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Bridging the Health Divide: A Policy Perspective on Indigenous Healthcare in Bangladesh

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ABSTRACT

Background: Indigenous populations in Bangladesh—often referred to as *Adibashi* or *Upojati*—experience persistent health disparities. Geographic isolation, linguistic and cultural exclusion, and poverty drive these disparities. These communities, estimated at over two million, report considerably higher rates of maternal mortality, undernutrition, and limited access to institutional healthcare. This situation persists despite constitutional protections and national development goals.

Objective: This perspective examines the structural, cultural, and policy-level barriers to healthcare access among Bangladesh's tribal communities. It also proposes evidence-based, inclusive strategies designed to achieve health equity.

Methods: A narrative review approach was guided by the SANRA checklist. Literature was identified through PubMed, Google Scholar, and government portals. Sources included national surveys, ethnographic studies, and comparative policy models from Canada, Nepal, and the Philippines. Key themes analyzed were infrastructure deficits, workforce shortages, traditional medicine, linguistic barriers, and WASH access. A SWOT framework synthesizes insights and informs recommendations.

Key Findings: Tribal health inequities in Bangladesh stem from weak infrastructure, cultural exclusion, workforce shortages, and poor health governance. International models show the benefits of decentralized, culturally adapted, community-led care.

Conclusion: Achieving SDG 3 for indigenous populations requires urgent political commitment, targeted investment, and inclusive planning. Priorities include the establishment of a Tribal Health Desk, integration of traditional medicine, mobile health delivery, and culturally adapted training. Advancing indigenous health equity aligns with constitutional commitments and global standards of public health justice.

1 | A Global Health Equity Context

Globally, indigenous populations consistently face disproportionately poor health outcomes. Over 476 million individuals across 90 countries identify as indigenous, with Asia accounting for 70% of this population [1]. The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) guarantees the right to equitable access to healthcare; however, implementation gaps remain [2]. Narrative literature reviews highlight disparities in maternal and child health outcomes among indigenous groups worldwide [3]. Furthermore, cross-country comparisons reveal that indigenous health inequities are a transnational phenomenon, appearing in areas as varied as North America, Oceania, and South Asia [4, 5].

In Canada, the First Nations Health Authority serves as an example of a decentralized, community-led governance model that has improved culturally appropriate service delivery [6].

Nepal's federal insurance schemes explicitly subsidize care for remote indigenous communities [7]. Similarly, the Philippines' Indigenous Peoples' Health Agenda prioritizes the translation of its information materials into many minority languages and dialects [8]. Indigenous communities from Canada to Nepal share systemic exclusion, often worsened by geography and discrimination. Such frameworks are essential for Bangladesh's tribal populations, who share similar challenges.

These international examples highlight the necessity of culturally integrated and rights-based approaches. Tribal communities in Bangladesh face many of these global challenges, such as geographic remoteness, language gaps, and socioeconomic hardship. Consequently, they can benefit from models that emphasize community empowerment, disaggregated data collection, and secure stable funding. Recognizing the complex interplay of historical injustice, environmental constraints, and policy neglect is crucial for designing interventions that are both equitable and sustainable.

This article was guided by the SANRA (Scale for the Assessment of Narrative Review Articles) checklist to ensure clarity, quality, and policy relevance. Literature was identified through structured searches in PubMed, Google Scholar, and the government portals of Bangladesh. Search terms included "Indigenous health Bangladesh," "tribal healthcare access," "ethnomedicine," "traditional medicine Bangladesh," and "health disparities South Asia." Inclusion criteria were: (1) peer-reviewed Q1/Q2 articles or official institutional reports (WHO, UN) published since 2000; (2) English or Bengali language; (3) relevance to tribal or indigenous healthcare. Exclusion criteria included non-peer-reviewed editorials, non-academic commentaries, and unpublished preprints. Articles were screened for relevance and synthesized thematically. SWOT framework development was informed by recurring themes from the literature and adapted from international models (Canada, Nepal, Philippines).

2 | Demography, Terminology, and Data Integrity

Bangladesh's 2022 Population and Housing Census officially records 1.65 million indigenous people, representing 1% of the total population [9]. Nevertheless, community leaders estimate over 2 million individuals when unregistered groups are included [10]. Tribal populations—collectively termed *Adibashi* ("original inhabitants"), *Upojati* ("subnation") [11], and reflecting both legal categories and cultural identity—reside primarily in the Chittagong Hill Tracts (CHT) (Rangamati, Khagrachhari, Bandarban), but also in pockets of Sylhet, Rajshahi-Dinajpur, Barishal, and Mymensingh [11, 12]. While often used interchangeably in policy documents [11], these nomenclatures reflect nuanced identities and historical trajectories: *Upojati* emphasizes subnational status, while *Adivasi* underscores indigeneity in the South Asian context [13].

