

Recommendations for Government Health Services for People with Spinal Cord Injury in Bangladesh

Funding: Equitable and Inclusive Health and Rehabilitation for Persons with
Disability (EIHRPD) Project

Implementing by: Bangladesh Health Professions Institute (BHPI)

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Executive Summary

Spinal Cord Injury (SCI) represents a profound public health challenge in Bangladesh, with wide-ranging consequences that extend beyond physical impairment to include psychological, social, and economic burdens. Most injuries occur among young, economically active men due to falls from height, heavy load accidents, and road traffic incidents, with devastating impacts on families and communities. Although Bangladesh has made commitments through the National Health Policy (2011) and the Disability Rights and Protection Act (2013), there remains no SCI-specific national policy, protocols, or rehabilitation pathways within the government health system. This absence has left people with SCI vulnerable to preventable complications, social exclusion, and economic marginalisation. To address these gaps, the Equitable and Inclusive Health and Rehabilitation for Persons with Disability (EIHRPD) project, implemented by the Bangladesh Health Professions Institute (BHPI) in partnership with the Centre for the Rehabilitation of the Paralysed (CRP) and CBM Global Disability Inclusion, conducted a nationwide mixed-methods study involving 525 participants, including policymakers, administrators, SCI experts, community-dwelling people with SCI, and hospital-based patients with SCI. Using a SWOT (Strengths, Weaknesses, Opportunities, Threats) framework, the study assessed the state of government health services for people with SCI across community clinics, upazila health complexes, district hospitals, divisional medical colleges, and tertiary hospitals.

The analysis identified several strengths within the government health system, most notably the widespread availability of emergency acute care at divisional and district levels, with many facilities following ATLS guidelines to stabilise patients. Diagnostic imaging capacity for SCI in Bangladesh is concentrated at higher-tier facilities. All divisional medical colleges provide CT scans, and most (85.7%) offer MRI, but only 12.5% of district hospitals have both, and upazila complexes lack these services entirely, highlighting significant disparities in access. Some facilities had access to key medical specialists, including spinal surgeons, orthopaedic surgeons, and physiatrists. Referral pathways between tiers, though inefficient, demonstrated a basic recognition of continuity of care. These strengths indicate that a tiered response to SCI, if strategically developed, could build upon existing infrastructure and expertise. However, these strengths are overshadowed by profound systemic weaknesses. Emergency care capacity at lower tiers such as union sub-centres and upazila complexes is limited, with most facilities unable to

handle acute SCI cases, leading to delays in early intervention. However, only one hospital has a complete pool of rehabilitation professionals for SCI management, which has been developed as part of a CBM Global and CRP-supported project. The absence of comprehensive rehabilitation facilities, including acute, active rehabilitation, and community reintegration phases, rehabilitation infrastructure, and multidisciplinary teams was a consistent finding, with more than 90% of health administrators reporting shortages of essential professionals such as physiatrists, occupational therapists, speech therapists, and rehabilitation nurses. Rehabilitation remains absent mainly from acute care pathways, making long-term recovery and community reintegration almost impossible for many patients. No national SCI registry or database exists, undermining follow-up care and resource planning. At the same time, standardised assessment tools such as the Asia Impairment Scale (AIS) and Spinal Cord Independence Measure (SCIM) are rarely used outside divisional hospitals. Facilities reported no structured systems for managing secondary complications like pressure ulcers, urinary tract infections, chronic pain, and spasticity, resulting in preventable morbidity. Gender inclusivity also requires attention, as government facilities reported receiving very few female patients and no third-gender patients. This does not necessarily suggest direct discrimination but points toward barriers in awareness, access, or care pathways that require further investigation. Transport infrastructure providing ambulance services proved unreliable, with many patients reporting unsafe transfers despite ambulance availability. The government system also has little involvement in SCI-related research, innovation, or assistive technology provision, leaving patients dependent on external actors such as NGOs.

