

# Report on Evaluation of the Performance of AYUSH Services Co-located With Primary Health Centres Under the National Health Mission Policy of Co-locating AYUSH Within Primary Health Care



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# Evaluation of the Performance of AYUSH Services Co-located With Primary Health Centres Under the National Health Mission Policy of Co-locating AYUSH Within Primary Health Care

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Study under the Implementation Research- Health Systems  
Strengthening (IR-HSS) Platform







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## List of Abbreviations:

AIIMS	All India Institute of Medical Sciences
ANM	Auxiliary Nurse Midwife
AYUSH	Ayurveda, Yoga, Naturopathy, Unani, Siddha, Homeopathy and Sowa Rigpa
CHC	Community Health Centers
FGD	Focus Group Discussion
HWC	Health and Wellness Centers
IDI	In Depth Interview
IPHS	Indian Public Health Standards
MoHFW	Ministry of Health and Family Welfare
MO	Medical Officer
MPW	Multi-Purpose Workers
NAM	National AYUSH Mission
NHM	National Health Mission
NHP	National Health Policy
NHSRC	National Health System Resource Center
NRHM	National Rural Health Mission
OPD	Out Patient Department
PHC	Primary Health Care
RHS	Rural Health Statistics
SDH	Sub-district hospitals
TRG	Technical Resource Group
WHO	World Health Organization



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# 1. EXECUTIVE SUMMARY

## Background

According to the Ministry of AYUSH (established in 2014), the term AYUSH includes Ayurveda, Yoga, Naturopathy, Unani, Siddha, Sowa-Rigpa, and Homoeopathy. AYUSH system of medicine except homeopathy is indigenous to India and has been practiced for 3000 years or even before Indus Valley Civilization. Earlier six components – Ayurveda, Yoga, Naturopathy, Unani, Siddha, and Homoeopathy were included in AYUSH and in 2021 Sowa-Rigpa is also included.

The National Health Policy 2017 recommends co-locating AYUSH with public health facilities to ensure access to AYUSH services for all through documented and validated local, home and community-based practices. Such colocation was envisioned as one of the strategies to mainstream the full potential of AYUSH. While assuring the quality of AYUSH services, the policy also advocated the documentation of existing practices, research, and validation of the same for community-based practices and tribal medicines. The National AYUSH Mission (NAM) was launched in 2014 with a vision to provide cost-effective and equitable AYUSH healthcare throughout the country by improving access to the services and strengthening preventive and promotive aspects in primary healthcare by co-locating AYUSH within Primary Health Centers (PHCs). In some states like Andhra Pradesh, Government Ayurvedic Dispensaries are part of the state government's efforts to promote and provide traditional healthcare services based on Ayurveda in addition to PHC co-located AYUSH facilities.

The co-location aims to i) provide a choice of different treatment systems of medicine to the patients (medical pluralism) with integrative care, ii) strengthen the functionality at the PHC, and iii) better implementation of the National Health Programs.

The strategy of co-location of AYUSH within PHC was initiated even before 2010 in states like Tamil Nadu, Odisha, Bihar, etc. However, there is limited information on the status of co-location, accessibility to AYUSH services, and the quality of the AYUSH services provided in co-located facilities, its challenges, and opportunities in service provision. Therefore, the evaluation of services at the co-located AYUSH within PHC and identification of the success, challenges, failures, and potential opportunities for further improvement is the need of the hour.

Hence this study is planned to address the above gaps with the following aims and objectives:

## Aim of the study

To evaluate the performance of co-locating AYUSH within Primary Health Care and to compile



recommendations for future actions to ensure better effective integration of AYUSH into Primary Health Centers under the Ayushman Bharat program.

## Objectives

1. To assess the AYUSH related services available at the PHC co-located with AYUSH services
2. To audit the AYUSH outpatient department prescription slips for the completion and legibility
3. To assess the satisfaction of the patients/ clients attending the AYUSH outpatient department in Primary Health Centres co-located with AYUSH services
4. To document the critical success factors, challenges, bottlenecks and lessons learned with co-locating AYUSH with Primary Health Centers
5. To develop key evaluation indicators that can be implemented while co-locating AYUSH with Primary Health Centers for future performance appraisals

## Methodology

This mixed-methods study used quantitative (check-list based assessments, review of existing records, and structured patient interviews) and qualitative research methods (in-depth interviews and focus group discussions of medical officers, program managers, frontline workers, and patients).

All India Institute of Medical Sciences (AIIMS), Bibinagar, Hyderabad, conducted this project in collaboration with the National Health System Resource Centre, New Delhi. Five states – Andhra Pradesh, Bihar, Maharashtra, Odisha, and Rajasthan, representing five geographical regions (South, North, Central, West, and East regions of India) of the country were selected in this study as study sites to capture data. AIIMS – Mangalagiri, Patna, Nagpur, Bhubaneswar, and Jodhpur were identified as partner institutions from Andhra Pradesh, Bihar, Maharashtra, Odisha, and Rajasthan, respectively for conducting this study.

One district per state (Guntur – Andhra Pradesh, Patna – Bihar, Nagpur – Maharashtra, Khordha – Odisha, and Jodhpur – Rajasthan) was selected from each state to collect data. From each district, 10 PHCs were randomly selected from the list of PHCs where AYUSH is co-located with PHCs as study centers. A cross-sectional study design was adopted to collect the quantitative data for objectives 1, 2, and 3. National Health Policy (2017), Indian Public Health Standards for PHC (2012), World Health Organization (WHO) guidelines and Prescription audit guidelines from MoHFW on proper and appropriate prescription slip practices were used to create data collection tools for objectives 1 and 2, respectively. These policies and guidelines provide recommendation for facilities in the PHC with collocated AYUSH services and information needed in the prescriptions. A semi-structured self-designed questionnaire was used to collect data for objective 3. The investigators visited 10 PHCs in each district, and in total, 50 PHCs were evaluated. Five prescription slips were audited, and five consecutive patients who received treatment at the AYUSH outpatient department (OPD) were interviewed to assess their satisfaction regarding AYUSH services at each PHC. In-depth interviews and focus group discussions were conducted among healthcare providers such as AYUSH and MBBS medical officers, frontline workers, and patients to explore the challenges and opportunities in AYUSH



service provision. A logic model with input, process, output, and outcome indicators was used to evaluate the performance of AYUSH co-located PHCs. The documents related to AYUSH co-location in PHCs at the State, district, and PHCs were scrutinized to achieve objective 5. The summary of key-findings objective-wise is described below.

## Objective 1

A checklist-based assessment was done to identify the gaps and current situation in the infrastructure and human resources at the AYUSH OPD, AYUSH drugs, records on AYUSH service delivery, outreach services, specialty clinics, herbal gardens, and participation in the national health program by the AYUSH medical officers. The relevant qualitative data was also explored to obtain better information related to objective 1. The major findings are

1. The healthcare providers and patients perceived that the patients trusted and appreciated AYUSH services. (Qualitative findings)
2. In 2021, in the states (Andhra Pradesh, Bihar, Odisha and Rajasthan) included in this project, the median (IQR) AYUSH OPD footfall was 3716 (1495-4566), 3687 (1800-6000), 4500 (665-5800) and 865 (668-1137), respectively. In the same year, the median (IQR) OPD footfall at allopathic OPDs at the same PHCs (Andhra Pradesh, Bihar, Odisha and Rajasthan) were 14698 (8949-21496), 25978 (13285-36000), 11000 (8000-22000) and 8523 (6500-11794).
3. A large gap was observed in the infrastructure at the AYUSH OPDs in all studied States. In Odisha only 20% PHCs had separate room for AYUSH OPD. In Rajasthan and Bihar, 40% PHCs had separate room for AYUSH OPD.
4. Patients and healthcare providers expressed the need for an examination/ therapeutic room; sign boards; service boards; examination table; AYUSH pharmacy; and drug storage room. (Qualitative findings)
5. AYUSH medical officers were available in the PHCs but were not posted on regular basis (i.e. permanently in a specific facility), especially in Andhra Pradesh. The AYUSH medical officers posted on deputation/ made in charge of more than one center in Andhra Pradesh and visited the OPD only a few days in a week. Most states did not have allied healthcare human resources for the AYUSH, like pharmacists/ staff nurses/ health workers. Overall, only 17% of PHCs had AYUSH allied healthcare worker and 7% had AYUSH pharmacist.
6. The records on AYUSH drugs and OPD were maintained in 77% of the PHCs.
7. Around 57% of PHCs (57%) had herbal garden and only 6% of PHCs had specialty clinics related to AYUSH such as arthritis clinic and dengue prevention clinic.
8. AYUSH drug supply chain management was a major challenge and was reported in all the states. The AYUSH medical officers expressed that locally available AYUSH drugs were not available in their respective PHCs. Drugs which are supplied by the State were only available at the OPD. Only 25% PHCs received drugs regularly in the last year, and 40% PHCs had an adequate supply of AYUSH drugs to meet the patient's demands.

## Objective 2

A checklist was used to audit the prescription slips for completeness and legibility. WHO





recommendations on proper and appropriate prescription slip practices were used to develop the checklist. In each district, 50 prescription slips (5 per PHC = 50 per 10 PHCs per site) were audited, and in total, 250 prescription slips were evaluated.

1. Prescription slips were not optimal as per the WHO and MoHFW recommendation. The diagnosis of the patient was mentioned in only 64% of the prescription slips. Duration of drug intake (56.5%) and mode of administration (56%) was mentioned in half of the prescription slips. Only one-fourth (25%) of the prescription slips had the details of the next visit to the AYUSH OPD.
2. The history of the patient (mentioned in 44%), details of the drug allergy (1.5%), diagnosis of the patient (64%), details of the next visit (25%), the dosage of the drug (74.5%), and modes of administration (56%) were not mentioned in all the prescriptions.
3. The non-availability of AYUSH drugs hampered the prescription practices of AYUSH medical officers. The AYUSH doctors mentioned that they have to prescribe the drugs for purchase from outside pharmacies, or they end up prescribing allopathic drugs due to pressure from higher officials. (Qualitative findings)
4. More than half of prescription slips in Odisha (60%) and one-fourth (26%) in Maharashtra were difficult to read.
5. Many healthcare staff and patients felt that the labeling and description of AYUSH drugs are not clear on the drug cover, which is challenging to understand and creates mistrust among consumers. (Qualitative findings)

### Objective 3

A semi-structured interview tool was used to assess the satisfaction of the patients regarding the services at the AYUSH OPD. In total 250 patients were contacted after their treatment from AYUSH OPD to capture their experience regarding AYUSH services. The important findings are:

1. The majority (76%) of the patients traveled for around five kilometers to visit AYUSH OPD. Most of them commuted either by walk (48%) or two-wheeler (35%). Around 95% of study participants were satisfied with the accessibility to AYUSH services. In qualitative discussions the distance to facility was not reported to have noticeable role in availing AYUSH services.
2. More than 70% came to know about AYUSH OPD either from friends or family or patients themselves visited.
3. More than 95% of patients visited AYUSH OPD more than once. They said they would visit next time and refer their family and others to AYUSH OPD.
4. Around 36% were unsatisfied with AYUSH OPD infrastructure, particularly the separation of examination room in male and female examination areas. The need for privacy while examination of the patient was also expressed in qualitative interviews among patients and AYUSH medical officers.
5. Major complaints/ symptoms for visiting AYUSH OPD are health problems related to joint/ bone, skin problems, general weakness, respiratory tract infection, kidney-related health problems, and gastrointestinal problems. Patients prefer AYUSH services because it is Indian





medicine and believed to have fewer or no side effects.

6. Only one-third of the patients (36%) were satisfied with the availability of IEC material available in AYUSH OPD. In qualitative interview, the patients expressed that there were limited number of health education materials available in the AYUSH OPDS.
7. Most patients (>90%) were satisfied with the services provided by the AYUSH doctor.
8. Forty percent of the patients were not satisfied with the availability of drugs at the AYUSH OPD or a private pharmacy (46%) as they were not available most of the time. The patients and healthcare workers depicted a need for more AYUSH centers.
9. Three fourth of the patients (74%) were satisfied with the AYUSH drugs provided for their health condition, and almost everyone (99.6%) said they were satisfied with the AYUSH drug-related side effects as they were nil or very few.

#### Objective 4

The challenges and opportunities related to AYUSH services were explored using in-depth interviews and focus group discussions among AYUSH medical officers, MBBS medical officers, frontline workers and patients. In total 64 such IDIs and FGDs were conducted in all sites. The major findings are:

1. The challenges in AYUSH services provision are – misgoverned AYUSH drug supply chain, inadequate infrastructure, human resources, few referral centers for AYUSH, and poor AYUSH allopathy coordination.
2. A few AYUSH medical officers mentioned that coordination with MBBS medical officers was a challenge because of limited availability of AYUSH drugs, and limited allied healthcare human resources (allied healthcare worker) in AYUSH OPD. AYUSH medical officers were able to provide sub-optimal services compared to allopathy.
3. Success factors: Patients satisfaction on AYUSH services in all the states, acceptance and utilization of AYUSH services, active participation of AYUSH medical officers in patient care, MBBS medical officers understanding on the importance of AYUSH in managing certain diseases like arthritis, skin diseases, etc (where AYUSH observed to provide better effect than allopathy) were explored as a few success factors in providing AYUSH services in co-located PHCs.
4. The opportunities and lessons learnt are – community involvement for awareness creation on AYUSH, integration of AYUSH indicators in routine HMIS monitoring, empowering farmers in AYUSH raw material production, labeling and research for AYUSH drugs, political commitment with intersectoral coordination, AYUSH and allopathy coordination, and AYUSH drug supply-chain stream lining.
5. Local herbal gardens at PHC, empowerment of farmers to grow medicinal plants, procurement of such plants from farmers by the Government, and subsidies for farmers for growing medicinal plants were a few propositions from patients and health workers to be explored and implemented to get the raw material for AYUSH drugs.



## Objective 5

The documents related to the AYUSH colocation at PHCs were reviewed to capture the data on input, process, output and outcome indicators. The indicators of various domains of the logic model were identified and reviewed by the Technical Resource Group.

1. All the states had policy guidelines (state specific and adapted from national guidelines) on the co-location of AYUSH at PHCs and documents on creation of position of AYUSH medical officers. However, only Rajasthan had created position for allied healthcare worker for AYUSH OPD.
2. Less than 20% of PHCs in Andhra Pradesh and Bihar have AYUSH facilities co-located with PHC.
3. The logic model and the indicators can be used as a tool for monitoring AYUSH services at the AYUSH co-located PHCs for optimal and quality service provision.

## Recommendations

1. The major challenge is the AYUSH drug supply chain system. A robust drug supply chain management system should be established to ensure the availability of AYUSH drugs. Technology enabled online indenting approach for AYUSH medications with linkage of various AYUSH drug warehouses could be explored.
2. Though AYUSH is an ancient system of medicine, more awareness needs to be generated on AYUSH. Information education and communication material and campaigns should be made available in PHCs.
3. The crucial pillars of health service delivery, infrastructure, human resources, drug supply, and the fund availability should be strengthened.
4. A strong network of referral centers is to be established to provide a continuum of care under AYUSH.
5. Evidence on the efficacy and effectiveness of AYUSH drugs and their side effects needs to be documented. Fund for evidence-based research should be strengthened, and quality proposals should be approved to document the scientific evidence of AYUSH drugs.
6. The labeling and packing of AYUSH drugs need to be improved to understand more about the drugs, follow suggestions from medical officers and to create acceptance and trust among patients.
7. Indicators should be developed (majorly focusing on process, output and outcome) and to be included in the routine health management and information system.
8. The AYUSH medical officers should be provided allied healthcare workers within NAM in the AYUSH OPDs to support them to deliver optimal services to the patients.
9. MBBS medical officers, program managers and AYUSH medical officers may work alongside sharing values and responsibility.
10. Improving coverage and quality – increasing the co-location of AYUSH with PHCs and other levels of healthcare system while ensuring access to the services and quality of AYUSH services.



11. To ensure the satisfaction and trust of the patients strong and efficient quality control measures should be enforced including prescription audits.

# 2. BACKGROUND

## Primary Health Care in India

Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology, made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination<sup>1</sup>. Primary health care envisages attainment of healthy status for all. Being holistic in nature it is intertwined with diverse principles and components, to provide preventive, promotive curative and rehabilitative services. Comprehensive Primary Health Care (CPHC) is essential to avert disease and promote well-being, ensure continuity of care, and enable gate-keeping so as to reduce the burden on secondary and tertiary level facilities, thus saving costs. In India about 47% of total health expenditure is from out-of-pocket<sup>2</sup>. Comprehensive primary care reduces mortality and morbidity at much lower costs, and significantly reduces the need for secondary and tertiary care<sup>3</sup>. Lack of effective primary care leads to fragmentation of services and burdening of secondary and tertiary levels.

## Main Streaming of AYUSH

The rationale behind the main streaming of Ayurveda, Yoga, Naturopathy, Unani, Siddha, Homeopathy and Sowa Rigpa (AYUSH) systems under the National Health Mission (NHM) was to strengthen the public health system in the country at all levels, by engaging practitioners of alternate medicine, as they have a good presence, especially in the rural communities, as well as good acceptability from a cultural perspective in the rural areas<sup>4</sup>. The key strategies that were identified by the Government of India towards the process of mainstreaming were:

- Integration and mainstreaming of the AYUSH in to the existing public health care system and the national health programs.
- Encouragement and establishment of AYUSH specialty centers, infrastructure development and capacity building for AYUSH
- Sustainable livelihood systems through involving local communities and establishing forward and backward market linkages in processing of medicinal plants including farming of medicinal plants
- Strengthening research and drug quality control for AYUSH
- Advocacy for AYUSH



- Engaging traditional community health care providers in the conservation and generation of the raw materials and create opportunities for enhancing their skills

NHM recommends integration of AYUSH treatment systems, facilities and faculties into the existing healthcare system. AYUSH practitioners were to be appointed in the existing primary health centers, community health centers or block primary health centers. A background paper by the National Commission on Macroeconomics and Health has described integration of Indian systems of medicine into mainstream medical practice at three phases<sup>5</sup>. These centers should also be engaged in standardization, quality control and research. The NHM also emphasized that AYUSH practitioners should be involved in all National Health Programs such as the Reproductive Child Health Programme, Revised National Tuberculosis Control Programme, and other communicable disease control programs for Malaria, Filariasis, etc. It further specified that AYUSH doctors would be trained in primary health care and all national disease control programmes<sup>3,4</sup>. The revised Indian Public Health Standards (IPHS) for Primary Health Centers (PHCs) released in 2012 had set a few standards for mainstreaming and co-locating AYUSH facilities in the PHCs such as desirable manpower, infrastructure, AYUSH drugs and the herbal garden<sup>6</sup>. The mainstreaming of AYUSH into primary health care was strongly advocated in National Health Mission (NHM), National Health Policy (NHP) 2017 and Ayushman Bharat 2018. These are summarized below along with Sustainable developmental goals. The recently released IPHS 2022 also retains the AYUSH services as desirable within PHCs and recommends one AYUSH medical officer position in PHC (as desirable post similar to the IPHS 2012). The HRH, medicines, and other inputs required for AYUSH services shall be provided by Ministry of AYUSH<sup>7</sup>.

### **Health and Wellness Centers -Ayushman Bharat-2018**

In order to achieve universal health coverage (UHC), India has launched its ambitious Ayushman Bharat (Healthy India) program in the alignment with its National Health Policy 2017. Ayushman Bharat has two components; health and wellness centres<sup>3</sup>, and national health insurance protection scheme. In order to provide comprehensive primary care that is universal and free to users, with a focus on wellness and the delivery of an expanded range of services closer to the community, Health and Wellness Centres (HWC) are established by transforming existing sub centers and PHCs. Currently 1,59,654 HWCs (23,540 PHC-HWCs) are functional in India<sup>8</sup>. The HWC provides preventive, promotive, rehabilitative and curative care for RMNCH+A, communicable diseases, non-communicable diseases, ophthalmology, otorhinolaryngology, dental, mental, geriatric care, palliative care, treatment for acute simple medical conditions and emergency & trauma services. Of these services, several are already being provided through the NHM. Integration of Yoga and AYUSH services within HWCs is one of the objectives of Ayushman Bharat.

### **Rationale of the Study**

The NHP 2017 has strongly advocated mainstreaming the potential of AYUSH in public health. The recent studies reported the increased utilization of AYUSH services in India<sup>9,10</sup>. However, these studies are based on secondary data analysis of National Sample Survey Organization (2014) survey and WHO-SAGE survey (2007-2010). However, the studies on the process documentation of co-locating AYUSH with Primary Health Care are limited. The available published literature is either from studies with small sample size or the studies conducted a decade ago. Thus, existing literature fail to provide a comprehensive and contemporary information about the status of co-location of AYUSH with PHCs<sup>11,12</sup>. There is nil or very minimal evidence available on the process documentation of co-location of AYUSH and PHCs with a reasonable representative sample.



It is imperative to conduct process documentation of co-locating AYUSH with primary health care to assess the current status of implementation of AYUSH services, identify the best practices adopted, challenges and potential opportunities for further improvement. Such information is the need of the hour for scaling up and integrating the AYUSH services under the public health system, especially AYUSH into HWCs under Ayushman Bharat (Healthy India) programme<sup>3</sup>. As HWCs are still being rolled out in states and are yet to establish AYUSH services, we decided to conduct process documentation in form of performance assessment in the PHCs with co-located AYUSH facilities. The learning from this assessment will guide the measures to strengthen the AYUSH co-location in the HWCs and enhance the AYUSH service delivery. The National AYUSH Mission also emphasize the co-location of AYUSH with existing PHC apart from standalone AYUSH HWCs<sup>13</sup>.

# 3. AIM OF THE STUDY

To evaluate the performance of co-locating AYUSH within primary health care and to compile recommendations for future actions to ensure better effective integration of AYUSH into Health and Wellness Centres - Primary Health Centers under Ayushman Bharat (Healthy India) program.

# 4. OBJECTIVES

1. To assess the AYUSH related services available at the primary health centers co-located with AYUSH services
2. To audit the AYUSH outpatient department prescription slips for the completion and legibility
3. To assess the satisfaction of the patients/ clients attending the AYUSH outpatient department in Primary Health Centers co-located with AYUSH services
4. To document the critical success factors, challenges, bottlenecks and lessons learned with co-locating AYUSH with primary health centers
5. To develop key evaluation indicators that can be implemented while co-locating AYUSH with primary health centers for future performance appraisals



# 5. METHODOLOGY

## i. Study Setting

The Ministry of AYUSH was established in 2014 with a vision of reviving the profound knowledge of our ancient systems of medicine and ensuring the optimal development and propagation of the AYUSH systems of healthcare. The NHP 2017 advocated for mainstreaming AYUSH within the existing healthcare system and emphasizing medical pluralism. To obtain the study's objectives, we identified the states from different regions of India. India is one of the world's most populous country (second to China), with an estimated population of 140 crores and estimated to overtake China and become world's populous country in 2023. India has a mixed type healthcare system comprising the public and private sectors. The public healthcare system is generally a three-tier system based on the population. The basic unit of the Indian public health system is the Health and Wellness Centres - Sub-health Center (HWCs-SHC), followed by the Health and Wellness Centres - primary health center (HWCs-PHC), which is the primary level of the health system. Community health centers (CHCs) and taluk, or sub-district hospitals (SDHs) and district hospitals are the secondary level of health system; medical colleges and healthcare institutes of national importance are the tertiary level of health system. GoI adopted a strategy to integrate AYUSH in all three levels of health system (PHC, CHC, DH, medical colleges) to make different systems of medicine available in a single window. As per the rural health statistics (RHS 2020-21), there are 1,57,819 SCs, 30,579 PHCs, 5,951 CHCs, 1224 SDHs, and 764s DH in India<sup>14</sup>. However, the integration is still in process at all levels of the health system. In this study, we have done the health system analysis of the integration of AYUSH in primary health care specifically PHCs. This study does not explore the integration of AYUSH with other levels of the health system, such as secondary and tertiary.

