

**A Comprehensive Study on eSanjeevani- National
Telemedicine Service under the Ayushman Bharat
Programme in Rajasthan**

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Introduction

Ayushman Bharat is a healthcare initiative launched by the Government of India. It aims to provide accessible and affordable healthcare to the citizens of India, particularly those belonging to economically disadvantaged sections of society. While Ayushman Bharat primarily focuses on health insurance coverage through the Pradhan Mantri Jan Arogya Yojana (PMJAY), it also emphasizes the establishment of Health and Wellness Centers (HWCs) across the country. Health and Wellness Centers under Ayushman Bharat serve as the primary point of contact for healthcare services at the grassroots level. These centers provide a range of essential healthcare services, including preventive, promotive, curative, rehabilitative, and palliative care.

Currently, there are more than 9,000 Health and Wellness Centres in Rajasthan. The establishment of Health and Wellness Centers under Ayushman Bharat aims to strengthen the primary healthcare infrastructure in India and improve healthcare access for millions of people. These centers are essential in promoting preventive healthcare, early detection of diseases, and reducing the burden on secondary and tertiary healthcare facilities. The Health & Wellness Centres, which is now known as Ayushman Arogya Mandir, was created by transforming existing Sub Health Centres and Primary Health Centres to deliver Comprehensive Primary Health Care, which is declared as one of the two components of Ayushman Bharat. The delivery of comprehensive primary health care through Ayushman Arogya Mandir includes nine key elements that are: expanded service delivery, continuum of care- telehealth and referral, expanding HR-CHO and multiskilling, medicines and expanding diagnostics, community mobilization and health promotion, robust IT system, infrastructure, partnerships for knowledge and implementation, and financing-provider payment reforms.

This study aims to focus on Telemedicine, i.e., a component of Telehealth which is one of the key elements of Ayushman Arogya Mandir. Telemedicine refers to the use of remote medical consultation and diagnosis through telecommunication technology, that provides healthcare services to remote areas. It involves the diagnosis, treatment, and prevention of diseases and injuries, as well as research and evaluation, to improve the health of individuals and communities. Telemedicine is an IT application used to deliver healthcare services worldwide. Teleconsultation, which involves using IT to facilitate communication between geographically separated patients and doctors, is one of the applications of telemedicine.

The Government of India has launched two major initiatives to address the healthcare needs of the community through telemedicine which are:

- a) E-Sanjeevani OPD service which is dedicated to patient-doctor telemedicine consultation services.
- b) E-Sanjeevani HWC service which provides hierarchical consultation services i.e., from lower facility to higher facility (PHC-CHC/DH/Medical College). The E-Sanjeevani HWC model is also called as Hub & Spoke Model.

This study aims to understand the implementation of telemedicine services in the Jaipur district of Rajasthan.

REVIEW OF LITERATURE

1. Abid Haleem et al. [2021]

This article aims to study the features, capabilities, and applications of telemedicine. Telemedicine connects physicians and patients, allowing for long-term lifestyle adjustments. It simplifies medical office duties, allowing personnel to focus on higher-value work. Clinicians can care for patients online, facilitating distant practices. This minimizes distance obstacles and allows for electronic interchange of diagnosis, care, and preventative information. It expands health coverage to rural communities and improves healthcare quality. Telemedicine improves access in disadvantaged areas, making visits easier for people with limited mobility. It reduces travel while improving lives by assuring timely healthcare for everybody.

2. Revathi G. Maroju et al. [2023]

This article aims to study the role of telemedicine in public health in India. The services being delivered through telemedicine in India would be a breakthrough as it will be cost-effective and benefit the people lacking healthcare facilities in remote areas. To implement telemedicine, digital health solutions, and regular modifications to e-health programmes, robust planning, and operating systems are required to facilitate the aim of making India digital along with improving healthcare services.