Despite these shortcomings, the study identified essential opportunities. Stakeholders across all tiers consistently called for the establishment of a comprehensive national SCI rehabilitation centre following CRP models, or alternatively, embedding SCI services into existing district and divisional facilities to integrate acute care, rehabilitation, and reintegration under one roof. There is a strong opportunity to develop a national SCI policy and care protocols, including financing mechanisms, workforce standards, and defined referral pathways. Upskilling community healthcare providers through structured training and task-shifting could significantly improve early detection and primary-level support. Digital innovations such as a national SCI registry and telemedicine platforms were widely recognised as promising tools for standardising care, tracking caseloads, and expanding access to rural and underserved communities. Collaboration with NGOs, universities, and international organisations was identified as essential for building research

capacity, developing assistive technology services and national guidelines for assistive technology provision, and supporting professional training. In addition, integrating SCI prevention into broader national strategies on road safety, falls, and occupational health offers the opportunity to reduce incidence through inter-ministerial coordination.

However, these opportunities must be considered alongside serious threats. Chronic underfunding and lack of a dedicated SCI budget remain the most significant obstacles, with 73.4% of policymakers identifying limited funding as a critical barrier. Without substantial financial investment, even well-designed policies risk failing to be implemented. Poor accountability mechanisms and the absence of monitoring frameworks mean service quality is inconsistent and prone to negligence. The very low representation of female patients and the complete absence of third-gender individuals in records point to possible systemic gaps in service uptake that merit closer analysis. Infrastructure degradation, such as ambulances left unused or in disrepair and the lack of adaptive facilities in hospitals, undermines patient safety. Most significantly, disability and rehabilitation remain low priorities in national planning, which threatens to keep SCI care marginalised despite urgent need.

Perspectives from patients and communities underscored the depth of these challenges. Hospital-based patients reported frequent delays in medical attention, poor communication during admission, and limited access to essential nursing, therapy, or vocational services. At NINS, accessibility to equipment was as low as 11.1%, and no adaptive toilets were available. In communities, people with SCI, mostly young men from rural areas, struggled with unemployment, financial hardship, and long-term dependency, often avoiding government services altogether and relying instead on pharmacies or village doctors for secondary complications such as infections, pressure sores, and chronic pain. Women with SCI described barriers to exercise, lack of access to equipment, and limited support for personal care needs, while men reported sexual dysfunction without access to counselling or treatment. The absence of third-gender representation again highlighted the need to investigate hidden barriers in awareness, access, and utilisation of services.

Based on these findings, the study calls for urgent systemic reform. A national SCI policy must be developed to standardise acute care, rehabilitation, and reintegration, supported by clear referral protocols and adequate budgetary allocation. Rehabilitation professionals, including physiotherapists, occupational therapists, prosthetists, orthotists, and speech therapists, should be

formally integrated into the public workforce, with minimum qualification standards and structured training programs at all levels. Essential assistive technologies must be guaranteed across facilities, supported by services for customisation and repair. Infrastructure upgrades, including ramps, adaptive toilets, and subsidised ambulance services, are critical for accessibility. Expansion of diagnostic facilities, particularly ensuring MRI and CT scan services at district-level hospitals, is essential to reduce disparities and improve timely decision-making for SCI management. Rehabilitation and vocational training must be expanded through at least one model government SCI rehabilitation centre and decentralised community-based rehabilitation programs. Digital innovations such as a national registry, eHealth platforms, and telemedicine can strengthen follow-up and equity. A comprehensive prevention strategy should be implemented in collaboration with relevant ministries, addressing leading causes such as falls and road traffic accidents. Gender-related gaps must be explored further, with attention to improving awareness, access, and service design so that female and third-gender populations are not unintentionally excluded. Finally, sustained investment and partnerships with NGOs, INGOs, and the private sector are needed to strengthen service delivery, research, and training capacity.

In conclusion, while Bangladesh's healthcare system demonstrates commendable emergency capacity at higher tiers, it falls critically short in providing comprehensive and long-term SCI care. Unless weaknesses and threats are urgently addressed, people with SCI will continue to face preventable complications, social exclusion, and premature mortality. At the same time, the opportunities identified through this study, including policy reform, workforce development, technological integration, and inter-ministerial prevention strategies, offer a pathway for Bangladesh to establish a robust, rights-based SCI framework. With coordinated action, adequate investment, and inclusive design, the country has the potential to transform SCI services into a model of equity and resilience, restoring dignity, autonomy, and productivity for thousands of individuals and their families.