There are 28 states and eight union territories in India. We included five states viz., Andhra Pradesh, Bihar, Maharashtra, Odisha, and Rajasthan, representing five geographical regions of the country and also on convenience – South, North, Central, West, and East regions of India in this study. Andhra Pradesh is the seventh largest state in the country, with an estimated population of 9.25 crore. Majority of the population speaks the Telugu language in the state. Bihar is located in the northern part of India, bordering Nepal. The state has an estimated population of 11.1 crores, with most of the population speaking Hindi. Maharashtra is the second most populous state in India, with an estimated 12.5 crore population. The majority of the people in Maharashtra speak the Marathi language. Odisha is in the western part of India with an expected population of 4.5 crores, and the majority speak the Odia language. Rajasthan borders Pakistan and has an estimated population of 7.8 crore population. Hindi is spoken majorly in Rajasthan. The RHS 2020 number of PHCs in Andhra Pradesh was 1142, Bihar was 1932, Maharashtra was 1839, Odisha was 1288, and Rajasthan was 2130<sup>14-18</sup>.



## ii. Collaborating institutions

All India Institute of Medical Sciences (AIIMS), Bibinagar, Hyderabad, conducted this the project in collaboration with the National Health System Resource Centre, New Delhi. Five regional academic partners were identified from Andhra Pradesh, Bihar, Maharashtra, Odisha, and Rajasthan based on experience and competency for conducting this study. AIIMS – Mangalagiri, Patna, Nagpur, Bhubaneswar and Jodhpur were identified as partner institutions from Andhra Pradesh, Bihar, Maharashtra, Odisha, and Rajasthan, respectively (Figure 1). AIIMS institutions are Institutions of National Importance established by the act of parliament (AIIMS Act) under the Ministry of Health and Family Welfare, Government of India. Faculty from the Department of Community Medicine and Family Medicine/ Community Medicine from the above institutions contributed to the study.



*Figure 1 Collaborating site – AIIMS, Bibinagar (Telangana) and participating sites – AIIMS-Mangalagiri (Andhra Pradesh), AIIMS-Patna (Bihar), AIIMS-Nagpur (Maharashtra), AIIMS-Bhubaneswar (Odisha), AIIMS-Jodhpur (Rajasthan) of the study*

## iii. Study sites

One district was selected from each of the selected five states based on feasibility to travel to the district by the investigators to collect data. Guntur, Patna, Nagpur, Khordha, and Jodhpur districts were selected from Andhra Pradesh, Bihar, Maharashtra, Odisha, and Rajasthan, respectively. Table 1 describes the demographic profile of the selected states.



Table 1 Profile of the districts selected to evaluate the performance of AYUSH OPDs co-located with Primary Health Centers under National Health Mission (NHM) in India, 2021

Name of the State	Name of the district	Population of the district* (in lakhs)	Average literacy rate (2011 Census)	Number of PHCs in the district <sup>#</sup>
Andhra Pradesh	Guntur	52.24	67.40	119
Bihar	Patna	68.44	70.68	113
Maharashtra	Nagpur	46.54	88.39	84
Odisha	Khordha	51.40	86.88	75
Rajasthan	Jodhpur	44.30	65.94	105

\*Estimated population in 2022 # Rural Health Statistics 2020-21

Figure 2 describes the brief outline of the study. In each district, we have selected 10 PHCs randomly, as study centers from the list of PHCs where AYUSH is co-located with PHCs. The investigators visited these PHCs to collect data to achieve the objectives. The permission to collect data was obtained from the district program officers and medical officers of respective PHCs.

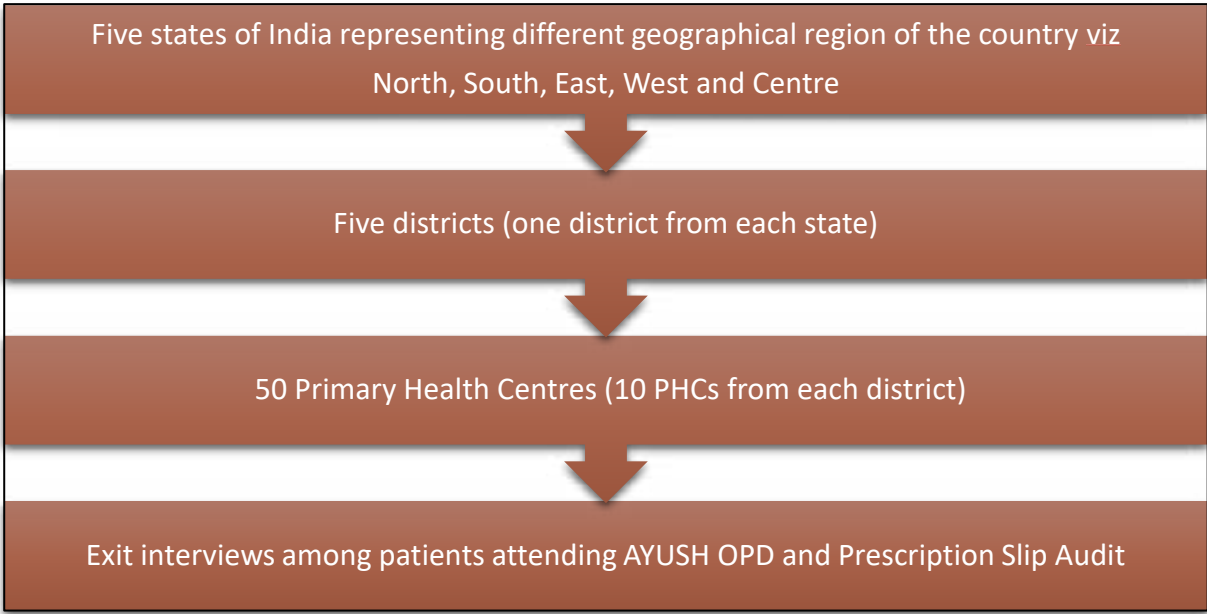


Figure 2 Outline of the study to evaluate performance of AYUSH OPDs co-located with Primary Health Centers under National Health Mission (NHM) in India, 2021

To achieve the objectives, we followed different study designs and sampling strategies for each of the objectives. The details are described in the subsequent sections for each objective.



#### iv. Study Design, Study Population, Sample Size and Sampling Strategy

##### **Objective 1: To assess the AYUSH related services available at the PHCs co-located with AYUSH services**

For objective 1, we followed a cross-sectional study design to collect the quantitative data. A checklist was prepared to collect information on the AYUSH-related services available at the PHC. The NHM 2017 guidelines and Indian Public Health Standards for PHC (2012) were used to prepare the checklist (Annexure 1). The list covered the domains such as infrastructure, human resources at both allopathy and AYUSH, services at the PHC, availability of AYUSH drugs, and local herbal plants at the PHC garden. The investigator used this checklist and collected the data through semi-structured interviews and observation in the field. The investigators visited 10 PHCs in each State, and in total 50 PHCs were evaluated for the AYUSH services at the AYUSH co-located PHCs.

##### **Objective 2: To audit the AYUSH outpatient department prescription slips for the completion and legibility**

We followed a cross-sectional study design to obtain data for objective 2. The WHO guidelines<sup>19</sup> on proper and appropriate prescription slip practices were followed to prepare a checklist (Annexure 1) and adapted to AYUSH services (like not having antibiotics related details). The details captured were also similar to the Indian guidelines with modifications related to AYUSH<sup>20</sup>. The list assessed the selected indicators for completeness and legibility of the prescription slip in various aspects, such as patient-related details, medical officer details, and medication-related details. We assumed that 50% (conservative assumption as  $p=50\%$  provides maximum variability expected in the population) of the prescription slips would have complete information as recommended by WHO and 15% relative precision, 95% confidence interval, and 20% non-response rate for sample size calculation. The required sample size of 214 was rounded to 250. We audited five prescription slips from each PHC to check for the completeness and legibility of the prescription slip. A minimum of two visits were made to each PHC to capture the data. On day - 1, data for the first and second objectives were collected. On day 2 - data for objective three were collected (explained in the next section). We contacted the consecutive patients leaving AYUSH OPD after consultation for data collection for objective 2. After obtaining informed written consent from the selected study participants, we used an observatory method to audit the prescription slips. No interview was conducted. If the footfall of the AYUSH OPD was less than five on the day of the prescription audit, one more visit was made on the next working day to complete the required data collection.

##### **Objective 3: To assess the satisfaction of the patients/ clients attending the AYUSH outpatient department in Primary Health Centers co-located with AYUSH services**

We used a cross-sectional study design to capture patients' experience with AYUSH services in the PHCs with co-located AYUSH services. We assumed that 50% of participants (conservative assumption as  $p=50\%$  provides maximum variability expected in the population) would be satisfied with AYUSH OPD services, 15% relative precision, 95% confidence interval, and 20% non-response rate for sample size calculation. The required sample size of 214 was rounded to 250. Hence, from each PHC, we included five participants for exit interviews. We collected



data from 50 participants from each state. In total, 250 participants were interviewed for the exit interview. The questionnaire on patient experience is attached as annexure 1. The investigators collected the data for objective three on day 2 of the visit to PHC. We followed consecutive sampling to select study participants for the exit interview. If the number of patients was less than five, one more visit was made to the PHC to complete the data collection. If a patient was not willing to participate in the study, we tried to capture the reason for non-participation and include the next consecutive patient for the study.

#### **Objective 4: To document the critical success factors, challenges, and opportunities with co-locating AYUSH with Primary Health Centers.**

The qualitative component of the assessment had in-depth interviews, focus group discussions, and participant observations. Program officers, administrators of NHM, AYUSH officials at the state and selected district officials, medical officers (AYUSH and MBBS) at the PHCs, and beneficiaries were approached for qualitative data collection. Informed written consent was obtained from all the participants and the IDIs and FGDs were audio recorded. We followed purposive sampling for the selection of study participants for objective 4. In each district, PHCs were randomly numbered from 1 to 10. Four in-depth interviews were conducted among the MBBS medical officers (PHC no.- 1, 2, 3, 4) and the AYUSH medical officers (PHC no.- 4, 5, 6, 7). Three focus group discussions were conducted among frontline workers (PHC no. 7, 8, 9) – and two focus group discussions were conducted among the patients (PHC no- 9, 10) attending the AYUSH OPD. More number of interviews were conducted till the information saturated. The patients who participated in the quantitative survey were excluded from qualitative data collection to ensure variability among the study participants. One in-depth interview each was conducted with the state and district program officers of AYUSH in each state. There were six to twelve participants per FGD. The moderator facilitated the discussion and ensured the study participants' active participation. The moderator also observed the participants during IDI and FGDs and took notes on their non-verbal expressions, emotions, and reactions. The moderator observed and drew a sociogram to ensure equal participation of the study participants in the FGDs. Field notes were taken during FGD and IDI to observe the participants' responses while collecting qualitative data.

The detailed micro plan followed for quantitative and qualitative data collection is in the annexure 2. Informed written consent was obtained from all the study participants before collecting data. We contacted the medical officers and program officers prior to the data collection to get their approval and concurrence for the conduct of the study and data collection.

#### **Objective 5: To develop key evaluation indicators that can be implemented while co-locating AYUSH with Primary Health Centers for future performance appraisals.**

We used a logic model with input, process/ activities, output, and outcome components to evaluate the effectiveness of the health system in co-locating AYUSH with primary health care. The indicators for the logic model are listed below in Table 2. We reviewed the documents and guidelines released by the center, state and respective district AYUSH offices for obtaining the data for objective 5. We also contacted the district and state AYUSH and allopathic program officers to capture data for objective 5.





Table 2 Indicators for evaluating the health system in the study on evaluation of the performance of AYUSH OPDs co-located with Primary Health Centers under National Health Mission (NHM)

S. No	Domain	Indicators	Source of data
1	Input	Policy guidelines	Documents/Office Order/ Gazette (AYUSH specific documents available at state level)
2	Input	Creation of AYUSH Position -AYUSH Medical officer	DOPT Office order/ Circular/any other relevant office order
		Creation of AYUSH Position - AYUSH allied healthcare worker	DOPT Office order/ Circular/any other relevant office order
3	Input	Recruitment of AYUSH Position - AYUSH Medical officer	State government recruitment process/ Orders/Recruitment advertisement
		Recruitment of AYUSH Position - Allied healthcare worker (AYUSH)	State government recruitment process/ Orders/Recruitment advertisement
4	Process	Engagement of AYUSH in NHM	TOR of AYUSH MO (document available with AYUSH MO/state/district AYUSH dept)
5	Process	Current Engagement of AYUSH in NHM	AYUSH MO participation in National health program related activities in last one year
6	Output	Institutions with Co-location	Facilities with co-location of AYUSH with PHC at state level
7	Outcome	Clinical services	Patient load in AYUSH OPD
			Cross referral from Allopathy to AYUSH
			Prescription slip audit
8	Outcome	Outreach services	No of outreach activities carried out by the AYUSH Medical Officer in last one year



## *Modifications in the protocol compared to initial research plan*

1. The initial objectives of the study were:
  - a. To document the critical success factors, challenges, bottlenecks and lessons learned with mainstreaming and co-locating AYUSH with Primary Health Care.
  - b. To identify the effectiveness of mainstreaming and co-locating AYUSH with Primary Health Care in achieving the stated goals of primary health care
  - c. To inform key evaluation indicators that can be implemented while mainstreaming and co-locating AYUSH with Primary Health Care for future performance appraisals.

However, based on the inputs from the Technical Resource Group members considering the current status of AYUSH services at existing Primary Health Centers and to be more specific the objectives were rephrased (majorly objectives 1, 2, and 3) and made more specific, measurable, achievable, relevant and time-bound. (Minutes of TRG meeting is enclosed in Annexure 3)

2. In Maharashtra only AYUSH dispensaries were available and there were no co-located facilities at primary health care level. Hence, AYUSH dispensaries were included in the study.

## **v. Quality control of the study**

1. Technical Resource Group (TRG): A TRG group was formulated consisting of experts from each investigation site and coordinating site: AIIMS – Bibinagar, Bhubaneswar, Jodhpur, Mangalagiri, Nagpur, Patna and NHSRC. The TRG reviewed the protocol, tools, data, and final report for the scientific and programmatic accuracy and appropriateness.
2. Questionnaire preparation: The questionnaires were prepared and reviewed by the team of experts from AIIMS, Bibinagar, Bhubaneswar, Mangalagiri, Nagpur, Patna and NHSRC. The principles such as parsimonious structure, specific, limited response anchors were followed during the preparation of the questionnaires. The face validity, accuracy and bias of the questionnaires were reviewed by the TRG.
3. Pilot test: The questionnaires were pilot tested in 5 AYUSH co-located PHCs in Telangana. The questionnaire on patient satisfaction was pilot tested in 25 patients who received services in AYUSH ODPs and 25 prescription slips (10% of the total sample size). The findings from the pilot study were used to modify the questionnaire and the questionnaire were further reviewed by the TRG members.
4. Training of field investigators: The field investigators were trained by the coordinating unit and the site investigators (faculty). The field investigators were fluent in the local language and travelled to each pre-identified facility on daily basis to collect data. The day-to-day monitoring of field investigators was done by the site investigators.
5. Quality data entry and data monitoring: The field investigators were supervised in the field by the investigators (faculty). All the data forms collected by the field investigators were checked for completeness by the site investigators (faculty). The data was collected in paper format in the field and after quality check it was entered in Epcicollect5 mobile application to avoid entry errors. The mobile data forms were prepared by the AIIMS, Bibinagar team.



Once the data is entered in the mobile data form, it was added to the cloud. The data forms were again reviewed at the coordinating unit and clarifications were sought from respective site. The qualitative data was collected by the faculty and their respective team (trained in qualitative research) to get information rich data. The audio recording was transcribed within 24 hours to avoid missing of any information.

6. The interim data was presented during the second TRG meeting conducted in July 2023 and the inputs shared by the TRG members were incorporated for further improvisation of the data analysis and preparation of final report.

#### **vi. Ethical approval**

The ethics approval was obtained from AIIMS, Bibinagar (AIIMS/BBN/IEC/Feb/2012/18/24.02.2021) before the conduct of the study. Informed written consent was obtained from all the study participants (AYUSH and MBBS medical officers, patients, and program officers).

#### **vii. Data entry and analysis**

The quantitative data was entered in Epicollect 5 mobile application (© 2023 Centre for Genomic Pathogen Surveillance) and analyzed using Stata 14 software (© Copyright StataCorp LLC). The primary outcome of the research – were services, and infrastructure availability in the AYUSH co-located PHCs, completeness and legibility of prescription slips as per the recommendations, the satisfaction of the patients regarding the services provided at AYUSH co-located PHCs, and the indicators of various domains of the logic model were expressed as percentages. We adopted a grading system reported by Ritu Priya and Shweta AS in collaboration with NHSRC in 2010<sup>12</sup>. We gave points to each facility based on Priya R's report or the expert's opinion regarding the weightage points. The details of scoring are described in the results section (Objective 1).

The transcripts from the qualitative data (IDIs and FGDs) were imported and analyzed in Atlas Ti 22 (©2023 ATLAS.ti Scientific Software Development GmbH). We did an exploratory analysis of the raw qualitative data. Data with similar patterns were coded into different categories. Different categories were grouped to form themes, sub-themes, and conceptual frameworks were generated.



# 6. RESULTS

The study was conducted in collaboration with NHSRC and AIIMS – Bibinagar, Bhubaneswar, Jodhpur, Mangalagiri, Nagpur, and Patna. AIIMS, Bibinagar, coordinated the project. Supplementary table 1 describes the list of sites included in the study and the name of the PHCs visited at each state to capture the data for the project.

## *Status of co-location of AYUSH with allopathy OPD at PHCs*

All the states had AYUSH OPDs co-located with the PHCs, except Maharashtra, where the AYUSH dispensaries functioned under Zilla Parishads (ZP) as a mid-level facility between PHC and sub-center. These AYUSH dispensaries provided OPD services and were manned by AYUSH medical officers. However, in the financial year of 2021-22, the Government of Maharashtra planned to co-locate AYUSH services in PHC, CHC, and district hospitals.<sup>21</sup>

*Table 3 List of States, districts and Primary Health Centers included in the study on evaluation of the performance of AYUSH OPDs co-located with Primary Health Centers under National Health Mission*

S. No	Name of the State	Name of the District	No of PHCs (N=50)
1	Andhra Pradesh	Guntur	10
2	Bihar	Patna	10
3	Maharashtra*	Nagpur	10
4	Odisha	Khordha	10
5	Rajasthan	Jodhpur	10

*\*Maharashtra did not have AYUSH OPDs co-located with PHC and hence the number of independent AYUSH dispensaries were mentioned.*

From each district, 10 PHCs were randomly selected from the list of PHCs with AYUSH facilities co-located in the district. The median (IQR) population of patients catered by the PHCs, and the number of patients attending AYUSH and allopathy OPD in last one year in the selected PHCs are described in Table 4. The median number of patients attending allopathic OPDs in 2021 was relatively higher in Bihar (25,978) and lesser in Rajasthan (8523). The median number of patients attending AYUSH OPDs was almost one-third of the allopathic OPD footfall. The lowest median patient footfall in AYUSH OPD was reported in Rajasthan, and the highest patient numbers



were in Odisha. (Table 3).

### ***Status of AYUSH care provision at primary care level in Maharashtra***

As mentioned earlier, Maharashtra did not have PHCs with co-located AYUSH services. Hence, we included the AYUSH dispensaries in Maharashtra for this study. The dispensaries cater to a 2000-3000 population and are manned by AYUSH medical officers. However, there are no defined population norms for these dispensaries, and they are established based on the needs of the population and the availability of human resources. These AYUSH medical officers run the dispensaries as OPD facilities, report to the respective area PHC medical officers, and spend their post-OPD hours in NMH activities at the PHC. The salary for AYUSH medical officers is managed under State NHM. The AYUSH drug supply is through the State AYUSH mission. In the last few years, Maharashtra initiated the co-location of AYUSH services within NHM. Currently, such co-located services are available at district hospitals, women's hospitals, sub-district hospitals, and rural hospitals (rural hospitals are similar to Community Health Centres catering to 80,000-1,20,000 population). The state also has 294 AYUSH HWC functioning according to 2022-2023 data. Since the MBBS doctor's turnover is high in PHCs, AYUSH medical officers are in-charge medical officers in some of the PHCs (n~20) in Maharashtra. At the district level, the district AYUSH cell and at the state level, the State program management unit are the administrative units for AYUSH in Maharashtra.

The results from Maharashtra are only reported as the quantitative description in the text and not in the tables of quantitative analysis or qualitative analysis. The findings were included as it will aid to understand the functioning of AYUSH dispensaries wherever relevant. AYUSH dispensaries in Maharashtra catered to a population of 3000 to 5000 and the median (IQR) of OPD footfall was 1519 (670-1900). However, the qualitative findings from Maharashtra were similar to the findings from other states and no unique codes/ themes/ sub-themes emerged from the qualitative data of Maharashtra. Hence, the qualitative findings of Maharashtra were not reported separately.

*Table 4 Population catered by the Primary Health Centers included in the study*

S. No	States (District)	Population catered by Primary Health Centers <sup>#</sup> Median (IQR)	Number of patients attending AYUSH OPD in last 1 year <sup>#</sup> Median (IQR)	Number of patients attending Allopathic OPD in last 1 year <sup>#</sup> Median (IQR)
1	Andhra Pradesh (Guntur)	33843 (22923-59092)	3716 (1495-4566)	14698 (8949-21496)
	Bihar 2 (Patna)	217403 (126345-262000)	3687 (1800-6000)	25978 (13285-36000)
3	Odisha (Khordha)	31620 (25000-36000)	4500 (665-5800)	11000 (8000-22000)
4	Rajasthan (Jodhpur)	17947 (13000-22096)	865 (668-1137)	8523 (6500-11794)

<sup>#</sup> Reference period – January 2021 to December 2021.

The results of the evaluation of the performance of the National Health Mission (NHM) policy of co-locating AYUSH within Primary Health Care are described below based on the objectives:

The following are the findings of the study:



As AYUSH dispensaries were included in Maharashtra and not the co-located facilities, the findings from Maharashtra were analyzed and described in text separately. The results of Maharashtra were not included in the table or the qualitative analysis of the objectives.

**i. Objective 1: To assess the AYUSH related services available at the PHC co-located with AYUSH services**

To achieve objective 1, i.e., the infrastructure at the AYUSH OPD, human resources, AYUSH drugs, records on AYUSH patient service delivery, outreach services, specialty clinics, herbal gardens, and participation in the national health program by the AYUSH medical officers were assessed based on the checklist (Annexure 1).

**Infrastructure**

Table 5 describes the infrastructure related to AYUSH services at the PHCs. Overall, 60% of the PHC had a separate room for AYUSH OPDs. Bihar and Rajasthan had 40% PHCs with a separate room for AYUSH OPD. Whereas in Odisha it was only in 20% of the PHCs a separate room for AYUSH was available. In the PHCs without separate room for AYUSH, the AYUSH OPDs were functioning in the common rooms where other services were provided.

The service board of AYUSH OPD, which includes the details of AYUSH OPD attendance, OPD days, etc., was available in most of the Andhra Pradesh (90%) and Odisha (70%) AYUSH OPDs. However, only a few centers in Rajasthan (30%) and Bihar (10%) had service boards.