3. Maryam Alvandi et al. [2017]

This study focuses on the role of telemedicine in revolutionizing healthcare delivery. Telemedicine being a boon to the healthcare delivery system, also has proven effective in follow-up care, providing services to patients located in remote areas or homes, patient satisfaction, diagnostic evaluation, storage and dissemination of records, educating healthcare professionals, etc. By overcoming the factors of concern such as equipment malfunctions, technical requirements, standard compliance, and implementing solutions through designating strategies, telemedicine can be channelized successfully.

4. Mason Stoltzfus et al. [2023]

Being an emerging solution in the pandemic era, telemedicine has proved its significance, and this study sheds light on the pros and cons of telemedicine focusing on its role in healthcare. While telemedicine sorts many of the healthcare issues such as connecting patients at distant locations, saving time and money, and reducing wait times and patient volumes at emergency departments, but still lacks the technology to effectively replace the physical examination that is core to

healthcare encounters. Therefore, remote healthcare will likely to continue as a supplement to in-person encounters until further technological advancements are made.

5. Israa K. Abdelghany et al. [2024]

This article explores the insights of telemedicine by evaluating patient's perspectives on virtual care delivery. An exploratory mixed methods design approach was used, and perceptions were recorded through online questionnaires. The quantitative data was summarized by descriptive analysis using SPSS. The overall result of the study came out as positive and was in favor of telemedicine integration into the healthcare system.

6. Ilgiz Gareev et al. [2021]

This study aims to identify the role of telemedicine during the pandemic as well as featuring the opportunities and challenges for the same. By minimizing the spread of the virus through remote teleconsultation, leveraging healthcare provider's time, and alleviating the challenges of medical education, telemedicine has worked wonders for developed countries in many ways. Developing countries are still in the process of implementing the services fully to unleash their complete potential to meet the needs of modern healthcare. Therefore, high-quality guidelines, algorithms for digital solutions, and new laws and regulations are much needed to overcome barriers to taking telemedicine to the next level and marking it as an inevitable new step into the modern future.

7. Surya Bali et al. [2018]

This article aims to focus on the barriers to telemedicine in developing countries. By understanding the loopholes and bottlenecks of telemedicine services, one can develop appropriate solutions for the implementation of the same. Insufficient staff (clinical, IT, Telemedicine), technological constraints, timely upgradation of ICT, inadequate infrastructure, legal, social, and financial constraints, resistance to change, ICT literacy, and low internet bandwidth are some of the major barriers that need to be worked on improving the telemedicine services in developing countries.

8. Suhas Satish Kumar et al. [2022]

This article dives into the understanding of e-sanjeevani, which is the national telemedicine service of India. The ground-breaking initiative of e-sanjeevani has proven to be favorable to delivering telehealth and reduced cross-transmission during the pandemic. Dedicated funding and infrastructure became the foundation for initiating, and adhering to regulations has made it possible to scale up and expand the plan for the telemedicine initiative in 35 states and union territories with more than 16 million teleconsultations.

Research Questions

1. What is the current operational status of telemedicine services?

2. What is the gap between the 'Guidelines for telemedicine services and the actual status on the ground?

Objectives

The objectives of this study are:

1. To understand the implementation status of telemedicine service in Rajasthan.
2. To assess the gap between the 'Guidelines for telemedicine services and the actual status on the ground.

Hypothesis

This study hypothesizes that telemedicine services are being implemented as per the proposed guidelines in the Jaipur district of Rajasthan.

Material and Methods

Study Design: A cross-sectional study design will be employed.

Setting: The study will be conducted in rural areas of Jaipur district of Rajasthan.

Study Tools: A questionnaire will be developed for healthcare providers to assess the ground reality of telemedicine service in Rajasthan.

Duration of Study: The study will be conducted for 2 months.

Sample Size: All the 18 healthcare providers (CHOs) will be included.

Data Collection Procedure: The data will be collected through a self-administered questionnaire for healthcare providers (CHOs).

Operational Definitions:

Telemedicine: The use of telecommunications technology to provide remote medical diagnosis and consultation.

