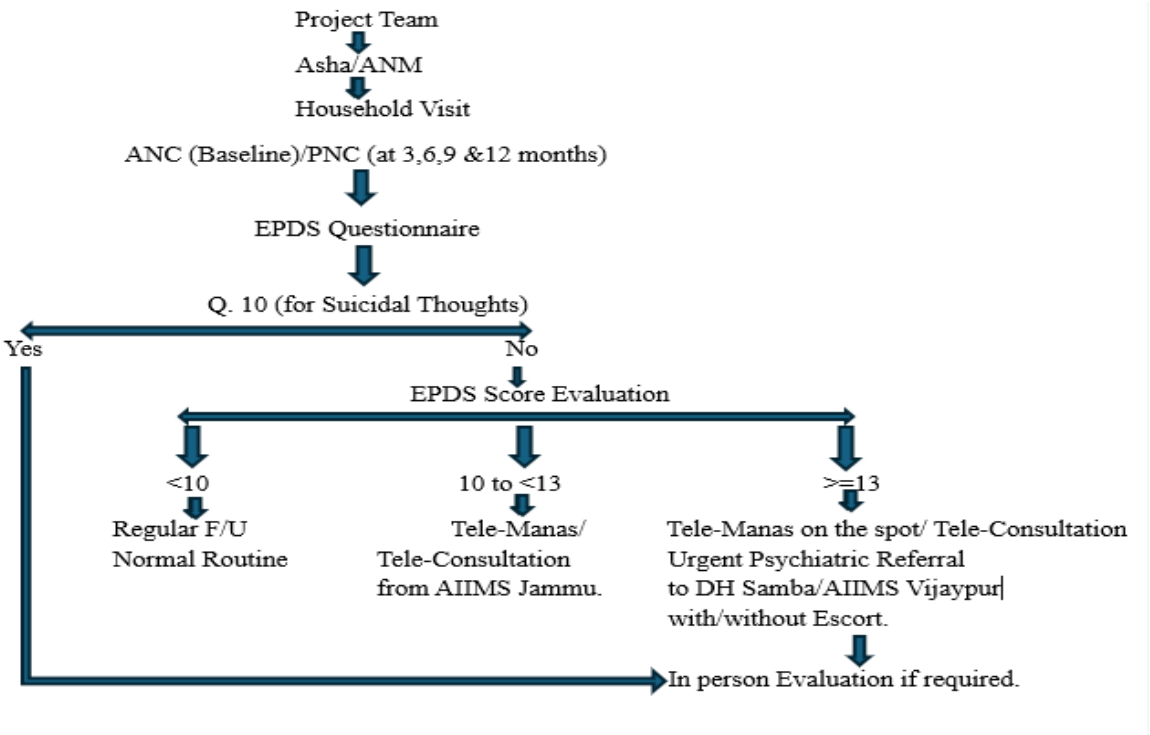


Figure 2: Referral decision algorithm

2.4.4 Risk stratification and Referral Decision

Risk stratification in Table 1 is used to guide the intensity and urgency of referral following mental health screening.

Figure 3 shows the facilitated referral loop developed in the current study for maternal mental health care. Women identified with mental health concerns at the community level were referred through PHC/NTPHCs to the tertiary referral facility (District Hospital Samba/AIIMS Jammu), as required. The referral process included counselling, providing the necessary information through referral slips, follow-up and tracking of women after referral, and addressing barriers that could prevent them from accessing care. After receiving appropriate management at the referral facility, women were back-referred to the referring facility for continued follow-up and care. The model also included counter-referral for women who directly reached a higher-level facility and were subsequently referred back to the PHC/NTPHC for further follow-up. Overall, the referral loop aimed to ensure that referral was not a one-time activity, but included follow-up, communication between facilities, and continuity of care across different levels of the health system.

Facilitated Referral, i.e., every participant with an EPDS of ≥11 will be counselled and referred with a protocol that will be a double-pronged strategy. Information transfer- a colour-coded referral slip, tailored specifically to the level of the health delivery system (primary, secondary, or tertiary), and tracking: completion of the referral loop. Tracking will be done through home visits and telephonically.

