Situation Assessment of Rehabilitation in Nepal

Government of Nepal
Ministry of Health and Population
Department of Health Services
Epidemiology and Diseases Control Division
Leprosy Control and Disability Management Section
Teku, Kathmandu

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FOREWORD

The Government of Nepal, Ministry of Health and Population (MoHP) is committed to affirm the health rights of the Nepalese citizens. Public Health Act 2018 and National Health Policy 2019 have identified rehabilitation as health service. Leprosy Controland Disability Management Section of Epidemiology and Diseases Control Division is assigned as the focal entity to oversee disability and rehabilitation. MoHP is gradually investing to strengthen rehabilitation within the health system. However, there is an urgent need for deep diving to further develop and mature rehabilitation to which MoHP is looking forward and this calls for more attention, investment and coordinated action.

The increasing prevalence of non-communicabledisease, aging and injury illuminates the need to spotlight rehabilitation in the health system to ensure optimal functioning of individual thereby promoting good health and wellbeing. Recent evidence statesthat the prevalence of health conditions requiring rehabilitation will be further increased. Our health system should be prepared enough to respond to this future context. Thus, a systematic assessment of rehabilitation needs was conducted in 2019 which yielded the status as well as recommendation for the rehabilitation system in formal and organized way.

The assessment and development of this report is an outcome of the dedicated efforts of rehabilitation experts, professional associations, user groups, federal, provincial and local governments. I would like to dedicate my sincere appreciation for your significant contribution.

The Systematic Assessment of Rehabilitation Situation (STARS) is the first step toward formalizing rehabilitation in the health system. The next crucial step ahead is the development of a rehabilitation strategic plan and a continuous stewardship of MoHP to implement it to success. Therefore, I sincerely call upon all the stakeholders in rehabilitation to contribute to this important rehabilitation priority of MoHP which is focused on ensuring affordable, accessible and quality rehabilitation service for Nepalese citizen.

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PREFACE

The Constitution of Nepal 2015, has mandated the commitment to ensuring quality health services to citizens. Sustainable Development Goals number 3 "Good Health and Wellbeing", identify rehabilitation as an essential health service. It is our ambition to develop rehabilitation as an accessible and affordable health service as we are determined to embrace Universal Health Coverage. The National Health Policy 2019, Public Health Act 2018 and 15th Periodic Plan have already identified rehabilitation as an integrated health service. The growing prevalence of aging, noncommunicable diseases and injuries in Nepal is an urgent call sign to ramp up our ongoing efforts in rehabilitation. Our health system is maturing and in this progress lane, we are committed to strengthening rehabilitation and assistive technology.

In 2019 November, we initiated this Systematic assessment of rehabilitation situation (STARS) with the far-sighted vision of bringing the status of the rehabilitation, with an objective to use this product as a salient basis for the national rehabilitation strategic plan within the National Health Sector Strategic Plan 2022-2030. The STARS assessment report is a document that contains detailed information on the status of rehabilitation. Thus, we would like to bring this document as evidence of rehabilitation and make it accessible to all.

I would like to express my sincere thanks to Epidemiology and Disease Control Division and all the stakeholders including WHO, USAID, HI, rehabilitation service users, service providers, and thematic experts for contributing to this work.

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PREFACE

First and foremost, I congratulate the Leprosy Control and Disability Management Section (LCDMS), national stakeholders and external development partners on undertaking this Systematic Assessment of Rehabilitation Needs (STARS) and deriving succinct evidence for Nepal. I am delighted to learn that it has captured the assessment of rehabilitation alongside the six building blocks. This means the information is not only important from service but also crucial from the system perspective. Rehabilitation in the health system in Nepal is progressing at its level from the policy commitments in health to the actual implementation. This scenario calls for more evidence and data to guide the implementation. I believe STARS serve strong testament to inform the future development of rehabilitation.