Discrepancies in population figures arise from underregistration due to remote settlement patterns, undocumented migration, and variable recognition criteria [14]. For example, official figures may not fully capture individuals residing in highly remote areas or those who have migrated without formal documentation. Accurate quantitative data are critical for resource allocation and program evaluation. However, the absence of disaggregated health indicators for tribal groups in national surveys hampers targeted interventions [15]. Integrating ethnic identifiers into health information systems and strengthening registration are vital. International best practices recommend routine stratification of health data by ethnicity and region to monitor progress and adjust strategies [16]. Without precise demographic baselines and transparent reporting, policy responses risk perpetuating inequities. Therefore, strengthening civil registration, conducting community-led population mapping, and integrating tribal identifiers into health information systems are foundational to evidence-based planning.

3 | Geographic Isolation and Infrastructure Barriers

The CHT, home to approximately 60% of Bangladesh's tribal population, demonstrates extreme geographic exclusion [10]. Steep ridges, dense forests, and monsoon-eroded roads make many villages inaccessible for months each year [17]. Fewer than 10% of tertiary health facilities are located within the CHT, while over 60% are clustered in the populous plains [18]. Patients spend up to 1000 BDT on boat transport and travel 10–15 km by foot or jeep to reach the nearest referral center [19]. Emergency obstetric referrals experience an average delay of 8 h in adverse weather, which contributes to maternal mortality ratios that exceed the national average of 143 per 100,000 live births [20, 21].

Infrastructure deficits also extend to power, telecommunications, and water systems. Only 34.2% of CHT households have reliable electricity, which hinders cold-chain maintenance for vaccines [22]. Moreover, mobile network coverage remains below 60%, limiting telehealth potential [23]. The combination of distance, poor roads, and scarce transport increases morbidity and raises direct and indirect care-seeking costs by up to 150%, prompting many to forgo treatment [24]. Addressing these barriers requires ring-fenced funding for all-weather road construction, subsidized emergency transport vouchers, and strategic deployment of mobile clinics during monsoon seasons. The World Bank's "Improving Health Services for Tribal Populations" report highlights that combining small grants with local councils with technical support for infrastructure yields cost-effective improvements in service reach and utilization [25].

4 | Cultural and Linguistic Barriers

Language and cultural misalignment severely impede healthcare utilization. A 2023 survey by the International Mother Language Institute identified 41 distinct languages in Bangladesh, 36 of which are minority tongues spoken predominantly by tribal groups [26]. Chakma, Marma, Mru, and Garo elders often lack proficiency in Bangla or English, resulting in miscommunication, misdiagnoses, and patient dissatisfaction [19]. Studies show that employing trained medical interpreters

increases patient understanding scores up to 93% and satisfaction rates up to 96% [27]. Few government hospitals in the CHT offer interpreter services, leaving most tribal patients facing language barriers in consultations [28].

Cultural norms also influence health behaviors, as many communities consult *Kaviraj* herbalists and *Bhaidya* healers. Their practices incorporate spiritual, botanical, and ritual elements that differ fundamentally from biomedical paradigms [29]. These parallel systems are trusted. A greater portion of tribal households report first seeking ethno-medical care for diabetes mellitus [30], wound healing [31], cancer or tumors [32], menstruation problems [33], and malaria fever [34], before presenting to clinics. The exclusion of traditional healers from formal health policy exacerbates distrust. The integration of pilots in India's AYUSH system demonstrates that officially recognizing and training traditional practitioners can increase facility utilization by up to 13% [35]. Cultural competency training for health workers, developed with tribal leaders, and the recruitment of indigenous staff are critical. Health education materials and community theater have effectively improved preventive practices, including insecticide-treated net use and antenatal attendance in malaria-prone areas [36]. Bridging linguistic and cultural divides is essential for fostering trust, improving service uptake, and reducing inequities.