Table 1. Maternal mental health risk stratification

Risk Level	Criteria	Action
Low	EPDS 0–9; No Suicidal Ideation (SI)	Psychoeducation; routine ANC/PNC care and follow-up
Low	EPDS 0–9	TeleMANAS / Counselling referral / Psychiatric referral
	EPDS 10–12; No Suicide Risk	TeleMANAS / Tele-Counselling from AIIMS
High	EPDS ≥13 and/or Suicidal Ideation	TeleMANAS /Tele-Counselling from AIIMS Vijaypur Urgent Psychiatric referral from DH Samba/AIIMS Vijaypur

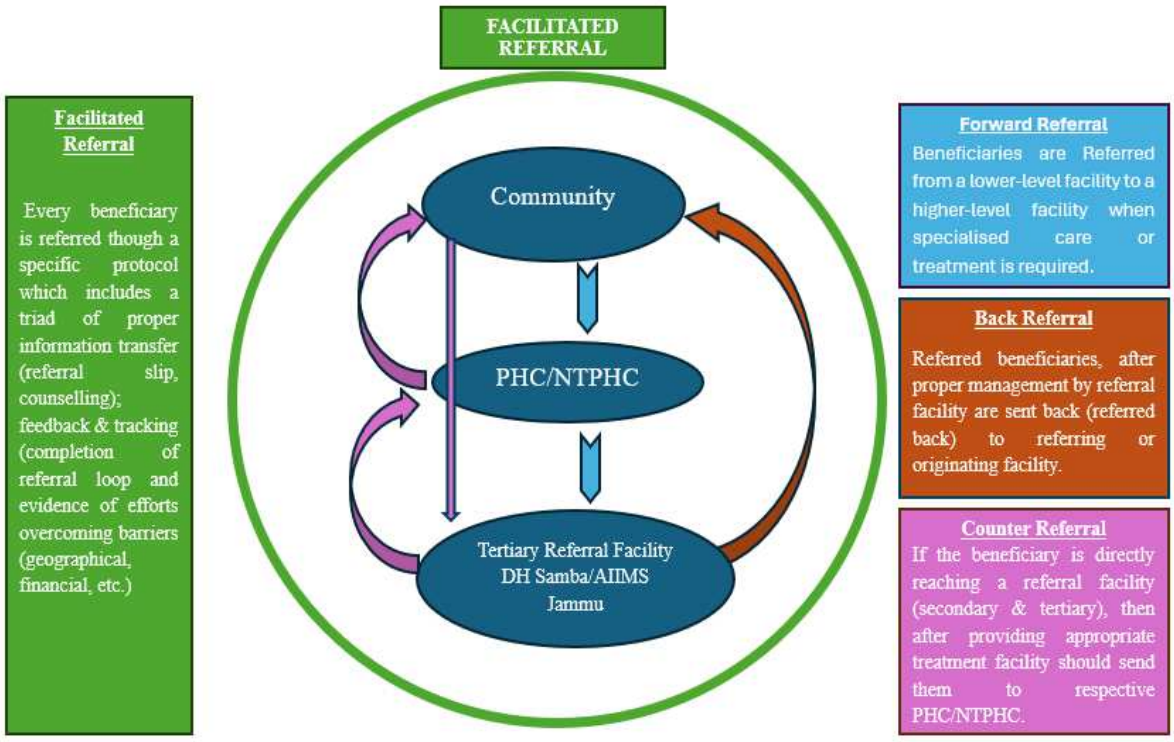


Figure 3: Referral Loop illustrating active reach to the beneficiaries

2.4.5 Referral Documentation

Referral documentation was designed to capture not only why a woman was referred, but also what happened afterwards. The information recorded varies by level of risk and includes the participant ID, date, EPDS score, referral unit, acceptance of the referral, attendance, service received, follow-up and referral-loop status.

For women with EPDS- 10–12, documentation records the type of counselling or mental health linkage offered, referral destination, whether the referral was accepted and attended, any delay in accessing care, and the next follow-up.

For women with EPDS ≥13, and suicidal ideation, the record focuses on urgent psychiatric referral, escort, completion of consultation, treatment details and confirmation that the referral loop was closed. The suicidal ideation is considered itself as an independent trigger for the urgent psychiatric referral.