The signboard or signage board (a board clearly indicating the name of the facility) of AYUSH OPD, which is usually located near the entrance of the PHC/ registration counter/ AYUSH OPD, to aid patients to locate and reach the AYUSH OPD easily. Overall, such signboards were present in 46% of the PHCs selected for the study. AYUSH collocated PHCs of Rajasthan (50%) and Andhra Pradesh (90%) had these signboards majorly.

Maharashtra: None of the AYUSH dispensaries had service board and only one dispensary had signboard.

*Table 5 Infrastructure available in the AYUSH OPDs at the Primary Health Centers included in the study*

S. No	Indicators related to infrastructure	Total N=40 N (%)	Andhra Pradesh N=10 n (%)	Bihar N=10 n (%)	Odisha N=10 n (%)	Rajasthan N=10 n (%)
1	Separate room for AYUSH OPD	20 (50)	10 (100)	4 (40)	2 (20)	4 (40)
2	Availability of AYUSH service board	20 (50)	9 (90)	1 (10)	7 (70)	3 (30)
3	Availability of AYUSH sign board	22 (55)	9 (90)	0 (0)	8 (10)	5 (50)



## Human resources

Table 6 Human resources in the AYUSH OPDs at the Primary Health Centers included in the study

S. No	Indicators related to human resources	Total N=40 N (%)	Andhra Pradesh N=10 n (%)	Bihar N=10 n (%)	Odisha N=10 n (%)	Rajasthan N=10 n (%)
1	AYUSH medical officers	40 (100)	10 (100) *	10 (100)	10 (100)	10 (100)
2	Allied healthcare worker (AYUSH)	7 (17.5)	7 (70)	0 (0)	0 (0)	0 (0)
3	AYUSH pharmacist	3 (7.5)	2 (20)	1 (10)	0 (0)	0 (0)

\*In-charge medical officers, posted on deputation

AYUSH medical officers were available in all the selected PHCs of the states. However, allied healthcare workers in AYUSH OPDs were available only in Andhra Pradesh. Similarly, AYUSH pharmacists were available in only two states - Andhra Pradesh and Bihar; other states did not have any allied healthcare worker for AYUSH. However, only 20% and 10% of PHCs had AYUSH pharmacists in Andhra Pradesh and Bihar, respectively. The need of allied healthcare worker (AYUSH) was well reflected in the IDIs among AYUSH medical officers and FGDs among patients. In majority of the AYUSH facilities, the medical officers multitask by providing consultations to the patients, delivering therapeutic massages, distributing the drugs, and also maintaining the records/registers due to lack of other staff. (Table 6)

### Area of specialization of the AYUSH medical officers

Most of the doctors in AYUSH OPD were from the field of Ayurveda. Out of 10 PHCs in each state, 9 (90%) in Andhra Pradesh, 8 (80%) in Bihar, 7 (70%) in Odisha and 7 (70%) in Rajasthan had medical officers from Ayurveda. Three (30%) of AYUSH OPD medical officers from Odisha and two (20%) from Bihar and one (10%) each in Rajasthan and Andhra Pradesh were from Homeopathy. Only Rajasthan had AYUSH medical officers from Unani field (2 medical officers - 20%).

Maharashtra: Nine out of 10 dispensaries had AYUSH medical officers and none of the dispensaries had allied healthcare worker,

### Availability of AYUSH drugs

Table 7 Availability of AYUSH drugs in the Primary Health Centers included in the study

S. No	Indicators related to availability of AYUSH drugs	Totaln N=40 N (%)	Andhra Pradesh N=10 n (%)	Bihar N=10 n (%)	Odisha N=10 n (%)	Rajasthan N=10 n (%)
1	Supply of AYUSH drugs regularly in last one year (as reported by medical officer)	10 (25)	2 (20)	1 (10)	5 (50)	2 (20)
2	Adequate supply of AYUSH drugs since last one year (based on patient load and demand)	16 (40)	6 (60)	1 (10)	6 (60)	3 (30)



We used two indicators to assess the availability of AYUSH drugs at the PHCs – i) regular supply (drug supply in regular intervals like monthly, quarterly, from the district/ state warehouse in regular pre-fixed intervals), ii) adequacy of the supplied drugs (adequate quantity of the supplied drugs to meet the patient demand) in last year preceding the survey (Table 7). Only 25% of the PHCs reported a regular supply of AYUSH drugs from the district/ state warehouse. The supply chain system for AYUSH drugs needs improvement in all the states. Only 40% of PHCs could dispense an adequate quantity of AYUSH drugs to the patients. The qualitative data reflects that the supply chain management of AYUSH drugs is not robust as compared to allopathy drugs, and also the region-specific drugs (locally available drugs) were not supplied to the AYUSH OPDs.

Maharashtra: Eight out of 10 dispensaries had regular supply of drugs in last one year and all the 10 dispensaries had adequate supply of drugs according to the patient load.

### ***Availability of AYUSH records***

*Table 8 Availability of AYUSH records at the Primary Health Centers included in the study*

S. No	Indicators related to availability of AYUSH drugs	Totaln N=40 N (%)	Andhra Pradesh N=10 n (%)	Bihar N=10 n (%)	Odisha N=10 n (%)	Rajasthan N=10 n (%)
1	Records for AYUSH drugs	31 (77.5)	10 (100)	3 (30)	10 (100)	8 (80)
2	Records for AYUSH OPD Data	31 (77.5)	10 (100)	3 (30)	10 (100)	8 (80)

The records of AYUSH drugs were maintained at 77.5% of the selected PHCs. Odisha and Andhra Pradesh had better registration of AYUSH drugs and AYUSH OPD patient visit. OPD patient records completed and maintained well in most of the states except Bihar. These records are essential to forecast the AYUSH drug needs based on utilization for better supply chain management. (Table 8)

Maharashtra: Five out of 10 dispensaries had maintained records for AYUSH drugs in 2021 and all the 10 dispensaries had maintained AYUSH OPD records.





## Other AYUSH services

Table 9 Other AYUSH services at the Primary Health Centers included in the study

S. No	Indicators related to availability of AYUSH records	Total N=40 N (%)	Andhra Pradesh N=10 n (%)	Bihar N=10 n (%)	Odisha N=10 n (%)	Rajasthan N=10 n (%)
1	Outreach services	21 (52.5)	9 (90)	0 (0)	4 (40)	8 (80)
2	Specialty clinics	3 (7.5)	0 (0)	0 (0)	2 (20)	1 (10)
3	Herbal garden in the compound	23 (57.5)	6 (60)	10 (100)	6 (60)	1 (10)
4	Participation in National Health Program	24 (60)	4 (40)	9 (90)	5 (50)	6 (60)

Outreach services, such as awareness programs in AYUSH drugs, camps, etc., were done by most of the AYUSH medical officers in Andhra Pradesh, and Rajasthan. Specialty clinics such as arthritis clinics and dengue prevention clinics (seasonal) were conducted only in a few centers in Odisha and Rajasthan. Other centers didn't conduct such specialty clinics in 2021. The herbal garden was found in the majority of centers in Andhra Pradesh, Bihar, and Odisha. Most of the AYUSH medical officers participated in events related to national health programs along with PHC medical officers. (Table 9)

Maharashtra: Nine out of 10 dispensaries had conducted outreach services and participated in National Health Program related activities in 2021, 30% dispensaries had herbal garden and none had specialist clinics

### Overall grading based on the AYUSH facilities and services in the Primary Health Centers:

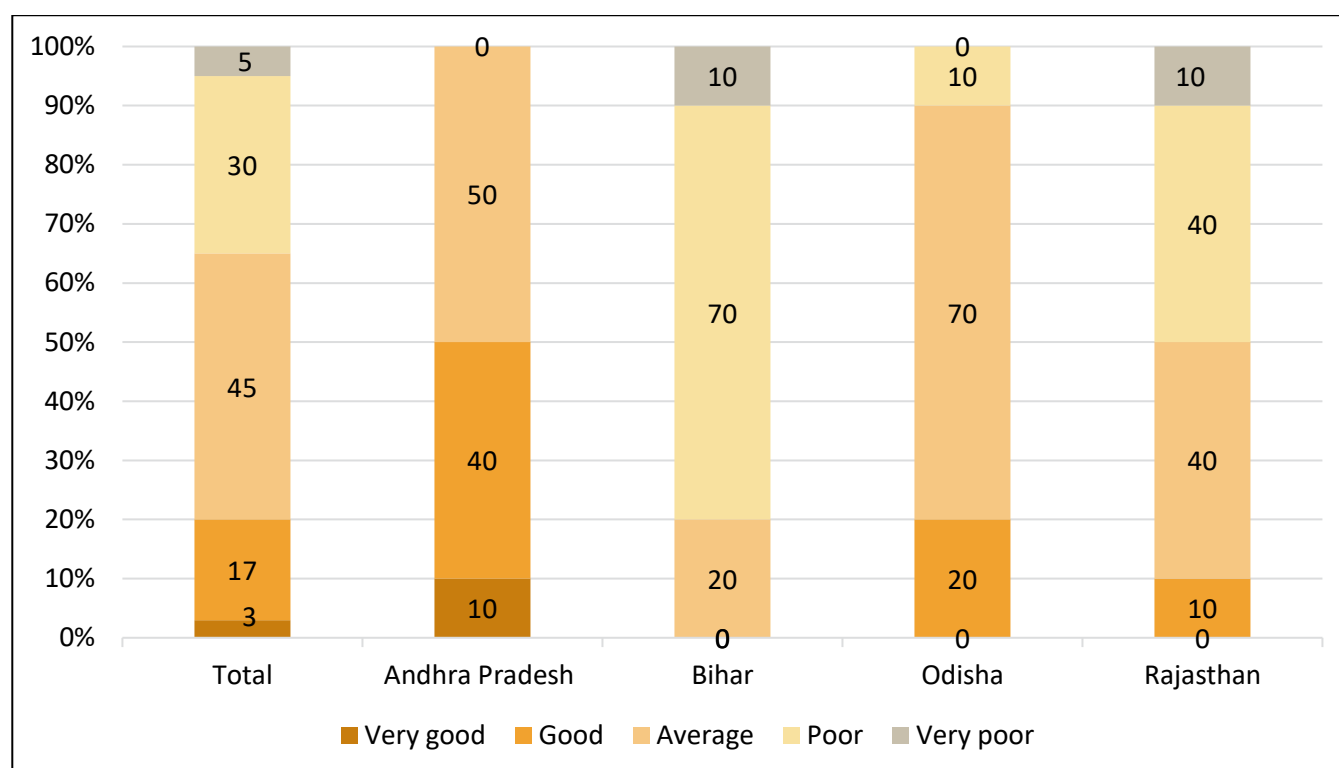
We adopted a grading system reported by Ritu Priya and Shweta AS in collaboration with NHSRC in 2010<sup>12</sup>. We gave points to each facility based on Priya R's report or the expert's opinion regarding the weightage points. Figure 3 describes the grading points, categorization, and total scoring of the AYUSH co-located PHCs based on the services and facilities available at the AYUSH OPD. Figure 4 describes the status of the PHCs based on the above scoring. Overall, only three percent of centers had very good grading regarding AYUSH services when AYUSH is co-located with the PHCs. Around 30% of centers had poor and five percent had very poor grading. In Andhra Pradesh, 50% of the PHCs has scored very good or good scores in providing AYUSH services and facilities. On the other hand, 80% PHCs scored poor or very poor in Bihar and 50% percent of Rajasthan PHCs were in poor or very poor category in terms of AYUSH facilities and service provision at the AYUSH co-located PHCs. 70% of Odisha PHCs fared as average in terms of AYUSH service provision in co-located PHCs.

Maharashtra: 90% of the dispensaries scored average and 10% scored poor in terms of services available.



<b>Infrastructure = 3</b>	<ul style="list-style-type: none"><li>• Two among three Infrastructure facilities for qualifying one mark +</li><li>• One extra mark for additional variables</li></ul>
<b>Human Resources = 2</b>	<ul style="list-style-type: none"><li>• One mark for presence of an AYUSH medical officer + one mark for presence of AYUSH allied healthcare worker/pharmacist</li></ul>
<b>Medicines = 2</b>	<ul style="list-style-type: none"><li>• One mark for regular supply of AYUSH medicines +</li><li>• One mark if the supply is also reported by the providers and users to be adequate</li></ul>
<b>Records = 2</b>	<ul style="list-style-type: none"><li>• Each One mark for records of AYUSH drugs and records of AYUSH OPD data</li></ul>
<b>Additional services = 3</b>	<ul style="list-style-type: none"><li>• At least two among the four qualify for one mark + one extra mark for the each two additional variable</li></ul>
<b>Total score = 12 (3+2+2+2+3)</b>	<ul style="list-style-type: none"><li>• Grading: <math>\leq 2</math> very poor, 3-4 = poor, 5-7 = average, 8-9 = good, <math>&gt; 9</math> = very good</li></ul>

Figure 3 Details of grading criteria used to evaluate the facilities and services at AYUSH OPDs of the Primary Health Centers included in the study



Grading: Infrastructure: Two among three Infrastructure facilities for qualifying one mark + one extra mark for additional variables, Human Resource: One mark for presence of an AYUSH medical officer + one mark for presence of AYUSH allied healthcare worker/ pharmacist, Drugs: One mark for regular supply of AYUSH drugs + one mark if the supply is also reported by the providers and users to be adequate, Records: Each One mark for records of AYUSH drugs and



records of AYUSH OPD data and Additional services: At least two among the four qualify for one mark + one extra mark for the each two additional variables. Total score = 12 (3+2+2+2+3). Grading of scores:  $\leq 2$  very poor, 3-4 = poor, 5-7 = average, 8-9 = good,  $> 9$  = very good

Figure 4 Grading of PHCs based on the facilities and services at AYUSH OPD of the Primary Health Centers included in the study

## Qualitative analysis

### Challenges with the services available at the Primary Health Centre

Table 10 Challenges in the services provided at the AYUSH OPD of the Primary Health Centers included in the study

Themes	Subthemes	Categories
AYUSH services available in the PHC	Infrastructure	Space allocation for AYUSH services (barrier)
		Privacy for examination/therapy (barrier)
	Availability of AYUSH drugs	Different drug supply for NHM and AYUSH drugs (barrier)
		Drug supply (barrier)
		Regional drugs availability (barrier as well as facilitator)
		Procurement of different type of AYUSH drugs (barrier as well as facilitator)
		AYUSH drug manufacturers and raw material availability (barrier as well as facilitator)
	Manpower in AYUSH OPD	AYUSH MO posted on deputation/ contract (barrier)
		Recruitment and vacancies (barrier)
		Allied healthcare for AYUSH OPD (barrier)

The qualitative data was analyzed to assess the challenges at AYUSH OPD regarding service provision in the AYUSH co-located PHCs. The challenges were detailed under the three sub-themes; 1) challenges with inadequate infrastructure, 2) challenges with availability of AYUSH drugs and 3) challenges with manpower. The challenges are described below.





### **a. Challenges with infrastructure at the AYUSH OPD**

In total, 15 codes related to challenges with infrastructure were deduced from the transcripts of the in-depth interviews and focus group discussions among healthcare staff and patients. Later, these 15 codes were reduced to categories describing the challenges in the infrastructure at the OPD and are described below (Table 10). The study participants expressed that the AYUSH OPD were small, and only one room is provided for AYUSH in the PHC, no extra space is available for providing therapeutic exercises or oil therapies and in the same room the registers, drugs and AYUSH consultation services were provided for the patients.

AYUSH medical officer from Andhra Pradesh said,

*"Here only one staff, it will be good if another staff made available. Here no compounder available. We have only one room for AYUSH, and if there is another room it will be possible to have a therapeutic massage. Exercise reduces the pain, so patient need a room to communicate and demonstrate these while ensuring privacy. That's why we want another room."*

A MBBS medical officer from Rajasthan said,

*"No counter, same room AYUSH MO will sit and see patient, distribute medicine and manages stock"*

### **b. Challenges with the manpower at the AYUSH OPD**

In total, 37 codes related to challenges with human resources were deduced from the transcripts of the in-depth interviews and focus group discussions among healthcare staff and patients. Later, these 37 codes were reduced to 5 categories and then further grouped into four broad headings describing the challenges in the human resources at the AYUSH OPD.

The AYUSH MOs expressed that there is limited manpower at AYUSH OPDs and AYUSH MOs were made in-charge of more than one centre. Delayed recruitment process was expressed as one of the reasons for the shortage of manpower. The contractual recruitment of AYUSH MOs and discrimination of AYUSH MOs were also expressed as major challenges.

Availability of manpower – medical officer and allied healthcare worker:

A program officer from Bihar said

*"....manpower in AYUSH is very less. there are 150 doctors working for AYUSH and most of them are aged 65+, as their retirement is by 67 years, so no sufficient age is remaining. We don't have a BDO (Block Development Officer) as of now. Manpower is insufficient. Many programs are run by GOI at HWC, but in order to run them each MO has to be posted at 3-4 places simultaneously which hampers efficiency of the programs. The main reason behind insufficient manpower is the recruitment process which has not been done for past 15-20 years and has to recruit around 3270 AYUSH doctors, the recruitment process is in the final stages, but still delayed, so the work suffers."*

AYUSH medical officers from Andhra Pradesh said:

*"Basically no drugs, also we have less facilities, no staff. I have been also put as in-charge here, I have to see the patients there (in another centre) too, because I have to see the patients here and there, I am unable to stay when the patient needs it"*

An AYUSH medical officer from Rajasthan said,



*"There is only one AYUSH doctor, but in AYUSH system there are 4 different pillars - Unani, Homeopathy, Ayurveda etc. It's the same everywhere. But all 4 doctors in different pathies should be available. More options will be available to patients, they will be healthy"*

### **c. Challenges with the drug supply at the AYUSH OPD**

One of the major challenges reported in all states was the supply of AYUSH drugs. In total, 72 codes related to challenges with AYUSH drug supply which were deduced from the transcripts of in-depth interviews and focus group discussions among health care staff and patients. Later, these 72 codes were reduced to 10 categories and then further grouped into six broad headings describing the drug supply challenges at the AYUSH OPD.

The study participants expressed that AYUSH drug supply was irregular in almost all the states. Though the patient footfall was perceived as regular and good, non-availability and inadequate quantity of the AYUSH drugs hamper the service. The delay in the AYUSH drug tender process add challenge in succession to the issue. The limited availability of AYUSH drugs in the private pharmacies further limits the accessibility to AYUSH drugs. Patients and healthcare providers expressed that locally available AYUSH drugs should be made available as they will be more suitable for the people of that geographic region.

#### **c.1 AYUSH drug availability**

AYUSH medical officers from Andhra Pradesh said:

*"The patients keeps coming and they will be coming regularly. They come regularly but we have very little drugs. The medicines has to be adjusted and given to the patients. The required drugs comes in small doses, but unnecessary drugs comes in boxes and boxes"*

AYUSH medical officers from Bihar said:

*"One is the challenge of procuring medications as to how and where will they be available? How do we source it from Patna? The pharmacies here do not stock AYUSH medications. To make these accessible to the people I have prescribed them to (outside prescription). I source them and provide it to them at times. The patients in urgent need of them usually procure them on their own, but I need to guide them to the proper source."*

An AYUSH medical officer from Rajasthan said:

*"First of all we need to improve availability of AYUSH services properly. In our PHC we are facing shortage of medicine and non-availability of variety of drugs as we are getting in allopathy. In every PHC AYUSH doctors are not available and there is no medicine for most of the diseases in AYUSH OPDs."*

#### **c.2 Challenges with AYUSH drug procurement**

A program officer from Bihar said:

*"One company can't provide drugs for all systems of AYUSH. Second thing is legal issues like the company getting tender is recognized or not. There is one company recognized by Indian government from which medicines were purchased during Covid, but on regular basis the problems can't be solved. Problems can be solved if our farmers are allowed to grow medicinal plants from which drugs can be made and made available. As tender has got a lot of legal issues, 23 times we gave tender for 27 to 28 crore rupees*



*but for both time it got stuck."*

A program officer from Andhra Pradesh said:

*"AYUSH drugs are not available at PHCs and tenders are not getting cleared. Once it gets done, PHC doctors will also write AYUSH medicine. If someone is AYUSH MD in pharmacology or some superspecialist is there, he needs his particular drugs to be there so that he can prescribe from that list. But due to in availability of AYUSH drugs, he prescribes allopathic drugs and hence there is no difference between us and our HIS manager can memorize 15 drugs list and start writing from next day itself."*

### **c.3 Availability of regional and local medical plants and drugs**

A program officer from Bihar said:

*"In the starting, Government of India planned and allotted 67 acre of land for production of medicinal plants and subsidy was provided to the farmers for growing those medicinal plants. The Government of India will purchase a product and drugs will be made in pharmacy through this project. Now the chairperson for that project has been transferred and the project is waiting for a new person to come."*

A medical officer from Andhra Pradesh said:

*"The disciples told the teacher that there were plants that did not work for medicine. The Teacher said that all plants are used for medicine, so every plant is also a medicinal plant. Every plant that grows on earth is also a medicinal plant. ... if we think that drugs are not here, doctors who are well versed in Ayurveda can however treat with the available plants here. Usually, funding means the AP Government has no money and it is little difficult to give medications. But we need to adjust with the medications we have, this is the procedure that is followed for drug collection"*

A patient from Andhra Pradesh said:

*"The place here is big, medicinal plants need to be supplied to grow plants so that people can also prepare medicines directly can also explain, staff should also be recruited here."*

A frontline worker from Odisha said:

*"First we need drugs, material is needed to make panchakarmas, staff are also less in some areas, so everything has to be accommodated as well, we want all these to be well developed if sent by the government."*

## **ii. Objective 2: To audit the AYUSH outpatient department prescription slips for the completion and legibility**

World Health Organization guidelines and MoHFW, GoI guidelines on prescription practices were adapted to AYUSH services to assess the quality, completion, and legibility of the prescription slips given after consultation in AYUSH OPD. The components evaluated in the prescription slip were the OPD number, name, gender, and age of the patient, medical history of the patient, history of drug/ food allergy, diagnosis, details of next visit, name, and signature of the medical officer, name of the drug, dosage of the drug, frequency/ time of administration, number of days the medication is prescribed and mode of administration.

In total, 250 prescription slips (50 in each state, 50 prescription slips from Maharashtra was not included in the table) were audited (Table 11). Overall, the AYUSH OPD number and personal information of the patient such as the name, gender, age, drug details and relevant patient details were complete in 29 (14.5%) of prescription slips. Only 40.8% of the prescription slips



had the details of the history of the patient. Compared to other states prescription slips Odisha had patient history recorded in 94% of the slips. None of the prescription slip from Rajasthan had patient history details.

Information of history of drug/food allergy was recorded only in 1.5% of prescription slips. All states still need to register these details, and only one or two prescriptions from these states had the above element on drug/ food allergy. Moreover, some AYUSH drugs are meant to be mixed with food items like milk, honey, etc., while consuming<sup>22</sup>. Hence, recording drug allergies and food allergies are crucial to avoid unwanted complications both medically and legally.

Almost all the prescription slips in Andhra Pradesh (92%) mentioned the diagnosis of the patient's condition. A little more than half (62%) of prescription slips in Maharashtra, Rajasthan, and Bihar had the details of the diagnosis. However, in Odisha, 60% of the prescription slips did not have the information on patient diagnosis. Noting the patient's diagnosis is crucial to provide the continuum of care for the patient, such as further consultation or treatment by some other AYUSH medical officer. The second component change of AYUSH medical officer is a common concern in public sector hospitals, due to transfers, deputation, and promotion of the medical officer resulting in the change of AYUSH medical officer. Only one-fifth of the prescription slips had the details of the next visit. However, more than half of the prescription slips from Odisha (58%) had the details of the next visit. All other states need further improvement in this area to ensure that the patients are provided follow-up care. The name and signature of the medical officer were there on all the prescription slips except in Andhra Pradesh (54%).

