Enabling Ayushman Arogya Mandirs as Hubs of Comprehensive Primary Health Care

A Behavioural Science and Human Centered Design Approach
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Executive summary

In India, barriers to accessing health care persist, with limited utilization of public facilities and high out-of-pocket expenditures remaining significant concerns. Efforts to strengthen Primary Health Care (PHC) have been underway, including initiatives like the Ayushman Arogya Mandirs, aimed at transforming service delivery.

National Health Mission, Government of Maharashtra and PATH are together implementing a model district approach to tackle key health system challenges in India.

Understanding the perceptions of the community, care seeker, and provider regarding PHC is a crucial step for supporting this transformation. Using a human centered design approach, this study delves into multifaceted challenges faced by health care systems through a behavioral lens. Comprehensive in scope, the study examined system as a whole, encompassing both demand as well as supply side. Given the complex nature of the problem, an iterative and phased approach with cycles of research and development was adopted leveraging the human-centered design process.

The first phase was 'Discovery' where 10 focus areas such as human resource, capacity building, supply chain, diagnostics, telemedicine, referrals etc. were explored to build an understanding of the behavioral barriers and enablers in the successful implementation of CPHC guidelines in peripheral health facilities. Insights were collected from both demand as well as supply side. This was followed by the second 'Design' phase, where one of the focus areas was prioritized and worked upon in depth by prototyping interventions around it.

Findings from the 'Discovery' phase exhibited that the focus areas do not exist in silos but interact with and are influenced by other focus areas. It was also learnt that health service delivery and care seeking by providers and community is experienced within an interconnected system of public, private and charitable facilities. Within this system, the care seeking behaviour of the community is aimed at reducing uncertainty and experiencing immediate benefits. Based on these diverse multi-layered insights into the health system, health service delivery and health seeking behaviours; key insights were produced. These insights revolved around perceptions of service providers and community towards the health system, prevention & early management of diseases, experience of telemedicine, community accountability, data management and referral & movement of patients across the healthcare system.

These insights serve as a compass for steering improvements in primary health care services, facilitating enhanced accessibility, quality, and effectiveness across the health care landscape in India.
Acknowledgement

PATH extends its gratitude to the various stakeholders who played a pivotal role in assembling this report. Despite the challenges posed by the COVID-19 pandemic, numerous program managers within the public health system, esteemed partners in the development sector, and other seasoned experts generously shared their invaluable knowledge and experiences.

PATH would like to thank Final Mile Consulting, which was contracted for the study design, data collection and report writing. We would like to express our deep appreciation for the guidance provided by the Public Health Department of Maharashtra, including Dr Nitin Ambadekar, Director-Mumbai, Dr Vijay Kandewad-Joint Director (Technical), Dr Radhakrishna Pawar-Deputy Director-Pune Circle, and Dr Nasima Khedkar, Senior Consultant - Ayushman Arogya Mandir-NHM Mumbai.

From the conceptualization of the project, Neeraj Jain, Country Director, India Country Program and Director South Asia at PATH provided strategic direction. The project at PATH was led by Mayank Sharma with support from the Primary Health Care team in India namely, Sushil Patil, Sajan Bhandarkar, Apurva Akre, Laxman Shinde, and Ankita Walia. We would also like to acknowledge Isha Jain and Bhoomika Shrivastava from the communications team at PATH for editing and proofreading the report.

We would also like to thank former PATH colleagues, Mohammed Ameel, Ashutosh Sharma, Rashmi Mehra and Mandar Randive for the support provided by them.
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Introduction

The Ayushman Bharat - Health and Wellness Centers initiative in India is a pivotal step towards addressing gaps in public health care services, adapting to the ever-evolving health care landscape. Rural India sees limited utilization of primary care facilities, with only 11.5% seeking outpatient care below the Community Health Centre level, leading to a 10% increase in high health care expenses. India is facing a transition marked by a shift towards non-communicable diseases, accounting for over 60% of total mortality. Recognizing primary health care as the key to better health outcomes at lower costs, the Ayushman Bharat initiative was launched to align with the National Health Policy 2017’s vision of Universal Health Coverage.

This initiative involves the transformation of Sub health Centers and Primary Health Centers into Health and Wellness Centers (HWCs), which are now known as Ayushman Arogya Mandirs (AAMs) designed to offer comprehensive primary health care services. These services encompass preventive, promotive, rehabilitative, and palliative care, in addition to providing free essential drugs and diagnostics.

However, this transformation presents its own set of challenges, encompassing structural, technological, and behavioral aspects. PATH, in collaboration with the government of Maharashtra, are working together to achieve comprehensive primary health care in Satara district of Maharashtra.

Human Centered Design

As an initial step towards achieving Comprehensive Primary Health Care (CPHC), PATH and Final Mile have undertaken a human-centered study. This study is designed to gain a holistic understanding of the challenges from both the supply and demand sides. Specific focus areas including referrals, diagnostics and devices, and telemedicine were identified based on the existing operational guidelines encompassing both the supply and demand sides of health care. To gain a comprehensive understanding of the system and the barriers faced by both health care providers and patients, a behavioral and human-centered design approach was employed.

In addition to the qualitative research, quantitative data was collected through a comprehensive AAM checklist developed by PATH, along with secondary data from a baseline assessment conducted by the Centre for Operations Research and Training (CORT). This quantitative data encompasses aspects such as service availability, human resources, infrastructure, and the availability of essential drugs and diagnostics.

Study objective

Creation of Ayushman Arogya Mandirs (AAMs) which serve as the platform to deliver comprehensive primary health care yields a large impact, but also requires significant structural, technological and behavioural interventions to facilitate the delivering on the vision for Ayushman Arogya Mandirs (AAMs).
This study will provide a behavioural science and human centred lens to enable the Ayushman Arogya Mandirs through following specific objectives.

1. Develop a behavioural understanding of the demand and supply enablers and barriers for creation of Ayushman Arogya Mandirs

2. Use an iterative design research and solutioning approach to understand, design and prototype interventions to address these barriers in one focussed area.

**Study progression roadmap**

The activity was planned into two phases:

1. **Discovery phase**: This phase mainly focused on understanding the system by:
   - Understanding of how the system works,
   - Knowing demand and supply side barriers for each focus area
   - Strategic recommendations for each focus area
   - Problem reframes

2. **Design phase**: This phase focused on prioritization of identified problems, designing intervention and testing them. The outputs of this phase were:
   - Prioritization of problem refrafe
   - Insights on prioritised problem refrafe
   - Intervention concepts
   - Design briefs

![Figure 1: Phased approach to the study](image-url)
PART 1: Discovery phase

Defining key focus areas

In the discovery phase, the aim was to explore the factors that facilitate or hinder both the community (demand side) and health care providers (supply side) in accessing health services at Ayushman Arogya Mandirs (AAMs). It was recognized that health-seeking behaviour and health care delivery are not isolated but are part of a broader ecosystem involving multiple stakeholders who continuously interact through various systems, incentives, and processes. To develop a comprehensive understanding, a complexity lens was adopted in the research to uncover conditions at both the community and system levels that currently affect the successful implementation of Comprehensive Primary Health Care. Accordingly, 10 focus areas were identified and were studied for demand side (involving the community) as well as a supply side (involving the facility and government departments) for a comprehensive understanding. Additionally, it entailed reimagining these 10 focus areas as an interconnected system, rather than disparate elements constituting CPHC.

Figure 2: Reimagining each focus area to be having demand and supply sides.
Methodology

Qualitative exploratory research was conducted to understand the primary health care system existing in Satara. The research tool comprised a semi-structured discussion guide.