Five complementary tools were developed and piloted to support the pathway: an ANC/postpartum referral slip, an urgent psychiatric referral slip, a Tele-MANAS referral and follow-up form, a teleconsultation feedback and action form, and a field-use refusal SOP for the referral refusal. The main function of each tool is summarised in Table 2.

245 ***Table 2. Summary of referral and follow-up documentation tools***

Tool	Trigger / Used By	Core Fields	Function in the Pathway
A. ANC / Postpartum Referral Slip	Any woman referred from community or PHC to Tertiary Centre with an antenatal/obstetric red-flag or an EPDS-triggered concern	Participant ID, EPDS score, red-flag checklist (e.g., bleeding, reduced foetal movements, severe headache, convulsions), gestational status, receiving clinician, disposition	Standardises obstetric red-flag communication and captures the receiving team's disposition for loop closure
B. Urgent Psychiatric Referral Slip	Severe depressive symptoms, suicidal ideation, self-harm thoughts, or acute behavioural concern	EPDS score, specific red flag, immediate action taken (counselling, family informed, escort initiated, psychiatry pre-informed), referring-staff contact, receiving disposition	Fast-tracks emergency psychiatric referral with same-day escort and pre-notification of the receiving psychiatry team
C. Tele-MANAS Referral & Follow-up Form	Participants offered or linked to the National Tele Mental Health Programme	Explanation and consent documentation, date of call, call initiated by project staff (Y/N), follow-up advised (Y/N), counsellor remarks, participant declaration/signature	Documents informed linkage to a national tele-mental-health service and provides a consent trail
D. Teleconsultation Feedback and Action Form (Counsellor Performa)	Completed by the counsellor/psychologist after every telephonic consultation	Call status, primary issue discussed, engagement, clinical risk assessment (including suicidality), counselling provided, referral advice with recommended time-frame, barriers identified, referral-completion outcome with reasons for non-completion, project-team follow-up dates (48h, 7 days)	The central instrument for risk stratification, barrier identification and tracking referral completion — links teleconsultation to field follow-up
E. Referral Refusal SOP	Declined referral, repeated missed	Trigger for activation, immediate risk	Operationalises a stepwise, auditable

(Field-Use Format)	appointments, family unwillingness, or travel/social barriers among women with EPDS 11–13 or ≥13	assessment, risk category, reasons for refusal, family-centred counselling record, specialist action (teleconsultation/home visit/multidisciplinary review), alternative services offered, follow-up schedule, documentation checklist	response to non-engagement, escalating from counselling to psychiatrist home visits

A. Antenatal / Postpartum Referral Slip

Used when a woman is referred from the community or a primary healthcare facility to Tertiary Centre for mental health concerns. It records the reason for referral and the receiving team's disposition. The referral slip is colour-coded (pink) and issued to the woman at the household level after screening or from the PHC for higher referral.

B. Urgent Psychiatric Referral Slip

Used for severe depressive symptoms, suicidal ideation, self-harm thoughts or acute behavioural concerns. It records immediate actions, escort arrangements, pre-notification, and the receiving team's disposition. This is colour-coded to green for identification and patient movement facilitation.

C. Tele-MANAS Referral and Follow-up Form

TELE-MANAS support will be provided at all levels for patient management and remote counselling. Document linkage includes an explanation of the service, consent, whether the call was initiated by project staff, date of call initiation and the follow-up advised.

D. Teleconsultation Feedback and Action Form

Completed after telephonic consultation to record the issues discussed, risk assessment, advice, barriers and subsequent referral or follow-up. It also records whether the referral was eventually completed. This form is filled by the counsellor at the tertiary health centre.

E. Referral Refusal SOP

Activated when a woman declines referral in the field, during teleconsultation, or repeatedly misses appointments. It prompts reassessment of risk, documentation of the reason for non-engagement, counselling, consideration of alternative services and planned follow-up.

2.4.6 Referral Completion and Closing the Loop

Referral completion is defined as a sequence of documented steps: referral initiated, referral accepted, clinical assessment completed, management initiated, feedback received, and follow-up completed. This definition shifts the focus from the number of referrals issued to whether women reached care and completed the intended referral pathway. Figure 4 illustrates how the project closes the referral loop by tracking women through these steps after referral.