Auditing the details of the drugs in the prescription slip showed that 98% had the name of the drug, and 90% had frequency or time of administration. However, the dosage of the drugs was not recorded in one-third (25%) of the prescription slips, and almost half (44%) did not have the duration or number of days of prescription of the medication and mode of administration (44%). AYUSH OPDs from Odisha reported almost all the details related to the drugs in the prescription slips. Though other states reported most of the details of the drugs, a few areas require improvement.

*Table 11 Findings from the audit of prescription slip provided in AYUSH OPDs at the Primary Health Centers included in the study*

Details in the Prescription	Total N=200 n (%)	Andhra Pradesh N=50 n (%)	Bihar N=50 n (%)	Odisha N=50 n (%)	Rajasthan N=50 n (%)
OPD number	200 (100)	50 (100)	50 (100)	50 (100)	50 (100)
Name of the patient	200 (100)	50 (100)	50 (100)	50 (100)	50 (100)
Gender of the patient	196 (98)	46 (92)	50 (100)	50 (100)	50 (100)
Age of the patient	200 (100)	50 (100)	50 (100)	50 (100)	50 (100)
History of the patient	88 (44)	16 (32)	25 (50)	47 (94)	0 (0)
History of drug/ food allergy	3 (1.5)	1 (2)	0 (0)	1 (2)	0 (0)



Details in the Prescription	Total N=200 n (%)	Andhra Pradesh N=50 n (%)	Bihar N=50 n (%)	Odisha N=50 n (%)	Rajasthan N=50 n (%)
Diagnosis	128 (64)	46 (92)	31 (62)	20 (40)	31 (62)
Details of next visit	50 (25)	0 (0)	20 (40)	29 (58)	1 (2)
Name and signature of the medical officer	177 (88.5)	27 (54)	50 (100)	50 (100)	50 (100)
Name of the drug	197 (98.5)	50 (100)	50 (100)	47 (98)	50 (100)
Dosage of the drug	149 (74.5)	9 (18)	50 (100)	50 (100)	40 (80)
Frequency/ time of administration	189 (94.5)	43 (86)	50 (100)	49 (98)	47 (47)
Number of days the drug is prescribed	113 (56.5)	13 (26)	32 (64)	40 (80)	28 (56)
Mode of administration	112 (56)	20 (40)	40 (80)	49 (98)	3 (6)

Maharashtra: 100% information was available on name of the patient and age of the patient. However other details were incomplete. (The components mentioned were OPD number - 80%, gender - 98%, history of the patient - 28%, history of drug/ food allergy - 2%, name and signature of medical officer - 62%, name of the drug - 96%, dosage of drug - 50%, frequency or time of administration - 72% number of days of prescription - 10% and mode of administration - 2%)

Figure 5 illustrates the readability of the information provided in the prescription. More than half of the prescriptions were either very easy or easy to read. However, in Odisha, 60% of the prescriptions were challenging to read. It is important to provide a legible prescription for the pharmacist to provide the correct drug and the patient to follow it. This is also important when the patient makes the next visit to the doctor (either the medical officer or another) to understand the ongoing treatment.



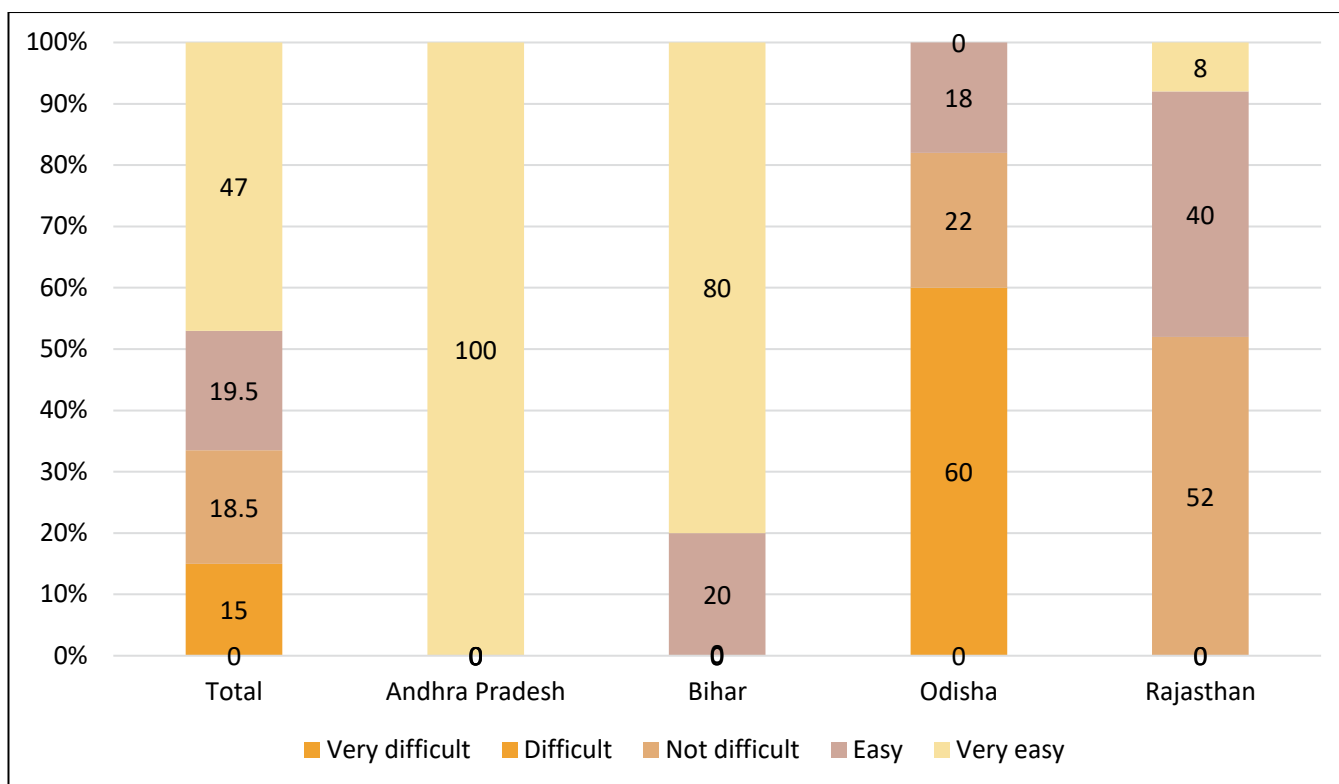


Figure 5 Readability of the prescription slips provided in AYUSH OPD of the Primary Health Centers included in the study

Maharashtra: 26% of prescription slips were difficult to read, 36% were not difficult and 38% prescriptions were easy to read.

### Qualitative analysis of prescription related challenges

In total, 31 codes related to challenges with AYUSH prescription challenges were deduced from the transcripts of the in-depth interviews and focus group discussions among healthcare staff and patients. Later, these 31 codes were reduced to 3 categories describing the prescription challenges at the AYUSH OPD. (Table 12)

Table 12 Challenges in AYUSH prescription at the AYUSH OPD of the Primary Health Centers included in the study

Themes	Subthemes	Categories
Challenges in AYUSH prescription	Availability of AYUSH drugs in PHC	Outside pharmacy prescription (barrier)
		AYUSH drug outlets availability (facilitator)
		AYUSH MO prescribing allopathy drugs (barrier)



Themes	Subthemes	Categories
Challenges in AYUSH prescription	Ease of understanding the name of the AYUSH	Completeness of prescription by AYUSH MO (barrier)
		Trust and satisfaction among patients (facilitator with some barrier)
	Labelling and packaging of practices of AYUSH drugs	Labelling of AYUSH drugs (barrier)

## Challenges in prescription of AYUSH drugs

### a) Availability of AYUSH drugs

The study participants said that incomplete prescription by AYUSH MO, prescription to outside pharmacies and prescription of allopathic drugs (due to non-availability of AYUSH drugs in PHC), improper labelling of AYUSH drugs were major challenges in AYUSH prescription. Capacity building on appropriate prescription practices and streamlining AYUSH drugs supply chain would of help in overcoming these challenges.

The study participants perceived that when AYUSH drugs were not available in the PHC, they prescribe the drugs for purchase in private pharmacies. However, the out-of-pocket expenditure associated with such prescriptions, and difficulty in following the patient after outside prescriptions, un-supervised instructions from private pharmacist for consumption of drugs, limited availability of private drug outlets are other challenges expressed by the study participants related to prescription to private pharmacies.

A MBBS medical officer from Bihar said:

*“once he (AYUSH MO) had examined a patient, he will never write complete details”*

AYUSH medical officers from Bihar said:

*“Why should we write allopathic medicines, I’m ayurvedic doctor, I have read ayurveda, I have practiced ayurveda, my strong hand is in ayurveda, I have not studied the allopathic medicine. But due to no availability we get pressurized to write allopathy medicines”*

*“AYUSH system is managed like, we write the prescription patients have to get medicines from outside but that is not shield packed (covered and labelled). So the patient brings the medicine and shows it to us. But the name of medicine is not written, we the try to give the patient the confidence that right medicine is being given but advise patient to ask pharmacy to provide medicines as prescribed. There is lack of communication between us and the shopkeeper, sometimes what we prescribe may not be available in shop & he might give something else.”*

AYUSH medical officers from Rajasthan said:

*“I would say, I’ve been working here since 6 years now, but every year, we’re asked about the demand of medicines, but it’s never provided/fulfilled. It can be said, in my working duration of 6years, I’ve received supply of medicine only 2-3 times.”*



A patient from Odisha said:

*"There is no trust on Ayurvedic medicines. So, everyone here prefers allopathic medicines."*

A patient from Bihar said:

*"We don't get much benefit in ayurvedic. There are many allopathic shops but ayurvedic shops are very less in number. If there will be more stores it will be better for all of us."*

*Government should also take steps to provide more of ayurvedic store around hospital or at least some private ayurvedic store around hospital if government store is not available."*

### **b. Challenges in understanding the AYUSH drugs details**

The study participants perceived that is difficulty to understand the terms used for management of patients in AYUSH especially if the language is not spoken by majority of the people (eg. Unani). Simple and easy to understand layman terms will be easy for the patients to understand their condition and follow the instructions.

An MBBS medical officer from Bihar said:

*"Now slowly people are getting awareness from the Ministry and AYUSH department. Now people are getting to know about the treatment (AYUSH). As such people know very less about the ayurveda, who knows about the unani? Those people (Unani medical officers) read in Urdu and they prescribe in Urdu language. That means there is difficulty and problem even for public in communication. Problem even in treatment, as much I know it is in Urdu."*

### **c. Labelling of AYUSH drugs**

The AYUSH medical officers felt that the appropriate labelling of AYUSH drugs will bring more trust and confidence among the patients on AYUSH. Regulations (Good manufacturing practices) to be followed for appropriate labelling of AYUSH drugs regarding the drug information, dose, contraindications, details of manufacturer, batch number, manufacturing and expiry date for the AYUSH drugs available in the public sector as well as private sector.

An AYUSH medical officer from Bihar said:

*"AYUSH system is managed like, we write the prescription patients have to get medicines from outside but that is not shield packed, so the patient brings the medicine and shows it to us, but the name of medicine is not written, we the try to give the patient the confidence that right medicine is being given but advise patient to ask pharmacy to provide medicines as prescribed. There is lack of communication between us and the shopkeeper, sometimes what we prescribe may not be available in shop & he might give something else."*

An AYUSH medical officer from Andhra Pradesh said:

*"allopathic medicines are beautifully packed, ayurvedic medicine should also be packed as well. Packed that way patients like to take drugs, physically when we look at our medicines, our drugs smell. But all are different. It would be nice if they could give us something like theirs."*





### iii. Objective 3: To assess the satisfaction of the patients/ clients attending the AYUSH outpatient department in Primary Health Centers co-located with AYUSH services

A semi-structured questionnaire was used to assess the study participant's satisfaction with AYUSH OPD services. Satisfaction was evaluated under various domains - location and infrastructure at the AYUSH OPD, examination or consultation room, waiting time, seating arrangements, experience with the AYUSH medical officer, staff, and quality and quantity of AYUSH drugs provided at the pharmacy. The participants were interviewed when they were leaving the PHC, after the AYUSH consultation, and after collecting medicines from the pharmacy. In total 250 individuals attending AYUSH OPDs participated in the exit interviews (50 individuals per site and 10 individuals per PHC) and expressed their opinion regarding the services provided at the AYUSH clinic. The findings from Maharashtra are enumerated separately.

Table 13 enumerates the socio-demographic characteristics of the participants who participated in the interview. The mean [SD] age of the participants was 45.6 (18.3) years. The participants from Bihar were relatively younger (mean [SD] age - 35.8[17.0] years) age compared to other states. In Andhra Pradesh, most of the participants interviewed were male (60%); in Bihar, females (68%) were the major participants. Three fourth of the patients (80%) from all the states were educated below middle or high school and currently married. Around 60% of the participants were employed in all the states except in Bihar, where only one-fourth (26%) were employed.

Table 13 Social demographic characteristics of the study participants (patient experience survey) attending AYUSH OPD at the Primary Health Centers included in the study

S. No	Characteristics of the study participants (patients)	Total (N=200)	Andhra Pradesh N=5 n (%)	Bihar N=50 n (%)	Odisha N=50 n (%)	Rajasthan N=50 n (%)
1	Age in years [mean (SD)]	45.6 (18.3)	49.0 (14.4)	35.8 (17.0)	46.9 (18.9)	48.5 (18.5)
2	Gender					
	Male	94 (47.0)	30 (60)	16 (32)	24 (48)	24 (48)
	Female	106 (53.0)	20 (40)	34 (68)	26 (52)	26 (54)
3	Average monthly income of household					
	In INR/month - Median (IQR)	5000 (5500-12000)	3000 (2000-6000)	9000 (6000-15000)	15000 (5000-35000)	5500 (5000-10000)

Eighty one percent of participants from all the states traveled less than five kilometers to reach the PHC. They commuted either by walking or by two-wheeler. Less than 10% of patients travel more than 10 kilometers to reach the PHC. In Bihar, an auto or tempo van is used as a shared vehicle by 46% of participants to reach the PHC. A few patients (6%) only travelled more than 10 kilometers to reach the PHC. The accessibility for people (5.5%) located in far-away places from PHC is still questionable.

Maharashtra: 58% of study participants travelled less than five kilometers and 32% travelled five to ten kilometers to reach the AYUSH dispensary. 10% of patients travelled more than 10 kilometers to reach the facility. 92% of the study participants came by walking to the dispensary and 8% commuted in two-wheelers.



Figure 6 depicts the source of information for the participant about the AYUSH OPD as reported by them. Family members and friends are the major sources of information in all the states. PHC medical officer (MBBS) referred less than 10% patients for AYUSH consultations.

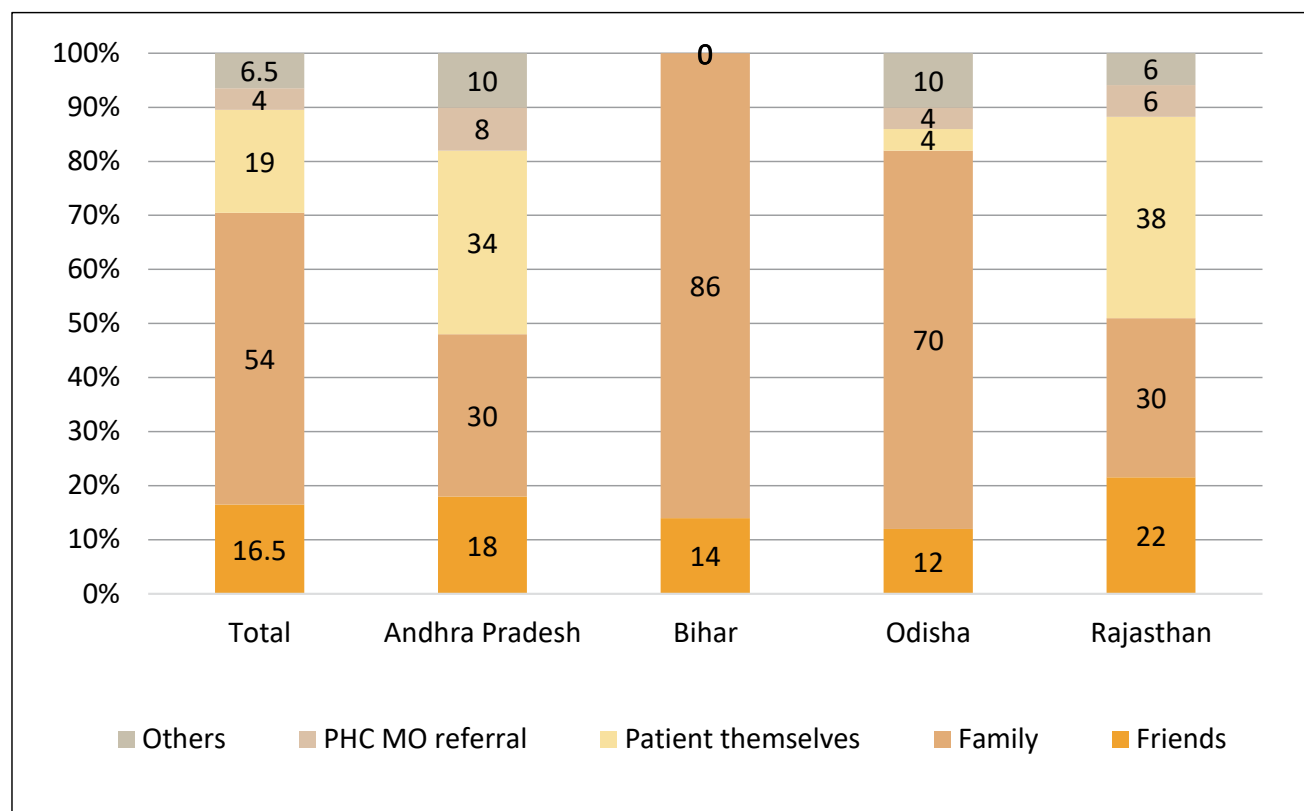


Figure 6 Source of information about AYUSH OPD among the patients attending AYUSH OPD at the Primary Health Centers included in the study

Maharashtra: Interestingly, around 96% of the participants from Maharashtra said other sources provided information on AYUSH OPD. Unfortunately, we don't have the details of such 'others' responses.

The condition which led the participant to consult AYUSH OPD is described in Figure 7. Overall general weakness, respiratory tract infection, fever, arthritis, skin problems, and gastrointestinal issues were the most common cause for seeking consultation in AYUSH OPD. It is essential for the AYUSH and allopathic program managers to identify the people's preferences and equip both AYUSH and allopathic system to deliver the services. Very few people visited OPD for nerve-related health problems and kidney disease.

Maharashtra: Almost one-third (28%) of the people visit AYUSH OPD for non-communicable disease management. 26% patients visited for joint/ back pain related issues and 24% visited for cough and cold related issues.

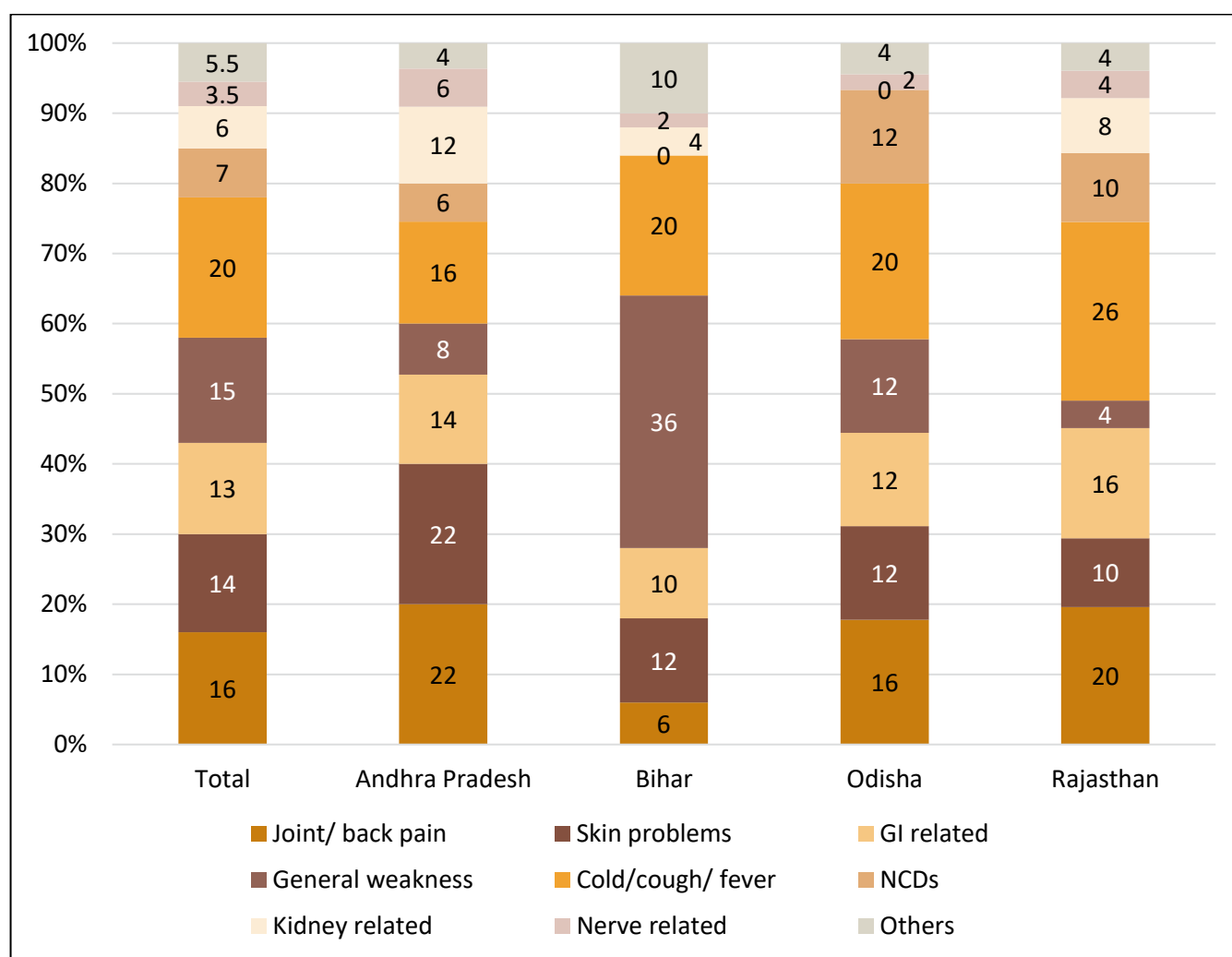


Figure 7 Reason for visiting AYUSH OPD among the patients attending AYUSH OPD at the Primary Health Centers included in the study\*

(\*multiple options possible)

The participants were asked the reasons for choosing AYUSH services. Majority of the participants (72%) from all states said that AYUSH drugs have no side effects, which is the major reason for their preference to AYUSH services. While some participants from Odisha (18%), and Rajasthan (34%) perceived that AYUSH has fewer side effects compared to allopathic drugs. A few participants (4.5%) also felt that AYUSH medications were easy to understand. (Figure 8)

Maharashtra: More than half of the patients (52%) said they preferred AYUSH because of less or no side effects, 30% said AYUSH is easy to understand and 6% said AYUSH is less costly. 12% said “others” as reason for choosing AYUSH and the other reasons were not captured.