The sample for discovery included three kinds of participants:

Category 1: Participants who are playing a critical role in planning and implementation of health policy

Category 2: Participants who are providers of primary health care at the facilities, and

Category 3: Participants who avail health care i.e., the end-users

Category 1: Participants who are playing a critical role in planning and implementation of health policy (Immersion sample):

Organizational structure was mapped for state health CPHC team and understood their role in implementation of the program. Purposive sampling was done for 25 individuals both from state and district government along with PATH. Out of these 25 individuals 5 were from the state level of the health department, 10 from district level of the department, 5 from PATH's national PHC team, 2 from PATH's state PHC team and 3 from their district field team. In-depth in person interviews were conducted to validate criticality of their roles with respect to decision-making and engaging across levels.
<table>
<thead>
<tr>
<th>Government - State Level</th>
<th>Government - District Level</th>
<th>PATH - Team</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Joint director technical</td>
<td>• District Health Officer</td>
<td>• Lead PHC innovations</td>
</tr>
<tr>
<td>• Sr. Consultant CPHC AAM</td>
<td>• CPHC Consultant</td>
<td>• Senior Program officer</td>
</tr>
<tr>
<td>• Joint Director NCD</td>
<td>• Civil Surgeon</td>
<td>• Program officer PHC</td>
</tr>
<tr>
<td>• Sr. Consultant NCD</td>
<td>• Additional district Health Officer</td>
<td>• Program associate</td>
</tr>
<tr>
<td>• CDAC/Digital Point of Contact</td>
<td>• District Program Manager</td>
<td>• Project lead</td>
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<tr>
<td></td>
<td>• District Account Manager</td>
<td>• Maharashtra State lead</td>
</tr>
<tr>
<td></td>
<td>• District community mobiliser</td>
<td>• Satara project team – PATH</td>
</tr>
<tr>
<td></td>
<td>• District Program coordinator NCD</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• District Pharmacy officer</td>
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</tr>
<tr>
<td></td>
<td>• District RKS co-ordinator</td>
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<tr>
<td></td>
<td>• Telemedicine consultant</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• District Monitoring and evaluation officer</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• District Quality Assurance Coordinator</td>
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</tbody>
</table>

**Category 2: Participants who avail health care i.e., the end-users (Community sample)**

Total 25 participants who are end users of health services were recruited using a diversity sampling technique on basis of age, gender, out-of-pocket expenses, health status, type of health centre visited in the last 12 months, usage of public health facilities in the last 5 years, education, location, and experience in tele-medicine usage. Demand side enablers and barriers were explored using group discussions with the help of discussion guides and cue cards.
### Demand side
- **Sample size = 25**
- **Sampling technique: Diversity**
- **Locations**
  - Sakharwadi
  - Rawado
  - Umbraj
  - Khodshi

### Points of representation
- **Gender** – Male | female
- **Age** – 18-40 YO | 41-60 YO | 60+ YO
- **Location type**: Remote | Less remote
- **Health status**: NCD Comorbidity, Disability, Pregnant, Healthy
- **Out of pocket expenses**: High-Moderate-Low
- **Type of health centre visited in last 12 months**: Private only | Public Only | Both Public and Private | Not at all
- **Total number of visits to AAM in last 5 years**: Once | 2-4 times | more than 4 times
- **Telemedicine usage**: By yourself | Someone helped | Not used
- **Education**: No formal education | Some schooling | Some college | Graduation and above

### Category 3: Participants who are providers of primary health care at the facilities (Provider sample)

Total 5 facilities including high performing PHC/AAM SC and Poor performing PHC and AAM SC were selected. At the facility level, we selected participants to represent all the cadres involved in the delivery of the primary health care.

This included:
- 3 Medical Officer
- 1 Health Assistant (admin)
- 2 Pharmacist
- 2 Lab Technician
- 3 Lady Health Visitor
- 3 ASHA
- 5 Auxiliary Nurse and Midwife (ANM)
- 3 Multipurpose Worker (MPW)
- 2 Data entry operator (DEO)
- 2 Community Health Officer (CHO)
Data collection tools

A. Observation:

Data regarding facility processes, infrastructure, systems and tools used to deliver the required health care, as well as facility staff movements and interactions was collected using observation method during OPD and non-OPD hours at two facilities.

B. Discussion guides:

These were used as tools for moderators to facilitate discussion with the participants.

1. For the immersion sample, the discussion guide was designed to explore broader strategic objectives of the state on AAM, implementation challenges and opportunities, funding, and incentives structures in the health department.

2. For the provider sample, the discussion guide was cadre specific and was used to understand the providers and their interactions, to build a contextual understanding of the facility, to understand in detail the role specific tasks and how they are executed, explore capacity building experiences and the challenges faced to fulfil their job responsibilities.

3. For the community sample, the discussion guide intended to explore preferences between different care management methods and the health journey of community members. It also included scenario simulation for telemedicine and sections pertaining to health care activities done at a community level. This discussion guide was supported by cue-cards that were used as prompts by the moderator.

Data collection

Semi-structured, in-depth interviews were conducted to gain a comprehensive understanding of the processes, decision contexts, and organisational structures and implementation status of the CPHC at AAMs.

Two researchers – one moderator and one analyst, conducted in-person interviews for the provider and community sample. The response to each question was audio recorded. All respondents provided verbal consent to be interviewed, and for their interview to be audio-recorded to facilitate data analysis and synthesis. Questions asked during the interview were exclusively about policy, facility tasks and decision-making processes. It was explained to respondents that for the purpose of publishing data and results, their responses would be scrubbed of any identifying information. The audio-recorded interviews were transcribed and used for synthesis along with the notes taken during the interview.

Data analysis

The data from the interviews were transcribed first. To analyse the interviews from a behavioural lens, the data was organised into a grid. A quote or set of quotes were identified and distilled as a key learning(s). These learnings were then mapped in the grid.
The dimensions mapped were,

1. Organisational role of the interviewee (in case of community sample participant demographics were captured)

2. The location of the interviewee

3. Behavioural dimension of the learning

4. Supply decision themes
   - The supply themes included breast cancer / oral cancer / cervical cancer, diabetes/hypertension, referral linkages, capacity building, HR/motivation, diagnostics and devices, data and record keeping, telemedicine, supply chain, quality, community attitudes, maternal health, expanded packages, JAS, decision to use / experience of - public system and decision to use / experience of - private system.
   - The behavioural dimensions included components of decision making - relevance, implication, coping, norms, mental models, risk/reward trade-off, attitudes & preferences, influencers, info sources, decision trade-off, trust/distrust.

For the community sample, the grid consisted of behavioural dimensions (same as that for provider sample), demand decision themes, and demographic details. The demand decision themes included the contexts within which end-user (patient) decisions were being made. The themes included breast cancer / oral cancer / cervical cancer, diabetes / hypertension, referral linkages, provider behaviour/interaction, diagnostics and devices, case records, telemedicine, medicine availability, public health system perception, private health system perception, maternal health, expanded packages, community accountability, general health behaviours, decision to use / experience of - public system, decision to use / experience of - private system.

For both samples, the grid included a “Barrier/Enabler” tag. This was meant to understand if the particular learning was an enabler or barrier towards the achievement of the CPHC AAM goals.

**Results**

The synthesis led to 3 levels of outputs. These were:

1. An understanding of the overall health services and care-seeking behaviours
   - Providers are aware of the interconnectedness of the public and private facilities and also facilitate it where there is a necessity.
• Private → public - private doctors ask patients to go to public facilities or inform about government schemes when the service is unavailable (e.g. communicable diseases) and when the patient has paucity of funds.