Epidemiology and Diseases Control Division, through its LCDMS, is bringing several progress initiatives in rehabilitation as guided by Nepal Health Sector Strategy 2015-2020 and its implementation plan 2016-2021. We are finalizing the STARS assessment report at a crucial time as we know that MoHP is developing the *National Health Sector Strategic Plan 2022-2030.* The priorities in rehabilitation as reflected by the STARS will a means to develop the rehabilitation related chapter of this strategic plan. As STARS assessment was done before the COVID-19 pandemic, it has not captured the rehabilitation needs related to COVID-19. Therefore, in addition to STARS, I recommend the LCDMS and the stakeholder also consider the disabling effect of COVID-19 while planning and strategizing the rehabilitation in the health system.

I am very thankful for the relentless support from WHO-Geneva and Nepal teams for the continuous rehabilitation system strengthening. I would also like to thank USAID, Handicap International, the service providers' association, rehabilitation experts and users for contributing to this assessment and report. In addition to the federal level, we also need to reciprocate these types of assessments specific to provinces to promote provincial stewardship in rehabilitation. I am hopeful that our partners will keep investing in expanding the coverage, access, and affordability for rehabilitation in Nepal.

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PREFACE

Rehabilitation, as covered by *Sustainable Development Goal 3*, is a health service aimed at preventing the disabling effect of impairment and promoting the population's functioning such as the ability to walk, see, hear, communicate and socialize. This means rehabilitation is a way forwards for the participation of the population in personal, family and societal life. Rehabilitation is a means to achieve other SDGs such as quality education (SDG 4), decent work (SDG 8) and reduce inequalities (SDG 10). Nepal is witnessing the mounting prevalence of health conditions such as NCDs, injuries, and aging for which rehabilitation is mandatory to ensure health and well-being. In addition, the COVID-19 pandemic increased the as-usual backlog in rehabilitation due to service disruption and added the new need for the rehabilitation of COVID-19-infected people. All these scenarios show that the need for rehabilitation is mounting however its access is a concern because of the constricted supply side.

Leprosy Control and Disability Management Section(LCDMS) is overseeing rehabilitation and assistive technology as the focal entity of the Ministry of Health and Population in Nepal since 2015. In the past 5 years, the section has been working to impart a conducive policy environment for rehabilitation with the long-term vision to establish rehabilitation as a strong public health program. With this purview in our mind, we collaborated with WHO Nepal to undertake the Systematic Assessment of Rehabilitation Needs (STARs). The intention behind this assessment was to derive the snapshot status and priorities for rehabilitation in Nepal. This report brings the pressing issues in rehabilitation alongside six building blocks of the health system. Of the gaps identified by it, issues on human resource, financing and equipment and products seem dominant. The Ministry of Health and Population has instructed its entities to prepare the 8 years strategic plan which will form one chapter within the Nepal Health Sector Strategic Plan (NHSSP) 2022-2030. We see the STARs report as the blueprint to inform the chapter on rehabilitation and assistive products within NHSSP. Now we are aiming to endorse the STARs report as evidence as well as the baseline for the rehabilitation system in Nepal.

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Foreword

WHO-Nepal would like to thank the Ministry of Health and Population Nepal for making this report possible. The process began with the Ministry's request for technical support from the World Health Organization to assess the rehabilitation situation in the country.

National Public Health Act 2018 and National Health Policy 2019 have identified rehabilitation as a health service, which is aimed at promoting the functioning and preventing disability in an interaction with an environment. With the rising prevalence of non-communicable diseases, injuries and the ageing population, there is a significant and ever-increasing unmet need. Rehabilitation's main objective is optimizing functioning to remain as independent as possible, to participate in education, to be economically productive, and fulfil meaningful life roles. As such, the availability of accessible and affordable rehabilitation plays a fundamental role in achieving Sustainable Development Goal (SDG) 3, "Ensure healthy lives and promote well-being for all at all ages.