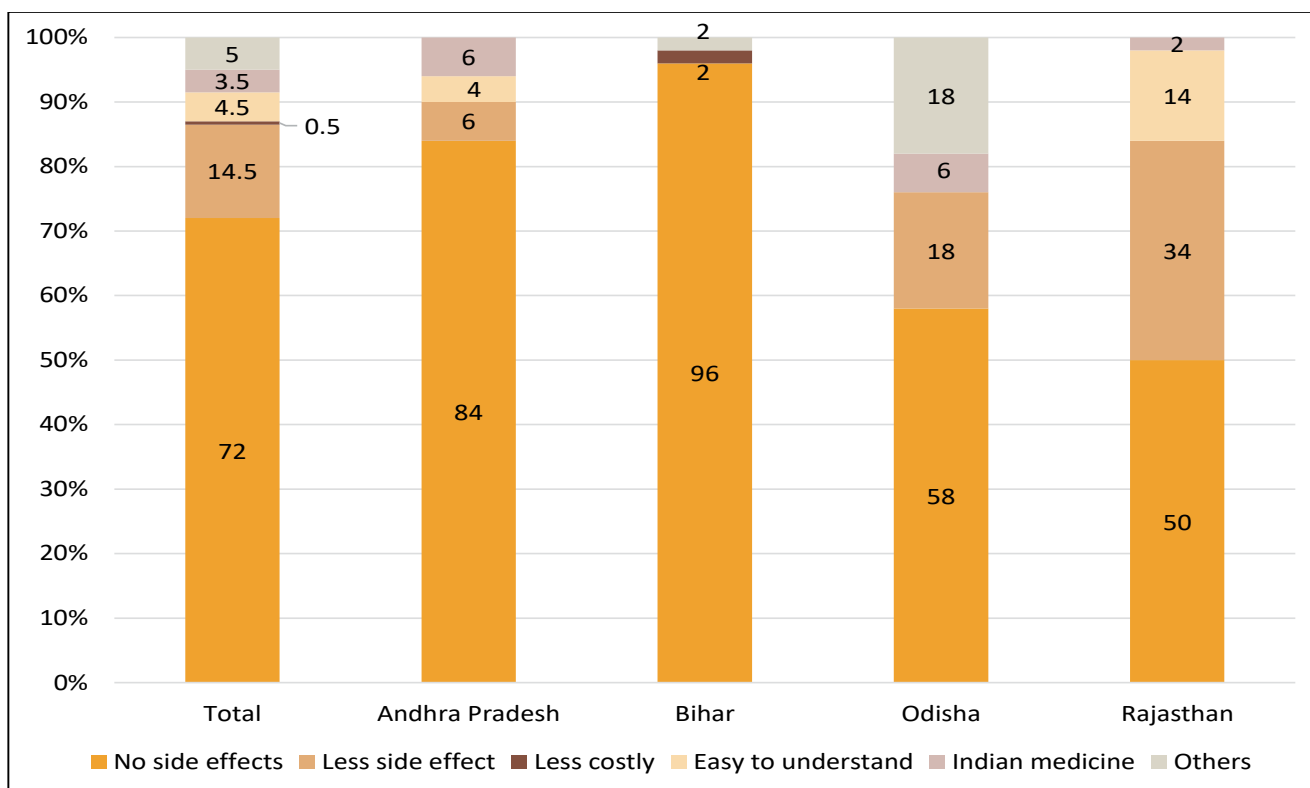


Figure 8 Self-reported reasons for choosing AYUSH OPD among the patients attending AYUSH OPD at the Primary Health Centers included in the study

Figure 9 describes the frequency of participants' visits to the AYUSH OPD. Almost 95% the participants visited AYUSH OPD for more than one time. Only 16% in Andhra Pradesh and 6% in Odisha were first-time visitors.

Maharashtra: All (100%) participants visited AYUSH OPD for more than one time.

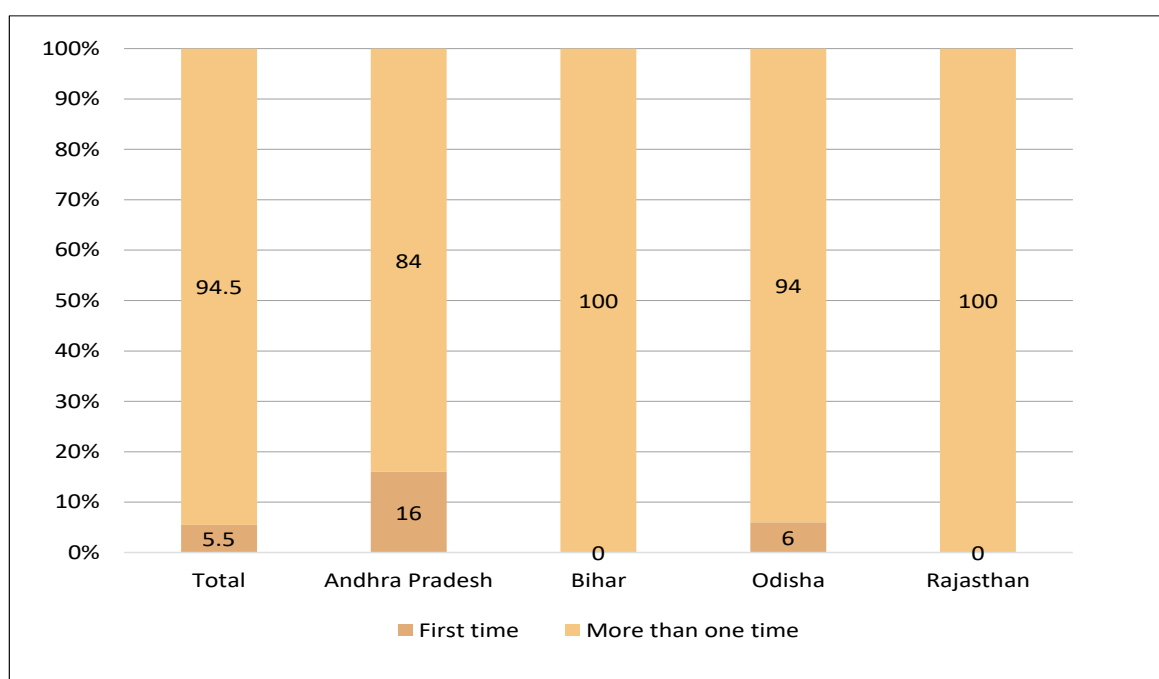


Figure 9 Frequency of visiting AYUSH OPD among the patients attending AYUSH OPD at the Primary Health Centers included in the study



Table 14 describes the participants' experiences or level of satisfaction at the AYUSH OPD. The response of the study participants to each question was capture using five-point Likert scale. The responses, good and very good were clubbed together against the remaining possible responses (not sure, bad, and very bad) and presented in the table. More than 90% of the participants were satisfied with the accessibility to PHC from their homes and the availability of safe drinking water at PHC. There was some level of dissatisfaction (10%-25%) among the participants regarding the cleanliness of the toilet in the PHC. However, in Maharashtra, only 6% of the participants were satisfied with the drinking water and toilet facilities. AYUSH dispensaries were contacted for this study in Maharashtra, which had lesser facilities and human resources than a PHC, which might be the reason for such feedback. However, to provide quality healthcare services, basic necessities like water and sanitation facilities need to be made available at a satisfactory level.

*Table 14 Satisfaction of study participants (patient experience survey) regarding the infrastructure in AYUSH OPD at the Primary Health Centers included in the study*

S. No	Characteristics	Total (N=200)	Andhra Pradesh N=50 n (%)	Bihar N=50 n (%)	Odisha N=50 n (%)	Rajasthan N=50 n (%)
<b>A</b>	<b>Location and infrastructure</b>					
1	Accessibility to PHC from home	192 (96.0)	45 (90)	50 (100)	50 (100)	47 (94)
2	Safe drinking water facility at PHC	191(95.5)	49 (98)	50 (100)	46 (92)	46 (92)
3	Cleanliness of the toilets in the OPD	169 (84.5)	46 (92)	38 (76)	42 (84)	43 (86)
<b>B</b>	<b>AYUSH OPD</b>					
4	Ease of identification of AYUSH OPD in the PHC	183 (91.5)	47 (94)	46 (92)	45 (90)	45 (90)
5	Convenience of searching AYUSH OPD in the PHC	185 (92.5)	48 (96)	48 (96)	44 (88)	45 (90)
6	Ease of identification of AYUSH OPD by signboard	129 (64.5)	41 (82)	11 (22)	39 (78)	38 (74)
7	Seating arrangements in the waiting room of AYUSH OPD	169 (84.5)	38 (76)	44 (88)	42 (84)	45 (90)
8	Physical separation of the AYUSH OPD into male and female examination areas	162 (81.0)	47 (94)	50 (100)	43 (86)	22 (44)



S. No	Characteristics	Total (N=200)	Andhra Pradesh N=50 n (%)	Bihar N=50 n (%)	Odisha N=50 n (%)	Rajasthan N=50 n (%)
9	Waiting time to receive OPD Slip for AYUSH OPD	167 (83.5)	35 (70)	50 (100)	43 (86)	39 (78)
10	OPD timings of the AYUSH OPD	187 (93.5)	41 (82)	50 (100)	46 (92)	50 (100)
11	Waiting time before consultation	166 (83.0)	30 (60)	44 (88)	42 (84)	50 (100)

*Note: Data of Good or very good experience as reported by the study participants (patients) are given in the table*

The experience of patients regarding the facilities at the AYUSH OPD are described in Table 13. Most patients felt it is easy to identify the AYUSH OPD in the PHC and also convenient to search for it on the PHC premises. However, many PHCs did not have sign boards, so the participants had to ask someone (Table 5) to identify the AYUSH OPD. Most patients reported satisfaction regarding the seating arrangement in AYUSH OPD. However, in 10-25% of PHCs, these area needs improvement in the seating arrangements for the patients to sit in the waiting area.

Almost 56% from Rajasthan are not satisfied with examination area of AYUSH OPD as separate examination rooms were not available. Major illnesses reported to AYUSH OPD like arthritis and back pain might require physical examination by the AYUSH medical officer. So, it will be more acceptable and comfortable for the patients if the examination rooms are available to ensure privacy. This was also reflected in qualitative data by both the service provider (AYUSH medical officer) and the beneficiary (patients).

Eighty three percent patients were satisfied with the waiting time to receive the OPD registration slip at the registration counter. Implementing digital India will enhance registration and consultation in the AYUSH OPD services, where an individual can register online, and visits can be made in their allocated time slot. More than 80% of all participants from all the states were optimistic about the waiting time before consultation, except Andhra Pradesh (60%) which requires focus.

Maharashtra: 94% of the study participants were satisfied with the accessibility to AYUSH dispensary from their home and similar proportion (94%) were satisfied with the seating arrangement at the OPD. However only 6% were satisfied with the drinking water and toilet facility at the dispensary and similarly 6% were satisfied with examination area of AYUSH OPD. Only half of the participants (48%) were satisfied with the OPD timings and 82% were satisfied with the waiting time at the AYUSH dispensary.



Table 15 Satisfaction of study participants (patients) regarding the healthcare workers in AYUSH OPD at the Primary Health Centers included in the study

S. No	Characteristics	Total (N=200) n (%)	Andhra Pradesh N=50 n (%)	Bihar N=50 n (%)	Odisha N=50 n (%)	Rajasthan N=50 n (%)
<b>C</b>	<b>Experience with AYUSH medical officer</b>					
12	Consultation time (duration) of the AYUSH medical officer	181 (90.5)	32 (64)	50 (100)	50 (100)	49 (98)
13	Clarity with which the AYUSH medical officer asks about symptoms	193 (96.5)	43 (86)	50 (100)	50 (100)	50 (100)
14	Perception of AYUSH Practitioner's attentiveness during consultation	191 (95.5)	41 (82)	50 (100)	50 (100)	50 (100)
15	Level of satisfaction with AYUSH medical officer's response to your (Patient) questions	193 (96.5)	43 (86)	50 (100)	50 (100)	50 (100)
16	Satisfaction on AYUSH medical officer's explanation regarding your (Patient) health problems	185 (92.5)	38 (76)	48 (96)	50 (100)	49 (98)
17	AYUSH medical officer's instructions on consumption of medication	192 (96.0)	45 (90)	50 (100)	48 (96)	49 (98)
18	Perception regarding the instructions given by medical officers for diet modification	193 (96.5)	49 (98)	50 (100)	49 (98)	50 (100)
19	Knowledge of the medical officer's in treating the kind of problems you (Patient) are suffering from	186 (93.0)	37 (74)	50 (100)	50 (100)	49 (98)





S. No	Characteristics	Total (N=200) n (%)	Andhra Pradesh N=50 n (%)	Bihar N=50 n (%)	Odisha N=50 n (%)	Rajasthan N=50 n (%)
<b>D</b>	<b>Experience with other staffs</b>					
20	Perception on nursing staff's listening to your (Patient) complaints	151 (75.5)	29 (58)	49 (98)	37 (74)	36 (72)
21	Perception on other staffs (at the OPD) behaviour towards you (Patient)	168 (84.0)	31 (62)	50 (100)	49 (98)	38 (76)
22	Explanation provided by the pharmacist regarding medication	134 (67.0)	36 (72)	8 (16)	49 (98)	41 (82)
23	Attitude of the pharmacist towards you and your (Patient) queries	131 (65.5)	35 (70)	8 (16)	48 (96)	40 (80)
24	Available numbers of staff to perform all the tasks you (Patient) require at each visit	161 (80.5)	37 (74)	47 (94)	45 (90)	32 (64)
25	AYUSH related health education materials at the PHC	80 (40.0)	22 (44)	12 (24)	36 (72)	10 (20)
26	Availability of the prescribed medications by AYUSH medical officers at the PHC pharmacy	109 (54.5)	37 (74)	6 (12)	44 (88)	22 (44)

*Note: Data of Good or very good experience as reported by the study participants (patients) are given in the table*

Table 15 indicates the participants' experience regarding the consultation time, AYUSH medical officer's behavior, attitude, and explanation regarding the disease and the medication. More than 90% of the patients were satisfied with the services provided by the AYUSH medical officer. This might be why many patients visit the AYUSH OPD more than once. All participants responded positively, like good or very good, regarding the AYUSH medical officer services. The interviews were conducted away from the AYUSH OPD to avoid social desirability bias. The trust of patients in AYUSH medical officers is also echoed in qualitative data. Patients from far-away distance also preferred to visit AYUSH OPD. In qualitative research the patients said that treatment of illness from the root cause, indigenous to our country and less side effects were the major factors to prefer AYUSH.

The participant's experiences with the healthcare staff at AYUSH OPD - nurses, pharmacists,





and other staff were also explored. In almost all the states, most of the participants mentioned that they were satisfied with the services provided by the other healthcare staff (either AYUSH allied healthcare worker or other allied healthcare worker in the PHC). In Bihar, only 16% of participants were satisfied with the explanation provided by the pharmacist. Sometimes patients don't visit the AYUSH medical officer after collecting the drugs in the pharmacy. So pharmacist is the person who explains the drug dose and mode of administration to the patient. In some of AYUSH's medications, instructions must be given clearly for the medication intake and modifications required in the food<sup>23</sup>. Hence it is essential to have a separate pharmacist from AYUSH background to provide clear instructions to the patients whenever needed. When such human resources are unavailable, it is essential to train the allopathy pharmacist or the healthcare staff who distribute the AYUSH drug and orient on the AYUSH medicine system. Many participants were not satisfied with the educational material available at the AYUSH OPD and also the availability of AYUSH medications in the pharmacy. The supply chain of AYUSH medications needs strengthening as less than 40% of the centers have a regular supply of AYUSH drugs. When asked about overall satisfaction with the AYUSH services, more than 95% of participants from all states reported that they were satisfied with the AYUSH services.

Almost all the patients said they were likely or more likely to visit the AYUSH OPD next time. This indicates the importance of strengthening and providing optimal AYUSH services to bring the indigenous system of medicine to the people's needs.

Maharashtra: Almost 90% of the study participants were satisfied with AYUSH medical officer in terms of - consultation time in AYUSH OPD (90%), clarity (90%) and attentiveness (86%), response to queries (94%), explanation regarding the health problem (94%), instructions on consumption of medication (94%), instructions on diet (92%) and knowledge of the medical officer (86%). Only 2% were satisfied with nursing staff and other staff behavior towards patient in AYUSH OPD. However, this might be due to less number of allied healthcare worker or non-availability of such staff in AYUSH dispensary. 70% of study participants were satisfied with AYUSH pharmacist attitude and explanation regarding the drugs and 82% were satisfied with the availability of drugs at AYUSH OPD. Only 14% were satisfied with the available number of staff at the AYUSH OPD and 20% were satisfied with the health education materials available at the OPD.

Table 16 Experience of study participants (patients) regarding the AYUSH drugs provided in AYUSH OPD at the Primary Health Centers included in the study

S. No	Characteristics	Total (N=200) n (%)	Andhra Pradesh N=50 n (%)	Bihar N=50 n (%)	Odisha N=50 n (%)	Rajasthan N=50 n (%)
E	<b>Experience with Pharmacy and AYUSH drugs</b>					
28	Quality of the AYUSH medications provided at the PHC pharmacy	132 (66.0)	41 (82)	5 (10)	43 (86)	43 (86)
29	Mode of providing liquid AYUSH medications at the PHC pharmacy	113 (56.5)	39 (78)	6 (12)	42 (84)	26 (52)



S. No	Characteristics	Total (N=200) n (%)	Andhra Pradesh N=50 n (%)	Bihar N=50 n (%)	Odisha N=50 n (%)	Rajasthan N=50 n (%)
30	Mode of providing solid (ex. Tablets, capsules, etc) AYUSH medications	166 (83.0)	45 (90)	42 (84)	45 (90)	34 (68)
31	Availability of AYUSH medications in the private pharmacy (not available in PHC)	120 (60.0)	45 (90)	49 (98)	17 (34)	9 (18)
32	Experience on symptom relief after intake of AYUSH drugs prescribed at the PHC	144 (72.0)	45 (90)	18 (36)	44 (88)	37 (74)
33	Experience on adverse reactions after taking AYUSH drugs prescribed at PHC	199 (99.5)	49 (98)	50 (100)	50 (100)	50 (100)

*Note: Data of Good or very good experience as reported by the study participants (patients) are given in the table*

Overall, around 66% of the patients were satisfied with the quality of AYUSH drugs provided at the PHC. However, in Bihar, only 10% of patients were satisfied with the quality of AYUSH drugs. Similar proportions of Bihar patients reported satisfaction with the mode of delivery of liquid drugs (12%) at AYUSH OPD. In Rajasthan, around half (52%) of the patients were satisfied with the mode of delivery of liquid drugs. More than 90% of patients were satisfied with the AYUSH drugs availability at the private pharmacy in Andhra Pradesh and Bihar. In qualitative research, the participants elaborated that the non-availability of AYUSH outlets and AYUSH drugs at the pharmacy are the only major reasons for patients' dissatisfaction with AYUSH services. Except for Bihar (36%), most patients experienced better health status after AYUSH drug intake. Almost all the patients reported that they were satisfied with AYUSH drugs and experienced fewer side effects which were also reflected in qualitative interviews. (Table 16)

Maharashtra: 88% of the study participants were satisfied with the quality of AYUSH drugs available in the AYUSH dispensary (84% - satisfied with mode of liquid drugs delivery and 88% with mode of delivery of solid medications). 82% of the study participants were satisfied with symptom relief after AYUSH drugs intake and 100% were satisfied with the experience with side effects. However, only 34% were satisfied with the availability of AYUSH drugs even in private pharmacies when the drugs were not available in the AYUSH dispensary.

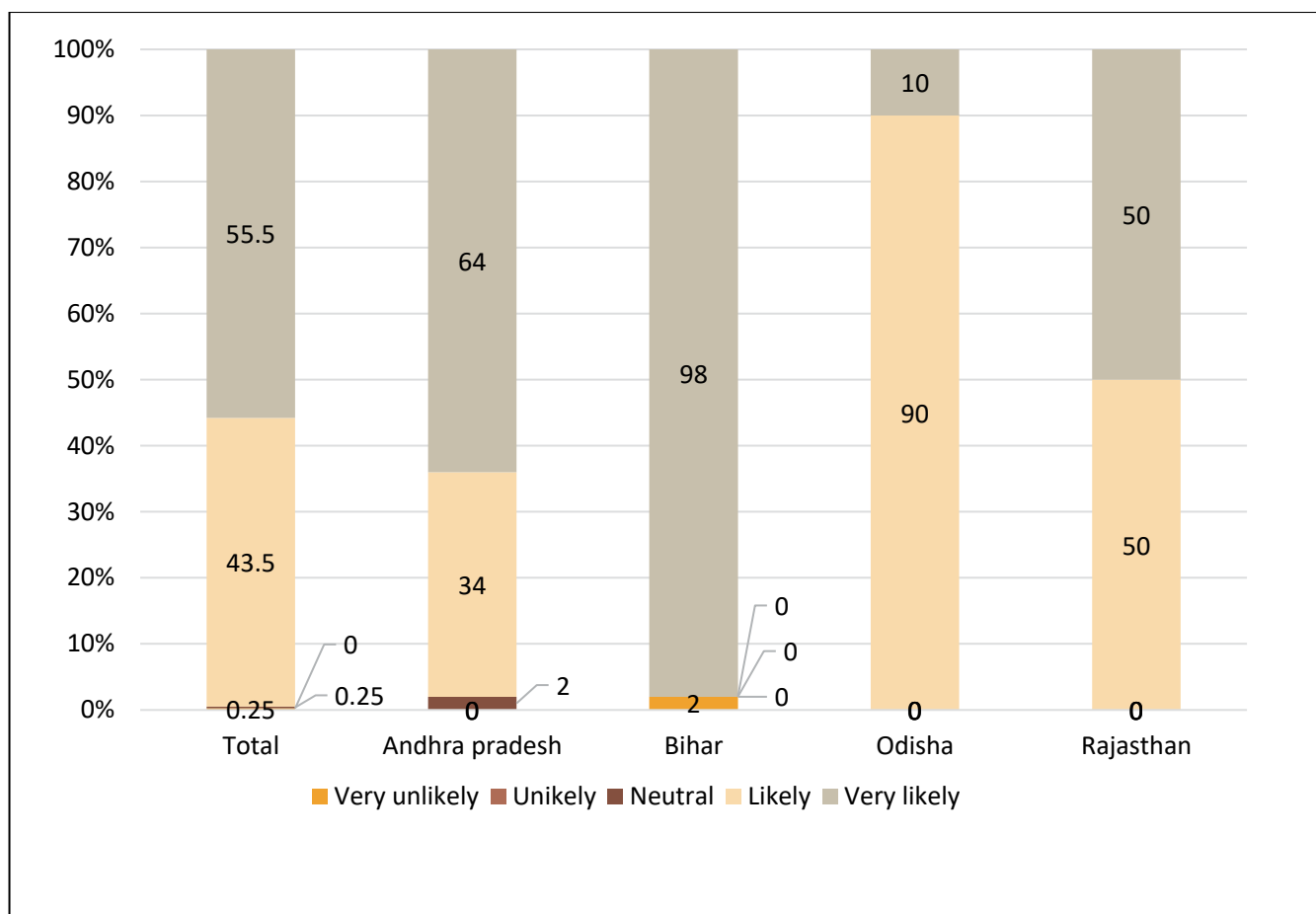


Figure 10 Willingness to refer others to AYUSH OPD among the patients attending AYUSH OPD at the Primary Health Centers included in the study

Similar to the results on willingness for next visit to AYUSH OPD, most patients reported that they are likely or very likely to refer others to AYUSH OPD for treatment. (Figure 10)

Maharashtra: 98% patients responded that they were likely or very likely willing to refer others to AYUSH OPD.