• Providers in the public system are aware about the care seeking at private facilities and ask community members to confirm diagnosis / get treatment from private facilities if they are not convinced. According to them, this is constructive as it provides a choice of care to the community while ensuring the requirement is met.

• Providers in the public system seek support of specialists in the private sector for specific services, e.g. private gynaecologists conducting camps on ANC day.

• The care seeking decisions are driven by set of beliefs around facilities and services, the point in their health care journey, and perceived time cost trade-off.

• The public health system is often associated with uncertainty of care. This is due to known unavailability of providers, diagnostic services, essential medicines, restricted timing of services, and lower quality of care for serious illness.

• The private system on the other hand is associated with easy access, efficiency, quality and quick addressal however the out-of-pocket expenses are more.

• When making decisions around care seeking, the community is dealing with high costs like loss of time, wages, and serious health consequences. They seek avenues which reduce and help them manage these costs.

• Other factors such as availability, accessibility and affordability of services, provider interaction regarding their health status, how they help them decide and act on next steps and emotional support highly influence the decision of care seeking.

2. An understanding of the health services and care-seeking behaviours within AAMs

• While Ayushman Arogya Mandirs have been operationalized, the concept needs to be fully imbibed by the providers or the community.

• Providers view and work upon AAM guidelines as the latest 'new program' which impacts some and not all.

• Both providers and the community perceive them to be centres of care for maternal health, immunization and basic illnesses with the presence of CHO and availability of medicines for hypertension and diabetes. There is still lack of awareness about availability of expanded service packages in community.

• Community members hope for the ability to receive a diagnosis for a potential health condition or disease. However, without proper methods or support to address potential future health issues, there is a tendency to avoid screening altogether.

• Post screening experience of members of community also appears negative because there have been instances where patients post camp screening have not been provided with satisfactory treatment or unavailability of essential medicines.
1. There is a gap in understanding of the need for and importance of CPHC. AAM guidelines are not understood as a holistic or transformative shift but in terms of specific changes such as introduction of the role of CHO, provision of services for hypertension and diabetes, and in relation to changes to their role or tasks.

   a. HR other than CHO at few AAMs perceive newly added packages to not be associated with their work.

   b. CHO, ASHAs perceive the provision of CPHC as an increase in workload and a need to work on 'everything'.

2. Providers perceive a lack of appreciation and differential feedback based on quality of work. Interaction with superiors is largely related to planning tasks, assessment of completion of tasks and troubleshooting.

3. Changes in leadership requires staff to make adjustments to their way of working. It impacts the day to day working of the staff and creates a lead time for staff and community to trust the leadership.

4. Higher authorities perceive the role of CHO as one whose responsibilities have been traditionally carried out by the ANM. The CHO is perceived as an outsider who is supervising someone with greater experience, the ANM.

5. Structural challenges which impact motivation of CHO are such as being posted in locations away from family and with paucity of basic services and delay in payment.

6. Contractual jobs create a feeling of uncertainty and insecurity.

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### HR and motivation

<table>
<thead>
<tr>
<th>1. Providers do not have the capacity to manage dynamism in their tasks and perceive tasks outside of their specific job description to be additional / adding to their workload. At the SC and PHC informal rules supersede formal rules which often creates the need to work beyond the defined roles creating a sense of being constantly overburdened and prioritisation of tasks with greater urgency or implications.</th>
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<td>2. Training does not cater to softer skills such as workload management, navigating conflicts, or change management needed to cope with facility level problems, process changes like introduction of new devices or portals.</td>
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### Capacity building

| 1. Referral lines are not restricted within the public system. Private entities also refer to secondary/tertiary care in the public system. Thus, planning for the load on higher levels of care also needs to account for these referral channels. |
| 2. The community and providers perceive facilities as independent units and not a part of a hierarchical system. |

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### Referrals

<table>
<thead>
<tr>
<th>An understanding of the key focussed areas relevant to enabling CPHC through Ayushman Bharat AAM guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table below highlights focus area specific learnings post data synthesis.</td>
</tr>
</tbody>
</table>

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### Referrals

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| 2. The community and providers perceive facilities as independent units and not a part of a hierarchical system. |
3. Providers perceive their referral responsibility to be limited to filling out and handing over the referral form. The communication does not help the patient understand the reason for referral or the next steps in their journey.

4. The community perceives referral as an indication of severity of condition and feel a low sense of ability to cope with it.

5. The difference in experience of referral when made by private doctors is perceived to be a recommendation as compared to referrals in the public system being perceived as lack of ability, shifting of responsibility or denial of care.

6. Downward referrals are not as structured as upward. For maternal health, community members are aware of the role of PHC/SC and return on their own even after a private delivery. Downward referral for NCDs is dependent on follow-ups by ASHA and is largely about collection of medicines.

7. The nature and impact of provider communication is essential as this is a means to reduce uncertainty and build coping, so patients are retained in the journey.

<table>
<thead>
<tr>
<th>Diagnostics and devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Patients engage with diagnostics as a result of a doctor recommendation during OPD visit or screening camps.</td>
</tr>
<tr>
<td>2. While private diagnostic centres are associated with variety/comprehensiveness of tests, efficiency (for testing, experience and results) and effectiveness, government diagnostics are largely associated with uncertainty &amp; effort (while providing sample and test collection) and for ‘simple’ tests (like blood, BP and sugar) post a doctor follow up.</td>
</tr>
<tr>
<td>3. For demand side, screening for hypertension and diabetes is affected by mental model that unlike cancer they are seen as “conditions” than a disease and therefore engaged less.</td>
</tr>
<tr>
<td>4. Under no symptoms, barriers to screening for BP and sugar ‘conditions’ is lack of prevention mindset and that for more serious diseases like cancer is the high uncertainty surrounding a positive diagnosis and inability to deal with consequences.</td>
</tr>
<tr>
<td>5. Supply side scepticism about new devices and their efficacy results out of their need to work with devices they are more comfortable with and bias towards status quo.</td>
</tr>
<tr>
<td>6. Rather than the device itself, demand side are concerned about the experience of the test (prink vs an injection drawing blood/prefer non-invasive vs invasive) and the consequences of the test results, perceived efficacy is only considered under conditions of expectation discrepancy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Telemedicine</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Both community and providers perceive a lack of need for telemedicine and are unable to identify use cases for the service as simple conditions can be easily addressed by the CHO and for critical/complicated conditions SC/PHC are not preferred.</td>
</tr>
<tr>
<td>2. Barriers to use of esanjeevani include.</td>
</tr>
<tr>
<td>a. Patients’ goal towards care is of quick resolution. Though telemedicine is expected to provide immediate services in line with mental models of online services, the actual experience of using telemedicine is time consuming arising from connectivity issues, unavailability of experts and challenges of using a new platform.</td>
</tr>
</tbody>
</table>
b. Patients’ heuristics for treatment is one that involves getting physically diagnosed and being provided with a prescription such that it is not affected by the quality of their communication. As both of these are not available through telemedicine, they do not relate to the service.

c. Despite the relationships built by the ASHA and high regard for her, promotion of e-sanjeevani does not lead to an uptake of the service as it is misaligned to patients’ goals and expectations.