Integrating rehabilitation into a health system is an organized work for which a roadmap is required to guide its coherent development. With this vision and aligning to WHO Rehabilitation 2030 call for action, WHO-Nepal supported MoHP to conduct the Systematic Assessment of Rehabilitation Situation (STARS)in Nepal through which the baseline snap-shot on the status, key gaps and recommendation to strengthen rehabilitations are identified. STARs is the WHO recommended first step to member countries for meticulously strategizing the rehabilitation. After the STARs, the next step is the development of a national rehabilitation strategy with its implementation plan and monitoring framework. WHO will continue to provide its close support to the health system of Nepal for these crucial steps ahead.

We extend our sincere gratitude to MoHP officials, provincial officials, users group, service provider associations and rehabilitation professional associations for contributing to STARS assessment process and the development of this report. Likewise, we appreciate the contributions from USAID Physical Rehabilitation Activities of Handicap International for undertaking the assessments and finalizing this report.

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Dr. Rajesh Sambhajirao Pandav
WHO Representative to Nepal

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Acknowledgement

The importance of rehabilitation in health is further bolstered by the fact of changing demographic and disease patterns. Nepal is witnessing increasing prevalence of non-communicable diseases. The increase in life expectancy by 12.1 years in between 1990 to 2017, as shown by National Burden of Diseases Study, is an indication that the population is rapidly ageing. This also means, lives are being saved and people are living longer. In this context, the health system should be prepared enough to make sure that the population is living a life with utmost quality. Rehabilitation is conduit to functioning, healthy living and well-being. It is the emerging solution to address the disabling consequences of diseases, injuries and ageing. All these facts illuminate that it is the time to deep dive into rehabilitation.

Over the recent years, we admire the steps taken by the Ministry of Health and Population (MoHP), provincial and municipal level health authorities on programing rehabilitation into the health system. Having a focal unit to oversee rehabilitation, integrating rehabilitation reporting and recording into DHIS2 and first national standards on rehabilitation and assistive technology are the visible initiatives of Nepal in rehabilitation. It's the real honor of Handicap International (HI) to be one of the partners on these initiatives. We assure that HI will continue to provide its decisive inputs to the system development of rehabilitation in Nepal.

This STARs report is a blueprint to showcase the status of rehabilitation in Nepal. It was done following the procedure laid by the WHO rehabilitation 2030 and in consultation with the broad stakeholders in Nepal. Another step after STARs is the development of the National Rehabilitation Strategic Plan which is already reflected as the priority activity for this fiscal year. HI was one of the partner organizations to support the STARs assessment in Nepal through the generous support from USAID's Physical Rehabilitation Activity. We are committed to partner with MoHP and WHO-Nepal on developing the National Rehabilitation Strategic Plan. We admire the cohesiveness and joint effort of the government and non-government sector of Nepal to mature rehabilitation within the Health System. Our sincere thanks is dedicated to the MoHP, WHO and stakeholders involved in the planning, developing and finalizing the STARs report for Nepal.

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Leprosy Control and Disability Management Section (LCDMS) of Epidemiology of Diseases Control Division (EDCD) of Department of Health Services (DoHS), Ministry of Health and Population (MoHP) would like to thank MoHP, DoHs, provincial and local governments for making this report possible. LCDMS dedicates gratitude to World Health Organization, Handicap International, Rehabilitation Professional Associations, National Association of Service Providers in Rehabilitation and National Federation of Disabled Nepal. The report was prepared by Ms. Pauline Kleinitz, Rehabilitation advisor, WHO Headquarters which was guided by the new WHO Systematic Assessment of Rehabilitation Situation (STARS) tool. The assessment occurred in close collaboration with Dr. Bibek Kumar Lal, Director of Family Welfare Division and Dr. Rabindra Baskota, Consultant Dermatologist, Ministry of Health and Population.