## Qualitative analysis of preferences and perceptions of patients regarding AYUSH services at the Primary Health Centers

Table 17 Preference and perception towards AYUSH in the AYUSH OPD of the selected Primary Health Centers included in the study

Themes	Subthemes	Categories
Preference and perception of patients towards AYUSH	Preference for AYUSH	AYUSH effective in Chronic diseases management (facilitator)
		AYUSH provide long term cure and cures disease from root cause (facilitator)
Preference and perception of patients towards AYUSH	Preference for AYUSH	Less or no side-effects of AYUSH drugs (facilitator)
	AYUSH is natural and way of living of people	Satisfactory services (facilitator)
		Ancient medicine and indigenous to India (facilitator)
	Preference for allopathy	Awareness on AYUSH (facilitator as well as barrier)
		Fast relief of symptoms and availability of drugs (barrier)
		AYUSH's challenge in managing emergency health conditions (barrier)

In total, 133 codes related to preference and perception towards AYUSH services among the patients were deduced from the transcripts of the in-depth interviews and focus group discussions among healthcare staff and patients. Later, these 133 codes were reduced to 9 categories and further grouped into three broad headings describing the preferences and perceptions of patients towards AYUSH. (Table 17)

### *a. Preference for AYUSH*

We identified 53 codes related to preference for AYUSH services and grouped them into three groups as beneficial in chronic diseases, AYUSH – a natural way of living, and preference for allopathy.

#### *a.1 AYUSH effective in Chronic diseases*

Both the AYUSH and MBBS medical officers said that AYUSH drugs are beneficial in chronic



disease conditions such as arthritis, anemia, skin diseases and kidney diseases. Patients also expressed the same and they preferred AYUSH over allopathy for certain neurological diseases like paralysis.

AYUSH medical officer from Andhra Pradesh said:

*"Justice is done here for cases that do not respond in allopathy, there are some chronic diseases, in skin psoriasis, leukoderma, eczema for these diseases there is no good treatment in allopathic. But here (AYUSH) they have a good results, as well as chronic diseases cervical spondylosis, sciatica, allergies, Asthma, they see better results in our homeopathic medicine than in English medicine"*

A patient from Andhra Pradesh said:

*"More and more people are coming for skin diseases right now. They believe that allopathic medicine does not bring relief and that Ayurvedic medicine reduce the disease. .... Most people get psoriasis in the winter, many people also struggle with dry skin and come for Ayurvedic Medicines more and more."*

### **a.2. AYUSH provides long term cure and cures disease from root-cause**

The participants expressed that AYUSH drugs act slowly but cure the disease from the root cause and provide long-term relief from the disease. A few MBBS medical officers also conveyed that certain diseases which are not cured by allopathy are relieved by AYUSH.

A frontline worker from Andhra Pradesh said:

*"With English medicines (allopathy) skin diseases come back again and again. In Ayurveda the reduction is slow but cures permanently. The main problem in this village is the high incidence of skin diseases. These diseases are caused by water, usually I use a tablet (allopathy) for sugar which is said to damage the liver and kidneys. People are looking to use Ayurvedic medicines for a long time"*

A patient from Rajasthan said:

*"AYUSH medications cut disease from its root, but since good AYUSH facilities aren't present here, we go for allopathy."*

### **a.3. Less or no side-effects of AYUSH drugs**

One of the primary reasons for the preference for AYUSH services is fewer side effects experienced by patients after taking AYUSH drugs. In addition, patients reflected that the AYUSH system uses materials available at home or in their region to prepare drugs, and food is part of AYUSH treatment. A few quotes from the study participants related to the side effects of AYUSH drugs are mentioned below.

A patient from Bihar said:

*"as there is no side effects of AYUSH medicine....so, adults and elderly like AYUSH medicine more... elderly people mostly suffer with pain and gas problem. So, they are more towards Ayurvedic medicine"*

An AYUSH medical officer from Odisha said:

*"Less side effect, proper counselling, goes to root cause. Patient satisfaction is more in AYUSH."*

### **b. AYUSH is based on natural products and its the way of living of people**

Many patients and healthcare providers opined that AYUSH is the Indian system of medicine



and has been practiced in India since the Vedic period. The participants said that AYUSH uses local materials available at our home/ region and provides the cure. The patients were also satisfied with the services provided at the AYUSH OPDs. We identified 38 codes related to satisfaction with AYUSH services and the belief that AYUSH services are India's indigenous system of medicine.

### **b.1. Satisfactory AYUSH services**

A patient from Odisha said:

*"It (AYUSH) gives good relief after taking treatment"*

AYUSH medical officer from Bihar said:

*"We make medicines available by sourcing them, we prepare medications using herbs on our own, the effect of which is good, the patient is satisfied and asks for me during subsequent visits. They keep waiting and insist on consulting with me."*

A frontline worker from Andhra Pradesh said:

*"In urban areas, drugs for paralysis and heart are available. But what people want here (village) is mostly Panchakarmas. Panchakarma treatment is there town, here too, it would be nice to set up with a little comfort, massages related to panchakarma. But for those who have paralysis and neuropathy, it is better to supply a little oil and a little medicine, we think it will be useful for diseases in our area."*

AYUSH medical officer from Odisha said:

*"After treatment with allopathic medications, when symptoms got not relieved, they use to come us and we use to start AYUSH medications. We use to tell them to have patience and after one month of treatment they got relieved from symptoms and got satisfied with our treatment."*

### **b.2. AYUSH is ancient system of medicine and indigenous to India**

A MBBS MO from Andhra Pradesh said:

*"Cancer, paralysis, liver diseases, jaundice, which comes to us are viral. But can be cured with some medicines in AYUSH, many types of Ayurvedic medicines have been used for jaundice since our ancient times"*

Patients from Rajasthan said:

*"Yes, we know about ayurvedic medicines they are a natural method of treatment and the conditions which can't be treated by allopathic medicines are nowadays treated by ayurvedic medicines. Ayurvedic medicines provide a good treatment and are a growing branch in India and it also benefits the body addition to caring the disease it is also pocket friendly for the poor people"*

*"The reasons are first cost effectiveness second easy availability third if you have any acquaintance you can get these medicines in the village itself these are the main reasons"*

A frontline worker from Rajasthan said:

*"For continuous allergy, the allopathic medications don't give me any relief, so preference of indigenous medicine."*





### c. *Preference for allopathy*

We deduced 42 codes related to preference for allopathy over AYUSH. These 42 codes were further grouped into challenges of AYUSH in the management of emergency health conditions and less awareness of AYUSH among people, which resulted in allopathic preference. The participants also said fast and immediate effect allopathy was one of the reasons for choosing allopathy.

#### **c.1 AYUSH's challenge in managing emergency health conditions**

One of the drawbacks of AYUSH, as mentioned by the study participants, was that AYUSH has a limited role in the management of medical and surgical emergencies like cardiac arrest, accidents, and acute painful conditions like pancreatitis or kidney stones. In addition, AYUSH was also reported to have a limited role in obstetric and pediatric management, such as delivery and immunization. The following are a few quotes indicating the challenges of AYUSH in managing emergencies.

MBBS medical officer from Bihar said:

*"All the emergency branches are there, which can be dealt with the help of AYUSH. Like in the case of delivery, tell me what the AYUSH practitioner will can do in that. Like if any child comes with the sever pneumonia, what AYUSH will do in that. We will give Taxim immediately, means we will do nebulization with the help of Dexona. After nebulization how much ever congestion is there we will clear it. All these things which are done, can be done only in allopathy. Generally, the mother and child department, which is there at this level, which is at the PHC level, per day like if we can keep like daily 15-20 deliveries, we conduct here"*

A frontline worker from Bihar said:

*"Like for any serious or emergency illnesses people they will need Allopathic treatment and for the long-term conditions people prefer Ayurvedic treatment"*

AYUSH medical officers from Odisha said:

*"Hydrocoele, Hernia, Appendicitis and other abdominal diseases, Volvulus, perforation, ulcer etc., allopathic is the best. But in medicinal part, some diseases are better deal by AYUSH and for emergency diseases allopathic treatment are best"*

#### **c.2. Less awareness on AYUSH**

The participants said though AYUSH is an ancient system of medicine, many are unaware of the AYUSH services. On the other hand, allopathy services are easily available, and people are aware of it. The following few quotes explain the awareness related to AYUSH and allopathy.

Frontline worker from Andhra Pradesh said:

*"English medicines (allopathy) are well accustomed to the people, no one knows these Ayurvedic medicines so they prefer English medicines, even small children can quickly find what they want in tonic form. Vitamin A is also given in anganwadi centers. So most people prefer allopathy."*

Patient from Andhra Pradesh said:

*"if there are Ayurvedic medicines for every ailment people would love to come and if they are made aware of these services"*





### c.3. Allopathy drugs provide fast relief of symptoms and easily available

It was uniformly said by all participants that allopathy gives immediate and instantaneous relief, whatever the disease condition might be. In comparison, AYUSH takes time to show the effect. The following quotes are related to the effect of allopathy in emergencies.

A frontline worker from Rajasthan said:

*“Allopathic medications give relief faster whereas indigenous drugs take a longer time to work.”*

Frontline worker from Andhra Pradesh said:

*“We can immediately find any medicine in allopathy. It can be in the form of a hospital or it can be in the form of an outside medical shop. Most people are used to it. People do not know about Ayurveda and severe cases go to allopathy.”*

A patient from Rajasthan said:

*“allopathic treatment is fast compared to ayurvedic medicines and AYUSH hospital (Karwar) is far from this location. Availability of doctor (AYUSH medical officer) is not regular. So AYUSH is less used among us.”*

### **iv. Objective 4: To document the critical success factors, challenges, bottlenecks and lessons learned with co-locating AYUSH with Primary Health Centers**

*Table 18 Challenges and bottlenecks in provision of AYUSH services at the Primary Health Centers included in the study*

Themes	Categories
Challenges in AYUSH service provision	Accessibility to AYUSH services (barrier)
	Infrastructure (barrier)
	Manpower (barrier)
	AYUSH drug supply chain (barrier)
	Intersectoral coordination (barrier)
	AYUSH referral centers (barrier)

In total, 140 codes related to challenges with AYUSH service provision were deduced from the transcripts from the in-depth interviews and focus group discussions among health care staffs and patients. Later, these 140 codes were reduced to seven categories describing the challenges in AYUSH service provision and co-location of AYUSH with PHC. (Table 18)



## Challenges in accessibility and referral to AYUSH services

The AYUSH medical officers and frontline workers felt that AYUSH referral centers like secondary and tertiary care centers are very limited, and even in higher centers, the services are minimal. The patients also felt that there are only a few AYUSH facilities, and accessibility is a major challenge.

An AYUSH medical officer from Rajasthan said:

*"If Government of India wants result from all the pathies, so they should move us forward. Just like ayurveda has now been included in many places such as AIIMS, they should also bring homeopathy to an equal level."*

Frontline workers from Andhra Pradesh said:

*"Ayurvedic treatment for all diseases should be available in the PHC"*

*"there is not even an Ayurvedic shop in a town. We have big towns but no Ayurvedic shops in Vijayawada, Tenali, Guntur, who will come forward to keep Ayurvedic shops"*

A patient from Bihar said:

*"yes there should be more ayurvedic stores, so that we can take medicine from anywhere"*

## Challenges in infrastructure

The AYUSH medical officers said they have only one room for AYUSH OPD. In the same room, the AYUSH medical officer provides consultation with the patient, demonstrates exercise, and does therapeutic massage to the patient. He also keeps the AYUSH drugs, examination table, and records in the same room. The patients expressed that there is no privacy in AYUSH OPD, which is not comfortable for receiving services of AYUSH. The following quotes explain the challenges faced by AYUSH medical officers in terms of infrastructure:

AYUSH medical officers from Andhra Pradesh said:

*"We will bring what drugs need for us if funds comes to us. We will also develop the infrastructure. Infrastructure means, we do not know where to ask the patient to lie (on a examination bed). Infrastructure needs to be developed. Then take the steaming machine, there are also things to do (steaming for patient) in a room in Ayurveda. Ayurveda means the concept (treatment) comes to the patient if you bring some of such machines, our concept is all the same. Searching of Shamana and Sodana (Ayurvedic terms) compulsory in all PHCS, they do only shamana but no sodana (Searching for cause) sodana means to search for whole disease in the body. If you give only shamana drugs, how the disease will be cured? For example, if you think there is a torn, medicine is prescribed to relieve pain. However, thorns are still there, first we should be removed thorn, you have to go inside it to take it off, a way must be established for that. how many days will it take to prescribe drugs on it, compulsory sodana (search) is required."*

Patient from Andhra Pradesh said:

*"Here only one staff, good if there is another staff, here no compounder, there is only one room, and if there is another room it will be possible to have a massage, exercise reduces the pain, patient need a room to communicate these, that's why we want another room."*

A MBBS medical officer from Andhra Pradesh said:



*"Here is what we have just observed, lack of proper medicines, manpower, lack of proper resources, all of these can disrupt services."*

AYUSH medical officer from Odisha said:

*"After I got into service, just one table and chair and started services and after 13 years the condition is same. Like people going on road, use to see allopathic hospital, if similar infrastructure like on one AYUSH hospital will be made, like separate room, separate store room, separate pharmacy and different structures then people will get know more"*

### **Challenges in manpower**

Most of the places only medical officer was available in AYUSH OPD and AYUSH pharmacists were available in very few places. This lack of allied healthcare worker hampers the effective functioning of AYUSH medical officers and also leads to discrimination by MBBS medical officers.

A patient from Rajasthan said:

*"AYUSH medicines should be available for all the diseases here. It should have a separate doctor and staff. Different medications should be available for different ailment"*

A frontline worker from Andhra Pradesh said:

*"Recruitment is very low in AYUSH, although it is a part of PHC some people do not even know About it, so more staff should also be recruited"*

AYUSH medical officer from Odisha said:

*"There is requirement for infrastructure like a separate room for AYUSH, store room to keep medicines, and a pharmacist to dispense medicine, one attendant. However, these are not available and I have to manage everything in this small place alone."*

### **Challenges in AYUSH drug supply chain**

Almost all the centers had challenges in AYUSH drug supply chain delivery. Either the drugs were not supplied regularly, or the required number or type of drugs were not delivered. The AYUSH medical officers felt that the drugs were prioritized and supplied based on the availability of the drugs at the warehouse than the requirement of the patient. Also, certain drugs which were not required were supplied in large quantities.

AYUSH medical officer from Rajasthan said:

*"There are many medications which can be made by ourselves, but still we need to have raw materials. Utensils to keep. We get medications from CMHO for ayurveda department, but they come so late, that they are already expired or near to expiry date."*

AYUSH medical officer from Odisha said:

*"First, like in allopathic, 24 x 7 medicines available, similarly in AYUSH it should be available. Lat 2 to 3 years back, we don't have medicines and in last 4 months only we get medicines. ...."*

*"I maintain stocks by a stock register. But as I told it is the duty of Pharmacist. Since, AYUSH pharmacist*



is not available; we are not sure about the rules of stock register maintenance. However, proper maintenance is not there as per rule”

### **Intersectoral coordination**

AYUSH medical officers from Rajasthan said:

*“Medicines come only from AYUSH ministry, and no other body helps us. They should release budget separately for AYUSH. In few places, 5 years ago one budget was released after that nothing happened.”*

AYUSH medical officer from Andhra Pradesh said:

*“We have no funds. Until this time, no funds were released. It is been ten years, at least a thousand rupees was not even given to us. No funds. We have nothing but salaries, in PHC allopathy have a lot of funds so they develop well, they buy infrastructure and new materials like autoclave if it breaks. We don’t have autoclave (for example) or anything”*

AYUSH medical officer from Odisha said:

*“Relationship is very good but no one wants to transfer their patients to anyone. He never refer his patients for Ayurvedic treatment even though he knows that, it can be better cured through Ayurvedic treatment.”*

### **Lessons learnt and opportunities in improving AYUSH services and colocation of AYUSH OPD in PHC**

In total, 90 codes related to opportunities in improving AYUSH services in AYUSH co-located PHCs were deduced from the transcripts from the in-depth interviews and focus group discussions among health care staffs and patients. Later, these 90 codes were reduced to seven categories describing lessons learnt and opportunities in improving AYUSH services in AYUSH co-located PHCs. (Table 19)

*Table 19 Opportunities and lessons learnt in AYUSH service provision at the Primary Health Centers with co-located AYUSH services*

Themes	Categories
Opportunities in AYUSH service provision in collocated PHC	Research on evidence building on AYUSH drugs (facilitator)
	Community engagement in awareness creation (facilitator)
	Streamlining AYUSH drug supply chain (facilitator)
	Empowering farmers in local medicinal plant cultivation and streamline the procurement (facilitator)
	Political and programmatic commitment (facilitator)



Themes	Categories
Success factors in providing AYUSH services and colocation of AYUSH OPD in PHC	Coordination and collaboration with integration of allopathy and AYUSH systems of medicine (facilitator)
	Patients trust (facilitator)
	Drug manufacturing practices (facilitator)

#### ***a) Research on evidence building for AYUSH drugs***

Both MBBS and AYUSH medical officers said that there is a larger need for research and evidence documentation on the safety and effectiveness of AYUSH drugs to create trust among the health care providers and also patients.

AYUSH medical officer from Andhra Pradesh said,

*"Government asks for data only. Earlier if cases came to us we had given Swarnaparashan and medicines but we did not collect data. Although data also has not to be collected by self. Data has to be collected by someone and a biostatistician will process it. These all things are there and you see it is progressing slowly. So for finalizing SOP our technical committee met with their technical committee and came up with the idea of need for data collection. If you work fine in the right direction you will get definite results"*

A senior AYUSH officer from Bihar said,

*"In case of children, in curable diseases, chronic diseases homeopathy treat them, cures them. all these systems needs to be worked upon, specialist and super specialist doctors should get promoted. We need clinical trials and research to bring the systems ahead. In BCT project Hyderabad the mortality rate got reduced by 18% among Encephalitis cases as compare to allopathic drugs. In BRD medical College Gorakhpur first Bella Donna is given to children having encephalitis, Then they were sent to ICU. Doctors in AYUSH ortalented and This is undebatable."*

An AYUSH medical officer from Rajasthan said,

*"We need modern research, since we don't have any resources. We don't know any mechanism, since its based on ancient principles."*

MBBS medical officer from Bihar said:

*"It's going on since ages, there is ayurvedic institution and there are many institutions. We have seen our seniors. Over the time that they used to prescribe medicines (AYUSH) and patients got benefitted. How it benefitted the patient? I don't know. We really don't know. But there is benefit. We are seeing in our experience also. So we regularly prescribe and we advice regularly ...we give that and there so many types of drugs and therapies and we give that also"*

MBBS medical officer from Andhra Pradesh said:

*"research work takes 6 or 7 years to complete. Regardless of the drug in the Allopathy, scientifically proven data is available for it (allopathy). What works on it and how it works and what are its actions. So, people also come to allopathy mostly in curative aspects and believing it."*





AYUSH medical officer from Odisha said:

*"I have attended all sorts of training form govt while not even a single training for AYUSH related in last 13 years. Research related to state or national level or for enhancing our knowledge, training in acute stage of disease through AYUSH medications etc training are required."*

### **b) Community Engagement**

The medical officers and patients felt that the local leaders and non-governmental organizations from the near-by region should be involved in awareness creation for AYUSH. It was felt that community engagement will aid in generating trust for AYUSH treatment among public.

MBBS medical officer from Andhra Pradesh said:

*"village elders in the villages, local bodies and religious elders should be involved creating awareness on AYUSH Medicine"*

*"Mainly awareness should be provided, the role of NGOs is important not only on behalf of our PHC, there are NGOS and all kind of communities outside of AYUSH that need to better developed. If we make them aware of AYUSH, they will have such an impact on the society there. So services in my opinion that goes into the people quickly."*

AYUSH medical officer from Andhra Pradesh said:

*"Community will have a role. It would be nice if a inside (village) Leader of a local organization could help in awareness creation, we can strengthen them anything."*

AYUSH medical officer from Odisha said:

*"RKS account, Sarpanch, ward memebrrers and other local bodies etc help us and we do regular meeting with Zilla Parishad for meeting with people and development of hospital"*

*"They are happy that at one place, they are getting both allopathic and AYUSH treatment."*

### **c) Streamlining AYUSH drug supply chain**

AYUSH medical officer from Rajasthan said:

*"There is problem of demand and supply, less staff, only one AYUSH doctor is present. medication stock management is not there. Free supply of medications should be provided in the centres."*

A patient from Andhra Pradesh said,

*"Ayurvedic medicines are more and more popular and people like to use them, so people want More Ayurvedic facility in PHC."*

### **d) Empowering farmers to generate raw material for AYUSH**

A senior AYUSH officer from Bihar said:

*"One company can't provide drugs for all systems of AYUSH, second thing is legal issues like the company getting tender is recognized or not. There is one company recognised by Indian government from which medicines were purchased during Covid, but on regular basis the problems can't be solved. Problems can be solved if our farmers are allowed to grow medicinal plants from which drugs can be made and made available."*



### **e) Political and programmatic commitment**

AYUSH medical officer from Maharashtra said:

*"By integrating of AYUSH at PHC, patient will get medicine as per choice, side effects can be prevented and more focus can be given on prevention part of health."*

AYUSH medical officer from Andhra Pradesh said:

*"I also think it would be good, if local political leaders from the state Government could also give some awareness about Ayurveda"*

AYUSH medical officer from Bihar:

*"Yes, the state government. It is possible only if the in-charge believes that AYUSH medications will benefit the public. AYUSH doctors are under the supervision of MBBS doctors, due to which AYUSH medications aren't given much importance."*

### **Success factors in providing AYUSH services and colocation of AYUSH OPD in PHC**

In total, 12 codes related to success were identified from the qualitative data. The medical officers (MBBS and MO) in a few centers said there is a good coordination between both the systems of medicine and enables them to work in a conducive environment. Almost all the patients expressed they are satisfied with the AYUSH services. This was reflected in the quantitative interview also where more than 90% of patients said they are willing to visit again and willing to refer other families and friends for AYUSH OPD. The MBBS medical officers expressed that they observed in clinical practice that AYUSH drugs are effective in certain diseases like joint pain, skin diseases etc. where allopathy is not so effective. The recent focus on AYUSH and good manufacturing practicing might aid the success of AYUSH services in co-located PHCs. The following are few verbatim related to the success factors:

A patient from Andhra Pradesh said:

*"A large percentage of people are looking for where to find Ayurvedic medicines that will not cause any problems like the use of English medicines (allopathy). A doctor related to Ayurveda should also be kept in the government hospital. People are very happy to go to AYUSH. People are coming back and taking Ayurvedic medicines even though they are using English medicines, they are just coming to understanding. Those who have benefited about Ayurveda will be telling others, now 90% Ayurvedic medicines are useful for People."*

AYUSH medical officer from Andhra Pradesh said:

*"Our medicines are available at the pharmacy of any doctor or practice we go to, kidney problems, liver Problems, gynaecology problems and anemia, Ayurveda is better for such diseases. Allopathic medicine for anemia can cause constipation, but if you take ayurvedic medicines, there will be no constipation."*

*"There is no discrimination and everyone is supportive"*

A MBBS medical officer from Andhra Pradesh said

*"It would nice to work with them (AYUSH), sometimes we also take their medications, not like pain Killers but for constipation, allergic reactions then sometimes we also ask for skin problems because it has no side effects, and also someone who is big on prolonged skin diseases if so we also prefer them to Ayurveda so that they do not have side effects, occasionally we also take Ayurvedic medicines"*





A MBBS medical officer from Bihar said:

*“one thing I always prescribe is in case of arthritis, in case of joint pain, in case of chronic leukorrhea. Some type of cases come to us in which they get fast relief but they will not get permanent solution by our treatment. Then we will face challenges in these cases where they get good treatment from unani. .... there AYUSH people are successful in cases such as joint pains where they end pains and cure permanently and there are few skin diseases they will cure permanently and there won't be recurrence”*

A senior medical officer from Andhra Pradesh said that AYUSH drugs are manufactured under strict supervision and guidelines. He said,

*“No, drugs are coming. On the next seventh day all the dispensaries received the medicines and we also received them. Every drug is also a proven drug, sent along with analysis of it. I will show it to you later. Now a large drug manufacturing center exclusively in Ayurveda has been set up in Jhansi (Uttar Pradesh), if we go inside it (manufacturing centre) there is allopathy drug or ayurvedic drug it is made and analyzed and comes out established or something like that. It was established when ysahwanth Naik, but there drug development, drug repository, drug manufacturing, drug Analysis is all together. We do not take any drug without its analysis. We take it knowing that it is definitely a safe drug for us, every drug is also undergoing clinical trials, there are four types of clinical trials, drugs come after these four stages of clinical trials.”*

#### **v. Objective 5: To develop key evaluation indicators that can be implemented while co-locating AYUSH with Primary Health Centers for future performance appraisals**

We executed a logic model framework with the inputs, process, output, outcome domains, and respective indicators. The data for these indicators were extracted from various sources listed in Table 2. The state-level policy guidelines on AYUSH were available in all the states (Table 20). The creation and recruitment of AYUSH medical officers for PHCs were available in all the states. However, based on the findings from the study, it is evident that the recruitment is incomplete or occurs on a contractual basis. However, the creation and recruitment of allied healthcare worker for AYUSH are only available in Rajasthan, yet such worker was not available in PHCs included in the study. AYUSH medical officers are involved in NHM activities in all the states. However, in most states, less than 50% of the states have AYUSH collocated with the PHC. The median number of footfalls at the PHCs included in the survey ranged from 865 to 4500 in the states included in the survey in 2021. This footfall at AYUSH OPD is 15-30 % of total OPD attendance in the PHCs included in the survey. However, the number of patients was relatively less in Rajasthan. Less than 10% of patients of AYUSH OPD were referred from allopathy OPD. AYUSH related out-reach activities were carried out by 90% AYUSH medical officers from the PHCs in Andhra Pradesh followed by 80% of PHCs in Rajasthan and 40% in Odisha. None of the AYUSH medical officer from Bihar carried out outreach activities. The other indicators (explained earlier) like patient satisfaction, cure rate for various diseases, compliance and follow-up rate can also be used as outcome indicators.