3. For esanjeevani.in, the process of use of the platform and the targets are misaligned to ground realities.

   a. It is not possible to use the platform during OPD as patients are unwilling to wait while providers navigate the structural challenges of low connectivity issues, and long and frequent call waiting due to unavailability of specialist doctors (already engaged, offline, don’t receive calls)

   b. However, there is a large incentive to meet the targets which leads to makeshift use of the platform - using it before and after OPD hours, spending excessive amounts of time despite connectivity issues.

### Supply chain

1. There is high dependence of PHC and SC on Zilla Parishad to track and order inventory who take inventory orders from PHC and SCs and then fulfil orders based on inventory received at ZP.

2. Medicines at PHC/SC perceived as less effective by community as compared to private hospital where combination medicines are prescribed.

3. Medicine unavailability or shortages common point of drop off from public health system.

4. Fund availability is limited to purchase medicines whose demand is less frequent but comes up in emergency context.

5. Staff feel eVIN is more comfortable to use than e-aushadhi.

6. Community not fully aware of what type of medicines are available at PHC.

### Expanded package of services

1. Reproductive, Maternal, Newborn, and Child Health deemed priority as RCH and ANC related work volume is continues to be high and delivery understood as critical responsibility which carries high risk perception.

2. Facility staff are more familiar with RCH protocols, referrals and treatments.

3. Medicine availability in PHC is skewed towards regular fast-moving ones and community members approach private system for their unmet demand.

4. Mental health focus and relevance missing because community is unaware and unwilling to avail the service, and the facility also does not actively promote mental wellbeing as part of broader good health narrative.

5. NCD diseases are different from each other and are also looked upon differently causing NCD basket to be individually seen as cancer, diabetes/hypertension, mental health.

6. High salience and positive priors present for communicable diseases such as TB, diarrhoea etc.

7. Oral and eye care is associated with camps and not one that is available at the PHC/SC.
### Cancer care

1. Within the group of NCDs, the beliefs and heuristics which drive decision-making around cancers are different from hypertension and diabetes. Both providers and patients perceive it to be 'more serious than hypertension and diabetes.

2. While associations for diabetes and hypertension with AAMs have been established, these don’t exist for cancer.

3. An early detection mindset is lacking in the community. This is because they expect upward referral which is effortful and one that is indicative of a positive diagnosis which they have little ability to cope with. They avoid screening and diagnosis for as long as the symptoms are not severe and can be rationalised and dismissed.

4. The providers encourage cancer screening by highlighting severe consequences of the disease. In absence of proper support and coping ability this further drives avoidance behaviour by the community.

5. ASHA perceives filling out the CBAC forms to be an additional responsibility along with all her other duties.

### Hypertension/Diabetes

1. NCDs - hypertension and diabetes currently lack a prevention mindset because perception around them remains as “manageable”, “common” and “not serious enough”, and regular screening aspects not communicated.

2. Demand mobilisation gets affected as communication is not vivid enough in case of CBAC score and staff bank on creating fear of inaction.

3. Long term adherence to treatment gets affected as it is framed as the “right thing to do” which does not ensure coping and also because of the delayed feedback of inherent in the treatment.

4. Community support personnels involving gram panchayat and ASHA who are involved in NCD demand mobilisation do not share a common platform/forum to cross-learn and hence are seen to be working in silos.

5. Incentives in the system are currently based on the number of screenings performed vs number of repeated screening.

6. Hypertension is more vivid than diabetes because of differences in physiological responses.

7. Framing of lifestyle advice to community oriented more towards difficult tasks one has to do than benefits.

### Maternal health

1. Maternal health services are synonymous with the SC and PHC for the community and the providers. Providers working on maternal health, CPHC is seen in terms of increase/addition of online portals rather than comprehensive delivery of services.

2. MNCH services are looked upon as a journey and not as a condition, from pregnancy to delivery to keeping the baby safe for the community and provider. There is high engagement of providers engage with pregnant women, with a long-term mindset building trust and managing uncertainty every step of the way.

3. Maternal health activates a 'prevention mindset' where pregnant women/families conform to all behaviours to keep the baby safe.
4. High and positive interconnection in maternal health journey between private and public system - positive prior experience and government support drive engagement with the public health system and private system is fallen upon for dealing with complications.

5. Upward and downward maternal health referrals are successful due to the high touch engagement and familiarity with ASHA and ANM, and the journey of interaction with the system. Furthermore, Upward referral is aligned for the community and the provider for the goal of 'safe and smooth delivery' urgency and the 'high risk' nature of consequences.

### Data and record keeping

1. Data related responsibilities are seen as additional and not central to one's job description.

2. More experience (seniority) staff members prefer offline registers as they are more familiar and comfortable with them.

3. Certain portals like RCH are perceived to be more user friendly than other portals because of minimal differences between offline registers and online portals.

4. Data entry tasks suffer from contextual obstacles such as server issues, portal locks, and high OPD numbers.

5. Data entry seen as redundant and of low value as both offline and online registers are required to be maintained by the staff.

### Quality of care

1. Quality is only seen from the lens of achieving NQAS certification making the idea of quality very transactional.

2. Notion of quality is too abstract to understand as staff associate hygiene and job completion to what quality is.

3. Data quality understood as timely filling up of the portals and not particularly accurate filling up of portals.

4. Staff have internalised how data is to enter but do not know what data is being entered and how it will be used.

### Community accountability

1. Jan Arogya Samitis have been formed but not fully functional due less involvement of community members.

2. JAS is a 'fund disbursral' support mechanism for the health system, not related to community accountability as scope of work is not fully understood.

3. It is working to manage the system needs and maintaining the status quo of the system. The primary focus is fund management and disbursement to 'community activity' like medicine, electric bills, maintaining cleanliness of the facility.

4. There are multiple power hierarchy between the health system (CHO, MO) and the Panchayat, and between the system stakeholders and the community, where the community is more of a token representation.

5. The Gram sabha has becomes the forum to raise any grievances with the public health system rather than the JAS.
Discovery phase output: Problem reframe

Based on these diverse multi-layered insights into the health system, AAM services and health seeking behaviours, there were 13 problem reframes were produced:

1. Build a 'holistic' understanding of AAM/CPHC for providers.
2. Enable providers with capacity to work “as a system” versus “in a system”.
3. Evolve community perceptions and choices through leveraging moments of transition.
4. Build relevance and coping for ‘prevention’ of hypertension/diabetes among providers and community.
5. Build relevance and coping for ‘early management’ of hypertension/diabetes among providers and community.
7. Redesign the telemedicine experience to align with patient's goals.
8. Redesign the telemedicine usage and targets to align with the provider's ground realities.
9. Provide alignment of specific device uptake to the goals of the providers.
10. Create community accountability as a part of the role of JAS.
11. Reorient facility staff involved with data from data entry to data management.
12. Enhance motivation and mental imagery of quality from being superficial to being embedded in every facility activity.
13. Promote AAM as the critical first step in the continuum of care and facilitate care.
Prioritisation of problem reframes

While all the identified problem reframes were significant, one problem reframe needed to be prioritised for the design phase in order to build prototypes and exhibit them to the government and demonstrate the value of the approach. Prioritization was by team by giving three votes to each person on the basis of following criteria.

- PATH priorities in terms of transitioning satara into a CPHC district
- Government priorities in transitioning satara into a CPHC district
- Critical component to achieve CPHC
- Potential area of support by PATH

Through this process, 2 out of 13 problem reframes were shortlisted. They were:

- Enable providers with capacity to work “as a system” versus “in a system”.
- Promote AAM as the first referral unit and facilitate movement across the system.

The prioritized problem reframe

“Promote AAM as the critical first step in the continuum of care and facilitate care-seeking across the continuum.”