Special thanks extend to all the people who took time to share information on their work in the field of rehabilitation in Nepal including the Technical Working Groups addressing rehabilitation matters. Also thanked are the persons who came to share their personal experiences as users of rehabilitation during the focus group discussion and while in the field.

Additional thanks go to those who provided valuable inputs, logistic support and technical feedback during the assessment and report writing process.

Appreciation is expressed to USAID for generously supporting this task through WHO-Geneva and Handicap International in Nepal.

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Acronyms

AP	Assistive Products
APL	Assistive Product List
APTWG	Assistive Product Technical Working Group
CatHE	Catastrophic Health Expenditure
CBR	Community Based Rehabilitation
CBID	Community Based Inclusive Development
CME	Continuing Medical Education
COPD	Chronic Obstructive Pulmonary Disease
CHE	Current Health Expenditure
DMPTRSAP	Disability Management (Prevention, Treatment and Rehabilitation) Strategy and Action Plan
DHIS	District Health Information Systems
DoHs	Department of Health Services
EDCD	Epidemiology and Disease Control Division
EDP	External Development Partner
GDP	Gross Domestic Product
HMIS	Health Management Information System
HRH	Human Resources for Health
HI	Handicap International
INF	International Nepal Fellowship
LCDMS	Leprosy Control and Disability Management Section
MCH	Maternal Child Health
MOEST	Ministry of Education, Science and Technology
MOHP	Ministry of Health and Population
MOSD	Ministry of Social Development
MWCSC	Ministry of Women, Children and Senior Citizens
NEPTA	Nepal Physiotherapy Association
NDF	National Disabled Fund
NHI	National Health Insurance
NHSS-IP	National Health Sector Strategy – Implementation Plan
NCD	Non Communicable Diseases
NGO	Non-Governmental Organization
OT	Occupational Therapy
OoP	Out of Pocket (costs to health care)
PAPL	Priority Assistive Product List

PRA	Physical Rehabilitation Activity (Programme)
PRC	Physical Rehabilitation Center
PT	Physiotherapy
PHD	Provincial Health Directorate
PHC	Primary Health Care
P&O	Prosthetics and Orthotics
PMR	Physical Medicine & Rehabilitation (Rehabilitation Medicine / Physiatry)
SCI	Spinal Cord Injury
SIRC	Spinal Injury Rehabilitation Center
SLT	Speech & Language Therapy
STARS	Systematic Assessment of Rehabilitation Situation (WHO Tool)
THE	Total Health expenditure
UNCRPD	United Nations Convention on the Rights of Persons with Disabilities
USD	United States Dollar
USAID	United States Agency for International Development
WHO	World Health Organization

Contents

Executive Summary

Ministry of Health and Population (MoHP) is committed to improving rehabilitation for all the population who need it, including persons with disabilities in Nepal. This assessment undertaken through the Leprosy Control and Disability Management Section (LCDMS), Epidemiology and Diseases Control Division (EDCD), Department of Health Services (DoHs) is an effort to improve existing rehabilitation services. LCDMS is the focal entity of MoHP for rehabilitation, assistive technology, disability and injury management. Undertaking this assessment was a priority and it reflects greater commitment to rehabilitation by the MOHP/DoHs/EDCD/LCDMS. In recent years, MoHP has increased its support for development of rehabilitation with stronger leadership and planning efforts. This situation assessment was requested by DoHs /EDCD/LCDMS to World Health Organization (WHO) to review the current status and provide evidence in the rehabilitation and assistive technology in upcoming Nepal Health Sector Strategy (2022-2030). The MoHP's attention to rehabilitation is warranted given the unmet rehabilitation need in population and its importance.

The assessment was conducted in a leadership of LCDMS/EDCD with technical support from the WHO and Handicap International (HI). The assessment utilized the guidance of the WHO's Systematic Assessment of Rehabilitation Situation (STARS), the assessment occurred from October 2019 to February 2020. In the South East Asia Region, Nepal is the second country after Myanmar to have completed a STARS assessment. It is expected that the findings of this STARS assessment in Nepal will now guide the development of rehabilitation and assistive technology related strategic plan as the sub-set of Nepal Health Sector Strategy 2022-2030. Additionally, the information generated from this assessment can serve as a rehabilitation baseline in order to track progress over time.

