

# Demographic Transition and Healthcare Challenges in Nepal : A Focus on Magar Community

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## Abstract

Nepal is going through a big demographic change that includes lower birth and death rates, an aging population, and changes in the age structure. All of these changes have big effects on economic growth and the growing need for healthcare. This change from high to low birth and death rates is caused by longer life expectancy, better literacy, and public health programs that are aimed at specific groups. But there are still big differences in health care and socio-economic status between marginalized ethnic groups in Nepal, especially the Magar minority, which makes up about 6.9 percent (1.9 million) of the country's population. Magar communities, which mostly live in rural highland areas, have trouble getting contemporary healthcare because they are isolated and there aren't many medical facilities nearby. This research used a mixed-methods approach, combining national demographic and health survey data with ethnographic fieldwork to investigate the connections between macro-level population changes and localized health practices. Findings show that people still rely on traditional healing methods and don't have easy access to expert medical care. To improve health outcomes in Nepal, it is important to strengthen rural health infrastructure, community-based healthcare programs, and combine traditional and allopathic systems.

*Keywords:* demographic transition, health interventions, Magar community, indigenous health practices, healthcare infrastructure

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## Introduction

Nepal is currently navigating a crucial demographic and epidemiological shift that is fundamentally altering its socio-developmental trajectory. Over the last thirty years, the nation has transitioned from a high-fertility, high-mortality regime to a model characterized by declining birth rates, enhanced life expectancy, and a growing elderly population-aligning with the classical stages of demographic transition (Pandit & Khadka, 2025; Pranayan, 2025). While this evolution offers the potential for a “demographic dividend” via a robust working-age population, it simultaneously strains the national healthcare infrastructure through an increasing burden of non-communicable diseases and the complexities of geriatric care (Pandit & Khadka, 2025).

Despite these macro-level advancements, national statistics often concealed significant inequities in health outcomes and service

accessibility among diverse ethnic and geographic cohorts. Indigenous and rural populations remain disproportionately affected by geographic isolation, infrastructural deficits, and socio-economic marginalization (Bhurtel et al., 2025; Sinjali, 2021). This phenomenon is particularly evident within the Magar community-one of Nepal's most prominent indigenous groups, representing approximately 6.9% of the total population. Primarily situated in rural, hilly terrains, the Magars utilize a pluralistic healthcare model that synthesizes traditional indigenous healing, with formal biomedical services (Bhurtel et al., 2025). Such complex utilization patterns, characterized by a reliance on traditional practitioners and limited exposure to preventative medicine, are frequently underrepresented in national datasets.

Current literature largely focuses on aggregate demographic trends-specifically fertility and mortality-while health systems research often generalizes barriers to access without accounting for ethnographic significance (Pandit & Khadka, 2025). There remains a critical shortage of integrated research that bridges demographic transition theory with the cultural interpretations of illness and specific health-seeking behaviors of indigenous communities. To address this gap, it evaluates the intersection of Nepal's demographic shifts with the unique healthcare challenges of the Magar community.

By synthesizing demographic data with ethnographic evidence, it posits that population shifts-such as changing dependency ratios and aging-are catalysts for evolving health needs that are not uniformly met across all ethnicities. For the Magar community, this necessitates a healthcare strategy that addresses a rising chronic disease burden while respecting traditional paradigms. Achieving universal health coverage in Nepal requires a large-grained approach that integrates traditional knowledge with formal health systems, ensuring that the benefits of demographic progress are realized inclusively across the nation's diverse cultural landscape.

## Problem Statement

Nepal's demographic transition has improved national health outcomes, yet marginalized ethnic groups such as the Magar community continue to face significant barriers to modern healthcare. Geographic isolation, inadequate health infrastructure, and shortages of skilled medical personnel in rural Magar settlements result in limited access to clinical services and continued reliance on traditional health practices. This service gap highlights persistent healthcare inequalities that require focused research to support equitable health policy and planning.

## Research Objective

To examine how Nepal's demographic transition influences healthcare access and health-seeking behaviors among the Magar community in rural regions, with the aim of identifying barriers and recommending strategies to reduce healthcare inequalities.

## Methodology

A mixed-methods research design, specifically adopting a quantitative demographic analysis utilizing secondary data to situate the Magar community within the national demographic transition (fertility, mortality, and age distribution) and comprises individuals and households identified as "Magar" within national-level datasets. It utilizes the Nepal Demographic and Health Survey (NDHS) and the National Population and Housing Census, both of which contain ethnic identifiers essential for disaggregated analysis (MoHP, 2022; CBS, 2021). Alongwith qualitative ethnographic inquiry conducting fieldwork across purposively selected sites in the hill districts of Rukum West and East, Rolpa are characterized by high Magar concentrations and varying levels of healthcare infrastructure employing ethnographic methods to uncover cultural distinctions, health-seeking behaviors, and barriers to care that remain obscured in large-scale datasets.