The problem reframe mentioned above was prioritized for the following reasons:

- Significance of enabling a continuum of care to achieve the goals of CPHC and AAM
- Importance of a behavioural intervention to change the perception and experience of referrals.
- Current lack of focused intervention in this space and its relevance for GoI and PATH
• PATH's recognition and expertise to work in the space expressed by the facility team during the prioritisation workshop.

• Relatively more feasible to achieve a quick win as it is likely that the interventions would be implementable in a shorter term and may lead to more tangible measures for evaluation.

**Ideation**

Ideation constitutes a crucial phase in the Human-Centered Design (HCD) process where ideas are generated based on insights from the discovery phase.

During this process, the problem reframe was deconstructed into various opportunity areas, including:

• Enhancing providers' understanding of the AAM's role as the primary touchpoint for community health needs.

• Finding effective ways for providers to communicate this role to patients.

• Improving the referral experience for the community.

• Leveraging provider communication to help patients cope with referrals.

Ideas were formulated to address each of these opportunity areas, and these ideas were subsequently grouped and merged to create comprehensive concepts. These concepts were then elaborated upon, considering stakeholders, operational aspects, behavioral motivators, and system dependencies.

<table>
<thead>
<tr>
<th>INTERVENTION CONCEPT NAME</th>
<th>INTERVENTION CONCEPT DETAILS</th>
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</table>
| Connecting providers at different levels | **Concept:**
A workshop to initiate periodic meetings between different levels of providers across the continuum of care. This is to be achieved by building likability and empathy amongst providers for each other, recognising their shared goals and the need for collaboration. The workshop can be planned for each new service delivery journey being established

**Desired outcome:**

Providers recognise that they share the responsibility of the community's health with other providers at different levels in the continuum of care

Providers empathise with others working along the continuum of care and have an intent to work in collaboration with them

**Operationalisation:**

1. Terms like 'meeting' and 'training' have associated preconceived notions. Hence, this interaction is being called a workshop to drive interest through novelty

2. To be directed and coordinated by the District Program Manager or CPHC Coordinator
3. To be conducted for the providers relevant in the specific referral journey. E.g., for maternal health - ASHA, ANM, CHO, MO and specialists; for hypertension - ASHA, CHO, MO, specialist

**Structure of the workshop:**

6. Icebreaker and rapport building to get to personally know each other

7. Sharing goals towards enabling continuum of care and individual goals
   - To recognise the overlaps in their goals towards enabling the health of people
   - To recognise that they are working towards a common goal

8. Comparing their notes of descriptions of others’ roles/responsibilities with what it is
   - To enable a self-realisation of the gaps in their understanding of roles (their efforts and value)

9. Building a journey map which maps out the responsibilities and challenges discussed as they are experienced. Build a journey map of a successful referral experienced by one of the providers. Compare the two
   - To enable identification of changes to be made by each provider to make the experience smoother for the community member being referred

10. Recognition of the need for periodic meetings

11. Align on cadence and structure of periodic meetings and other channels of regular communication

**Relevant stakeholders/Touch points:**

ASHA, ANM
CHO, MO
Specialists at secondary/tertiary facilities
DMO (Dr. Rashmi Kulkarni)
DPM, CPHC Coordinator

**Behavioural levers:**

Build empathy amongst providers
Create likability and relatability among providers
Create a sense of shared responsibility

**System dependencies:**

Availability and willingness of specialists at secondary/tertiary levels to participate
Ownership and coordination of this workshop by the DPM / CPHC Coordinator
Resources to conduct the workshop
Providers concerns around accountability to own organisations
Support from leadership, time and resources to conduct periodic meetings

<table>
<thead>
<tr>
<th>Driving holistic understanding amongst providers of their role in referrals</th>
<th>Concept:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reframe providers’ understanding of their role to enable them to view it in its complete and holistic form, not reduced to a single task. Build relevance for ensuring</td>
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</tbody>
</table>
continuum of care and following up with a patient as a means of fulfilling this holistic role

**Desired outcome:**
Providers understand and fulfil their role of acting as primary contact and ensuring the patient is able to smoothly navigate the entire continuum of care

**Operationalisation:**
Change in communication:

2. ADHO / DPM communicate to providers that their role in referrals is not limited to giving the referral but includes ensuring the patient receives the necessary care across the continuum
   
   a. Shift communication of the role of the providers by the ADHO/ DPM from task based 'what needs to be done' to a holistic 'why things need to be done and the value it adds to the patients' journey' along with the details in change of task
   
   b. Highlight to the referring providers that ensuring the community member receives care across the continuum is their responsibility and not limited to the ASHA doing the follow - ups

3. Build relevance among providers by sharing stories of referrals which helped the patient
   
   a. The narratives empathise with a service provider's challenges
   
   b. The narratives highlight how small tweaks in the referral process impacts a patient's experience significantly

Change in process of providers making referrals:

1. To the referral register, add 'patient contact', 'name of provider who referred' and 'referral status' columns. Highlight to the patient that this information is being collected as the AAM is concerned about their health and well-being

2. ASHAs to refer to the register to follow up with patients

3. Referring providers to check in with the ASHA on the status of referred patients. This is an opportunity to ensure follow-through of referrals as well as for providers to know the value add of their referral

4. A feature enabling calls between specific providers would facilitate better communication across levels

**Relevant stakeholders / Touch points:**
ASHA
ANM
CHO
MO

**Behavioural levers:**
Create relevance for following up on patient referrals
Change mindset to work towards a holistic referral journey
Change communication framing from 'what' to 'why' of tasks

**System dependencies:**
Acceptance of change in communication style by ADHO / DPM
Uptake of change in the referral registers
<table>
<thead>
<tr>
<th><strong>Concept:</strong></th>
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</thead>
<tbody>
<tr>
<td>Change the communication of providers to enable community members to understand why they are being referred, relate to the need of the referral, recognise the referral as support to manage their health condition and make the referral level more tangible and easier to plan to get to</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Desired outcome:</strong></th>
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</thead>
<tbody>
<tr>
<td>Change of the referral experience of community members to a positive one</td>
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<table>
<thead>
<tr>
<th><strong>Operationalisation:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Change referral communication to communicate the following message:</td>
</tr>
<tr>
<td>a. Why the referral is needed</td>
</tr>
<tr>
<td>b. How it would be helpful for the person</td>
</tr>
<tr>
<td>c. How it is feasible in their context</td>
</tr>
<tr>
<td>d. How following through on the referral is a way to manage the situation</td>
</tr>
<tr>
<td>e. How they will receive the necessary support from the health system</td>
</tr>
<tr>
<td>E.g. I feel you may have X condition because you have ABC symptoms. For us to be able to manage it in the best possible way, you should go to Y facility. They will be able to check you thoroughly and guide you on the next steps. If there is need for a senior doctor to see, they will give you all the information you need and connect you. If that is not needed, they'll tell you what you need to do, send you back to me and I'll continue to support you</td>
</tr>
<tr>
<td>2. Encourage providers to also write important details of their communication at the back of the form. This acts as a visual aid for the patient vs the front which is for the next provider</td>
</tr>
<tr>
<td>3. Communicate to both the patient and the caregiver so that the caregiver can share the responsibility and ensure adherence</td>
</tr>
<tr>
<td>4. For CHO and MOs referring to higher facilities, enable them with information about the higher facility which they can share with the person being referred to make it easier for them</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Relevant stakeholders / Touch points:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>ASHA</td>
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<tr>
<td>CHO</td>
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<tr>
<td>MO</td>
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<table>
<thead>
<tr>
<th><strong>Behavioural levers:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Create relevance for the referral for the person being referred</td>
</tr>
<tr>
<td>Communicate the referral as a means of coping in their health care journey</td>
</tr>
<tr>
<td>Build implementation intention, to ensure higher chance of follow through</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>System dependencies:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Platform to introduce new framing and process to the providers</td>
</tr>
<tr>
<td>Concept:</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Desired outcome:</td>
</tr>
</tbody>
</table>
| Operationalisation: | 1. Acknowledge the providers knowledge of the community members and their health seeking behaviours  
2. Communicate that they are being asked about referral pathways to leverage this knowledge  
3. Present the provider with a labelled map of all the health facilities in their district - public, private and charitable  
4. Ask the provider to mark an arrow towards where the patient should be referred  
   a. To get the appropriate care needed  
   b. So that it is most convenient for the patient to follow through on the referral  
5. Ask the provider to indicate the reasons for their choice based on their experience  
6. Use the data collected from these maps to redesign the referral network |
| Relevant stakeholders / Touch points: | ANM  
CHO  
MO |
| Behavioural levers: | Align referral network to context and patient goals |
| System dependencies: | Redesigning of referral networks may be considered as high effort and not be prioritised |