STARS is a snapshot diagnostic of the rehabilitation system across the six building blocks of health system. It is a recommended tool of the WHO to conduct the need assessment of health-related rehabilitation sector. It utilizes the Template of Rehabilitation Information Collection (TRIC), focus group and key informant interviews to drive the information on status, gaps, challenges and priorities in rehabilitation. STARS adopt the rehabilitation maturity model to structure the assessment and its findings.

Key Findings, Strengths and Recommendations

Key Findings of Assessment:

The assessment indicates there is ***significant un-met need*** for rehabilitation in Nepal and the needs are increasing due to rise in NCD, increased life expectancy and other health conditions. There are many health conditions associated with rehabilitation needs, these include cardiovascular diseases, musculoskeletal conditions, neurological conditions, pulmonary diseases, sensory organ diseases and mental health conditions.

Since the earthquake in 2015 the MoHP has amplified its ***leadership and engagement for rehabilitation.*** In recent years the MoHP undertook planning for rehabilitation linked to disability and included it in the Nepal Health Sector Strategy Implementation Plan (NHSS-IP) 2016-2021. The rehabilitation sector has recently formed a technical working group and there is increasing sectoral coordination. There is limited reporting and information regarding its overall status and performance.

The ***government investment in rehabilitation*** is limited for rehabilitation in Nepal. Only 0.2% of health financing is for rehabilitation and of the approx. 4 million USD it invests, only 5% came from national sources with 95% from foreign sources.[1] There has been significant support from external development partners (EDP) for many years and this support continues.

Number of rehabilitation personnel is 1/20,000 Nepalese people which is small considering the size of the population[2]. Not only is the rehabilitation workforce small, but it is also unevenly distributed. Regarding geographic distribution, it is estimated that 75% of rehabilitation workforce are in Bagmati Pradesh. It was also found that 98% of rehabilitation workforce are engaged in the private sector. The rehabilitation workforce is made up of 7 key professions with physiotherapists making up 89% of total workforce. There is a need to increase the training, acquisition, recruitment, distribution and retention of all rehabilitation professions and especially those less prevalent such as speech and language therapy, occupational therapy, rehabilitation medicine, rehabilitation nursing and clinical psychology.

There is 1 rehabilitation bed for every 87,000 people. This means there is low availability of ***specialized, longer-stay rehabilitation beds*** and people do not get the more specialized rehabilitative care they need. People in need of rehabilitation (such as after a stroke) are quickly discharged from hospitals with little rehabilitation availed within the government health services. There are too few inpatient rehabilitation facilities and clients are expected to travel too far to the ones that exist. Many large tertiary hospitals don't have dedicated rehabilitation wards and departments.

The integration of rehabilitation across ***tertiary and secondary level health care*** can be improved. It is positive that MOHP has recently achieved 100% of government tertiary hospitals with physiotherapists however all other professions are inadequate. At the level of government district hospitals, only 7% have rehabilitation professional, which is primarily because of projects that are run with the support of EDPs. Rehabilitation ***has not been integrated into government provided primary health care,*** there are no rehabilitation personnel at this level. The delivery of a basic package of rehabilitation interventions by general doctors or nurses at primary healthcare has not occurred in a systematic way, but initial pilots of resources to support this have commenced. Rehabilitation is delivered in some communities by community based rehabilitation/inclusive development programs, it was estimated that approximately 5-10% of districts have these local non-government organization programs.