These indicators can be utilized for assessing the performance of AYUSH services co-located in PHC. This logic model and the indicators can be adapted while assessing other health-services (AYUSH) co-located with different levels of health system.



Table 20 Evaluation on AYUSH co-located within Primary Health Centers included in the study

S. No	Domain	Indicators	Andhra Pradesh	Bihar	Maharashtra	Odisha	Rajasthan
1	Input	Policy guidelines	+	+	+	+	+
2	Input	Creation of AYUSH Position i. AYUSH Medical officer	+	+	+	+	+
		Creation of AYUSH Position ii. AYUSH allied healthcare worker	–	–	–	–	+
3	Input	Recruitment of AYUSH Position i. AYUSH Medical officer	+	+	+	+	+
		Recruitment of AYUSH Position ii. AYUSH allied healthcare worker	–	–	–	–	+
4	Process	Engagement of AYUSH in NHM	#	#	+	#	+
5	Process	Current Engagement of AYUSH in NHM	+	+	+	+	+
6	Output	Institutions with Co-location	301 (21.5)	1143 (59.2)	Nil	1171 (90.5)	433 (18.1)
7	Outcome	Clinical services – Patient load in AYUSH OPD	3716 (1660 - 4530)	3687 (1800-6000)	1519 (670-190)	4500 (665-5800)	865 (668-1137)
		Cross referral from Allopathy to AYUSH <sup>‡</sup>	684 (305-1200)	Nil	200 (120-360)	104 (30-125)	225 (60-500)
8	Outcome	Outreach services	9 (90)	(0)	9 (90)	4 (40)	8 (80)

\*Maharashtra was not included in the denominator; # Could not be obtained; + Present; - Absent; ‡ 4 PHC from Odisha and one PHC from Bhubaneswar did not refer any patient and excluded

# 7. KEY FINDINGS

Key findings from the evaluation of AYUSH services at the AYUSH co-located PHCs in the states of Andhra Pradesh, Bihar, Odisha, and Rajasthan are:

1. The healthcare providers and patients expressed that the patients trusted and appreciated AYUSH services.
2. In 2021, in the states (Andhra Pradesh, Bihar, Odisha and Rajasthan) included in this project, the median (IQR) AYUSH OPD footfall was 3716 (1495-4566), 3687 (1800-6000), 4500 (665-5800) and 865 (668-1137), respectively. In the same year, the median (IQR) OPD footfall at allopathic OPDs at the same PHCs (Andhra Pradesh, Bihar, Odisha and Rajasthan) were 14698 (8949-21496), 25978 (13285-36000), 11000 (8000-22000) and 8523 (6500-11794).

## *Infrastructure, human resources and drugs in AYUSH OPDs*

3. A large gap was observed in the infrastructure at the AYUSH OPDs in all five States. Patients and healthcare providers expressed the need for an examination/ therapeutic room; sign boards; service boards; examination table; co-located AYUSH pharmacy; and drug storage room. (Qualitative findings)
4. Inconsistent posting schedule of the AYUSH medical officers were seen especially in Andhra Pradesh (100%), where the AYUSH medical officers posted on deputation/ made in charge of more than one center. Most states did not have allied healthcare human resources for the AYUSH services, like pharmacists/ staff nurses/ health workers. Overall, only 17% of PHCs had AYUSH allied healthcare worker and 7% had AYUSH pharmacist
5. AYUSH drug supply chain management was a primary challenge reported in all the states. Region-specific AYUSH drugs were not available. Only 38% PHCs received drugs regularly in the last year, and 48% PHCs had an adequate supply of AYUSH drugs to meet the patient's demands. A robust AYUSH drug supply chain delivery system with quality and sustainability should be established.
6. Local herbal gardens at PHC, empowerment of farmers to grow medicinal plants, procurement of such plants from farmers by the Government, and subsidies for farmers for growing medicinal plants were a few propositions from patients and health workers and which may be implemented to get the raw material for AYUSH drugs.



### ***Prescription Audit***

7. Prescription slips were not optimal as per the WHO and MoHFW recommendation. The diagnosis of the patient was mentioned in only 64% of the prescription slips. Duration of drug intake (56.5%) and mode of administration (56%) was mentioned in half of the prescription slips. Only one-fourth (25%) of the prescription slips had the details of the next visit to the AYUSH OPD.

### ***Services at AYUSH OPD***

8. The majority (76%) of the patients traveled for around five kilometers to visit AYUSH OPD. Most of them commute either by walk (48%) or two-wheeler (35%). Patients from distance >10 km were also attending AYUSH clinics repeatedly in most of the states.
9. More than 70% come to know about AYUSH OPD either from friends or family or patients themselves visited.
10. Major illnesses (~75%) for visiting AYUSH OPD were problems related to joint/bone, skin problems, general weakness, respiratory tract infection, kidney-related health problems, and gastrointestinal problems. Patients prefer AYUSH services because it is Indian medicine and believed to have fewer or no side effects.
11. More than 95% of patients visited more than once. They said they would visit next time and refer their family and others to AYUSH OPD.
12. Around one fifth (19%) of the patients were unsatisfied with AYUSH OPD infrastructure, particularly the examination room and lack of privacy.
13. Most patients (>90%) were satisfied with the services provided by the AYUSH medical officer.
14. Only 40% of the patients were satisfied with the availability of IEC material available in AYUSH OPD.
15. Almost half of the patients were not satisfied with the availability of drugs at the AYUSH OPD (45%) or a private pharmacy (40%) as they were not available most of the time. The patients and healthcare workers depicted a need for more AYUSH centers.
16. Three fourth of the patients (72%) were satisfied with the AYUSH drugs provided for their health condition, and almost everyone (99%) said they were satisfied with the AYUSH drug-related side effects as they were nil or very few.
17. A few AYUSH medical officers mentioned that MBBS medical officers discriminate against them as AYUSH drugs, and allied healthcare human resources were limited compared to their allopathy counterparts. (Qualitative findings)

### ***Challenges and Opportunities***

18. The challenge in AYUSH services provision is - the AYUSH drug supply chain, inadequate infrastructure, human resources, few referral centers for AYUSH, and AYUSH allopathy coordination.



19. The opportunities identified are - community involvement for awareness creation on AYUSH, integration of AYUSH indicators in routine HIMS monitoring, empowering farmers in AYUSH raw material production, labeling and research for AYUSH drugs, political commitment with intersectoral coordination, the teamwork of AYUSH and allopathy, and AYUSH drug supply-chain streaming.

### *Key indicators for measurement*

20. The logic model and the indicators can be used as a tool for monitoring AYUSH services at the AYUSH co-located PHCs for optimal and quality service provision.
21. Trend of patients attending AYUSH OPD, proportion of referrals from allopathy to AYUSH OPD, out-reach services, satisfaction of patients attending AYUSH OPD can be considered as indicators for evaluating the performance of AYUSH OPD in co-located PHCs.

# 8. STRENGTHS AND LIMITATIONS

## *Strengths*

1. The study was conducted in multiple sites (5 states) where various AYUSH systems are practiced.
2. The mixed-methods study enabled us to identify the current situation in the AYUSH-collocated PHC and challenges in the AYUSH service provision, human resources, and drug supply.
3. The study explored the perspectives of AYUSH medical officers, MBBS medical officers, frontline line workers, and patients in providing quality AYUSH services.
4. The in-depth interviews conducted among the state and district-level program managers reflected the programmatic challenges and opportunities in strengthening the collocation of AYUSH with PHCs.
5. The findings of this study reflected the real-world situation of AYUSH services, preferences, and referral from allopathy to AYUSH.

## *Limitations*

1. There were no registers/records available in the AYUSH OPDs on the details of the patients who received care to assess the revisited patients, which can be an indicator of preference.
2. There were no detailed records on the AYUSH drugs to assess the supply chain status. The data were captured only based on study participants reporting.
3. In Maharashtra, the AYUSH dispensaries were not co-located with PHC. Hence collocation-related indicators were not captured in detail for Maharashtra.
4. Poor registration of the patient details might have affected the overall study findings.
5. Monitoring indicators of AYUSH are not explored from the routine reporting system.
6. The study also did not explore individual AYUSH systems' challenges and opportunities.
7. Northeast region was not included in this study. The AYUSH practices and the community preferences might be different in northeast region which is not explored in this study.



8. The study did not explore the detailed supply chain delivery of AYUSH drugs
9. The challenges in funds, short comings are not explored in detailed.
10. The details of available and required equipment were not explored in detail.
11. Disease specific indicators (as mentioned in National Ayush Mission) is not captured in this study.
12. The study could not explore more of success factors in provision of AYUSH services in co-located PHCs, though it is one among the objectives.



# 9. RECOMMENDATIONS

1. The major challenge is the AYUSH drug supply chain system. A robust drug supply chain management system should be established to ensure the availability of AYUSH drugs. Technology enabled online indenting approach for AYUSH medications with linkage of various AYUSH drug warehouses could be explored.
2. Though AYUSH is an ancient system of medicine, there needs to be more awareness of AYUSH. Information education and communication material and campaigns should be made available in PHCs.
3. The crucial pillars of health service delivery, infrastructure, human resources, drug supply, and the fund availability should be strengthened.
4. The allied healthcare worker of AYUSH such as nursing officer and pharmacist should be made available to support the quality AYUSH service delivery.
5. A strong network of referral centers is to be established to provide a continuum of care.
6. Evidence on the efficacy and effectiveness of AYUSH drugs and their side effects needs to be documented. Fund for research should be strengthened, and quality proposals should be approved to document the scientific evidence of AYUSH drugs.
7. The labeling and packing of AYUSH drugs need to be improved.
8. Indicators should be developed and to be included in the routine health management and information system.
9. To ensure the satisfaction and trust of the patients strong and efficient quality control measures should be enforced including prescription audits.

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# 11. ANNEXURES

## Annexure - 1

### 15.1 Questionnaires

#### Objective 1

#### Part - A - Facility Assessment

##### 1. General information

S. No	Location And date	Response
1	Name of the state	
2	Name of the district	
3	Cluster/Centre/PHC ID	
4	Cluster/Centre/PHC name	
5	Name of the interviewer	
6	Date of completion of the assessment	Dd      mm      year
7	Name of the interviewee from the PHC	
8	Designation of the interviewee	
9	Population catered by the PHC	
10	Total number of patients attending allopathic OPD in last year (Jan – Dec 2020)	
11	Total number of patients attending AYUSH OPD in last year (Jan – Dec 2020)	
12	Total number of patients attending allopathic OPD in July 2021	
13	Total number of patients attending AYUSH OPD in July 2021	
14	When was the AYUSH OPD established in this PHC	Month:                      Year:
15	Number of patients cross referred from allopathy to AYUSH in last one year (Jan 2020 -Dec,2020)	



## 2. Checklist for manpower, Infrastructure and services available at PHCs with co-located AYUSH

S. No	Item	Available	Code
<b>1.</b>	<b>Manpower</b>		
a	Medical Officer- MBBS	Yes - 1 No - 0	
b	Medical Officer -AYUSH	Yes - 1 No - 0	
c	Pharmacist	Yes - 1 No - 0	
d	Pharmacist AYUSH	Yes - 1 No - 0	
e	AYUSH allied healthcare worker	Yes - 1 No - 0	
f	Nurse-midwife (Staff-Nurse)	Yes - 1 No - 0	
g	Health worker (Female)	Yes - 1 No - 0	
h	Health worker (Male)	Yes - 1 No - 0	
i	Health Assistant. (Male)	Yes - 1	
j	Health Assistant. (Female)/Lady Health Visitor	Yes - 1 No - 0	
k	Health Educator	Yes - 1 No - 0	
l	Accountant cum Data Entry Operator	Yes - 1 No - 0	
m	Laboratory Technician	Yes - 1 No - 0	
n	Cold Chain & Vaccine Logistic Assistant	Yes - 1 No - 0	
o	Multi-skilled Group D worker	Yes - 1 No - 0	
p	Sanitary worker cum watchman	Yes - 1 No - 0	
<b>2.</b>	<b>Infrastructure</b>	<b>Response</b>	<b>Code</b>
a	Whether the PHC has separate OPD/ consultation room for AYUSH(if the answer is yes then skip Q no-2.b)	Yes, in separate AYUSH building- 1  Yes, in same building of allopathic OPD - 2  No - 0	



S. No	Item	Available	Code
b	If no separate consultation room is available for the AYUSH doctor, where is the AYUSH consultation room located, please elaborate.		
c	The signboard of the PHC mentioning AYUSH OPD (for directions/ location)	Yes - 1 No - 0	
d	A serviceboard of the PHC mentioning the services available in AYUSH OPD (if answer is no skip to section 3 - services)	Yes - 1 No - 0	
e	AYUSH services board: Followings are mentioned		
	Location	Yes - 1 No - 0	
	Name of AYUSH doctor	Yes - 1 No - 0	
	Day & timings of OPD	Yes - 1 No - 0	
	User fees/charges	Yes - 1 No - 0	
<b>3.</b>	<b>Services</b>		<b>Code</b>
a	AYUSH services as per local preference	Yes - 1 No - 0	
b	Sufficient space with the storage cabins separately for AYUSH drugs in General Store Room	Yes, Separate store room for AYUSH - 1  Yes, along with general store room - 2  No - 0	
c	AYUSH Drug dispensing area	Yes - 1, separate dispensing area  No - 0, Same PHC pharmacy dispense both allopathic and AYUSH drugs	
d	Whether AYUSH drugs were supplied regularly in last one year (frequency)	Yes - 1 No - 0	
e	How frequently AYUSH drugs were supplied to the PHC in last one year	Monthly - 1 3 monthly - 2 6 monthly - 3 Yearly - 4 Others, _____	
f	Whether the supplied AYUSH drugs were adequate in quantity to distribute to the patients	Yes - 1 No - 0	



S. No	Item	Available	Code
<b>4</b>	<b>Records</b>		<b>Code</b>
a	Separate records for AYUSH OPD (OPD patient register)	Yes - 1 No - 0	
b	Separate records for AYUSH drugs (drug register)	Yes - 1 No - 0	
<b>5</b>	<b>Other services</b>		<b>Code</b>
a	Specialty clinic	Yes - 1  No - 0 (If no, skip question 5-b)	
b	If specialty clinic is available, please specify	_____	
c	Locally available medicinal herbs/plants grown around the PHC.	Yes - 1 No - 0	
d	Whether outreach activities were carried out in last one year from AYUSH dept	Yes - 1  No - 0 (if No, skip questions 5-e&f, and go to 5-g)	
e	If yes, how many outreach activities were carried out in last one year	_____	
f	Please specify the activities which were carried out	_____	
g	Whether AYUSH medical officer participated in National Health Programs last year	Yes - 1  No - 0 (if no skip 5-h and go to next section)	
h	If yes, please list the Programs at the AYUSH medical officer participated.	_____	

### 3. Details of AYUSH Medical Officer

S. No	Information	Response
1	Specialty of AYUSH Medical officer (Please tick the appropriate specialty) -----	Ayurveda -1 Yoga - 2 Unani - 3 Siddha -4 Homeopathy - 5 Naturopathy - 6
2	Designation of the AYUSH Medical Officer, please specify,	_____
3	Nature of the job of AYUSH Medical Officer	Permanent - 1 Contractual - 2 Deputation - 3





S. No	Information	Response
4	Number of years of posting of the AYUSH Medical Officer in the current PHC	_____
5	Number of days of working in week of the AYUSH Medical Officer in this PHC	_____
6	Working hours of the AYUSH Medical Officer	Morning _____ AM Evening _____ PM
7	Number of in-service trainings received by AYUSH medical officer related to AYUSH, in last 5 years	_____
8	Number of in-service trainings received by AYUSH medical officer related to allopathy, in last 5 years	_____
9	Number of in-service trainings received by AYUSH medical officer under NHM related to National Health Programs, in last 5 years	_____

## Objective-2

### Prescription Audit Checklist

S. No	Details	Response
1	Name of the auditing person	_____
2	Date of audit	_____
3	Name of the health facility (PHC)	_____
4	Form number	_____

### Details in the prescription slip:

S.No	Item	Observation	Code
1	OPD number	Yes - 1 No - 0	
2	Date	Yes - 1 No - 0	
3	Name of the patient	Yes - 1 No - 0	
4	Gender of the patient	Yes - 1 No - 0	
5	Age of the patient	Yes - 1 No - 0	
6	Proper history written	Yes - 1 No - 0	
7	History of any drug/food allergy mentioned	Yes - 1 No - 0	



S.No	Item	Observation	Code
8	Diagnosis	Yes - 1 No - 0	
9	Details of next visit	Yes - 1 No - 0	
10	Name of the medical officer	Yes - 1 No - 0	
11	Signature of the medical officer	Yes - 1 No - 0	
12	Name of the drug	Yes - 1 No - 0	
13	Dosage of the drug	Yes - 1 No - 0	
14	Frequency/ time of administration	Yes - 1 No - 0	
15	Number of days the drug is prescribed	Yes - 1 No - 0	
16	Mode of administration	Yes - 1 No - 0	
17	Any advice for the administration of drug	Yes - 1 No - 0	
18	Readability of the above details	Very difficult - 1 Difficult - 2 Not difficult - 3 Easy - 4 Very easy to read - 5	

### Objective 3

#### Patient Satisfaction

##### General Information

S. No	Details	Response
1	Name of the state	
2	Name of the district	
3	Cluster/Centre/PHC ID	
4	Cluster/Centre/PHC name	
5	Name of the interviewer	
6	Date of completion of the interview	Dd      mm      year
7	Consent has been read and obtained	Yes - 1 No - 0
8	Interview Language [Insert Language]	_____
9	Time of interview (24-hour clock) hrs mins	Hrs:      mins:



### 1. Socio demographic details of the participant (Patient)

S.No	Question	Response	Code
1.	Name of interviewee		
2.	Gender the Interviewee	Male-1 Female-2 Others-3	
3.	Age	_____ in years	
4.	What is the highest level of education you have completed?	Less than primary school - 2 Primary school completed - 3 Middle school completed - 4 High school completed -5 Higher Secondary school/ Pre university college completed - 6 College/University completed - 7 Post graduate degree -8	No formal schooling - 1
5.	What is your marital status?	Never married/ currently unmarried - 1 Currently married - 2 Separated/ Divorced - 3 Widowed - 4 Cohabiting/living in relationship-5	
6.	Occupation	Legislators, Senior Officials, and Managers - 1 Professionals - 2 Technicians & Associate Professionals - 3 Clerks - 4 Service Workers and Shop and Market Sales Workers -5 Skilled Agricultural and Fishery Workers - 6 Craft and Related Trades Workers - 7 Plant and Machinery Operators and Assemblers - 8 Elementary Occupations (Daily laborer/ House maid/Helper/cleaner/porter/ Sweeper/Garbage collector)- 9 Armed Forces- 10 Unemployed - 11 Homemakers - 12 Students - 13 Others - 14, specify _____	
7.	Total number of family members		
8.	Taking the past year, can you tell me what the average earnings of the household have been? (Monthly average)	Rs. _____	



S.No	Question	Response	Code
9.	What is the distance you travel for reaching this health care facility/PHC from your home?	_____ KM	
10.	Which is the nearest health care facility you visit for seeking care usually?	_____	
11.	What is the usual mode of transport you use to reach the PHC	1. Walking 2. Two-wheeler 3. Bus 4. Own Car 5. Auto/ tempo van 6. Hiring car from travel agency 7. Other modes of transport, please specify _____	
12.	What is the reason for visiting the AYUSH OPD (mention the reason or disease condition)?	_____	
13.	Whether you have visited this AYUSH OPD before this visit	Yes – 1 No – 0	
14.	How did you come to know about the AYUSH OPD	Family members Patient himself/ herself visited Neighbor suggested PHC medical officer (MBBS) referred Others, please specify _____	
15.	What is the reason for your preference for AYUSH compared to allopathy for your health condition?	Less side effects Less costly compared to allopathy Easy to understand Indian system of medication Others, _____	
16.	How are the AYUSH medications dispensed to you (Liquids)	I have to bring a bottle Plastic cover with zip lock Plastic cover without ziplock Others, please specify _____	
17.	How are the AYUSH medications dispensed to you (tablets)	Loose tablets in a cover Loose tablets directly handed over Others, please specify _____	



## 2. Patients' perception on services provided in AYUSH wing in the PHC

The questionnaire consists of several questions under which viewpoints are listed out. Each viewpoint consists of three types of five-point rating scale which includes (applied according to the need/appropriateness):

S. No	Five point rating scale-type-1	Five point rating scale-type-2	Five point rating scale-type-3
1	Very Satisfied (5)	Very Good (5)	Very likely (5)
2	Satisfied (4)	Good (4)	Likely (4)
3	Not sure / neutral / can't tell (3)	Not sure / neutral / can't tell (3)	Neutral (3)
4	Dissatisfied (2)	Bad (2)	Unlikely (2)
5	Very Dissatisfied (1)	Worse (1)	Very Unlikely (1)