Interviews and Focus Group Discussions (FGDs) guided by ethnographic themes, including

health literacy, pluralistic care utilization, and barriers to geriatric care with the participation of Magar adults (ages 18+), traditional healers and Female Community Health Volunteers (FCHVs), public health officials and rural health post practitioners.

## Literature Review

The demographic transition model posits a systematic shift from high fertility and mortality rates to stabilized lower levels, a process typically catalyzed by modernization and characterized by fundamental changes in age structure and epidemiological profiles (Notestein, 1945). Since the 1990s, Nepal has undergone an accelerated transition, evidenced by a precipitous decline in Total Fertility Rates (TFR), a significant reduction in maternal and infant mortality, and an extension of life expectancy now exceeds 70 years (Central Bureau of Statistics [CBS], 2021).

Current scholarship identifies Nepal as being in a late transitional phase. This stage is marked by a "demographic dividend" resulting from an expanded working-age population, alongside the nascent challenges of population ageing (Pandit & Khadka, 2025). Consequently, the national healthcare burden is shifting from communicable diseases toward non-communicable diseases (NCDs) and geriatric requirements (WHO, 2022). However, this transition is notably heterogeneous, with outcomes diverging significantly across geographic, ethnic, and socioeconomic strata (Adhikari, 2024).

Despite expanded service coverage, Nepal's healthcare infrastructure remains burdened by systemic deficiencies, including inadequate rural facilities, chronic shortages of specialized personnel, and financial inequities (MoHP, 2022). As population ageing accelerates, these structural weaknesses are exacerbated, particularly within remote topographies.

In accordance with Omran's (2005) health transition theory, Nepal is experiencing a "double burden of disease." While lifestyle-related conditions such as hypertension and cardiovascular disease are rising, disadvantaged populations continue to struggle with endemic communicable diseases. National-level data often obscure these disparities by treating the citizenry as a homogeneous block, thereby neglecting the unique health trajectories of indigenous people who face compounded marginalization due to cultural and geographic isolation (Bennett et al., 2013).

The Magar people represent one of Nepal's most significant indigenous cohorts, comprising approximately 6.9% of the total population (CBS, 2021). Primarily situated in the rural hills of western and central Nepal, the community has historically navigated limited access to modernized medical infrastructure. While Magar demographic trends mirror national declines in fertility, their specific health outcomes are uniquely modulated by high rates of labor migration, persistent poverty, and deeply ingrained cultural paradigms (Magar, 2020).

Magar health-seeking behaviors are frequently characterized by medical pluralism. The integration of traditional healing practices, with biomedical interventions is common (Bhurtel et al., 2025). Sociological evidence suggests that reliance on traditional systems is often a pragmatic response to structural barriers—such as the prohibitive cost and physical distance of formal clinics—rather than a simple rejection of modern medicine (Sinjali, 2021).

A significant divergence exists between macro-demographic optimism and the lived health realities of indigenous communities. While demographic researchers often view the transition as a catalyst for economic prosperity (Pandit & Khadka, 2025), anthropological literature underscores persistent unmet needs and cultural disconnects within service delivery (Sinjali, 2021). Furthermore, a tension persists between the biomedical focus on institutional metrics and the ethnographic emphasis on cultural legitimacy and trust.

Synthesizing demographic transition theory with indigenous health studies is vital for fostering health equity in Nepal. This integration ensures that policy design accounts for lived experiences rather than just statistical averages. For the Magar community, demographic progress is insufficient if the healthcare system remains structurally or culturally inaccessible. Future research must prioritize community-centered interventions to ensure that the demographic transition serves as a bridge to improved well-being for all ethnic minorities.

## Results and discussion

### *Demographic Trends and Health Profiles*

An examination of census data and district health facility indicates a progressive increase in the elderly Magar population. Within the surveyed districts, the proportion of adults aged 60 and above rose from 8.4% in 2011 to 12.1% in 2021, with the most significant growth recorded in Rolpa (13.4%). While this trajectory reflects broader national trends, the phenomenon is intensified in Magar-majority hill regions due to declining fertility rates and out-migration of the youth.

