

Removing friction in the health-seeking journey through a digital first service delivery model

Lessons from a pilot implementation in Madhya Pradesh, India

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Outline

- Context and Design approaches



- Initial Results



- Lessons learned and future evolution





Govt. Medical College

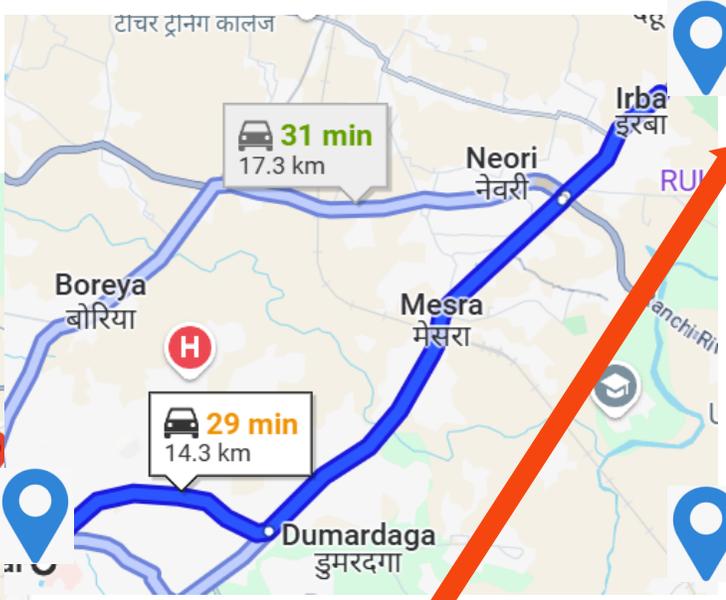


Currently, accessing healthcare services depends on a citizen's knowledge and ability to seek care, often causing delays in receiving appropriate care, leading to diagnostic delays, high out-of-pocket expenses and suboptimal health outcomes.



Your Health, Our Goal
आपका स्वास्थ्य, हमारा लक्ष्य

Baby Kujur's Journey



Curesta Global Ormanjhi

Took PMJAY card + INR 21K at admission
4 days in hospital, worsens

Rani Hosp, Ranchi Admit with PMJAY

Baby dies in a day

RIMS hospital calls ambulance driver and asks patient to be taken to Curesta Global



Ref to RIMS, Ranchi

Gumla, Sardar Hospital 35 Kms from home

Fetal Distress
Emergency C Section
Ref to Lohardaga Govt Hospital

BMJ Open Causes and determinants of infant mortality using verbal autopsy and social autopsy methods in a rural population of Odisha: a community-based matched case-control study

Debkumar Pal,¹ Arvind Kumar Singh ¹, Amit Kumar Satapathy,² Priyamadhava Behera ¹, Abhisek Mishra¹

Community-based matched case-control study to identify the medical causes of infant mortality using the verbal autopsy method along with the **identification of delay and pathway of care** related to infant deaths using a social autopsy method.

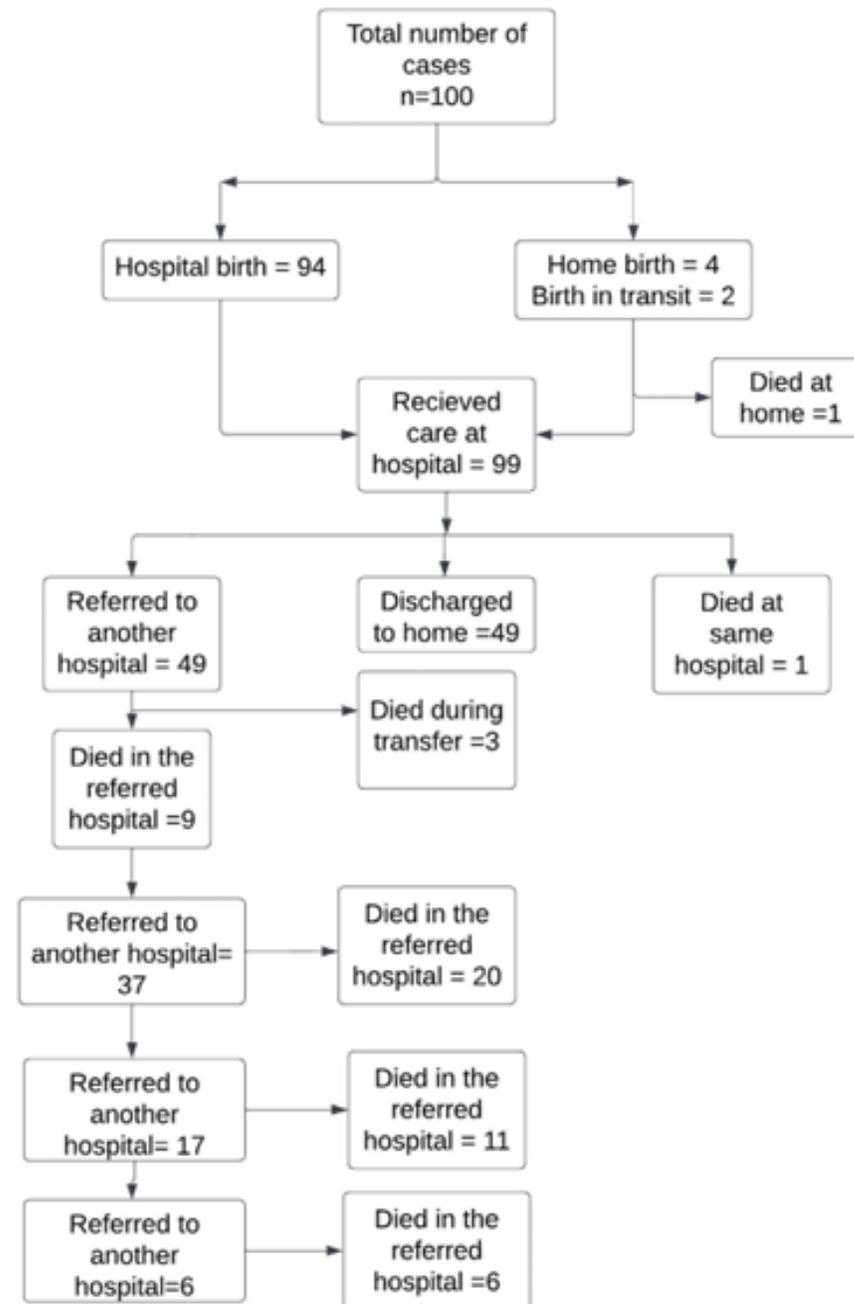


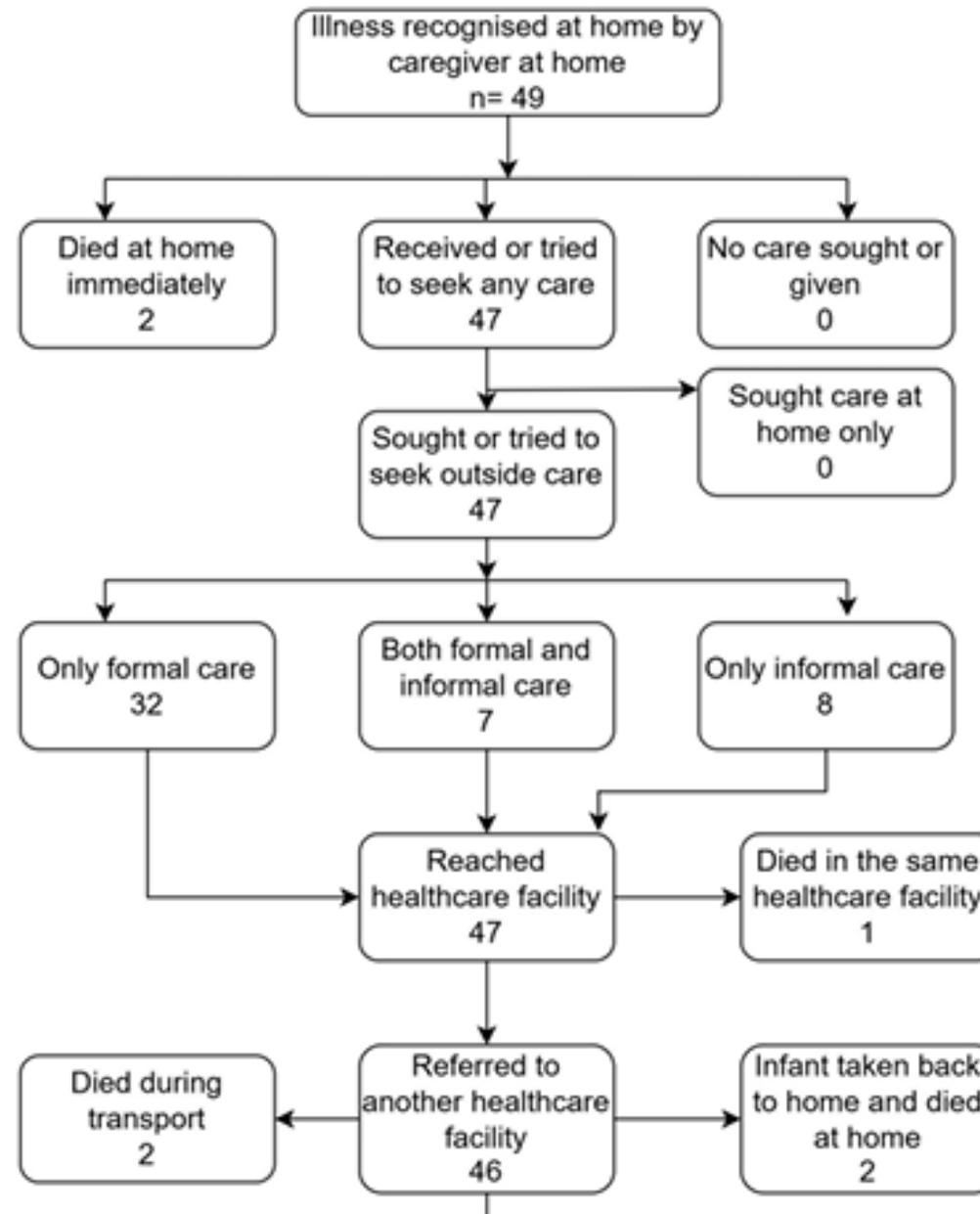
Figure 2 Pathway of care for cases that did not reach home after delivery.