Figure 4. Closing the loop: how the project follows women after referral

2.4.7 Follow-up After Referral

Time	Activity
Interview day	Referral generated

Within 7 days	Telephonic follow-up and recording of current health status
Within 2 weeks	Telephonic follow-up and recording of current health status
7–15 days post-delivery, then quarterly for 2 years	Telephone/home follow-up and repeat EPDS

3. Monitoring and Pathway Performance Indicators.

Monitoring was aligned with the referral pathway, from initial screening through referral, treatment, back-referral, and follow-up. Key indicators included screening coverage, referral acceptance and completion, time to first consultation, treatment initiation, follow-up retention, and closure of the referral loop. Documentation completeness and receipt of feedback from the receiving facility were also monitored to assess continuity across levels of care.

3.1 Screening and Referral Indicators

Screening indicators included the proportion of eligible and enrolled women screened and the proportion identified as requiring mental health services. Referral indicators included referral, acceptance and completion rates, time to first consultation, delayed or lost referrals, and emergency referrals. Referral refusal will also be documented, particularly where additional counselling, reassessment, or alternative referral options are required.

3.2 Treatment and Follow-up Indicators

Treatment and follow-up were monitored through documentation of counselling or medication initiation, completion of psychiatric consultation, treatment adherence, and follow-up attendance. Mental health status was reassessed during follow-up, with change in EPDS scores used where applicable to assess subsequent patient-level outcomes.

3.3 Referral Continuity and System-Level Indicators

At the health-system level, monitoring will be focused on the completeness of referral documentation and tracking, receipt of specialist feedback, back-referral completion, and overall referral-loop closure. These indicators will be intended to determine whether women remained connected across levels of care rather than being lost after the initial referral.

3.4 Linking the Framework to Health-System and Implementation Outcomes

Table 3 depicts the linkage of each component of the referral pathway with the corresponding health-system domain, implementation strategy, Proctor implementation outcome, and indicator used for monitoring.

Table 3. Mapping of the referral framework to WHO Health System Building Blocks and implementation outcomes

Framework Component	WHO Building Block	Implementation Strategy	Proctor Outcome	Suggested Indicator
Leadership & Governance	Leadership & Governance	District coordination, SOPs	Adoption; Sustainability	SOP approval; meetings
Capacity Building	Health Workforce	Training of ASHAs, ANMs, CHOs, MOs	Acceptability; Adoption; Fidelity	% providers trained
Mental Health Screening	Service Delivery	EPDS during ANC/PNC	Feasibility; Fidelity	% women screened
Referral Documentation	Health Information Systems	Standard referral forms and registers	Fidelity	Documentation completeness
Referral Tracking	Health Information Systems	Tracking database and WhatsApp coordination	Feasibility	Tracking completeness
Back-referral	Information Systems + Service Delivery	Feedback from psychiatrist	Fidelity	% referrals with documented feedback
Referral Loop Closure	Service Delivery + Information Systems	Confirmation of treatment and follow-up	Fidelity; Sustainability	Referral completion rate

4. Quality Assurance and Learning

Quality assurance is incorporated into routine implementation through staff training, field supervision, referral audits, and regular review of referral records. Screening procedures will be observed before staff work independently, and a sample of screening forms will be checked for completeness and accuracy. Referral decisions will be reviewed against the risk-categorisation criteria to ensure that the documented action was consistent with the screening findings.

Supervision includes observation of home visits and discussion of high-risk and referral-refusal cases. The referral register was reviewed monthly to identify incomplete or delayed referrals and cases requiring additional follow-up. Feedback from PHC Medical Officers, district hospital and tertiary care specialists will be used to identify gaps and refine referral and documentation

procedures. Thus, monitoring findings will be used not only for quality control but also to make practical adjustments to the referral process.

4.1 Verification of Screening and Referral

Screening quality will be assessed through verification of a sample of screening forms, duplicate data-entry checks, and supervisor observation. Referral quality will be assessed through review of referral forms and registers and, where required, verification with the receiving health facility.

4.2 Follow-up Verification

When referral completion could not be confirmed from routine records, follow-up will be conducted through telephone contact, facility verification, or community-level verification by ASHA/ANM. This will help in establishing whether a referral progressed from initiation to actual contact with care.