Study participants exhibited a high prevalence of chronic non-communicable diseases (NCDs), specifically: Hypertension (52%), Arthritis and mobility impairment (49%) Chronic Obstructive Pulmonary Disease (COPD) (28%), Diabetes (19%)

### *Geographic Barriers and Service Deficiencies*

Access to primary care remains constrained, with 61% of older adults requiring more than one hour of pedestrian travel to reach the nearest health post. Furthermore, clinical capacity is limited: only 22% of surveyed facilities conducted routine NCD screenings, and specialized geriatric services were entirely absent (0%). Critical systemic deficiencies include: Diagnostic Gaps: 78% of facilities lacked essential tools such as glucometers and spirometers. Supply Chain Instability: 65% of participants reported frequent stock-outs of essential medications for chronic conditions.

### *Transitions in Community Caregiving Structures*

Qualitative data suggests a fundamental shift away from traditional familial elder care. This transition is primarily driven by labor migration and the dissolution of multigenerational household structures. Consequently, 70% of Magar elders now rely on spouses or neighbors for support rather than their children.

The psychosocial and functional impacts are evident: 43% of respondents reported persistent

loneliness, and 30% experienced difficulty performing activities of daily living (ADLs) due to insufficient assistance. Caregivers also reported significant burden, citing a lack of clinical literacy regarding NCD management and logistical challenges in transporting elders. Female Community Health Volunteers (FCHVs) further identified a critical absence of training modules tailored to geriatric care.

### *Perceived Quality of Care and Cultural Compatibility*

A substantial disconnect persists between healthcare delivery and the cultural values of the Magar community. Over half (54%) of elderly participants felt that providers lacked an understanding of their traditional health beliefs. Simultaneously, healthcare personnel acknowledged a deficit in training regarding Indigenous health perspectives, leading to uncertainty in developing culturally appropriate treatment adherence strategies. This professional gap was highlighted by an FCHV, who noted that while maternal health protocols are well-established, there is a lack of guidance for managing chronic pain in the elderly—a finding consistent with existing literature on Indigenous health disparities.

### *Health System Capacity and Human Resource Constraints*

Institutional audits and provider interviews revealed several systemic bottlenecks:

**Workforce Specialization:** Only 20% of facilities employed staff trained in chronic disease management. **Operational Volume:** High patient loads (averaging 30 consultations per day) preclude providers from offering comprehensive geriatric counseling. **Logistics:** Persistent shortages of analgesics, antihypertensives, and antibiotics were reported across the majority of sites. **Service Gaps:** There is a total absence of long-term care, rehabilitation programs, or formal home-based care mechanisms within the current rural health framework.

### ***Synthesis and Health System Implications***

The findings demonstrate that the demographic shift within the Magar population is exerting unprecedented pressure on a rural healthcare system that remains ill-equipped for an aging society. The primary implications include: A growing disparity between the demand for NCD management and available service capacity. The erosion of informal kinship care networks, necessitating institutional intervention. The persistence of geographic and cultural barriers that hinder healthcare utilization. A critical need for specialized geriatric training and infrastructure.

Addressing these challenges requires a strategic shift toward community-based geriatric models, culturally synchronized health communication, and the deployment of mobile clinical services to Magar-majority regions.

### **Discussion**

The findings indicate that the Magar community is firmly integrated into Nepal's broader demographic transition, the dividends of this shift remain inequitably distributed. Trends such as declining fertility, increased life expectancy, and a growing elderly population among the Magar mirror national trajectories (CBS, 2021; MoHP, 2022). However, persistent barriers to healthcare access, a continued reliance on traditional healing, and an escalating burden of chronic disease suggest that demographic shifts do not inherently result in health equity. These results imply that Nepal's demographic transition serves as a "structural amplifier," heightening existing disparities when healthcare systems fail to evolve alongside population shifts. For the Magar community, this transition has introduced complex health requirements—specifically regarding chronic disease management and geriatric care—without a commensurate expansion of geographically accessible or culturally congruent services. Consequently, increased longevity among the Magar often manifests as prolonged morbidity rather than healthy aging. Furthermore, qualitative evidence suggests that Magar health-seeking behavior is

a rational response to systemic constraints rather than a mere cultural preference; traditional healers remain central because they are accessible, trusted, and economically viable.

Although Nepal's demographic transition is often publicised as a developmental success, this study corroborates literature arguing that aggregate national indicators frequently obscure subnational and ethnic disparities (Adhikari, 2024; Bennett et al., 2013). The Magar experience illustrates a "partial transition" wherein demographic markers improve while healthcare infrastructure lags.

Consistent with health transition theory, the findings highlight an epidemiological shift from infectious to non-communicable diseases (NCDs), such as hypertension, diabetes, and musculoskeletal disorders (Omran, 2005). Unlike more affluent or urban populations, the Magar encounter this shift without adequate diagnostic support or long-term care continuity. This vulnerability is further compounded by labor migration; the out-migration of working-age males increases dependency ratios and places an undue care burden on women and the elderly. While remittances may augment household income, the absence of male family members often hinders physical access to care and delays critical medical decision-making.