There has been little integration of ***assistive product provision*** within government healthcare and funding is limited. They are only partly integrated into health insurance programs. Assistive products are not routinely provided through government rehabilitation and other health services. Infrastructure for rehabilitation in government tertiary and secondary level hospitals is also limited with small therapy units. Prosthetic and orthotics services have been supported by EDPs with some government support and out-of-pocket contribution by individuals. There is a need to increase investment in this type of rehabilitation, including development of rehabilitation workforce.

Summary of the Strengths of Rehabilitation in Nepal:

- In recent years the MoHP has initiated strong leadership in rehabilitation and supported the national planning for rehabilitation in government healthcare and this has included the integration of rehabilitation in the Disability Management (Prevention, Treatment and Rehabilitation) Strategy and Action Plan (DMPTRSAP) and the NHSS-IP.

[1]See section of this report on Rehabilitation Financing to explain this data.

[2]This is based on Nepali data provided for the STARS assessment, see Table 7 for comparisons with other countries.

- The MoHP is aware that rehabilitation should be included in the health financing and health information mechanisms and some progress has been made in both areas.
- Rehabilitation professionals are being trained, either in Nepal or abroad and therefore there is trained human resource available for future government or private sector rehabilitation services.
- In recent years, the government tertiary hospitals increased the sanctioned positions for rehabilitation personnel (particularly physiotherapy) and access at this level is gradually increasing, the medical care in these settings is increasingly integrating rehabilitation.
- There are specialized non-government rehabilitation facilities that are delivering quality, high-intensity, longer stay rehabilitation for people with complex needs.
- There is EDP support and it is aligning to MoHP priorities.
- There has been some government policy and financial support for the provision of assistive products. A 'Priority Assistive Products List of Nepal' 2018 has been developed. Custom duties and taxes are removed for most of the key assistive products. However, there are still challenge on the custom clearance of the consumables and the raw materials

Recommendations for rehabilitation in Nepal

Based on the situation assessment findings the following recommendations have been suggested for Nepal.

1. ***To strengthen government leadership at the federal, provincial and local levels***
    a. Develop a stronger multi-sectoral mechanism to steer and coordinate rehabilitation strengthening efforts, identify this for the federal level and how it can be developed/ applied at the provincial level, ensure rehabilitation consumers are engaged and consider opportunities for coordination with private sector providers.
    b. Develop a rehabilitation strategic plan and integrate it within the National Health Sector Strategic Plan, 2022-2030.
    c. Further integrate rehabilitation into a range of national and provincial health planning and standard setting, for example ensure it is included in planning for non-communicable disease (NCD), ageing, women's and child health planning, as well as health emergency planning.
    d. Develop specific guidance and build capacity for provincial planning, budgeting and monitoring of rehabilitation.
    e. Strengthen rehabilitation advocacy and awareness raising so that the full spectrum of healthcare is promoted, beyond just preventive and curative care. Work with rehabilitation consumers in this process.
    f. There is a need to review the prosthetics and orthotics services and infrastructure in Nepal. Further exploration of where and how the current services should be developed and invested in ought to occur, ensuring an appropriate configuration with stronger linkages to government health services and financing.
2. ***To increase government investment in rehabilitation personnel and infrastructure to improve access at all levels of healthcare and across geographic areas.***

a. At the tertiary and secondary healthcare level

   i. Further invest in rehabilitation personnel in government tertiary and secondary hospitals. Create new posts for a range of rehabilitation professions and improve their infrastructure and equipment. Address the mal-distribution of available rehabilitation work force by prioritizing the provinces where current availability is low.

   ii. Further expand the components of rehabilitation and assistive products that are funded within the National Health Insurance Package.

b. At the primary healthcare level and reaching into the community.