BMJ Open Causes and determinants of infant mortality using verbal autopsy and social autopsy methods in a rural population of Odisha: a community-based matched case-control study

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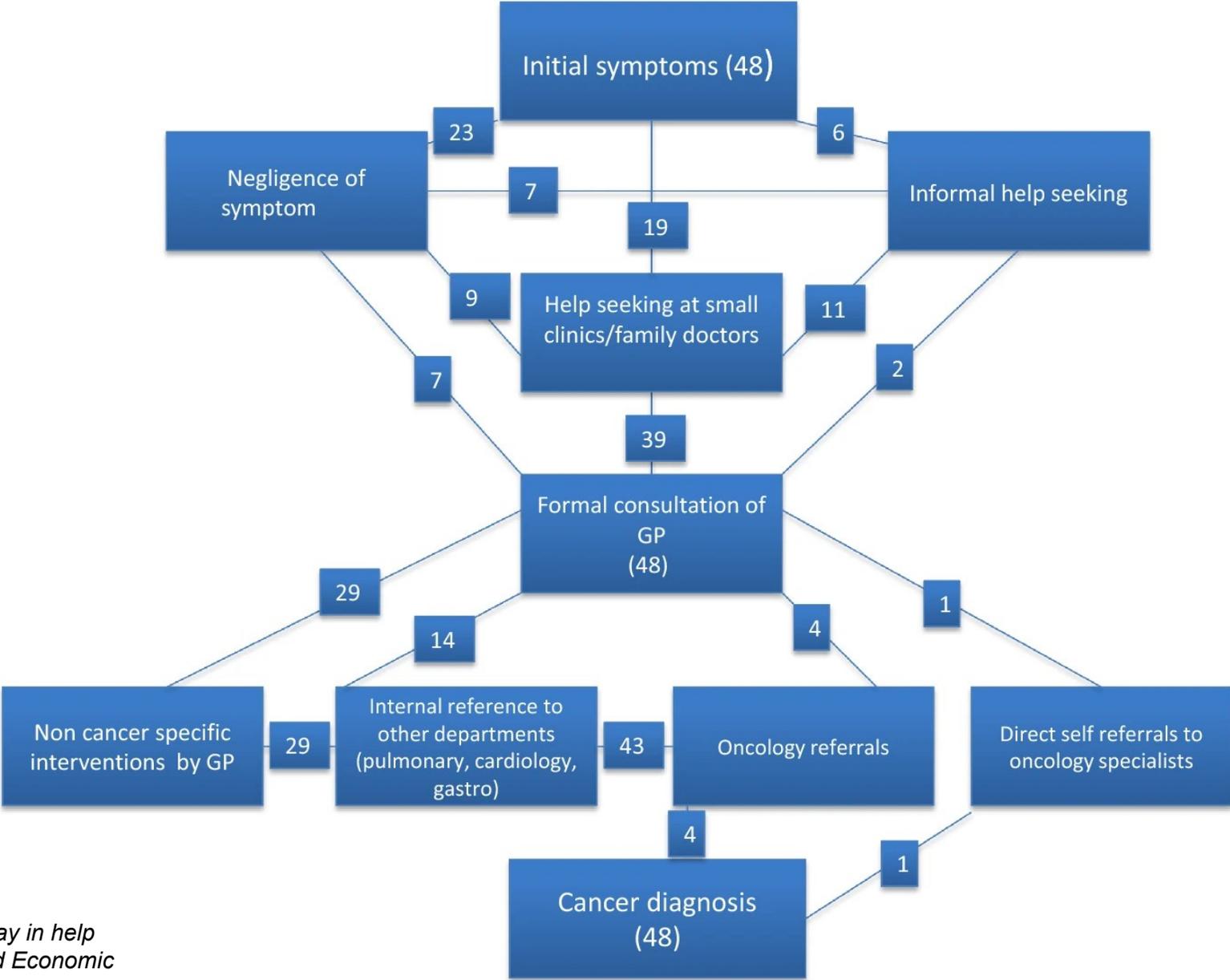
The median delay was found to be 24 hours for level 1 delay. Level 1 delay was observed for 20 cases (40.8%), with more than 24 hours in decision-making in care-seeking



Friction

Average days of delay from the notice of symptom to formal consultation and diagnosis in Cancer Care

*Substantial delay in cancer diagnosis observed between appearance notice of the symptoms and first formal help seeking / consultation with an average of **180 days!***



Sobin George, Being sick to a cancer patient: pathways of delay in help seeking and diagnosis of cancer in India, Journal of Social and Economic Development (2023) 25:52–69



First consultation by women is nearly 3 times delayed than men. Delayed detection results in poor treatment outcomes.

Sobin George, Being sick to a cancer patient: pathways of delay in help seeking and diagnosis of cancer in India, Journal of Social and Economic Development (2023) 25:52–69

Characteristics	Symptoms to 1st formal consultation (Days)	First formal consultation to diagnosis (Days)	Total (Days)
Gender			
Male	88.5	30.8	119.3
Female	244.3	34.2	278.5
Type of cancer			
Breast Cancer	184.7	18.7	203.4
Ovarian cancer	456	76	532
Lung cancer	320.7	68.5	389.2
Intestinal cancer	234.3	67.4	301.7
Stage of diagnosis			
1st	45	18.5	63.5
2nd	51.1	25.6	76.7
3rd	484.6	69	553.6
4th	172.7	21.1	193.8
All	180.24	32.28	212.52

In most resource limited settings including India, patients face multiple challenges in accessing care



Literature reviews revealed the role that timely and information availability of services could play in easing the patient journey in India:

Research Methodology

Databases Referred



Search Keywords

Healthcare access + barriers/ delays + India

Search Criteria

Last five years + Free full text

Total Hits

128 on PubMed + 73 on WoS

Screening Method

Abstract review + Full-text review

Shortlisted literature

14 research articles



Rural and tribal settings

Urban, including slums



Financial constraints



Variability in service quality and low satisfaction



Geographic accessibility



Complex system and navigation challenges

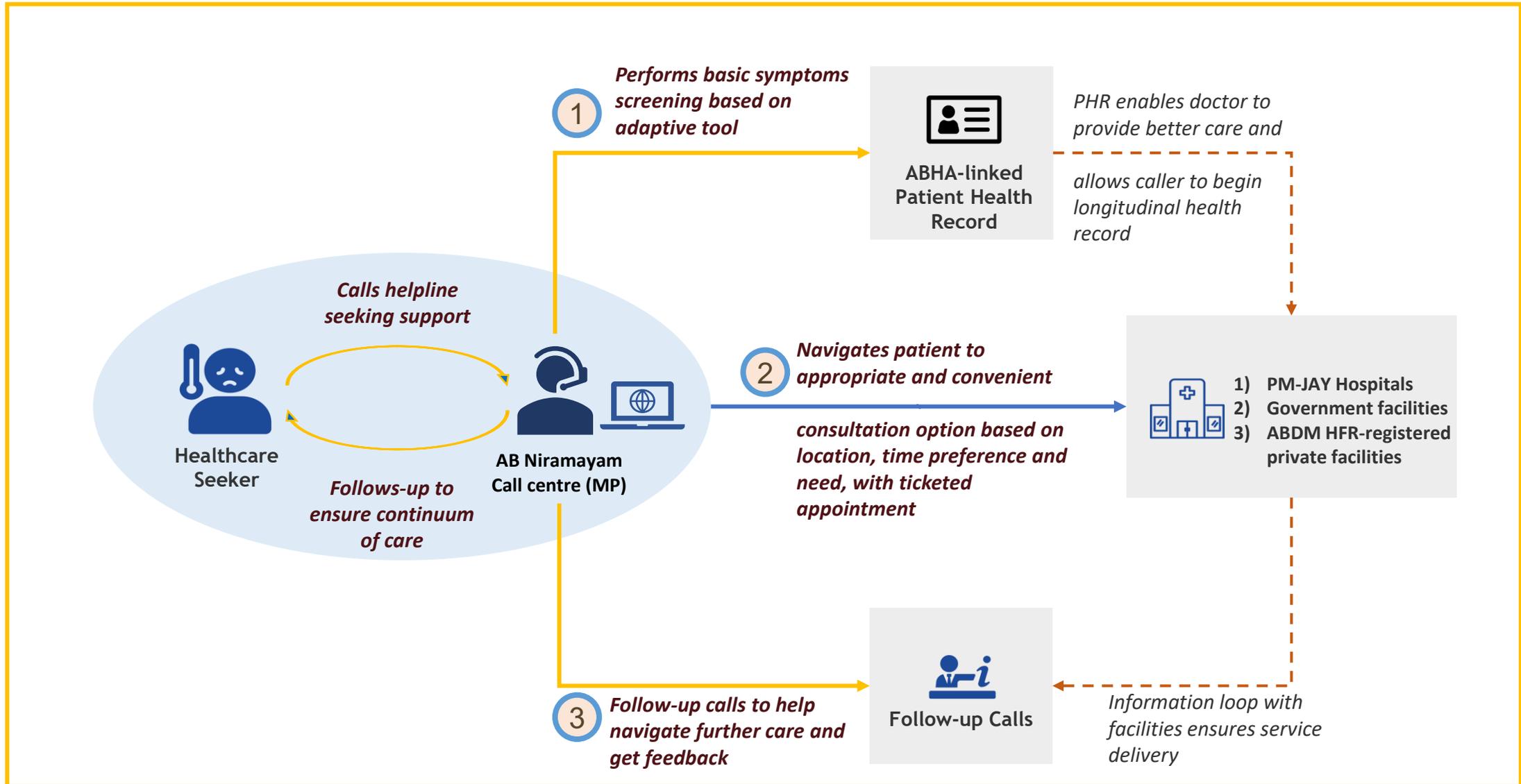


Awareness of existing facilities

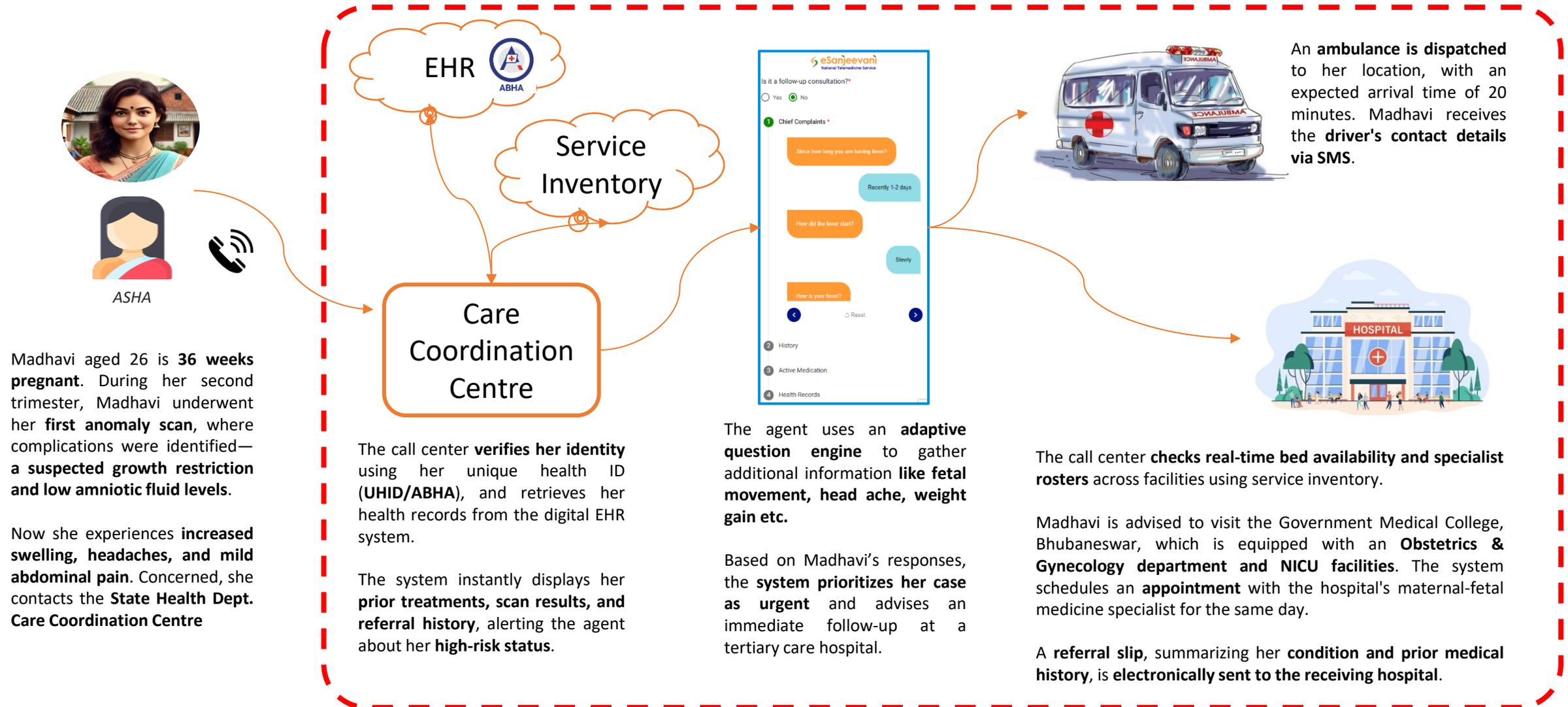


Availability of appropriate services

Designing for Care Coordination Triage & Referral through the existing health help-lines



Digital Orchestration of health service delivery to improve maternal outcomes



Improving Maternal Outcomes through Care Coordination



Madhavi reaches the hospital using the ambulance service booked through the care coordination centre facilitated by the FLW



@ the facility



Madhavi is attended to without delay. The hospital's care team **already has access to her medical records** via the integrated EHR system.

After an evaluation, the doctor confirms that an early induction of labor or cesarean delivery may be required to prevent complications. Madhavi is admitted and closely monitored by the medical team.

Madhavi delivers a **healthy baby** girl via a planned cesarean section.

During discharge, she is **enrolled in the postnatal care pathway**, ensuring follow-ups for her health and the baby's vaccinations.



On the day of discharge, transportation is arranged by Care Coordination Centre for safe transport of Madhavi and her child back home.



After 30 days, the Care Coordination Agent calls Madhavi and collect her experience and current health status. She is also asked about the support she can avail through the community health worker (ASHA) in case of any assistance.

Care Coordination Centre



Madhavi also gets an **SMS reminder** regarding the child's vaccination periodically.

A call is also made 7 days prior to the vaccination due date and using the service registry, an **appointment for vaccination** is booked at the nearest facility.

How Care Coordination Helped Madhavi and her Child

- Electronic Health Record enabled instant access to Madhavi's history and risk factors.
- Adaptive Question Engine based Triage System helped the FLW (ASHA) to promptly identify her condition as urgent.
- Enabled seamless referrals and real-time coordination of hospital appointments and ambulance services.
- Long term health outcome through continuum of care through follow-up scheduling for both mother and child.

Reduced IMR | Less Friction at Hospitals | Satisfied Citizen | Trust in Health Delivery Systems of the state

A short pilot (Oct. '22 - Mar. '23) at a sub-district level, providing service availability information using an ad-hoc helpline showed promising results



Health Seeker Benefits

Time to seek care

Reduced from 8.1 days to 4.7 days

OOPE

Reduced by 13%

Appropriate Care

40% of patients would have gone to the informal sector or private practitioners in absence of helpline

Reduced waiting time

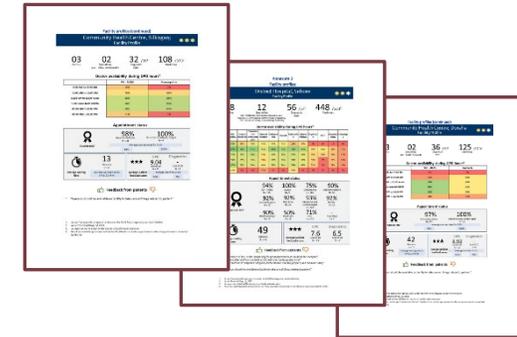
62% of patients waited <10 minutes at the facility for their appointments

Health System Benefits

Rational use of facilities / gate-keeping

Facility-level service readiness insights

45% of those who would have gone directly to DH in absence of helpline were triaged to PHCs and CHCs



“There was knot behind my daughter’s ear which I wanted to show to the doctor. I could not see the doctor and was asked us to come at a later time. When we went again, they asked us to come the next day. I then called the helpline and with the assistance of the helpline staff, I was able to get an appointment with the doctor and my daughter had a successful surgery.”

- Female Beneficiary, Sehore

“This helpline is a great initiative. With this patient’s get information with regard to doctor availability and services at their fingertips. When the patient visits the facility, they don’t feel hassled. The staff at the facility, help the patient completely. Because of this helpline, the CM helpline has faced a drop in complaints since all the information is available on the ‘Swasthya Margdarshan’ helpline.”

- Laboratory Technician, CHC Shyampur

Building on this experience, Madhya Pradesh launched a wider initiative across two districts, using its helpline for beneficiaries of its insurance scheme (AB-PMJAY)



The existing AB-Niramayam helpline allows beneficiaries to:

- ✓ Check their scheme entitlement
- ✓ Understand the process of getting an Ayushman Card
- ✓ Know which facilities are empaneled in their district
- ✓ Register complaints or grievances



Enhanced functionalities

For callers from Sehore and Bhopal districts

1



Ticketed appointments

OPD and diagnostics appointments across:

- **113** government facilities
- **400** physicians across **23** specialties (including General Medicine)

2



Symptom Screening + EHR Generation

- Health ID (ABHA)-linked Electronic Health Record (EHR) with patient-reported symptoms
- Screening to cover 500+ possible medical conditions across 36 specialities

Call center executives are able to quickly provide the caller with options based on health need, location, and preferred times slots



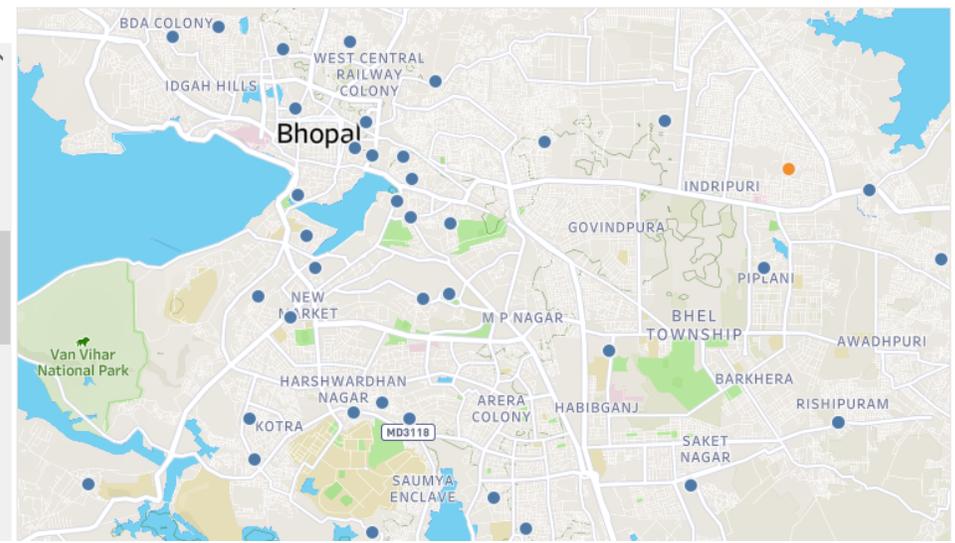
Service Availability

District: (All) | Block: (All) | Facility Name: | IPD: (All) | PMJAY Empanelment: (All) | Caller_LOC: 23.254694332982766, 77.47264054441675