A significant interpretive contribution of this study is the illumination of pluralistic healthcare dynamics. The simultaneous utilization of traditional and biomedical care challenges the binary "modern versus traditional" dichotomy, supporting anthropological views of health systems as layered and negotiated (Sinjali, 2021). Narratives indicate that traditional healing often serves as the primary point of contact, with biomedical intervention sought only upon the exacerbation of symptoms. In the context of chronic disease, which requires early detection, this sequential pattern may lead to worsened health outcomes. However, the study suggests that the solution lies not in the elimination of traditional practices, which would erode community trust—but in the constructive

integration of these belief systems into the formal health framework to create more culturally responsive service models.

The research highlights the gendered reflections of demographic change. Magar women, particularly the elderly, face compounded disadvantages characterized by extensive caregiving roles, limited mobility, and the secondary prioritization of their own health. As life expectancy rises and fertility falls, women spend a greater portion of their lives managing both reproductive health and chronic conditions with minimal support. These findings align with feminist health scholarship, which posits that demographic transitions can intensify gender inequalities when traditional social roles remain static (Bennett et al., 2013).

The Magar experience serves as a microcosm of the challenges faced by indigenous communities in multiethnic, low-income contexts. The demographic transition without systemic transformation risks reproducing, rather than alleviating, inequality.

**Policy:** Universal health coverage initiatives must prioritize cultural competence, decentralization, and community engagement, utilizing ethnic-specific demographic projections. **Theory:** This study challenges linear models of demographic transition, emphasizing the role of social determinants and cultural heterogeneity. **Practice:** There is a clear mandate for integrated care models that link traditional healers and community health workers with formal medical providers to improve NCD detection and management.

The demographic transition within the Magar community represents both a marker of societal progress and a source of new vulnerability. Whereas age structures and health needs have evolved, the healthcare system has not kept footstep. Addressing these implications requires a shift away from aggregate averages toward context-sensitive strategies that engage with the specific cultures and inequalities shaping the lived experiences of demographic change.

## Conclusion

Nepal is currently experiencing a significant demographic transformation, defined by a contraction in fertility rates, enhanced longevity, a growing labor force, and the onset of population aging (Sharma & Shakya, 2025; Rawat, 2024). While this transition offers the potential for a "demographic dividend," it simultaneously applies pressure on a national healthcare infrastructure already burdened by systemic inequities, personnel deficits, and a widening rural–urban divide (Sharma & Shakya, 2025; Public Health Concern Nepal, 2024). These macro-level shifts are particularly acute among indigenous and rural cohorts, such as the Magar community where demographic unpredictability boundary with long-standing structural impediments to healthcare.

Empirical data suggests that the Magar population suffers from disproportionate health inequities, characterized by geographic isolation from medical facilities and suboptimal child health indicators, specifically chronic malnutrition (Raikhola et al., 2021; Bhurtel et al., 2025; Indigenous Magar of Nepal, 2025). The prevalence of rural residency and its concomitant infrastructural inadequacies further obstruct the delivery of timely, high-quality clinical interventions (Magarbooks.org, 2019). Furthermore, while traditional healing methodologies remain culturally significant, their lack of formal integration into the primary healthcare system limits their efficacy in managing the rising burden of non-communicable diseases and maternal-child health requirements (Bhurtel et al., 2025; Indigenous Magar of Nepal, 2025).

The intersection of demographic shifts and community-level health research underscores the necessity for culturally appropriate health strategies. It is imperative that universal health policies are augmented by targeted interventions that account for the linguistic, geographic, and socioeconomic realities of indigenous communities. Deploying culturally competent community health workers

serves as a vital bridge between formal medical systems and local Magar traditions, potentially enhancing rural service delivery (Ghimire & Bhatt, 2025). Moreover, maternal and pediatric nutritional programs must be tailored to local sociocultural norms to effectively mitigate morbidity and under-five mortality (Raikhola et al., 2021).

While Nepal has achieved notable progress in increasing life expectancy and reducing maternal mortality, persistent disparities continue to marginalize rural and Indigenous populations. Failure to address these gaps risks deviating national health advancements, as an aging population and the rise of chronic illnesses will inevitably overwhelm current rural infrastructures (Public Health Concern Nepal, 2024).

A multisectoral framework is required to enhance resource distribution for rural medical infrastructure, formalize culturally informed service delivery and health education, empower community health workers through standardized training and professional incentives, prioritize lengthwise research focusing on the specific demographic and health trajectories of Indigenous populations etc ensuring equitable health outcomes and sustainable development.

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