5 | Service Availability, Workforce, and Maternal Health

Tribal regions suffer from acute shortages of skilled health personnel. Nationally, Bangladesh averages 5 physicians per 10,000 people, but CHT ratios fall below 2 per 10,000 [37]. Diagnostic laboratories are scarce; only 16% of tribal subdistricts have basic blood-testing capacity, and maternal healthcare services are at 80% of the national average [38]. Recruitment is undermined by poor living conditions, limited career options, and security concerns, leaving many Upazila Health Complex posts vacant in tribal areas. Maternal health indicators reflect these gaps. Institutional delivery rates remain low, 37.7% among Garo and 13% among Mandai women, while most ethnic women prefer home delivery, which accounts for approximately 68.8% [39]. Mru women rely on traditional midwives for 30% of births [40].

The lack of emergency obstetric care within 2 h of travel contributes to maternal mortality ratios in tribal districts of 230–310 per 100,000 live births, which are significantly higher than the national average [41]. Although funds were allocated for tribal health, resources were poorly distributed due to weak accountability. Future strategies should include incentive packages for rural postings, scholarship programs for tribal medical students, and the formal recognition of community health workers under national health insurance frameworks.

6 | Socioeconomic Exclusion and Education

Socioeconomic deprivation is a primary driver of health disparities. The CHT's poverty rate exceeds 50%, compared with 24.3% nationally, and per capita income remains 35% below the national mean [10]. Tribal households often prioritize food and shelter over healthcare spending. As a result, serious illness leads to catastrophic out-of-pocket costs that push 18% of families into deeper poverty [24]. Education disparities further exacerbate inequities. While primary enrollment in tribal areas approaches 95%, dropout rates soar to 21.8%, nearly double the national average of 13.95% [42].

Linguistic barriers, where tribal children are taught in Bangla, contribute to low literacy and school completion, limiting future employment and health literacy [28]. Studies link maternal education with health service utilization: institutional delivery increases from 18.8% among uneducated mothers to 63.6% among those with secondary or higher education [43]. The absence of culturally adapted curricula and financial support for tribal students perpetuates this cycle. Conditional cash-transfer programs in Latin America and targeted scholarship schemes in Australia have successfully improved school retention and, in turn, maternal and child health outcomes [44]. In Bangladesh, piloting education incentives tied to health-promoting behaviors, such as regular vaccination attendance, could yield dual benefits. Empowering tribal youth through culturally relevant vocational training, including community health roles, represents a sustainable pathway to socioeconomic uplift and stronger local health systems.

7 | Water, Sanitation, and Hygiene

Safe water and sanitation are foundational to health. A 2020 WASH survey at the CHT revealed that 60.8% of tribal households practice open defecation, with only 7.2% using sanitary latrines. Spring water serves as the primary drinking source for 59.2%, surface water for 35.2%, and tube wells and taps account for the remainder [45]. Such conditions drive endemic waterborne diseases—cholera, dysentery, typhoid—which contribute to diarrheal morbidity that remains twice the national average. Open defecation is strongly correlated with childhood stunting: stunting rates in tribal villages exceed 45%, compared with 36% nationally and 26% globally [46].

Soil-transmitted helminthiasis affects 58% of school-aged tribal children, perpetuating malnutrition and impaired cognitive development [47]. Gender disparities intensify these burdens. Women and girls bear disproportionate burdens through water collection, facing time poverty and safety risks [48]. Integrated WASH-nutrition interventions, like those in rural Kenya, have reduced helminth infections by 34% and diarrheal incidence by 25% when combined with nutrition counseling [49]. In Bangladesh, NGO-government partnerships installed community-managed water purification units and eco-sanitation toilets in Himalayan tribal areas, achieving 80% latrine adoption within 2 years [25]. Scaling such models, with subsidies for the poorest households and the engagement of tribal women's groups, can dramatically improve health and human capital accrual.

8 | Integrating Traditional Medicine

Traditional healing systems constitute the backbone of primary care for many tribal communities. Bangladesh harbors over

6500 plant species, of which approximately 500 possess documented therapeutic properties; 250 are routinely used in tribal ethnomedicine [50]. Herbal remedies address common ailments, including respiratory infections, gastrointestinal disorders, and reproductive health, often through formulations unknown to biomedicine [51]. Knowledge transmission remains largely oral, putting rich pharmacopoeias at risk of loss. Excluding traditional healers from formal health policy drives parallel care-seeking and reduces engagement with government services.