Clinical Pathology Services: (All) | Biochemistry: (All) | Serology: (All) | Urine: (All) | Stool: (All) | Radiology: (All) | Cardiology: (All) | Microbiology: (All)

General Medicine	Ayurveda	Cardiothoracic and vascular surgery	Ear, Nose, Throat	General Surgery	Homeopathy	Neurology	Ophthalmology	Others (please specify)	Psychiatry	Radiology	Unani
Anaesthesia	Cardiology	Dermatology and Venerology		Genitourinary Surgery	Nephrology	Obstetrics & Gynaecology	Orthopaedics	Paediatrics	Pulmonology (Chest diseases and respiratory medicine)	Urology	

.. Facility Name	Facility ..	Facility T..	Facility S..	Facility P..	Facility P..	Facility P..	Avg. D..
Sanjeevani Clinic-Laxman N..	Governm..	Clinics	Urban He..	Kusum J..	9981698..	Comput..	7
CD Panchshil Nagar	Governm..	Clinics	Primary ..	Dr Anime..	9009004..	Medical..	7
Sanjeevani clinic,Roshanpu..	Governm..	Clinics	Urban He..	Dr.Lokes..	8269886..	MO	7
Sanjeevani Clinic,Professor..	Governm..	Clinics	Urban He..	Ajay Patel	8878821..	Nursing..	7
Sanjivani clinic ginnori	Governm..	Clinics	Urban He..	..	9669622..	MDW	9
Bhopal Memorial Hospital ..	Governm..	Hospital	District ..	Vishal K..	7552740..	Medical..	8
Sanjivani clinic Chowki Ma..	Governm..	Clinics	Urban He..	Dr. Sanju ..	8209815..	medical..	8
Sanjivani clinic Rahul Nagar	Governm..	Clinics	Urban He..	Dr Deepti	9827176..	medical..	8
Abdul Kalam Azad Hospital ..	Governm..	Hospital	Commun..	Dr. Vand..	9981784..	medical..	8
KNK Hospital Bhopal	Governm..	Hospital	Sub-distr..	Hemlata ..	7610769..	Nursing..	8
Sanjeevani Clinic,Banganga	Governm..	Clinics	Urban He..	Dr.Subha..	9893232..	MO	8
Sanjivani clinic Baba Nagar	Governm..	Clinics	Urban He..	Dr. Varsha	7879485..	Medical..	8
Hakim Sayed ziaul Hassan ..	Governm..	Hospital	District ..	Dr.Mohd..	7879794..	Hospita..	9
Sanjivani clinic Sanjay Nag..	Governm..	Clinics	Urban He..	Dr. Sunil ..	7415220..	Medical..	9
Sanjivani clinic Kamla Nagar	Governm..	Clinics	Urban He..	Shubhka..	9424656..	nursing..	9
Urban Primary Health Cent..	Governm..	Clinics	Urban He..	Monica C..	9770476..	Nursing..	9
Government Jawaharlal Ne..	Governm..	Hospital	State Ho..	mirwin vi..	7999449..	HR	10
Primary Health Centre Misr..	Governm..	Clinics	Primary ..	Srishti Ti..	8109358..	Ticket R..	10
Sanjeevani clinic,salaiya	Governm..	Clinics	Urban He..	Divya sh..	7644459..	Nursing..	10
CHC kolar	Governm..	Hospital	Commun..	shilangn..	7974131..	nursing..	11



Over time, the solution could help improve health outcomes in addition to access to timely care



Call Centre-Based Care Co-ordination Services

A Service Availability and Appointment Module

B Symptom Checker and EHR Generation Module

C Health ID Module

Outputs

Information on service availability across parameters - specialty, distance, time and fees (for private)

Ticketed appointments for OPD consultations at 1) PM-JAY 2) Government and 3) ABDM-registered private facilities

Follow-up calls to ensure service delivery, facilitate further care and log feedback

ABHA-Linked EHR with current symptoms and past history

Information on how to identify and use ABHA (PM-JAY callers)

Creation of ABHA

Outcomes

Ability to make informed care choices

Assured access to appropriate care

Lower time spent in patient journey

Lowered anxiety in seeking care

Lower OOPE

Higher credibility of PM-JAY and government services

Greater accountability of service providers

Start of electronic longitudinal health record

Increased awareness and usage of ABHA

Impact

1 Reduction in delay in seeking care, improving health outcomes

2 Improved utilization of PM-JAY

3 Better clinical decisions, improving quality of care

4 More efficient use of government facilities, increasing access

5 Aggregate data for quality assurance and disease surveillance



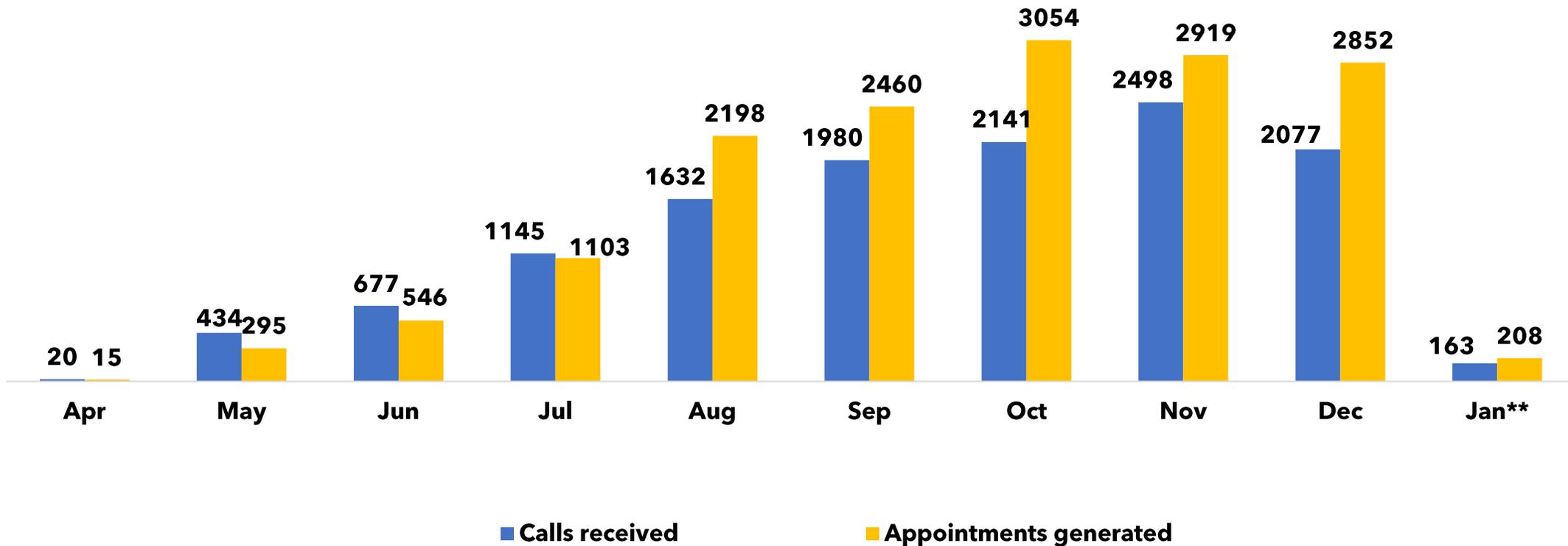
Early Results



In the nine months since its launch in April 2024, the helpline has provided 15,480 appointments over 13,608 calls



Monthly calls received and appointments generated

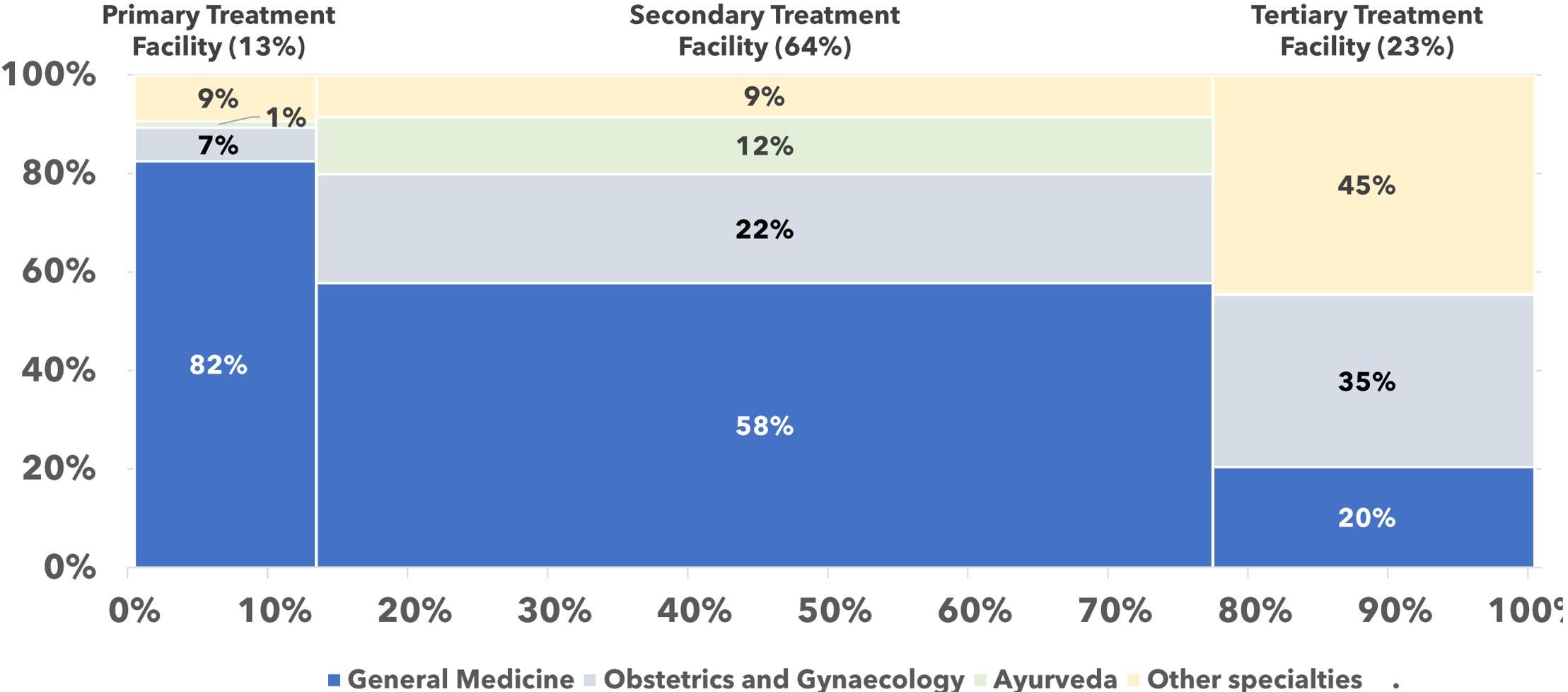


** As of 3rd Jan 2025

77% of appointments have been at primary and secondary care facilities, supporting the gate-keeping for specialist consults at tertiary care facilities