S. No.	Statements	Response	Code
<b>A</b>	<b>Location and infrastructure of PHC</b>		
	Accessibility to this PHC from your home	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1)	
	Safe drinking water facility available at the PHC	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1)	
	Cleanliness of the toilets available in the OPD	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1) Toilet not available in the PHC (0)	
<b>B</b>	<b>AYUSH OPD</b>		
	If the AYUSH OPD is located separately in the PHC answer the question 4-7 or else go to q. no 8		
	Easy of identification of AYUSH OPD in the PHC?	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1)	



S. No.	Statements	Response	Code
	How do you rate the convenience of searching AYUSH OPD in the PHC?	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1)	
	How do you rate the ease of identification of AYUSH OPD by signboard (signage)	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1)	
	How do you rate the seating facilities in the waiting room of AYUSH OPD	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1)	
	How do you rate the physical separation of the AYUSH OPD into male and female examination areas?	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1) No separate examination area (0)	
	How satisfied you are with the waiting time to receive OPD Slip for AYUSH OPD	Very Satisfied (5) Satisfied (4) Not sure / neutral / can't tell (3) Dissatisfied (2) Very Dissatisfied (1) Doctor directly gives the OPD slip (0)	
	How satisfied you are with the OPD timings of the AYUSH OPD	Very Satisfied (5) Satisfied (4) Not sure / neutral / can't tell (3) Dissatisfied (2) Very Dissatisfied (1)	
	How do you rate the waiting time before consultation?	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1)	
<b>C</b>	<b>Experience with AYUSH doctor</b>		
	How do you rate the consultation time (duration) of the AYUSH doctor with you	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1)	





S. No.	Statements	Response	Code
	How satisfied are you in the clarity with which the AYUSH doctor asks about your symptoms?	Very Satisfied (5) Satisfied (4) Not sure / neutral / can't tell (3) Dissatisfied (2) Very Dissatisfied (1)	
	How do you rate the AYUSH doctor's level of listening to what you had to say?	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1)	
	How satisfied are you with the AYUSH doctors response when you ask questions about your health condition?	Very Satisfied (5) Satisfied (4) Not sure / neutral / can't tell (3) Dissatisfied (2) Very Dissatisfied (1)	
	How do you rate the AYUSH doctor's explanation regarding your health problems?	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1)	
	How do you rate the AYUSH doctor's overall behavior in the OPD	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1)	
	How satisfied are you with the AYUSH doctor's instructions on consumption of medication	Very Satisfied (5) Satisfied (4) Not sure / neutral / can't tell (3) Dissatisfied (2) Very Dissatisfied (1)	
	How do you rate the instructions given by doctor for diet modification	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1)	
	How do you feel about the knowledge of the doctor in treating the kind of problems you are suffering from	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1)	



S. No.	Statements	Response	Code
D	<b>Experience with other staff at the PHC</b>		
	How do you rate the nursing staff's listening to your complaints	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1) Nursing staff not available in AYUSH OPD (0)	
	How do you rate other staffs (at the OPD) behavior towards you?	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1) Other staff not available in AYUSH OPD (0)	
	How do you rate the explanation provided by the pharmacist (or those who give AYUSH drugs) regarding how to consume medication	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1)	
	How do you rate the attitude of the pharmacist (or those who give AYUSH drugs) towards you and your queries	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1)	
	How do you rate the available numbers of staff to perform all the tasks you require at each visit	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1)	
	How do you rate the AYUSH related health education materials at the PHC	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1) Health education material not available (0)	



S. No.	Statements	Response	Code
E	<b>Experience on AYUSH medications (If the patient is taking AYUSH medication)</b>		
	How do you rate the availability of the prescribed medications by AYUSH doctor at the PHC pharmacy	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1)	
	How do you rate the quality of the AYUSH medications provided at the PHC pharmacy	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1)	
	How do you rate the mode of providing liquid AYUSH medications at the PHC pharmacy	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1) Never received liquid drugs (0)	
	How do you rate the mode of providing solid(ex. Tablets, capsules, etc) AYUSH medications at the PHC pharmacy	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1) Never received solid drugs (0)	
	Incase if the prescribed AYUSH medication is not available at the PHC, how do you rate the availability of such AYUSH medications in the local pharmacy (private)	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1) Never received drugs from local pharmacy (private) (0)	
	How do you rate your experience on symptom relief after intake of the AYUSH medicines prescribed at the PHC	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1)	
	How do you rate you experience on adversereactions after taking AYUSH medicine/s prescribed here	Very Good (5) Good (4) Not sure/ Can't tell/ Neutral (3) Bad (2) Worse (1)	



S. No.	Statements	Response	Code
	Overall, are you satisfied with care provided in AYUSH OPD for your health condition?	Very Satisfied (5) Satisfied (4) Not sure / neutral / can't tell (3) Dissatisfied (2) Very Dissatisfied (1)	
	Whether you will visit the AYUSH OPD again?	Very likely (5) Likely (4) Neutral (3) Unlikely (2) Very unlikely (1)	
	Whether you will recommend you friends/ family members to visit AYUSH OPD in future	Very likely (5) Likely (4) Neutral (3) Unlikely (2) Very unlikely (1)	

#### Objective-4

### II. Qualitative data collection tool

#### In-depth Interview guide (For AYUSH doctors)

##### Modality of AYUSH treatment:

1. How AYUSH is different from the Allopathic medicine in Practice? (Probes – mechanism of action, conceptual, individual tailored)
2. What is the common preference of the people of this area?
3. What do you think is the reason behind such preference? - (Probes- Cost, Quality of care, Side effects)
4. What are the challenges in delivering AYUSH treatment? (Probes- Side effects, patient compliance, expectation of patient, patient satisfaction)
5. For which ailments, do you think AYUSH has better results than the mainstream medicine?
6. For which ailments, do you think Allopathic medicine has better results than the AYUSH?

##### Co-locating AYUSH with PHC on Health system strengthening:

1. How do you think the mainstreaming of AYUSH Could be done?
2. How does co-locating of AYUSH with PHC has benefitted the Health Care delivery system in India?
  - a. How is integration of AYUSH at primary health care be beneficial to care provided at PHC? (System perspective as well as patient perspective)
  - b. How will co-locating affect the health workforce?



3. How do you feel working along with MBBS doctors? (Probes- Compatibility, impact on performance, work scheduling, prejudices, bullying)
4. What do you think are the aspects which facilitate the co-locating of AYUSH in primary health care system?
5. What are the factors which hinder the mainstreaming of AYUSH in primary health care system?
6. Please suggest, how to overcome these barriers.
7. According to you, who all should be involved in measures suggested by you to overcome these barriers effectively?
8. How can the AYUSH system will be managed at your PHC (in terms of HR, drugs, inventory of AYUSH drugs)?
9. What are the funding sources in your PHC for the existing AYUSH services and how can it be enhanced?
10. How can Local bodies/ state government/ central government support in co-locating of AYUSH?
11. Do you actively participate in any community-based activities?
12. What is your view on role of community in mainstreaming AYUSH?
13. What is your view on co-locating AYUSH to primary health care system?

#### Miscellaneous:

1. How much support do you get from your authorities? Do you get an opportunity of handholding from the authorities?
2. Do you feel discriminated by the authorities/patients/other staff?
3. Do you feel any hindrance in executing power in the facilities?
4. How do you feel to practice allopathic medicine being an AYUSH doctor?
5. What is your opinion on the remuneration given for your duty?

### **In-depth Interview guide**

#### **(For Medical Officers)**

#### **Modality of AYUSH treatment:**

1. How AYUSH is different from the Allopathic medicine in Practice? (Probes – mechanism of action, conceptual, individual tailored)
2. What is the common preference of the people of this area?
3. What do you think is the reason behind such preference? - (Probes- Cost, Quality of care, Side effects)



4. What are the challenges in delivering Allopathic treatment? (Probes- Side effects, patient compliance, expectation of patient, patient satisfaction)
5. For which ailments, do you think Allopathic medicine has better results than the AYUSH?
6. For which ailments, do you think AYUSH has better results than the mainstream medicine?

#### **Co-locating AYUSH with PHC on Health system strengthening:**

1. How do you think the mainstreaming of AYUSH could be done?
2. How does co-locating of AYUSH with PHC have benefitted the Health Care delivery system in India?
  - a. How is integration of AYUSH at primary health care be beneficial to care provided at PHC? (System perspective as well as patient perspective)
  - b. How will co-locating affect the health workforce?
3. How do you feel working along with Allopathic doctors? (Probes- Compatibility, impact on performance, work scheduling)
4. What do you think are the aspects which facilitate the co-locating of AYUSH in primary health care system?
5. What are the factors which hinder the mainstreaming of AYUSH in primary health care system?
6. Please suggest, how to overcome these barriers.
7. According to you, who all should be involved in measures suggested by you to overcome these barriers effectively?
8. How can the AYUSH system will be managed at your PHC (in terms of HR, drugs, inventory of AYUSH drugs)?
9. What are the funding sources in your PHC for the existing AYUSH services and how can it be enhanced?
10. How can Local bodies/ state government/ central government support in co-locating of AYUSH?
11. Do you actively participate in any community-based activities?
12. What is your view on role of community in mainstreaming AYUSH?
13. What is your view on co-locating AYUSH to primary health care system? (Probe-AYUSH services as an add-on service)

#### **Miscellaneous:**

14. What you feel about the bridge course? How can it be helpful to AYUSH practitioners? How does it can be beneficial to overall health system in the country? (Probes- Reducing the health workforce gap)?
15. How often do you come across patients complaining of adverse effects of AYUSH medicines?
16. What are the positive experiences in health service delivery while working with AYUSH





practitioners?

17. What are the negative experiences in health service delivery while working with AYUSH practitioners?
18. How much support do you get from your authorities?
  - At the Block level
  - At the district level
19. What is your opinion on the remuneration/Salary given for your duty?

## **In-depth Interview guide**

**(For State/ District program officers)**

### **Manpower Recruitment, Training & Capacity Building:**

1. Do you think the recommended manpower of AYUSH within the public health system is adequate? What is the reason for your answer?
2. Do you think the AYUSH practitioners/ healthcare workers are recruited as per recommended or is there any gap between the demand and supply? If such gap exists, what is the reason for such gap?
3. At what frequency does the notification for recruitment come? Do you get sufficient applicants for the existing posts? Do you get competent candidates for the post? When did the last notification come out and for how many posts? How many applicants applied for those posts?
4. How AYUSH healthcare providers are trained in clinical skills? What trainings are they given? At what frequency trainings are conducted? Are they paid any honorarium for the trainings?
5. How competent are AYUSH practitioners in practicing allopathic medicine? Is it ethical to allow them to practice allopathic medicine?
6. What is your take on Bridge course for AYUSH MOs?
7. Any other thing you want to mention regarding the AYUSH facility, the health care worker or the services provided?

### **Funding:**

8. What is the source of funding for procurement of AYUSH drugs? What is the process followed for procuring the drugs? What are the issues with drug procurement? How do you think the efficiency of drug procurement be improved?
9. What is the source of salary for the AYUSH doctors? Are they getting regular/timely salary? What are issues faced in delivering salary regularly?

### **FGD Guide for Frontline workers**

1. What are the common illnesses/diseases prevalent in your area?



2. What is the treatment preference of people of your area? Allopathic or AYUSH?
3. For which health conditions people in your area prefer AYUSH over allopathic medicine or vice versa?
4. What do you think what may be the reason for such preferences?
5. What are the challenges people face in receiving allopathic treatment in your area?
6. What are the challenges people face in receiving AYUSH treatment in your area?
7. What more facilities you are expecting under AYUSH treatment/ facility?
8. What is your opinion on the services available at the AYUSH facility in your PHC?
9. What is your opinion on referring patients from community to AYUSH healthcare facility?
10. Any other thing you want to mention regarding the AYUSH facility, the health care worker or the services provided?

#### **FGD guide for patients/ beneficiaries**

1. What is your opinion about AYUSH medicine/ Treatment?
2. For which health conditions people in your area prefer AYUSH over allopathic medicine and vice versa?
3. What may be the reason for such preferences?
4. What are the challenges in receiving allopathic treatment in your area?
5. What are the challenges in receiving AYUSH treatment in your area?
6. What more facilities you are expecting under AYUSH treatment/ facility for your community?
7. What is your opinion on the services available at the AYUSH facility in your PHC?
8. What is your opinion on the doctors at the AYUSH facility?
9. What is your opinion on the healthcare staffs in the AYUSH facility?
10. What is your or people opinion from your area on the availability of drugs in the AYUSH facilities?
11. Any other thing you want to mention regarding the AYUSH facility, the health care worker or the services provided?



## Objective 5

### Key evaluation Indicators

S. No	Domain	Indicator	Means of Verification	Level of verification	Status	Code
1	Input	Policy guideline	Documents/ Office Order/ Gazette (AYUSH specific documents available at state level)	State	Present -1 Absent - 0	
2	Input	Creation of AYUSH Position I. AYUSH Medical officer	DOPT Office order/ Circular/ any other relevant office order	State/ district	Present -1 Absent - 0	
		Creation of AYUSH Position II-AYUSH Support staff	DOPT Office order/ Circular/ any other relevant office order	State/ district	Present -1 Absent - 0	
3	Input	Recruitment of AYUSH Position I. AYUSH Medical officer	State Govt Recruitment Process/ Orders/ Recruitment advertisement	State/ district	Present -1 Absent - 0	
		Recruitment of AYUSH Position II- AYUSH Support staff	State Govt Recruitment Process/ Orders/ Recruitment advertisement	State/ district	Present -1 Absent - 0	
4	Process	a. Engagement of AYUSH in NHM	TOR of AYUSH MO (document available with AYUSH MO/ state/ district AYUSH dept)	State/ district/ PHC	Present -1 Absent - 0 (If absent skip q no. 4 b)	
		b. If present, the details of engagement in NHM as per the TOR/ Guidelines	TOR of AYUSH MO (document available with AYUSH MO/ state/ district AYUSH dept)	State/ district/ PHC	1. 2. 3. 4. 5.	



S. No	Domain	Indicator	Means of Verification	Level of verification	Status	Code
5	Process	a. Current engagement of AYUSH in NHM	AYUSH MO participation in National health program related activities in last one year (Questionnaire)	PHC	Present -1 Absent - 0 (If absent skip q no. 5b)	
		b. If present, the details of engagement in NHM, currently	AYUSH MO participation in National health program related activities in last one year (Questionnaire)	PHC	1. 2. 3. 4. 5.	
6	Output	Institutions with Co-location	% of facilities with co-location of AYUSH at PHC (state level-data will be collected from State AYUSH department)	State	1. Total number of PHCs in the state _____ 2. Number of PHCs co-located with AYUSH _____	
7	Outcome	Clinical Services	Facility assessment questionnaire	PHC	Questionnaire attached (part of objective 1)	
			Patient load in AYUSH OPD in last year (Jan to dec 2020)	PHC	Questionnaire attached (part of objective 1)	
			Cross referral from Allopathy to AYUSH in last year (Jan to dec 2020)	PHC	Questionnaire attached (part of objective 1)	
			Prescription slip audit (% of prescription slips with at least 50% of the details entered)	PHC	Questionnaire attached (part of objective 2)	
8	Outcome	Outreach activities	Number of outreach activities carried out by the AYUSH MO in last one year (Questionnaire)	PHC	Questionnaire attached (part of objective 1)	
9	Outcome	Patients Satisfaction	Exit interview (% of patients reported overall satisfaction with the AYUSH services)	PHC	Questionnaire attached (part of objective 3)	



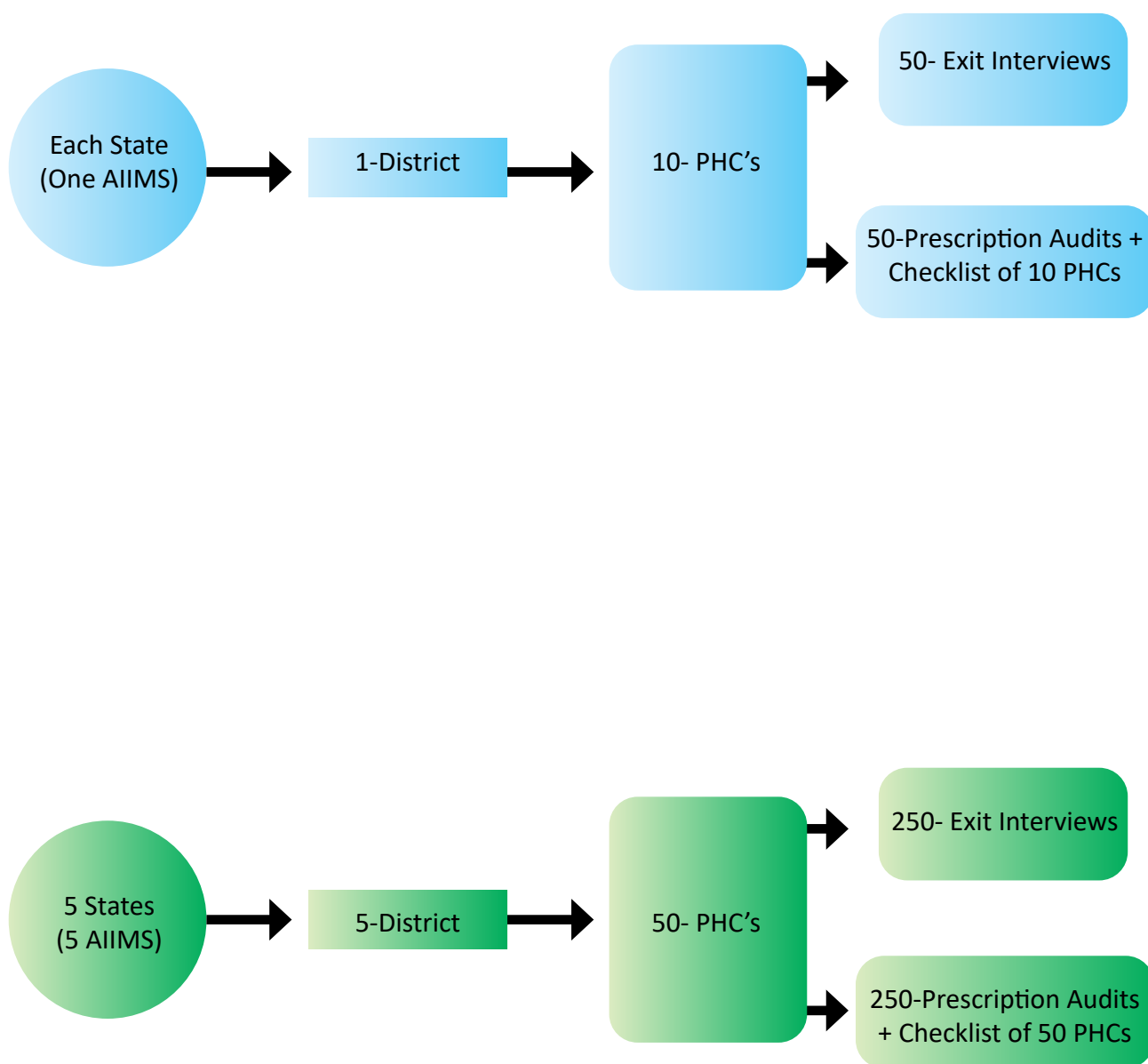
S. No	Domain	Indicator	Means of Verification	Level of verification	Status	Code
10	Impact	Performance of Primary Health Care Indicators	Accessibility	PHC	Questionnaire attached (part of objective 3)	
			Adequacy of staff and workload	PHC	Questionnaire attached (part of objective 3)	
			Availability of AYUSH drugs and its supply chain	PHC	Questionnaire attached (part of objective 1)	
			Number of OPD	PHC	Questionnaire attached (part of objective 1)	
			Preference to revisit and referral	PHC	Questionnaire attached (part of objective 1 and 3)	
			Satisfaction on services	PHC	Questionnaire attached (part of objective 3)	



## Annexure 2

### 15.2 Data collection plan

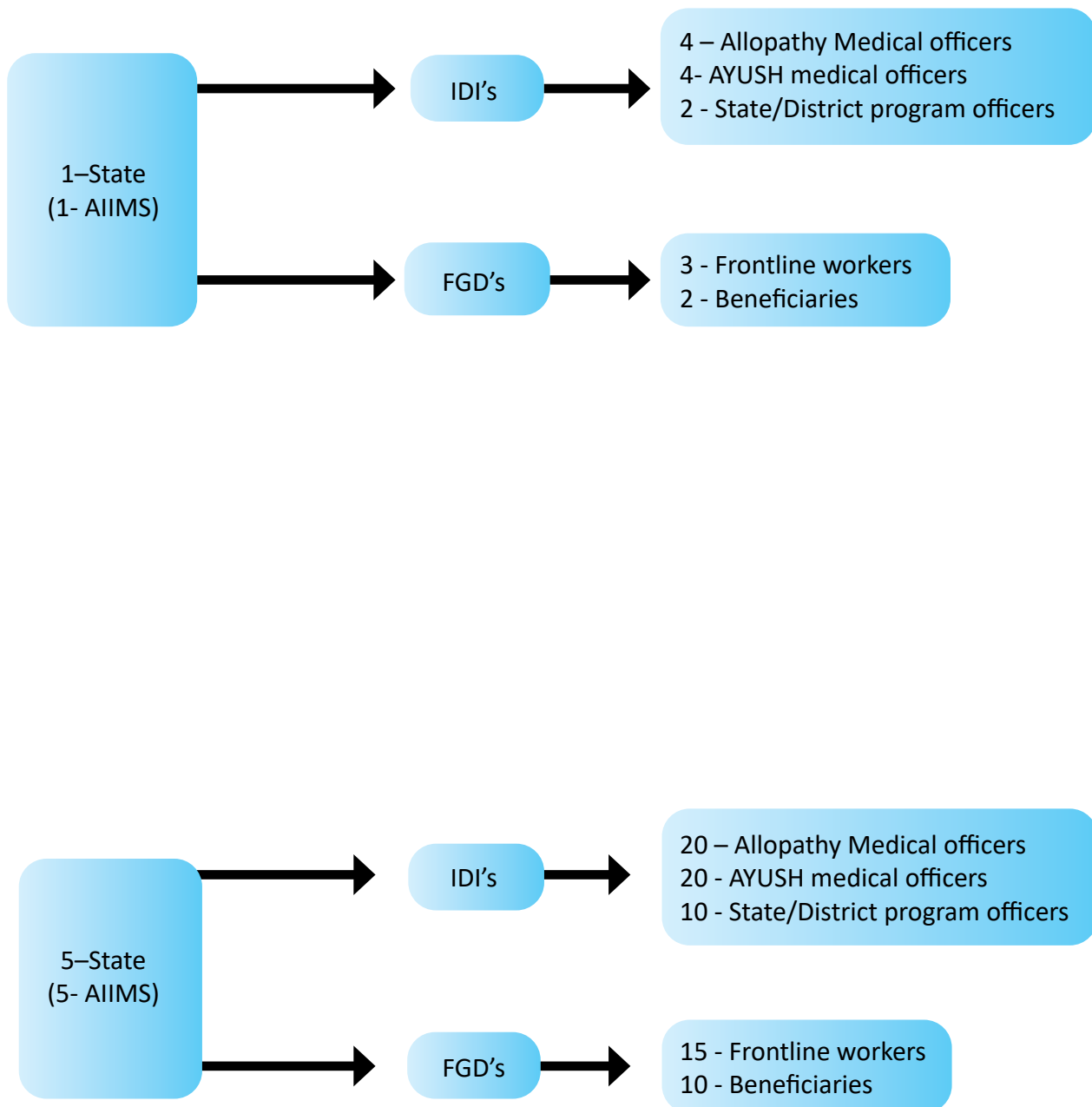
#### Quantitative data







## Qualitative data





National Health Systems Resource Centre,  
Ministry of Health and Family Welfare, Government of India