Recommendations

1. Develop a National SCI Policy and Care Protocols

- Establish a comprehensive national policy for SCI, integrating prevention, acute care, rehabilitation, and reintegration.
- Standardise SCI management protocols across all tiers, ensuring adherence to ATLS guidelines for emergency stabilisation.

2. Strengthening Referral Systems

- Strengthen referral systems to ensure coordinated and efficient access to SCI care.
- Conduct awareness campaigns to promote timely and appropriate first contact after an SCI in Bangladesh.
- Establish clear referral pathways and protocols between primary, secondary, and tertiary healthcare facilities for SCI management.
- Introduce a centralised referral tracking mechanism to monitor patient flow and reduce delays in accessing specialised services.

3. Strengthening the Healthcare Workforce

- Formally integrate rehabilitation professionals (physiotherapists, occupational therapists, speech and language therapists, prosthetists, orthotists) into the government health workforce, with minimum qualification standards (Bachelor's level).
- Introduce structured training programs for healthcare providers at all levels, covering SCI assessment, rehabilitation, pressure sore prevention, mental health, and gender-sensitive care.

4. Ensure Essential Supplies

- Guarantee availability of SCI-related supplies (catheters, sterile lubricants, wheelchairs, rehabilitation devices) at community clinics, Upazila Health Complexes, district hospitals, and divisional medical colleges.

5. Ensure Assistive Technology

- Introduce government-supported services for assistive device provision, customisation, and repair. It should be an essential service at all levels, especially at the divisional and district levels.
- Depending on the levels of paralysis, patients with SCI require a variety of assistive devices. Additionally, the assistive devices found in the local market cannot be used for the unique needs of patients with SCI, as they require customisation. Therefore, a national

guideline for AD provision can be developed and utilised uniformly by all levels of health services.

6. Upgrade Infrastructure and Accessibility

- Ensure wheelchair-accessible infrastructure (ramps, toilets, wards) across all tiers of government health facilities.
- Expand diagnostic capacity by installing MRI and CT facilities at district hospitals.
- Ensure subsidised and safe ambulance services from the Upazila Health Complex upwards.

7. Expand Rehabilitation and Vocational Services

- Establish at least one model government SCI rehabilitation centre like CRP, with scope for public–private partnerships (e.g., with CRP, NGOs, INGOs).
- Expand community-based rehabilitation, vocational training, and financial assistance to support long-term reintegration.

8. Harness Technology for Access and Equity

- Integrate mHealth and EHealth-based services into the national system to extend SCI care to underserved and remote areas.
- Develop a national SCI registry for patient management, monitoring, and research.

9. Promote Prevention and Awareness

- Develop a national SCI prevention strategy addressing common injury mechanisms.
- Develop and integrate a national SCI prevention model targeting common causes such as road traffic accidents, falls, and occupational hazards.
- Facilitate inter-ministry collaboration for SCI prevention. For instance, the Ministry of Road Transport and Bridges, through its Road Transport and Highways Division and the Bangladesh Road Transport Authority, is the primary ministry in Bangladesh responsible for raising road safety awareness and developing national strategies to improve road safety, including education and publicity campaigns. As road traffic accidents are one of the main reasons for SCI in Bangladesh, a collaboration between the Ministry of Road Transport and Bridges and the Ministry of Health and Family Welfare would bring essential actions to prevent SCI.
- Conduct regular awareness campaigns and community-based programs through print and TV media to reduce stigma, promote early care-seeking, and inform people with SCI about available government services.

10. Ensure Gender-Inclusive Services

- Develop and implement gender-sensitive care models to address barriers faced by women and third-gender individuals.
- Conduct a gender-inclusive awareness program to promote awareness among the public so that they seek essential care in case of need.
- Train healthcare workers on inclusive service delivery and stigma reduction.
- Establish monitoring systems to track gender-disaggregated data, ensuring equitable access and outcomes.
- Conduct a gender analysis to explore the situation, identify challenges, and propose possible solutions to address gender-related issues.

11. Increase Investment and Partnerships

- Allocate dedicated budget lines for SCI care, including service expansion, workforce development, and infrastructure.
- Strengthen partnerships with NGOs, INGOs, the private sector, and international donors to enhance service delivery and training capacity.