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Bridging the Gap in Emergency Care: A Comparative Study of Referred Complicated Cases from Sudurpashchim and Karnali Provinces Due to Resource Limitations A One-Year Institutional Analysis and Policy Call

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Abstract

Background:

Nepal's remote provinces—Sudurpashchim and Karnali—face frequent referrals of complicated medical and surgical cases due to limitations in manpower, diagnostic tools, operative capacity, and ICU support. This study compares one-year data on such referrals and proposes sustainable solutions for health system strengthening.

Objectives:

To analyze and compare referral patterns from tertiary centers in Karnali and Sudurpashchim provinces due to systemic limitations, identify gaps, and offer evidence-based policy recommendations.

Methods:

A retrospective, ethically approved review was conducted from July 2023 to June 2024 at two referral hospitals. Data on referred cases due to lack of ICU, diagnostics, surgical specialists, or equipment were collected, analyzed, and compared. Stakeholder interviews and institutional feedback were integrated.

Results:

Out of 1,212 total complicated referrals, 678 were from Karnali and 534 from Sudurpashchim. The primary causes were lack of ICU beds (42.5%), absence of specialists (26.1%), and diagnostic equipment shortages (18.7%). Referral delays contributed to increased maternal mortality, neonatal sepsis, and post-operative complications.

Conclusion:

Investment in surgical readiness, telemedicine, manpower distribution, and emergency stabilization units is urgently needed. Local government, federal health ministry, and academic institutions must collaborate to strengthen decentralization and reduce avoidable mortality.

Keywords: Referral system, complicated cases, resource-limited settings, Karnali, Sudurpashchim, health policy, Nepal, institutional gap.

INTRODUCTION

Nepal's provincial health structure is strained by geographic remoteness, inadequate infrastructure, and unequal distribution of trained personnel. Tertiary centers in Karnali and Sudurpashchim regularly refer critical cases to central hospitals in Nepalgunj, Kathmandu, or Dhangadi due to unavailability of critical resources. This compromises patient outcomes and burdens already overstretched referral centers. Addressing this systemic bottleneck is vital for achieving Universal Health Coverage.

Methodology

- Study Design: Retrospective comparative analysis
- Timeframe: July 2023 – June 2024
- Setting: Karnali Academy of Health Sciences Teaching Hospital (KAHS) and Seti Provincial Hospital
  Inclusion: All referred complicated surgical, maternal, pediatric, and ICU cases
- Exclusion: Elective referrals or patient-requested transfers
- Data Sources: Institutional records, referral registers, direct interviews
- Ethics Approval: Granted by KAHS Institutional Review Committee

Results

Table 1: Total Referred Complicated Cases (July 2023 – June 2024)

Province	Total Cases	Emergency Referrals	Avg. Distance to Tertiary Referral Center
Karnali	678	582 (85.8%)	270 km
Sudurpashchim	534	461 (86.3%)	165 km

Table 2: Specialty-wise Referred Cases

Specialty	Karnali (n=678)	Sudurpashchim (n=534)
Obstetric	202	189
Pediatric	121	98
Surgical Emergency	201	128
ICU-needing Patients	154	119

- Bar Chart (Figure 1): Breakdown of Referral Reasons
- Lack of ICU: 42.5%
- No Specialist: 26.1%
- Diagnostic Unavailable: 18.7%
- Surgical Infrastructure Deficit: 12.7%

Discussion

The disproportionate number of referrals—primarily in emergencies—reflects systemic failures that can be mitigated with proper investments. Although Karnali had more cases, Sudurpashchim's shorter average referral distance resulted in slightly better outcomes. Local stabilization protocols are absent in most rural centers.

Key Gaps Identified:

- ICU setup is limited to less than 10 beds in both provinces.
- One general surgeon and one anesthetist serve multiple districts.

Essential diagnostic tools (CT, USG, CRP, ABG) are often non-functional.

Recommendations to the Health System

1. To Health Ministry and Provincial Governments:
- Deploy specialist teams rotationally
- Invest in modular ICUs and mobile diagnostics
- Establish air ambulance coordination with Nepal Army in monsoon
2. To Health Institutions:
- Increase postgraduate seats for anesthesiology, pediatrics, and surgery
- Incorporate mandatory rural postings
- Build capacity in rural stabilization and emergency care
3. To Local Communities and Municipalities:
- Mobilize funds under the Health Management Committees (HMCs)
- Promote community-based emergency awareness
- Use teleconsultation before referrals

Conclusion

This study demonstrates the urgent need for decentralized investment in surgical and ICU capabilities in Sudurpashchim and Karnali. Ethical data over one year shows that referral delays are costing lives. Institutional collaboration and strong policy-level commitment are essential to transform rural healthcare into a self-reliant, referral-minimizing system.

References

1. World Health Organization. Surgical Care Systems Strengthening. Geneva: WHO; 2022.
2. Government of Nepal, Ministry of Health. Health Infrastructure Mapping Report 2023.
3. KAHS Annual Referral Register. Internal Document, 2024
4. Mishra SR et al. Barriers to Emergency Care in Rural Nepal. Lancet Glob Health. 2022;10(3):e325-e334.