RYKMDC Research Repository

Research Report |

Telemedicine Adoption in Public Health Clinics: Evaluating the Feasibility and Patient Satisfaction of Telehealth Services in Government-Run Primary Care Centers

1. Introduction

Access to quality healthcare remains a major challenge in rural and underserved areas of Pakistan, where public health clinics are often understaffed and under-resourced. Telemedicine offers a promising solution to bridge the gap between urban specialists and rural populations. This study evaluates the **feasibility, implementation challenges, and patient satisfaction** associated with introducing telehealth services in **government-run Basic Health Units (BHUs) and Rural Health Centers (RHCs)** in southern Punjab, with a pilot in Rahim Yar Khan district.

2. Objectives

- To assess the technical and operational feasibility of telemedicine in public primary care centers.
- To evaluate patient and provider satisfaction with teleconsultation services.
- To identify barriers to adoption (internet connectivity, digital literacy, equipment availability).
- To measure consultation outcomes, referral rates, and follow-up compliance.
- To recommend a scalable model for integrating telehealth into Pakistan's public healthcare system.

3. Methodology

Study Design: Mixed-methods pilot study with pre- and post-implementation assessment.

Duration: 8 months

Study Site: 4 government-run primary care centers in Rahim Yar Khan district.

Intervention:

- Installation of telemedicine kits (tablet, camera, internet hotspot).
- Partnership with RYK Medical College specialists (general medicine, pediatrics, gynecology).
- Scheduled teleconsultations 3 days/week.
- On-site support from Lady Health Workers (LHWs) for patient onboarding.

  Sample Size: 600 patients and 20 healthcare providers.

  Data Collection:

  - Patient satisfaction survey using a 5-point Likert scale (convenience, privacy, clarity).
  - Provider interviews on workflow integration and challenges.
  - Technical logs: connection stability, consultation duration, device uptime.
  - Outcome tracking: diagnosis accuracy, referral reduction, medication adherence.

    Analysis: SPSS for quantitative data; thematic analysis for qualitative feedback.

4. Expected Findings

- **Moderate Feasibility:** 70% of centers able to conduct stable video consultations with support.
- **High Patient Satisfaction:** >80% rate teleconsultations as "convenient" and "helpful."
- **Top Barriers:** Unreliable internet (60%), lack of privacy in clinics (50%), limited staff training.
- **Reduced Referrals:** 30–40% of cases managed remotely, reducing travel burden.
- **Gender Impact:** Female patients show higher satisfaction due to reduced need to travel.

5. Significance in the Pakistani Context

This research supports the **Punjab Health Department's Digital Health Initiative** and national efforts to expand access through the **Sehat Sahulat Program**. Unlike private telemedicine platforms, this model focuses on:

- **Equity:** Bringing specialist care to the poorest and most remote populations.
- **Sustainability:** Using existing LHWs and public clinic infrastructure.
- **Cost-Effectiveness:** Low-cost tablets and SIM-based internet make scaling possible.
- **Integration:** Linking teleconsultations with EMRs and follow-up care.

Findings will inform policy on national telehealth rollout and funding allocation for public sector digital health.

6. Ethical Considerations

Informed consent will be obtained in Urdu or Saraiki. The study will be reviewed by the RYKMDC Institutional Review Board (IRB). Patient confidentiality will be maintained through secure platforms. Participation is voluntary and does not affect access to care.

7. Budget Estimate (Total: PKR 240,000)

Item	Estimated Cost (PKR)
Telemedicine Kits (4 Tablets, Cameras, Hotspots)	100,000
Internet Data Packages (6 months)	30,000
Training for LHWs & Clinic Staff	40,000
Patient Surveys & Data Collection	25,000
Technical Support & Maintenance	25,000
Data Analysis & Final Report	20,000
Total	**240,000**

8. Conclusion

Telemedicine has the potential to transform public healthcare delivery in Pakistan by bringing specialist consultations to the doorsteps of rural communities. This study will demonstrate that with minimal investment and strong community integration, telehealth can be both **feasible and highly valued** by patients and providers. By addressing infrastructure gaps and building trust, we can create a scalable, equitable, and sustainable model for the future of primary care in Pakistan.

Note: This research aligns with WHO's Digital Health Global Strategy and supports Sustainable Development Goal 3.8 (Universal Health Coverage) and Goal 9 (Industry, Innovation, and Infrastructure).