<table>
<thead>
<tr>
<th>Concept:</th>
<th>Reframe the communication to the community to indicate the role of the AAM as the primary point of contact and guide for navigating health conditions or disease and their guide.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desired outcome:</td>
<td>A shift in perceptions around AAM away from it being relevant only for minor ailments, maternal and child health to their go-to support system for health concerns.</td>
</tr>
</tbody>
</table>
Operationalisation:

1. Reframe the communication to highlight the role of AAM:
   a. As the primary point of contact
   b. Support system to help navigate health conditions
   c. To drive preventive and promotive aspects of health care
   d. To provide initial care in case of emergency (bandage, IV) but not to tackle critical emergencies

2. This can be done through communication by:
   a. The sarpanch to the community
   b. Reframing the communication by all providers and front-line workers such as ASHAs, MPWs, ANMs, CHOs and MOs

Relevant stakeholders / Touch points:
ASHA
ANM
CHO
MO
Community
Sarpanch
JAS

Behavioural levers:
Create new mental models around AAM

System dependencies:
Impact would be seen in the long term as mental models are difficult to create.
Requires training of providers to adopt new communication

Testing interventions (Prototyping workshop)

It was crucial to field-test the designed interventions for their acceptability, comprehension, and functionality, gathering feedback from relevant stakeholders in the early stages before piloting and rollout.

Prototyping sessions were organized at various locations, featuring full-day sessions for the provider sample and half-day sessions for the community sample. The interventions were prototyped with a group of 10 community members and 17 providers over two rounds. During each round, stakeholders engaged with the prototypes, made adjustments, and provided valuable feedback.

The sessions were structured so that each intervention idea had allocated time, and all components within the intervention were introduced to the participants.

As each intervention was tested, participants were presented with a decision scenario and asked to use the prototype to take the necessary action. After interacting with the prototype without prior information on its purpose, participants were asked to share their feedback on its helpfulness and convenience.
Qualitative data was collected using post-it notes, allowing participants to see the information generated by others at the table.

a. Prototype testing with community members

b. Prototype testing with service providers
Learnings for each intervention

1. Connecting providers at different levels

The intervention was prototyped by conducting a 150-minute mini version of the workshop. Post the workshop qualitative feedback was taken from the participants on interventions’ helpfulness, relevance and challenges. The learnings from the two rounds of prototyping are as follows:

- There is limited visibility of and connection of primary level with the secondary and tertiary levels.

- There is unavailability of platforms that facilitate shared understanding, where cadres share challenges, listen to each other and collaborate to find solutions together.

- Misaligned goals lead to higher levels showing less interest in collaborative engagement with primary care.

- Workshops can be made relevant by contextualising them to upcoming programs.

The implications of these learnings are:

The philosophy of participative and collaborative solutioning can be infused in weekly meetings.

Structural solutions such as visibility into CHC’s doctor roster or having access to information of services at higher facilities will help primary providers to help patients and improve their referral experience.

2. Driving holistic understanding amongst providers of their role in referrals

To prototype, all providers were shown a message from the DHO conveying to each cadre the change in process of referral as a whole and explaining roles of each cadre in particular. Thereafter an improvised visual was used to convey the same message but this time the cadres also were made to understand how the changed process led to completion of referral feedback loop involving all the other cadres too.

The learnings included:

- Currently patients are being referred and a referral record is being maintained but no practice to follow up with referred patients.

- Providers are ready to adopt the new process when they understand their own role in achieving the larger goal and how different roles work together for successful referrals.

- Changes to processes in this system are best understood when communication is real time and involves visual artefacts such as process charts.

- There appears to be a need to redesign the referral process so that there is a mechanism in place to track and monitor referred patients between MO/CHO and ASHA, and ensure patients follow on the referrals as prescribed.

3. Reframing referral communication for improved patient experience

To prototype, the provider and community sample were shown a MO/CHO-Patient and an
ANM/ASHA-Patient conversation. Post that, they were shown an improvised referral form consisting of additional questions to be filled by the provider while giving referral. The learnings from the two rounds of prototyping were:

- Patients benefit from having both complete information and emotional support to help them deal with the uncertainty associated with referrals.
- Patients should be exposed to examples of successful referral experiences since they currently only encounter poor referral experiences.
- Systemic barriers between primary and higher levels result in information gaps and hinder MO/CHO’s ability to provide necessary support to patients.

The implications of these findings are that, there is a need to foster more compassionate communication between patients and providers by ensuring that providers understand patient needs and recognize their pivotal role in positively conveying referral information.

4. Bottom-up redesign of referral network

The intervention was designed to assist district officials in recommending ideal referral pathways that are informed by ground realities and local contexts.

The intervention is a detailed visual map of the district which providers fill based on actual referral movements that they have come across for given scenarios. The scenarios include cases for hypertension, ANC and one for emergency/accident. They were asked to show the referral flow currently followed for each of such cases. It was learnt that:

- Perception about quality of services at referral facility is an important factor for providers and patients together.
- Convenience and distance are taken into consideration while providers give referrals as they prioritise patient care.
- The tool is useful to generate data on different referral pathways and on the factors impacting these pathways. e.g., While using map, providers were able to point out geographical considerations like a dam which acts as a barrier to get to a referred PHC.

5. Communication of purpose of AAM to the community

This intervention included a message by an influential community member about information on AAM scope of services in preventive, promotive, curative, rehabilitative and palliative care, and AAM's role in supporting community's health and wellbeing by being the gatekeeper.

- Learnings from the two rounds of prototyping were as follows:
- Awareness on AAM's latest services is low among the community.
- Sarpanch engagement with the community is not regular and is considered to be more political. Hence someone like a well-known teacher or senior ASHA can be used to promote the purpose of AAM.
- The message should highlight changes in service availability that have been made at the PHC or SC for the community to understand the transition and concept of AAM. e.g., availability of dental and eye care, BP medicines etc.
These learnings have the following implications:

- Community members need to first be made aware of the changes being made towards the transition of AAM, availability of services put in place before introducing the concept of AAM being the first point of contact in the continuum of care.

- Communication campaigns should leverage messengers’ authority and trust quotient.

**Insights on current referral mechanism**

- As a result of open-ended discussions during prototyping workshop following insights were drawn about present enables and barriers in referral services.