Appointments by Facility Type & Specialty

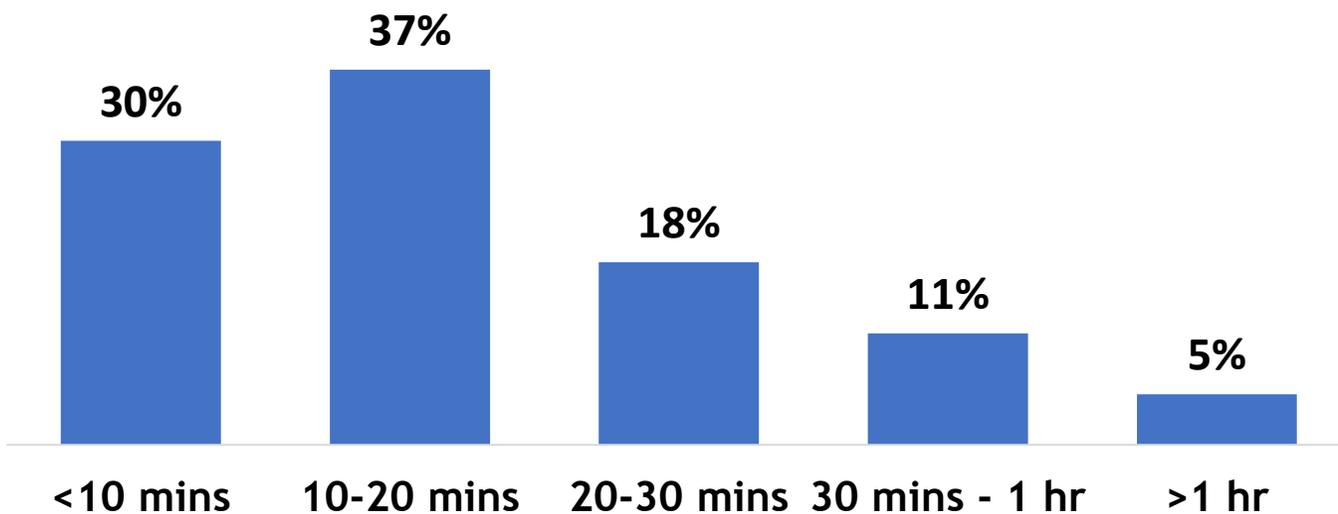


Primary Treatment - Civil dispensary, UPHC, PHC, Sanjeevani clinic; Secondary Treatment - Civil hospital, CHC; Tertiary Treatment - District hospital, GOI hospital
 Other specialties include Paediatrics, Dentistry, Neurology, ENT, Orthopaedics, Ophthalmology, General Surgery, Psychiatry, Neurosurgery, Gastroenterology, Cardiology, Pulmonology, Hematology

Appointments attended have a fulfilment rate of 99%, with a positive in-facility and helpline experience ratings



In-facility wait times



85%

of appointments had an in-facility wait time of **<30 minutes**

24 minutes

Average in-facility wait time

15,480 appointments

Of which 81% were attended

Of which 99% were fulfilled

8.9

Is the average user rating (on a scale of 1-10)

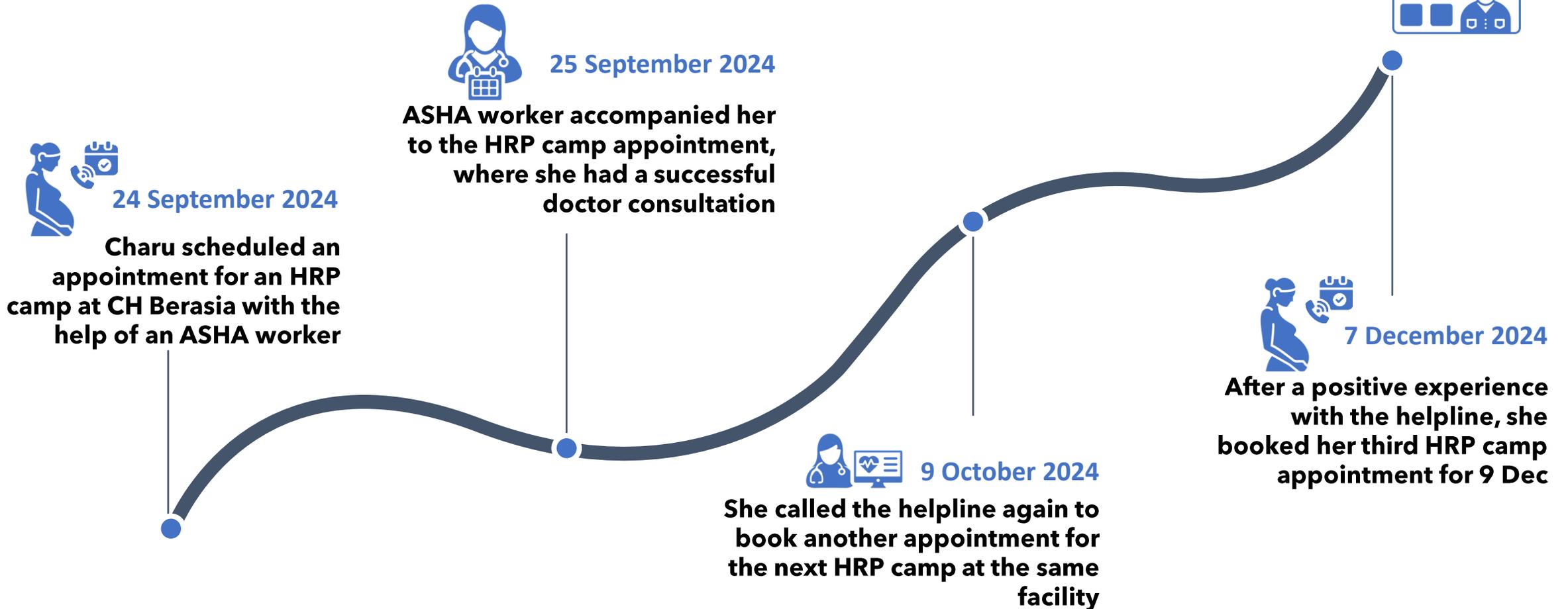
94%

Of feedback ratings in the **8-10 range**

22% of helpline users are returning appointment seekers



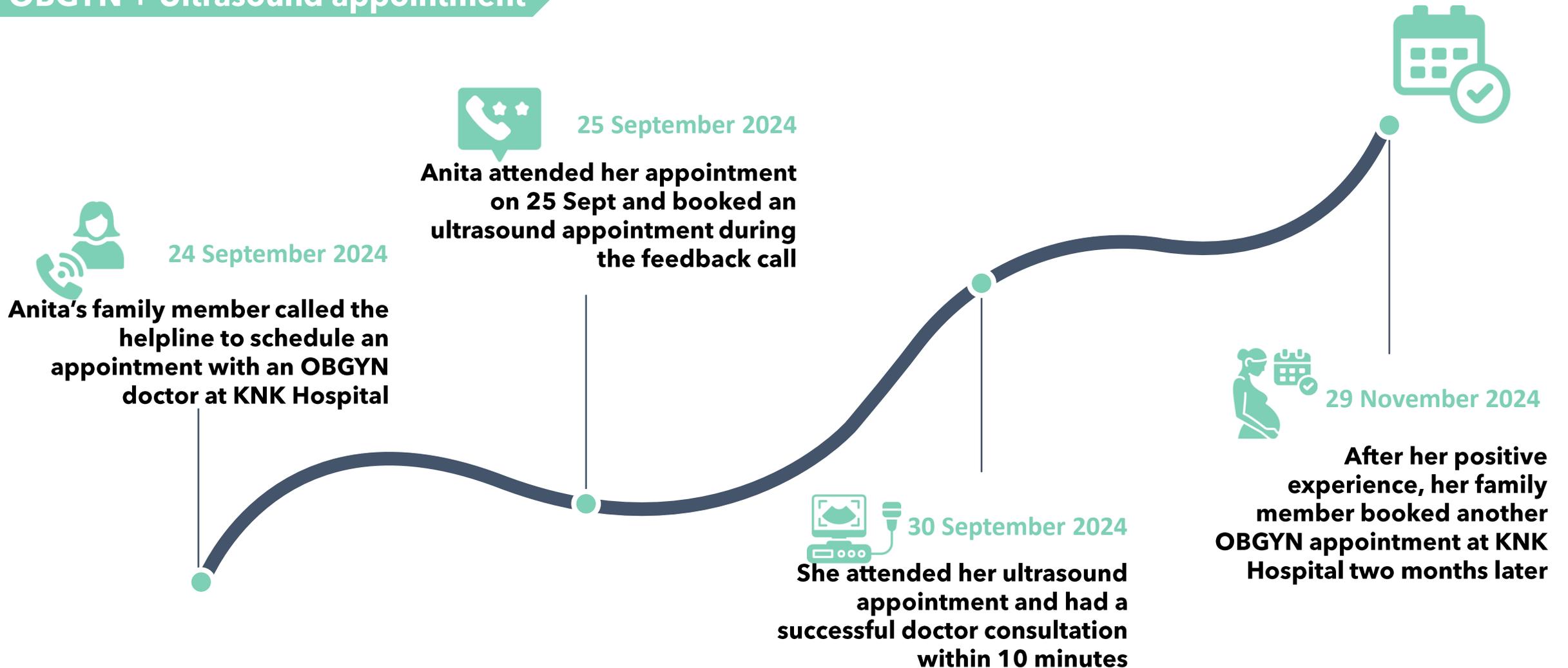
REPEAT USER CASE 1 - Repeat HRP day appointments