5. Implementation Evaluation

Implementation outcomes will be adapted to the operational steps of the referral pathway and linked to specific data sources (Table 4). The evaluation will examine not only whether women and children enter and complete the referral pathway, but also whether the pathway is acceptable to participants and providers, appropriate to the local context, feasible for frontline staff, adopted across participating facilities, and implemented as intended.

The framework captures both participant-level and facility/system-level implementation outcomes, while also assessing key pathway performance indicators, including referral completion, timeliness, treatment initiation, and retention. Implementation outcomes are guided by Proctor's Implementation Outcomes Framework, with pathway-specific indicators added to assess how effectively the referral system functions in practice.

Table 4. Implementation outcomes and pathway performance indicators for the Referral Pathway

Implementation Outcome*	Operational definition in the pathway of care	Level	Illustrative Data Source
Acceptability	Perceived suitability, comfort, and satisfaction with the referral pathway among participants, ASHAs/ANMs, counsellors, Medical Officers, and receiving clinicians	Patient + Facility	Counsellor proforma; exit interviews; stakeholder feedback
Adoption	Uptake and use of the referral protocol by PHC Medical Officers, counsellors, and receiving-facility specialists	Facility	Referral register; PHC/facility logbooks

Appropriateness	Perceived fit of the screening tools and referral criteria (EPDS/MSPSS/ASQ-3) with the local population, workflow, and clinical needs	Patient + Facility	Stakeholder consultation notes; provider feedback
Feasibility	Extent to which screening, referral, mobilization, escort, and follow-up can be delivered using available staff, time, and resources	Facility /system	Field supervision logs; staff feedback
Fidelity	Adherence to the referral algorithm, colour-coded referral slip, documentation requirements, refusal SOP, and referral-loop procedures	Facility /system	Referral-slip audit; SOP checklist; supervision records
Coverage / Reach	Proportion of eligible screen-positive women/children who entered the referral pathway	Patient	Screening and referral register cross-tabulation
Penetration	Extent to which the referral pathway is integrated and used across community, primary, secondary, and tertiary levels	Facility /system	Facility-wise referral records; pathway mapping
Referral completion	Proportion of issued referrals in which the participant reached and was assessed by the receiving facility/provider	Patient + System	Referral register; teleconsultation feedback; receiving-facility records
Timeliness	Time from referral initiation to contact/assessment at the receiving facility, compared with protocol-defined time windows (e.g., 24 hours, 48 hours, or 7 days)	Patient + System	Referral slip date/time; referral register; receiving-facility records
Treatment initiation	Proportion of referred participants who commenced indicated management, such as counselling, pharmacotherapy, or developmental intervention	Patient	Receiving-team disposition/treatment record
Retention / Continuity	Continued engagement with recommended follow-up, TeleMANAS, and frontline-worker linkage over the study period	Patient + System	Follow-up register; repeat teleconsultation records; frontline-worker follow-up records

*Adapted from Proctor's Implementation Outcomes Framework**

6. Implementation experience: Barriers and Facilitators- Insights from Field Piloting and Stakeholder Consultation

6.1 Barriers to Referral and Engagement

Several barriers can interrupt the pathway. These include stigma related to mental health, shortages of trained staff, distance and transport difficulties, fragmented communication between facilities, inconsistent availability of health services and the additional documentation required from frontline workers. The project also encountered difficulties in piloting when Tele-MANAS counselling was not available at the time of a scheduled home visit. When a later callback was offered, some women were no longer available or declined the consultation. These experiences show why a referral pathway needs alternative routes and active follow-up rather than relying on a single point of contact.

6.2 Factors Supporting the Pathway

The existing ASHA network is an important practical foundation because ASHAs already have established relationships with women and families in the community. Routine ANC and PNC contacts provide repeated opportunities to identify concerns and follow women over time. Existing district and national platforms, including Ayushman Bharat Health and Wellness Centres, the District Mental Health Programme, Tele-MANAS and teleconsultation services, can also provide points of linkage when responsibilities and communication are clearly defined.