Sub-center: A healthcare facility in a rural area that provides primary healthcare services.

Data Analysis Plan: MS Excel will be used for data analysis. Results will be visualized through graphs.

Ethical Considerations: The study will adhere to ethical principles of research, including informed consent, confidentiality, and anonymity.

Implications of Research: The findings of this study will inform policymakers and healthcare providers regarding the effectiveness of telemedicine in sub-centers for improving healthcare service delivery in rural areas of the Jaipur district of Rajasthan.

References

1. Ayushman Bharat Health and Wellness Centres. (2018). Retrieved from <https://ab-hwc.nhp.gov.in>
2. Guidelines for Tele-Medicine Services In Ayushman Bharat- Health and Wellness Centres (HWCs). Retrieved from <https://ab-hwc.nhp.gov.in>

Sample survey questionnaire about telemedicine in rural areas for Community Health Officers:

DEMOGRAPHIC DETAILS

Q. Name

Q. Age

Q. Gender

Q. Qualification

Q. Which sub-center are you currently assigned to? _____

1. (i) Is teleconsultation service being implemented in your facility?

(a) Yes

(b) No

(ii) What are the reasons behind that?

BASIC UNDERSTANDING/AWARENESS OF TELEMEDICINE

2. (i) Have you heard about the Hub & Spoke Model followed in telemedicine service?

(ii) Does the facility follow the Hub & Spoke model?

(a) Yes

(b) No

(c) Don't know

(iii) Which Hub this sub-center is being assigned to?

(a) PHC

(b) CHC

(c) Sub-District Hospital

STAFF AVAILABILITY

3. (i) Is there appropriate staff availability as per guidelines at your facility for telemedicine service?

- (a) Yes
- (b) No
- (c) Partially available

(ii) If option (b) or (c) is selected, then please specify.

INFRASTRUCTURE

4. Is the minimum required infrastructure for telemedicine service available at your facility?

- (a) CHO Room
- (b) Furniture & Fixtures (Yes/No)
- (c) Equipment (Yes/No)

INCENTIVES

5. (i) Is there any incentive for providing telemedicine service?

- (a) Yes
- (b) No

(ii) If yes, how much?

- (a) Rs.750 per month
- (b) Rs.1000 per month
- (c) Rs. 2000 per month

(iii) Are you getting it on time?

- (a) Yes
- (b) No

(iv) If option (b) is selected, then please elaborate.

TRAINING

6. (i) Have you received training to handle the telemedicine component at your facility?

- (a) Yes
- (b) No

7. (i) Are you comfortable handling the teleconsultation services?

- (a) Yes
- (b) No
- (c) Partially comfortable

(ii) What are the reasons behind that?

DRUGS AVAILABILITY

8. (i) Does all the prescribed list of drugs available at your facility?

- (a) Yes
- (b) No
- (c) Partially available

(ii) If option (b) or (c) is selected, then for what services, the drugs are usually unavailable?

GENERAL

10. How many teleconsultations are being done on an average in a month?

11. How teleconsultation records are maintained at the facility?

12. For what cases, do patients mostly visit the facility for teleconsultation?

13. Does the prescribed treatment through teleconsultation provide the desired results?

14. How do you think telemedicine could benefit rural communities? (Select all that apply)

- (a) Increased access to healthcare services
- (b) Reduced travel times for patients
- (c) Improved patient outcomes
- (d) More efficient use of healthcare resources
- (e) Out-of-pocket expenditure
- (f) Continuum of care
- (g) All of the above
- (h) None of the above
- (i) Other (please specify)

15. What do you see as the biggest challenges to implement telemedicine in rural areas? (Select all that apply)

- (a) Limited access to reliable internet and technology
- (b) Lack of funding for telemedicine equipment and infrastructure
- (c) Limited training opportunities for healthcare providers
- (d) Patient reluctance to use telemedicine
- (e) All of the above
- (f) None of the above
- (g) Other (please specify)