Kleinman's seminal framework emphasizes the "borderland" between folk and professional systems. It advocates for a pluralistic health model that respects patient views, beliefs, and acknowledges the cultural context of illness and healing [52]. India's *AYUSH* integration illustrates how accredited training of traditional practitioners within primary health centers can enhance referral linkages and patient trust [53]. Documenting and scientifically validating key tribal remedies, such as *Ageratum conyzoides* for wound healing, can create avenues for biocultural conservation and local economic development [51]. Proposals include setting up a Tribal Ethnomedicine Research Cell under the Directorate General of Health Services, and offering seed grants for community-led documentation projects. Another key suggestion is to create referral protocols between *Bhaidya* healers and PHC doctors. Such hybrid systems honor cultural identity while ensuring safety and efficacy, aligning with WHO recommendations on traditional medicine integration [54].

9 | Policy Gaps and SWOT Analysis

Despite their inclusion in national plans such as the 7th and 8th 5-Year Plans, indigenous health has not received sustained policy attention in Bangladesh. The Tribal/Ethnic Health Population and Nutrition Plan (2011–2016) represented a milestone initiative. However, a 2023 parliamentary review revealed that only approximately 12% of its allocated budget was disbursed, and that tribal participation in program planning was almost nonexistent. The absence of a Tribal Health Desk, the absence of ethnic identifiers in health data, and non-fenced budgets all weaken accountability. Compounding the issue, no national database currently captures health outcomes specific to indigenous groups, which undermines the ability to target and evaluate interventions [15].

Many national surveys lack ethnic disaggregation, limiting policy precision. Moreover, many ethnobotanical studies rely on oral knowledge or self-reported outcomes, which, while culturally significant, require scientific validation before integration into formal care. These gaps highlight the need for future mixed-methods research that bridges cultural insights with clinical rigor.

A SWOT analysis (see Table 1) helps summarize the current landscape. *Strengths* include the presence of strong tribal networks, rich repositories of ethnomedicinal knowledge [51], and active civil society engagement. Strong tribal networks and community solidarity, which facilitated 80% adoption of latrines in a CHT WASH program [25]. *Weaknesses* encompass widespread infrastructure deficits, workforce shortages [37], linguistic exclusion, and data gaps [15]. Inadequate infrastructure and emergency services, with only 10% of tertiary facilities located in CHT, and the average referral delays of 8 h [19–21]. *Opportunities* lie in leveraging mobile health technologies, recruiting indigenous community health workers, and approaches validated by international models in Canada and the Philippines, where culturally adapted services improved access and trust [6, 8]. Expansion of mobile health and telemedicine in remote areas, as evidenced by World Bank pilots that improved tribal service coverage [25]. *Threats* involve land dispossession, political marginalization, and the impending effects of climate change on hills and flood-prone tribal areas [10, 25]. Land dispossession and climate vulnerability in the hill tracts, where monsoon erosion frequently cuts off village access to care [17].

Despite being direct beneficiaries, indigenous communities often lack formal representation in health policy planning. Integrating tribal voices in governance mechanisms—such as health steering committees, program monitoring units, and community advisory boards—is essential for culturally

TABLE 1 | SWOT analysis: Indigenous healthcare in Bangladesh.

Strengths	Weaknesses	Opportunities	Threats
Strong tribal networks and community solidarity that enable rapid community mobilization [25]	Inadequate health infrastructure and emergency transport services in remote areas [19–21]	Integration of traditional medicine into formal healthcare services to increase trust [35, 53]	Land loss and climate-related isolation during the monsoon season in the hill tracts [17]
Rich heritage of ethnomedicinal knowledge and trusted community healers [51]	Lack of disaggregated health data and weak ethnic identifiers in surveys [15]	Expansion of mobile health and telemedicine in remote areas [25]	Political marginalization and low policy visibility
Active civil society and NGO engagement in tribal regions [25]	Health-worker shortages and poor retention in tribal areas [37]	Recruitment and training of indigenous/local community health workers [6, 8]	Resistance within mainstream health systems to traditional practices [29]