Care seekers are beginning to use the service to facilitate integrated pathways (with doctor consultations and diagnostics appointments)



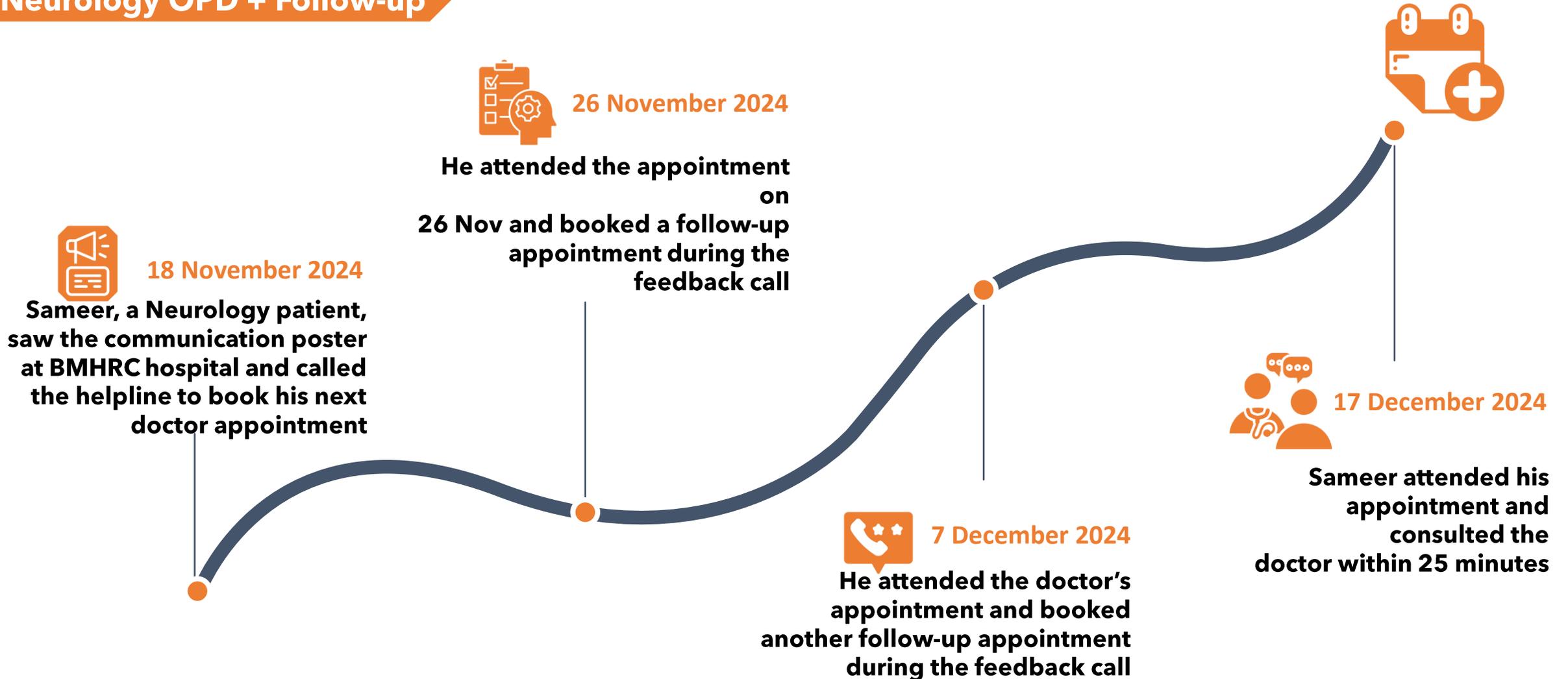
REPEAT USER CASE 2 - OBGYN + Ultrasound appointment



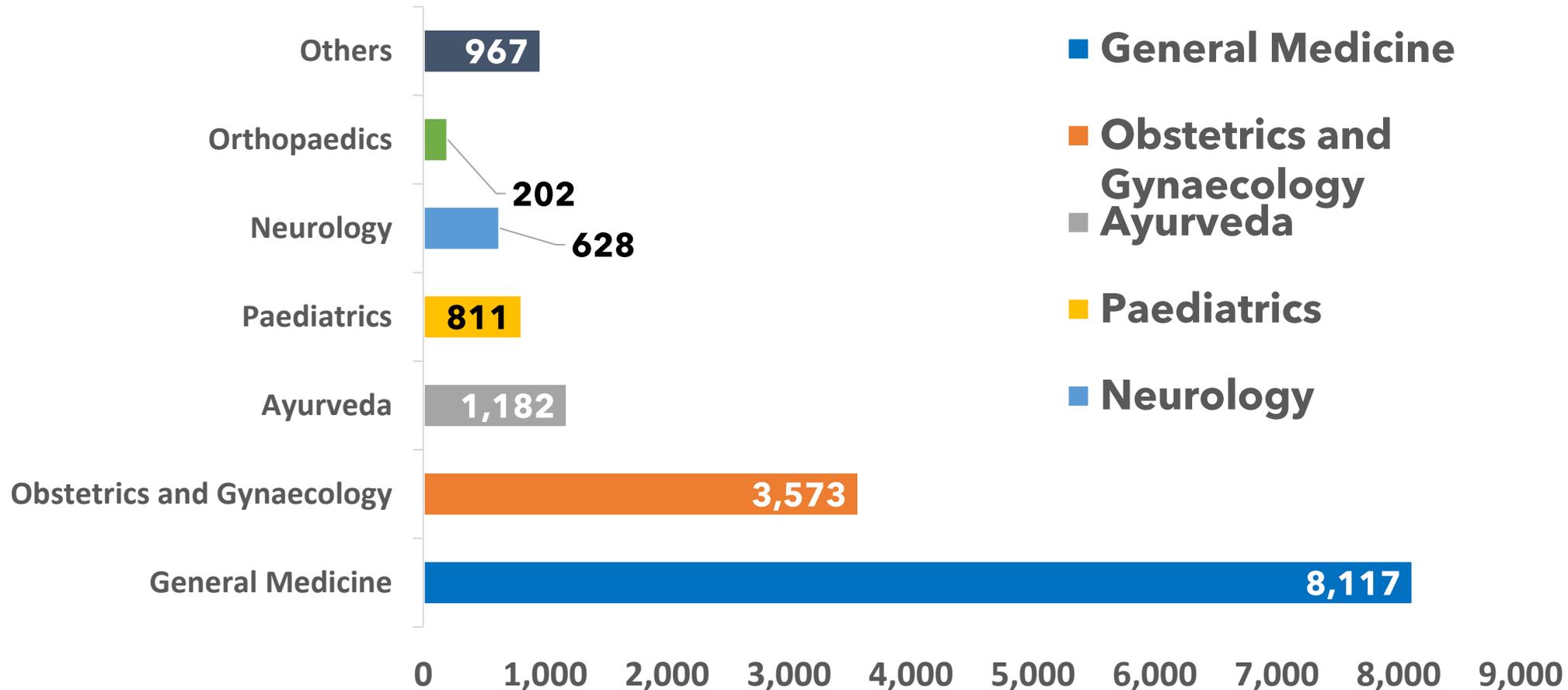
Feedback calls are an important way of ensuring Continuity of care



REPEAT USER CASE 3 - Neurology OPD + Follow-up



After General Medicine, OBGYN, Ayurveda, Paediatrics and Neurology are the next most requested specialties for appointments



**हेल्पलाइन पर कॉल लगाएं
समय पर स्वास्थ्य सेवाएं पाएं**

फायदे

- 01 स्वास्थ्य संबंधी मार्गदर्शन
- 02 लैंगी और स्वच्छ बचत
- 03 डिजिटल स्वास्थ्य खाता