   i. Identify the appropriate mechanism(s) for a gradual integration of rehabilitation into primary healthcare in Nepal. Develop and pilot test an appropriate, scalable 'Rehabilitation Package of Health Conditions for Primary Health Care (PHC)' /primary hospitals and develop guidance for protocol-based care. Ensure this package builds capacity to identify all rehabilitation needs and referral mechanisms. In time, promote widespread uptake of this training package and build the rehabilitation readiness in PHC so that it is included in the next iteration of the Basic Healthcare Package. As training in rehabilitation at primary care level is expanded, identify opportunities to also integrate the WHO Training on Assistive Products (TAP). Ensure TAP training occurs alongside government financing of assistive products at the primary care level. Train the PHC health workers and medical officers on the basic rehabilitation skills and integrate the rehabilitation responsibilities within the job aide.

   ii. Identify the rehabilitation and assistive products outreach mechanisms that will be most effective at delivering the services at the community level. Work with health, disability and local governments to develop 'scalable models' of these services and document and upscale these across districts.

   iii. Harness the opportunities of technology such as tele-rehabilitation, to increase access to rehabilitation in PHC and at all levels of healthcare.

c. Specialized rehabilitation service*s*

   i. Invest in rehabilitation infrastructure and create rehabilitation beds in government and private health services. Aim to establish dedicated rehabilitation wards/units/center/facilities in all provinces.

3. ***To improve the integration, quality and specialization of rehabilitation in healthcare***

a. Integrate rehabilitation across health professional training in collaboration with National Health Training Centre (NHTC),

   i. Integrate a rehabilitation module into under-graduate training for doctors, nurses.

   ii. Integrate basic rehabilitation training into PHC level health workforce training opportunities.

   iii. When synergizing with Provincial and Pallika level health planners on rehabilitation, build awareness and capacity in rehabilitation.

b. Nurture professional specialization and development of multi-professional networks related to key health condition groups, such as spinal cord injury, stroke or pediatric conditions including cerebral palsy. Utilize these groups to develop national resources such as, protocols, standards, standard operating procedures and information, education and communication (IEC) materials.

    i. Develop rehabilitation service models/programs for children with disabilities that include case coordination and community outreach, and strong linkages with early childhood intervention and education settings.

    ii. Improve the integration of rehabilitation into all areas of health care like orthopedics, neurology, cardiology, and mental health care, hearing and vision health services.

    iii. Develop referral mechanisms to improve the continuum of rehabilitation between all levels of healthcare.

4. ***To improve the training of rehabilitation personnel***

    a. Increase the number of people being trained in a bachelor's degree level rehabilitation profession and continue to build the quality of competency-based training courses through upgrading and creating bachelor's degree, masters and PhD programs for all rehabilitation professions.

    b. Train doctors in the specialty of rehabilitation medicine and build this medical specialty in healthcare.

    c. Support the creation of professional development opportunities for all rehabilitation personnel.

    d. Improve support and supervision practices for rehabilitation personnel. Ensure hospitals develop 'senior' members of their rehabilitation personnel who can specialize in particular areas (e.g. neurology, cardiac, pediatrics) and subsequently provide 'on-the-job training' to a high level and by doing so improve quality and expand the scope of practice in these areas.

5. ***To strengthen the investment, coordination and provision of Assistive Products (AP)***

    a. Create a technical working group that is dedicated to AP and ensure multi-sectoral and agency representation.

    b. Work with multiple government agencies (including those overseeing local government) to identify the financing mechanisms that will support funding of the Priority Assistive Products List of Nepal (PAPL) and update this guidance over time, especially regarding costing. Explore mechanisms for one door policy.

    c. Review and streamline assistive product procurement mechanisms, utilize future guidance WHO-UNICEF guidance for procurement.

    d. Review the current distribution mechanisms for assistive products and improve mechanisms ensuring they are better integrated into government health services.

    e. Develop a model approach to AP provision with a center that provides a range of AP services, adopt standard operating procedures to support quality within healthcare. Undertake training of relevant health workers in the WHO TAP wherever government makes assistive products available in health care and training is needed, with a focus on primary care.