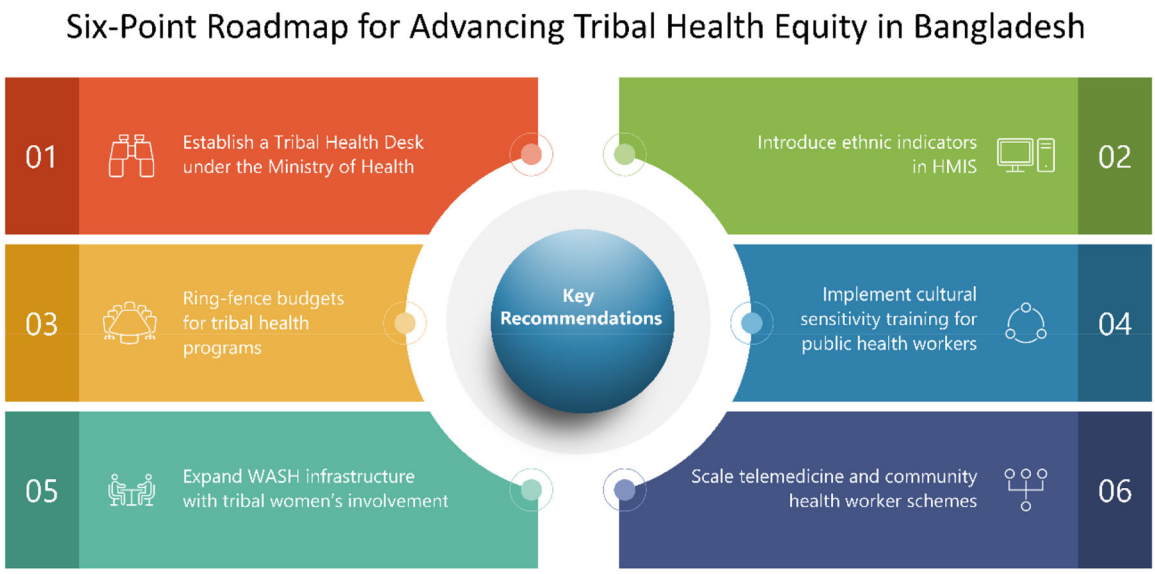

FIGURE 1 | Key policy recommendations for advancing indigenous health equity in Bangladesh. This figure summarizes six strategic actions proposed to address systemic disparities in tribal health, including institutional reform, data disaggregation, targeted funding, cultural competence training, development of WASH infrastructure, and community-based digital health expansion.

congruent and sustainable policy implementation. Models from Canada and the Philippines demonstrate how community-led planning improves service uptake and trust.

10 | Summary of Key Policy Recommendations

To ensure equitable health access for Bangladesh's indigenous populations, six actionable priorities are proposed (see Figure 1):

1. Establishing a Tribal Health Desk within the Ministry of Health to coordinate all tribal health programs;
2. Incorporate ethnic identifiers into national surveys and Health Management Information Systems (HMIS) for better monitoring;
3. Allocate a dedicated, ring-fenced annual budget for tribal health programs to ensure consistent funding;
4. Implementing cultural-competence and language training modules for all frontline health workers;
5. Expanding community-based WASH infrastructure with local women's participation; and
6. Scaling telemedicine and community health worker (trained traditional healers) initiatives to improve last-mile access.

Each measure must be built upon principles of inclusivity, transparency, and respect for indigenous rights and systems. These structural and programmatic interventions are essential for transforming tribal healthcare from a marginal issue into a mainstream national development priority.

11 | Future Research Directions

Future research should prioritize four areas. First, the creation of disaggregated tribal health databases. Second, community-led monitoring and evaluation systems. Third, testing hybrid care models that combine biomedical and traditional practices. And fourth, ethnopharmacological validation of indigenous remedies. These lines of inquiry are essential for bridging the gap between policy ambitions and community realities, ensuring that future interventions are rooted in both data and lived experience.

12 | Conclusion

Health disparities among Bangladesh's tribal communities arise from weak policies, limited accountability, and cultural exclusion. To achieve true equity, tribal health must be elevated as a central development priority rather than a peripheral concern. Immediate actions should include mainstreaming indigenous health into national plans, ensuring tribal representation in health governance, and institutionalizing cultural competence training for health workers. Moreover, integration of traditional medicine must be recognized through policy-supported partnerships with community healers, backed by scientific research and regulation. Budgetary allocations for tribal health must be protected, transparent, and increased, with built-in performance accountability. Multilingual health education, expanded WASH access, mobile clinics, and incentives for rural postings are not supplementary but foundational to equity. Addressing these gaps is both a constitutional responsibility and a prerequisite for meeting Bangladesh's commitments to SDG 3 and global public health justice.

Author Contributions

Abdullaha Al Mamun: conceptualization, supervision, project administration, visualizations, validation, data curation, writing – original draft of the manuscript, writing – review and editing of the manuscript.

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Ethics Statement

The author declares that the work described has not involved experimental work on humans or animals.

Consent

The author declares that the work described does not involve patients or volunteers.

Conflicts of Interest

The author declares no conflicts of interest.

Data Availability Statement

The article contains all of the data necessary to support the results. Therefore, no additional data sources are needed.

Transparency Statement

The lead author, Abdullaha Al Mamun, affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

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