मध्यप्रदेश शासन की आयुष्मान भारत "निरामयम्" हेल्पलाइन

1800 - 233 - 2085

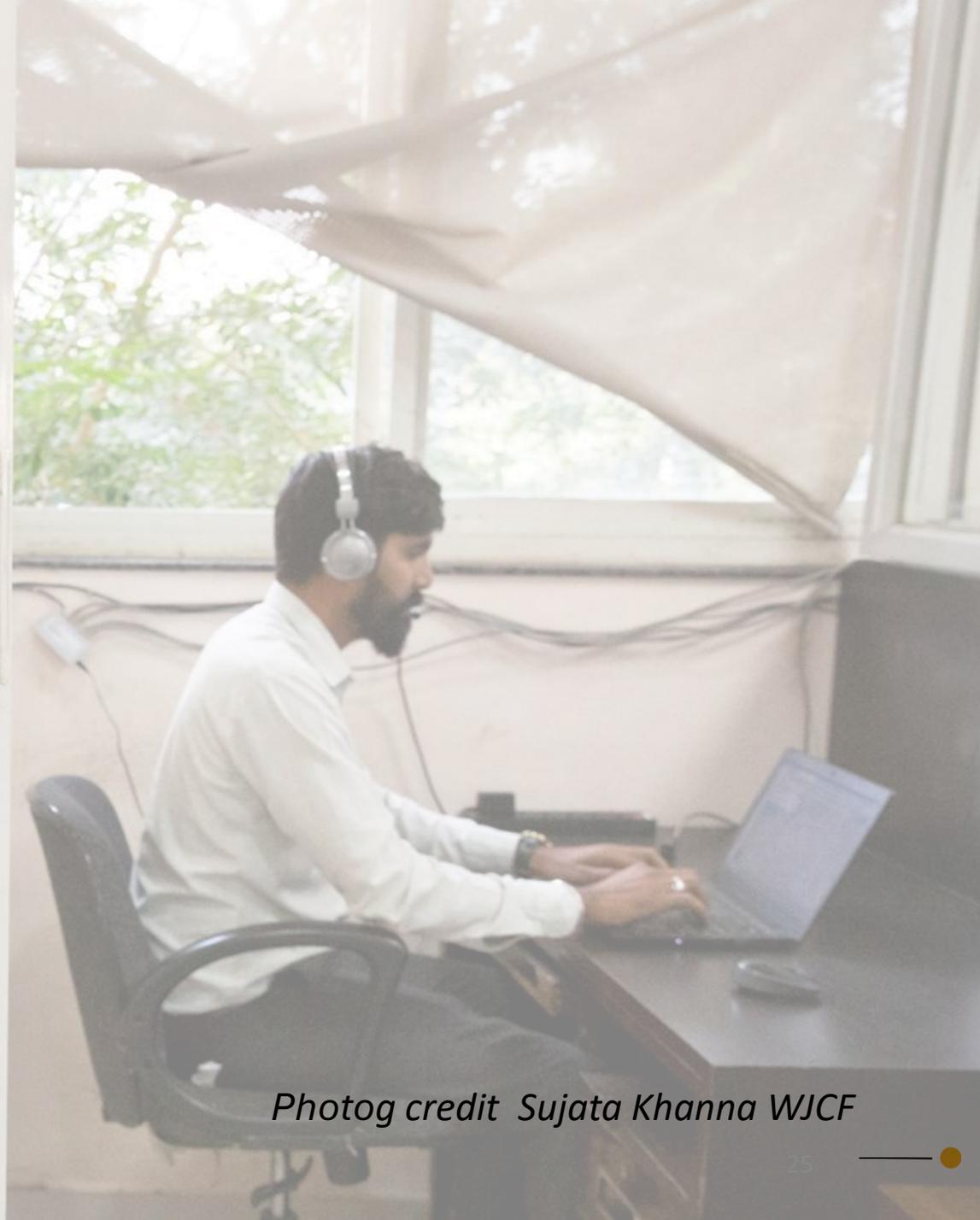
हेल्पलाइन की नई सेवाएं

केवल सीहोर और भोपाल ज़िले में सुबह 8 से शाम 8 तक (राज्य एवं अल्पसंख्यक आबादी को छोड़कर)

- नजदीकी एवं उचित डॉक्टर से परामर्श हेतु अपॉइंटमेंट
- स्वास्थ्य खाता (आभा आई डी) पंजीयन
- डिजिटल स्वास्थ्य रिकॉर्ड निर्माण

अपना आधार कार्ड एवं उमसे जुड़ा मोबाइल फोन साथ रखें

मध्य प्रदेश शासन की आयुष्मान भारत "निरामयम्" हेल्पलाइन पर नई सेवाएं प्रायोगिक तौर पर भोपाल तथा सीहोर जिलों में प्रारंभ की जा रही है। आयुष्मान भारत "निरामयम्" हेल्पलाइन आपातकालीन सेवा के लिए नहीं है, आपातकालीन (इमरजेंसी) सेवाओं के लिए टोल फ्री नम्बर 108 पर सम्पर्क करें।



Photog credit Sujata Khanna WJCF

Key lessons learned



Community Health Worker engagement has been multi-sided



CHWs have engaged in the service in three different ways:

1. Spreading awareness and encouraging use of helpline
2. Facilitating calls / capacity building of health-seekers
3. Using the helpline to book appointments themselves on behalf of the public, in line with their programmatic goals

Opportunity to integrate with other health programs



An estimated 7% of all appointments were for Ante-Natal Check-ups (ANCs) on fortnightly government designated High Risk Pregnancy (HRP), indicating an opportunity to leverage helpline in context of other similar public health programs and

Heavy use by women



76% of appointments were made for adult women, indicating a role for care co-ordination services in providing them with agency in health seeking

Key Issues to be solved for



EHR generation and use



EHR generation has substantially lagged ticketed appointments. EHR generation and use by physician at the facility needs to be addressed to realize the full potential of the solution

No shows



- ~1/5 of all booked appointments resulted in no shows
- This behavior needs to be solved for, to maintain the support for care integration services among participating facilities

Expanding service 'inventory'



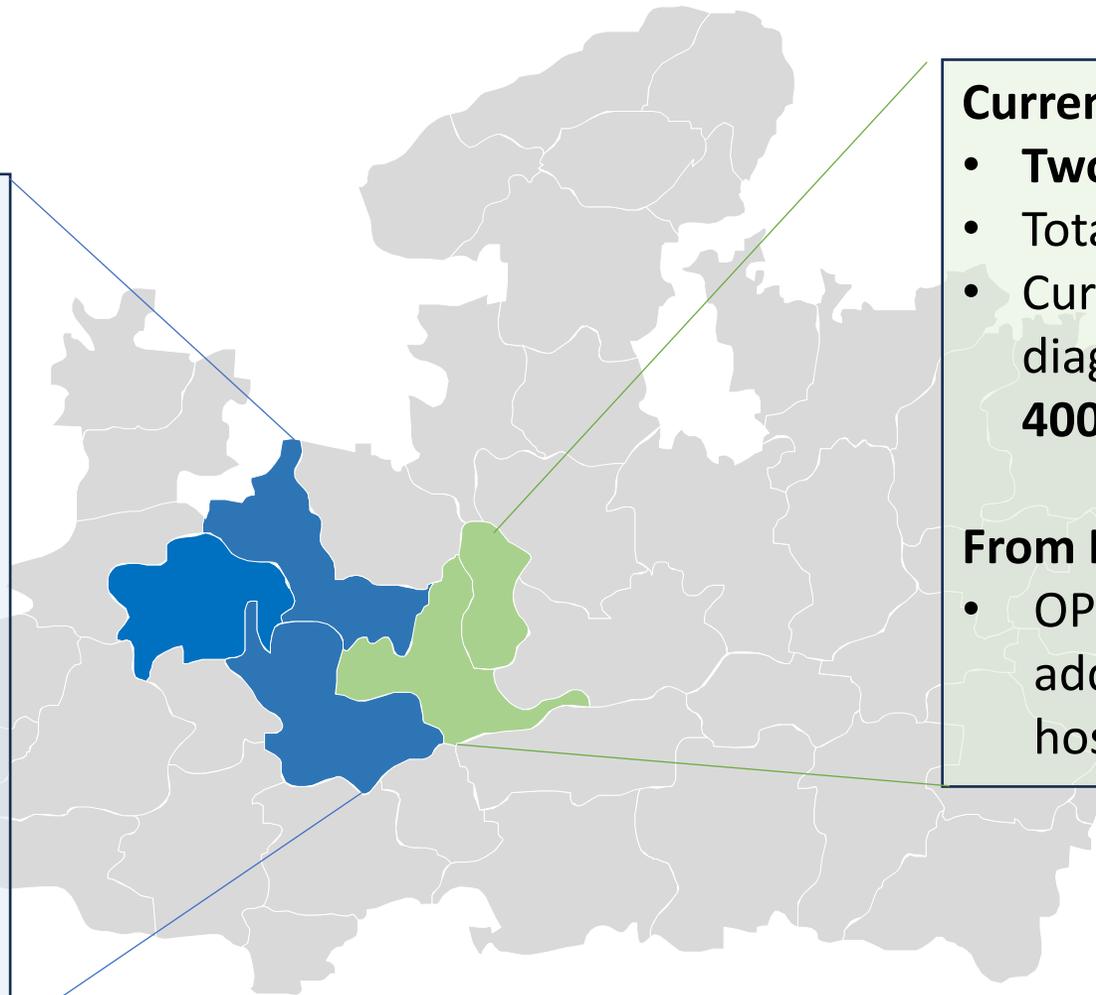
- Only a portion of the providers' available calendar is available for booking through the call center
- More of the available calendar needs to be available for booking, especially for specialties with a limited number of doctors

There are plans to expand both scope and geography of services, with a view to state-wide scale-up



Additional Geographies from March 2025:

- **Three** additional districts – Indore, Ujjain and Dewas
- Total population: **7 million**
- OPD and diagnostics at an additional **160+** private AB-PMJAY hospitals, **~700** doctors



Current Geography

- **Two** districts – Bhopal and Sehore
- Total population: **3.68 million**
- Current services: OPD and diagnostics at **113** public hospitals, **400** doctors and **23** specialties