7. Discussion

The main contribution of the approach is its focus on what happens after a woman screen positive. Screening is linked to a defined referral decision, documentation, active follow-up and confirmation of care. The pathway also makes provision for practical barriers such as transport and referral refusal, and it creates a mechanism for information to move back from the receiving provider to the frontline team. These features are particularly relevant when maternal mental health services are being incorporated into existing district-level maternal and child health programmes.

The experience suggests that maternal mental health integration should be planned as a service pathway rather than as a screening activity alone. District programmes may benefit from clearly assigning referral responsibilities, using simple documentation, establishing communication between facilities and community workers, and defining how referrals are followed when women do not attend. The approach may also inform efforts to link maternal healthcare with District Mental Health Programme services and tele-mental-health options. Its wider applicability, however, should be assessed through prospective implementation and economic evaluation.

A strength of the approach is its close connection with routine health-system structures and the practical detail of the referral process. It includes mechanisms for documentation, tracking, referral refusal, transport and follow-up rather than assuming that a referral will automatically result in care. There is a pre-specified implementation-outcomes evaluation framework, aligned with

Proctor's taxonomy and a multidisciplinary pathway spanning Psychiatry, Paediatrics, Obstetrics & Gynaecology, and Community Medicine. Colour-coded, level-specific referral slips that standardise information transfer across different tiers of healthcare, and continuity of care which is embedded through frontline-worker linkage.

As the research is being carried out in a predominantly rural district, it may limit generalisability to settings with different health-system or geographical terrain. The applicability to urban or peri-urban settings with different access barriers has not been established. As the framework has not yet undergone a prospective evaluation of effectiveness, cost-effectiveness or long-term sustainability, implementation-outcome evaluation is yet to be undertaken and will be reported separately as the cohort study matures. Some elements were developed in response to the operational needs of the District Samba project and may therefore require adaptation in districts with different staffing, referral capacity or service availability.

8. Conclusion

Integrating maternal mental health into routine maternal care requires more than adding screening to ANC or PNC. The experience from District Samba shows the importance of linking screening with a clear referral decision, practical support for reaching care, communication with the receiving service and follow-up until the outcome of the referral is known. Treating referral as a process rather than a one-time event may help district health systems identify where women are lost along the pathway and respond to those gaps. The proposed approach provides a practical basis for prospective evaluation and further adaptation within routine maternal and child health services.

9. Abbreviation Full form

AIIMS	All India Institute of Medical Sciences
ICMR	Indian Council of Medical Research
WHO	World Health Organization
ANC	Antenatal Care
EPDS	Edinburgh Postnatal Depression Scale
PPD	Postpartum Depression
DMHP	District Mental Health Programme
NTMHP	National Tele-Mental Health Programme
Tele-MANAS	Tele Mental Health Assistance and Networking Across States
mhGAP	Mental Health Gap Action Programme
CMO	Chief Medical Officer
ASHA	Accredited Social Health Activist
ANM	Auxiliary Nurse Midwife
AWW	Anganwadi Worker

9. Abbreviation Full form

PHC	Primary Health Centre
DH	District Hospital
MLPS	Maternal and Life-course Psychosocial Support
NTPHC	Non-Teaching Primary Health Centre
SOP	Standard Operating Procedure
MSPSS	Multidimensional Scale of Perceived Social Support
ASQ-3	Ages and Stages Questionnaire, Third Edition
PNC	Postnatal Care

10. Declaration

10.1. Ethics Statement

The study was conducted in accordance with the principles of the Declaration of Helsinki and was approved by the Institutional Ethics Committee of AIIMS Vijaypur (Approval No. AIIMS/JMU/IEC/2025/67/EMP-11).

10.2. Consent for Publications

Written informed consent was obtained from all participants before their enrolment in the study. Participants were informed about the purpose of the study and how the information collected from them would be used for research and publication. The data presented in this manuscript do not include any personally identifiable information.

10.3. Availability of data and materials

The datasets generated and/or analysed during the current study are available from the corresponding author on reasonable request.

10.4. Competing Interests

The authors declare that they have no competing interests

10.5. Funding

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10.6. Authors contributions

NC, PD, and AS contributed to the conceptualisation of the study. NC secured funding. All authors contributed to finalizing the methods, data acquisition plan, field activity planning, and training of the project staff.

10.7. Acknowledgements

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