- Lack of integration between the Civil Surgeon and DHO functions, leading to disconnected processes and structures bridging primary and secondary/tertiary care levels. Providers work in isolation, with minimal information and interaction across different level of facilities, hindering their ability to guide patients and enhance referral experiences.

- Providers' tasks are oriented towards treating patients through OPD and screening, with limited emphasis on tracking and re-engaging those who do not follow referral recommendations.

- Patients lack incentives to adhere to the referral process, as both referred and non-referred patients have similar experiences at higher-level public facilities.

- While emergency referral processes are supported by structures like ambulance availability and ASHA accompaniment, the same sense of urgency and emotional support is not as pronounced for non-emergency referrals.
PART 3: Implementation

Based on the learnings from prototyping workshop it was decided to implement suggested intervention with a vision of ‘Redesigned experience of referrals. All the interventions were redesigned after incorporating the feedback from participants which primarily aimed to:

1. Drive intrinsic motivation among providers for by redefining and communicating role of service providers in referrals as supporting patients move through the continuum of care by empathy building towards patients and other providers.

2. Structuring provider-patient interaction by enabling providers to reduce uncertainty and build capacity among patients to follow through on the referrals by highlighting to them the patients’ needs and ways to address them.

3. Improve process for tracking patient movement by restructuring and communicating the tracking process to appear to be only additive effort.

The idea was internalised and brainstormed by program team under guidance from experts and some ease to implement and sustainable measures were planned to improve referral services in the district.

Implementation intervention

A well-designed referral system is essential to promote AAM as the critical first step in achieving continuum of care and improving patient experience as they navigate through the health system. Post-understanding the challenges involved in the upward and backward flow of referral linkages, PATH is providing support in optimizing patient pathways with the objective to improve overall patient experience, system efficiency, and outcomes for referral. Aligning with final mile interventions, PATH team also conducted a ground level assessment to understand referral flow and referral documentation across facilities and found several gaps pertaining to poor gatekeeping at primary level, fragmented referral where secondary level is usually bypassed and CHCs act as ‘Primary Health Centre in a big building’. In addition to this, all levels of care act in isolation with minimal communication & no system in place for back referrals and tracking of patients. Congestion of tertiary facilities due to unnecessary referrals is a common finding.

To address the gaps following measures were adopted-

- **Revision of the referral form** for AAM to maintain uniformity across all facilities and efficient record keeping. This would also enable to capture adequate information which improves patient experience once referred.

- **Revision of OPD register** for AAM to include referrals and follow up information for efficient tracking of referred patients.

- **Development of a cue card** to help health care providers in better communicating the referral information with the patient and share details enabling smooth referral.

- In addition to this, a **convergence meeting** among various stakeholders such as Civil surgeon, DHO with health care providers to improve ownership, and enhance communication amongst different levels of care for strengthening back referral as well as tracking mechanisms.

The current work is around streamlining processes, enhancing communication between health care providers, integrating technology, and tailoring care plans to address the unique needs of different
Engagement and convergence of intradepartmental stakeholders, such as the civil surgeon and district health officer, is also being carried out to sensitize health workers on their crucial role in streamlining the referral mechanism in the district.

Monitoring and evaluation

The primary goal of the intervention system, 'The redesigned referral experience,' is to create a noticeable impact on patients' referral journeys. While the overall measure to track progress should be the number of completed referrals, it is equally important to assess the specific changes brought about by each component. Monitoring these individual changes can serve as an indicator of the intervention's effectiveness.

The table below outlines notes for evaluating each component of the solution and the relevant indicators for monitoring.

<table>
<thead>
<tr>
<th>Evaluation process</th>
<th>Part A</th>
<th>Part B</th>
<th>Part C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A questionnaire having qualitative statements to check change in providers attitude towards referrals.</td>
<td>• Exit interviews of patients to understand - Whether process was followed - Level of support they received. • Qualitative interviews for providers to describe referral experience</td>
<td>• Referral register checks - To see the status of follow through column. • Referral register checks - To see if the ASHA name has been listed. • Check with ASHA - If she has been receiving timely updates of referred patients from CHO/MO</td>
</tr>
<tr>
<td>Metrics</td>
<td>Number of facilities where the video has been played. Change in providers perception of their role in referrals.</td>
<td>• Number of facilities where the cue card has been introduced. • Change in patients' confidence to complete referral journey. • Change in patients' awareness about their referral. • Amount of increase in provider's confidence that patient will complete referral journey</td>
<td>• Number of WhatsApp messages sent by MO to ASHA • Number of columns compliant with new process • Percentage increase in follow through on referrals • Percentage increase in follow ups on downward referrals • Number of forms with ASHA's name on it at the PHC level</td>
</tr>
</tbody>
</table>
Conclusion

In conclusion, the journey of exploring and redesigning the patient referral experience within the framework of the Ayushman Arogya Mandir program has yielded valuable insights and opportunities for improvement. This study, conducted in the specific context of Satara, has demonstrated the potential for enhancing patient referrals in the primary health care journey.

However, we must take into account certain limitations that will inform the implementation of the design interventions. Since the research is tied to specific places, we need to adjust and apply these solutions carefully in various locations. Additionally, the dynamic policy environment surrounding the AAM program will require flexibility and responsiveness to policy updates.

To make the design solutions work well, efforts should also be made to make broader changes to the system. This means improving technology and infrastructure to make communication easier. Additionally, we need providers at different health care levels to work together smoothly, which might require changes in how the health care system is organized.

In essence, this study offers a foundation for enhancing the referral experience, particularly within the primary health care journey, by understanding the needs and challenges of patients and providers. While the findings and interventions are rooted in the Satara context, valuable lessons are learned that can be adapted and applied to similar health care settings. This journey serves as a reminder of the importance of context, adaptability, and collaboration in creating a more patient-centered and effective health care system.
**Appendix 1**

# सातारा जिल्हा पतिष्ठत

## आतोप्य होवा

### संदर्भ चिह्न (प्राथमिक आतोप्य केंद्र)

<table>
<thead>
<tr>
<th>संदर्भित करणाऱ्या रुग्णालयाचे नाव:</th>
<th>दिवसाकाळ आपल्ये वेळ:</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>जीवंती / आपला / आवास क्रमांक:</td>
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<tr>
<td>वेळ:</td>
<td>टेली</td>
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<tr>
<td>पत्ता:</td>
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### टेलिफोन करणाऱ्या वेळकीर्तिकांनी अधिकारीची फोक्स शिफ्टिंग:

<table>
<thead>
<tr>
<th>प्राथमिक विभाग:</th>
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### उपचार / तपकणी:

### संदर्भित रुग्णालयाचे नाव:

<table>
<thead>
<tr>
<th>संदर्भित वेळकीर्तिकांनी कोठारा क्रमांक:</th>
</tr>
</thead>
</table>

### संदर्भित तर्कमुखी कोठारा क्रमांक: |

| अम्हार्या कोठारा - तर्कमुखी / 199 / 202 / इंटर |

<table>
<thead>
<tr>
<th>व्यायामक अधिकारी (स्वाक्षरित)</th>
</tr>
</thead>
</table>