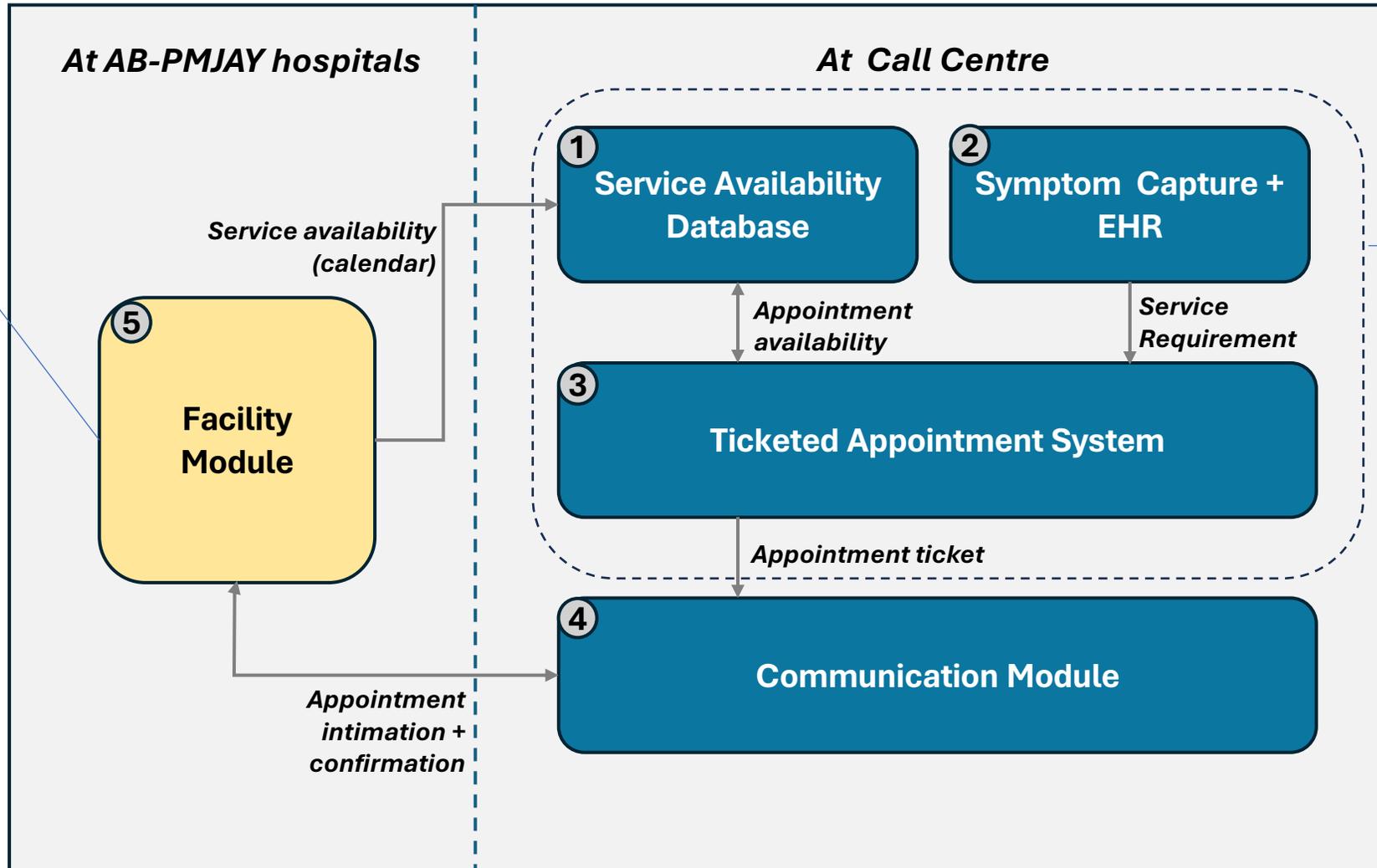
From February 2025:

- OPD and diagnostics at an additional **160+** private AB-PMJAY hospitals, **~700** doctors

The platform can be enhanced to enable and support greater scale of services



Addition of facility module to for expanded access to slots in real-time

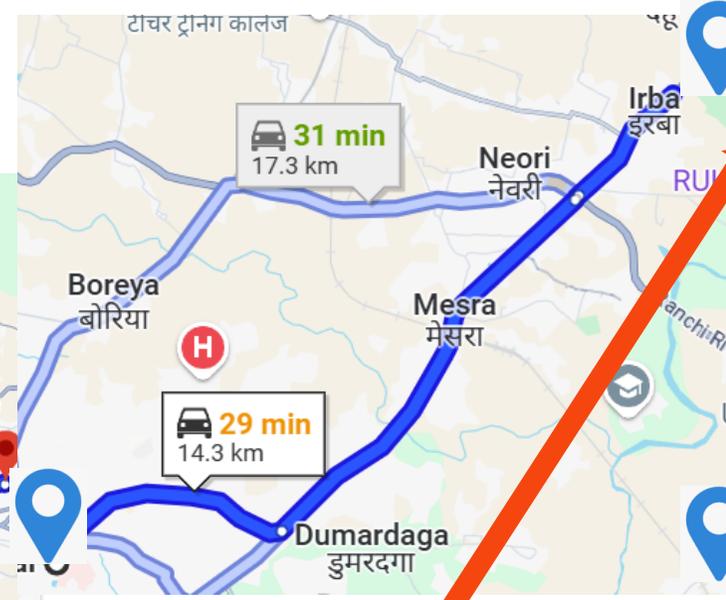
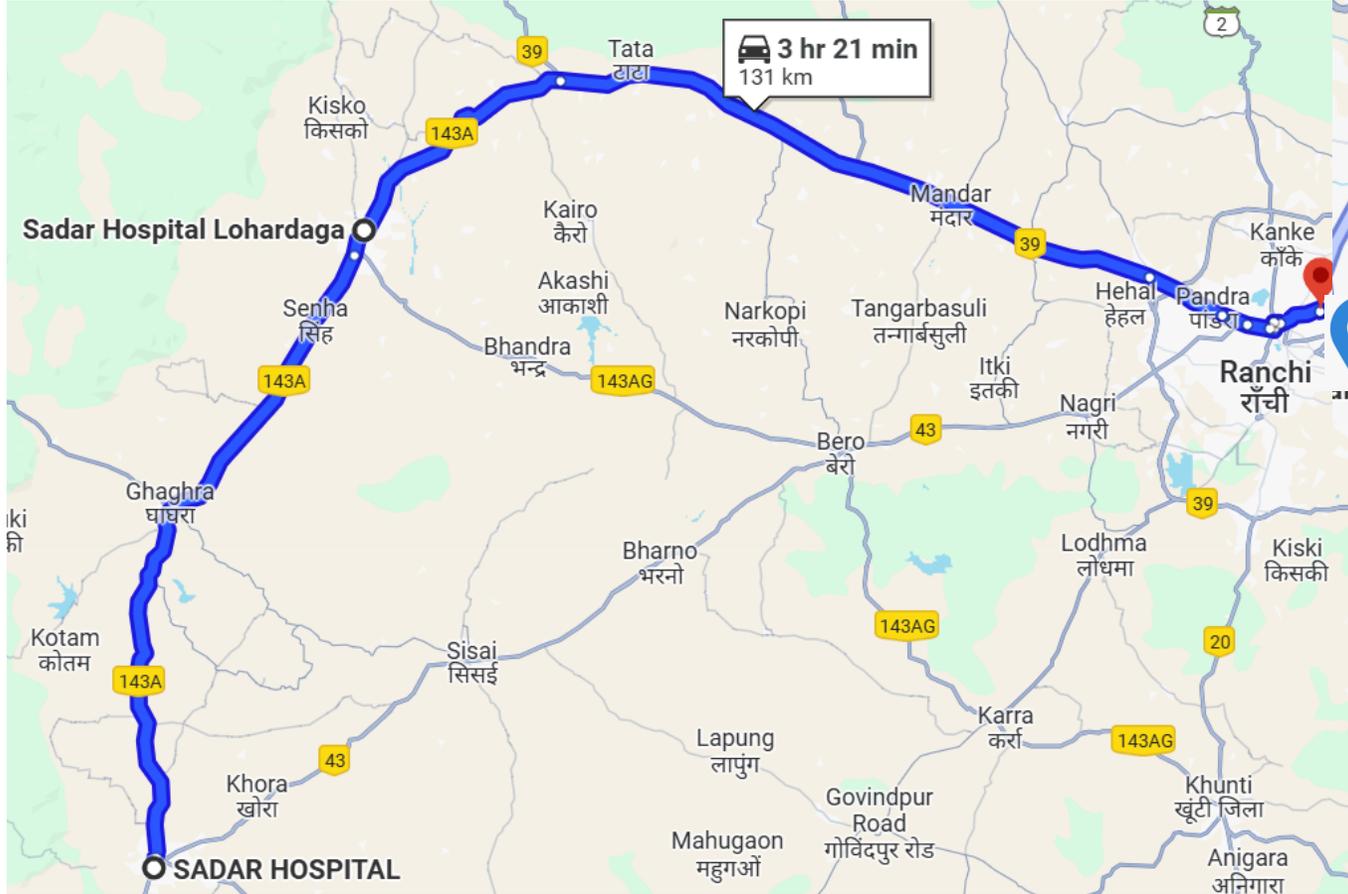


In addition to the helpline, need could be assessed and appointments booked through other platforms like chatbots, websites and apps

Registries (real time inventory) a prerequisite for care coordination through unified call center

Tele-consult	Face-to-face consult	Planned Surgeries	Medicine pick up	Diagnostic tests
Emergency transport	Emergency trauma care services	Ante Natal Care (ANC) Services	Post Natal Services	Immunization
Family Planning Services	NCD Screening	Chemotherapy	Dialysis	Physiotherapy
Radiotherapy	Home Based Elderly, & Palliative Care Services	Nutrition Advise	Mental Health Services	Outbound Calls & Reminders

Reimaging for Baby Kujurs....



Curesta Global Ormanjhi

Took PMJAY card + INR 21K at admission
4 days in hospital, worsens

Rani Hosp, Ranchi Admit with PMJAY

Baby dies in a day

RIMS hospital calls ambulance driver and asks patient to be taken to Curesta Global



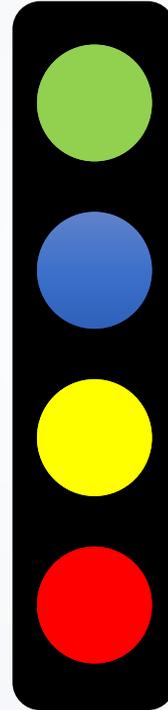
Ref to RIMS, Ranchi

Gumla, Sardar Hospital 35 Kms from home

Fetal Distress
Emergency C Section
Ref to Lohardaga Govt Hospital

What if Health Delivery Systems adopt digital first primary care that enables Real Time Monitoring to address quality, reduce friction and OOPE

Real time Governance Dashboard for timely interventions



Services provided as per standards

Service request received at call centre or triggered by family health register

Correction Required

Quality Compromised, OOPE or Friction at Facility



Individual tracking like in "Flight Radar" using ABDM compliant EHR and family register should enable everyone in the health system and their managers right upto the Chief Minister to ask "who needs to do what?" (WNTDW) so that the number of reds in my geography comes down week on week