**अभिप्राय (संदर्भित रुग्णालयाला)**

<table>
<thead>
<tr>
<th>अदेक्त विशेषता</th>
</tr>
</thead>
</table>

| जीवंती / आपला / आवास क्रमांक: |

| गोवळी क्रमांक: |

| तर्कमुखी / तपकणी: |

| नव्हे / नाही |

<table>
<thead>
<tr>
<th>पाठ्यक्रम विभागीय विभाग</th>
</tr>
</thead>
</table>

| अहिल्याबाई ओडिशा अभिप्राय (संदर्भित रुग्णालयाला) आय्यरी प्राप्ती क्रमांक: |

* संदर्भित करणाऱ्या असलेल्या तारीखाच्या दाेवणी व जल्लिश्चक अद्वितीय असते.
### Referral card (Primary Health Center)

<table>
<thead>
<tr>
<th>Name of the Referring facility:</th>
<th>Date and Time:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of Patient:</td>
<td>Reg No/ABHA ID/ AADHAR No:</td>
</tr>
<tr>
<td>Age:</td>
<td>RCH ID/MLC ID/ Other:</td>
</tr>
<tr>
<td>Address:</td>
<td>Mobile no:</td>
</tr>
</tbody>
</table>

**Observation by Referring Medical Officer:**

**Provisional Diagnosis:**

**Treatment/Investigation:**

<table>
<thead>
<tr>
<th>Name of Hospital Where Referred:</th>
<th>Purpose of Referral:</th>
</tr>
</thead>
<tbody>
<tr>
<td>When should the patient be there, Date:</td>
<td>When does the patient need to meet at the referred facility:</td>
</tr>
<tr>
<td>Mode of referral - Self / 102 108 / Others</td>
<td></td>
</tr>
<tr>
<td>OPD/Ward No:</td>
<td>Department Name:</td>
</tr>
<tr>
<td>Phone no &amp; Ward no of Arogya Mitra:</td>
<td>Floor:</td>
</tr>
</tbody>
</table>

**Patient Eligible for any scheme:**

**Medical Officer Signature and Phone number:**

---

### Feedback Form

<table>
<thead>
<tr>
<th>Name of the Receiving facility:</th>
<th>Registration No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of Patient:</td>
<td>Mobile No:</td>
</tr>
<tr>
<td>Age:</td>
<td>Further Referral: Yes □ No □</td>
</tr>
<tr>
<td>Address:</td>
<td>Follow up date:</td>
</tr>
<tr>
<td>Remarks about the condition of patient by receiving Medical Officer:</td>
<td>Follow up Where:</td>
</tr>
<tr>
<td>Investigation/ Treatment provided:</td>
<td></td>
</tr>
</tbody>
</table>

**Signature of receiving Medical Officer**

---

31
## सातारा जिल्हा परिषद
### आतोण्य होवा

### संदर्भ चित्र (प्राथमिक आतोण्य उपकरण)

<table>
<thead>
<tr>
<th>उपकरणाचे नाव:</th>
<th>दिलेल्या आपल्याचे नाव:</th>
</tr>
</thead>
<tbody>
<tr>
<td>डॉ. / आयुर्वेदक :</td>
<td>जिहाती / आयुर्वेदक :</td>
</tr>
<tr>
<td>वय: टोली</td>
<td>पुत्र</td>
</tr>
<tr>
<td>पता:</td>
<td></td>
</tr>
</tbody>
</table>

### प्राथमिक विवरण:

<table>
<thead>
<tr>
<th>संदर्भित करणारा आयुर्वेदिक आयुर्वेदकाचे पर्यावरण:</th>
</tr>
</thead>
</table>

### उपचार / तपासणी:

<table>
<thead>
<tr>
<th>संदर्भित केलेल्या आयुर्वेदिक आयुर्वेदकाचे पर्यावरण:</th>
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</thead>
<tbody>
<tr>
<td>संदर्भित उपचारपासून डॉ. आयुर्वेदकाचे पर्यावरण:</td>
</tr>
<tr>
<td>संदर्भित अवधि - वत्तात:</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>आयुर्वेदिक पर्यावरण:</td>
</tr>
</tbody>
</table>

### केंद्रस्थित डॉ. आयुर्वेदिक पर्यावरण / जिहाती

<table>
<thead>
<tr>
<th>संदर्भित करणारा आयुर्वेदिक आयुर्वेदकाचे पर्यावरण:</th>
</tr>
</thead>
</table>

### अभिप्राय (संदर्भित करणार्यासाठी)

<table>
<thead>
<tr>
<th>अभिप्राय दिलेल्या करणार्याचे जात:</th>
<th>जिहाती / आयुर्वेदक:</th>
</tr>
</thead>
<tbody>
<tr>
<td>करणार्याचे जात:</td>
<td>जिहाती डॉ. आयुर्वेदक:</td>
</tr>
<tr>
<td>वय: टोली</td>
<td>पुत्र</td>
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<tr>
<td>पता:</td>
<td></td>
</tr>
<tr>
<td>करणार्याच्या उपचाराची पर्यावरण:</td>
<td></td>
</tr>
<tr>
<td>अवधि:</td>
<td>पाठलाभाचे वित्तक:</td>
</tr>
<tr>
<td>स्थानांतरी:</td>
<td>पुढील अंदूदेशी वित्तक:</td>
</tr>
</tbody>
</table>

* संदर्भित करणारा नमुद जिहाती पूर्णांगेच अशा आकर्षक आहेत

### वैद्यकीय अधिकारी पाठ्य प्रवचन त्या व ज्ञानार्थी
### Referral card (Primary Health subcenters)

<table>
<thead>
<tr>
<th>Name of the Subcentre:</th>
<th>Date and Time:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of Patient:</td>
<td>Reg No/ABHA ID/ AADHAR No:</td>
</tr>
<tr>
<td>Age:</td>
<td>RCH ID/MLC ID/ Other:</td>
</tr>
<tr>
<td>Address:</td>
<td>Mobile no:</td>
</tr>
</tbody>
</table>

Observation by Referring Community Health Officer:

Provisional Diagnosis:

Treatment/investigation:

---

Name of Hospital Where Referred:

Purpose of Referral:

When should the patient be there, Date:

Mode of referral - Self/102/108/Others:

Name of ASHA:

Patient Eligible for any scheme:

Health worker / Community Health Officer signature and phone number:

---

### Feedback Form

<table>
<thead>
<tr>
<th>Name of the Receiving facility:</th>
<th>Registration No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of Patient:</td>
<td>Mobile No:</td>
</tr>
<tr>
<td>Age:</td>
<td>Further Referral: Yes</td>
</tr>
<tr>
<td>Address:</td>
<td>If Yes, Name of Referred Hospital:</td>
</tr>
<tr>
<td>Remarks about the condition of patient by receiving Medical Officer:</td>
<td>Follow up date:</td>
</tr>
<tr>
<td>Investigation/ Treatment provided:</td>
<td>Follow up Where:</td>
</tr>
</tbody>
</table>

Signature of receiving Medical Officer:

---

All fields need to be filled completely.

All fields need to be filled completely and shared with referring facility.
### REVISION OF OPD REGISTER FORMAT

#### SC Revised Format-

<table>
<thead>
<tr>
<th>S.no/Reg.no / ABHA ID</th>
<th>Name</th>
<th>Sex</th>
<th>Age</th>
<th>Address</th>
<th>Mobile No.</th>
<th>Diagnosisis</th>
<th>Treatment</th>
<th>Patient Referred [Yes/No]</th>
<th>Referred to the Facility</th>
<th>Follow Up date</th>
<th>Remarks after Follow Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>vuqØ<a href="mailto:ekad@uksan.kh">ekad@uksan.kh</a></td>
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</tr>
</tbody>
</table>
Address:
15th Floor, Dr. Gopal Das Bhawan, 28, Barakhamba Road, New Delhi - 110001