6. ***To increase the integration of rehabilitation into health information systems and develop reporting mechanism that build accountability.***

   a. Alongside development of a national rehabilitation strategic plan, develop a national monitoring framework with indicators and targets.

   b. Integrate rehabilitation into the District Health Information System-2 (DHIS 2) platform at each level and non-government sector so that rehabilitation data is recorded and reported, and can be used to track against rehabilitation indicators.

   c. Develop minimum standards for rehabilitation data collection in health facilities to support quality improvement approaches.

   d. Support generation of policy relevant research that can inform future rehabilitation service planning.

1. Background and Methodology

Background

The rehabilitation services exist in Nepal for many decades, and some leprosy focused rehabilitation services can be traced back to the 1950s. For example, the Green Pastures Hospital was originally established in 1957 by the International Nepal Fellowship as a leprosy hospital, and services were subsequently expanded to include individuals with spinal cord injury (SCI), stroke, and traumatic brain injury in the late 1990s. Additionally, the Hospital for Rehabilitation and Disabled Children was conceived by a Nepalese orthopedic surgeon, who began offering services in the 1980s, and the Spinal Injury Rehabilitation Center (SIRC) was founded in 2002 and is now Nepal's largest SCI inpatient rehabilitation center.

The Earthquake in Nepal, 2015 enhanced the awareness and demand of rehabilitation in the health system. In recent years the MOHP has ramped up rehabilitation sector planning and invested in rehabilitation personnel within government tertiary and secondary hospitals. These recent efforts by the MoHP/DoHs has strengthened rehabilitation in Nepal. As a result, rehabilitation is being gradually highlighted as one of the health priorities in key MOHP guiding documents, such as National Health Policy 2019, Public Health Service Act 2018, Nepal Health Sector Strategy 2015-2020 and National Strategy for reaching the unreached. The realization of rehabilitation is further emboldened following the recognition of it in these key guiding documents from health sector.

The increased focus on rehabilitation in Nepal is occurring alongside increased focus globally. In February 2017, the WHO launched the *Rehabilitation2030* initiative and a 'Call for Action' was raised.[3] The call for action identified ten areas to reduce unmet needs for rehabilitation and strengthen its role in health (see figure 1). WHO provided new recommendations within the *Rehabilitation in health systems[4] guidelines*. Central to this guideline is that rehabilitation services to be made available at all levels of healthcare, and that Ministries of Health should provide strong leadership, develop rehabilitation strategic plans and ensure it is part of Universal Health Coverage.

Figure 1 Rehabilitation 2030 - a call for action

[3]Available at https://www.who.int/initiatives/rehabilitation2030#:~:text=The%20Rehabilitation%202030%20initiative%20was,1.

[4]WHO (2017), Rehabilitation in Health Systems. World Health Organization, Geneva, Switzerland.

Introduction to Rehabilitation

Rehabilitation is a fundamental part of health services and integral to the realization of Universal Health Coverage[5]. Rehabilitation covers multiple areas of health and functioning, including physical, mental health, vision, and hearing. 'Rehabilitation interventions'[6] primarily focus on improving the functioning of an individual and reducing disability. Rehabilitation is a highly integrated form of healthcare with the majority of rehabilitation is delivered within the context of other (not rehabilitation specific) health programs, for example orthopedic, neurology, cardiac, mental health and pediatric health programs. Rehabilitation interventions may also be delivered in social programs, such as those targeting the social participation of people with disabilities. Rehabilitation improves peoples everyday functioning and increases their inclusion and participation in society, by doing so it is an investment in human capital.

Rehabilitation should be available at all levels of healthcare, from specialized referral centers through to primary and community settings. Rehabilitation interventions are delivered in health facilities as well as in the community, such as in homes, schools and workplaces. Rehabilitation is a highly person-centered form of health care, it is goal orientated (i.e. very individually tailored), time bound and an active rather than passive process. Rehabilitation is most commonly delivered through a multi-disciplinary team, namely physiotherapists (PTs), occupational therapists (OTs), speech and language therapists (SLTs), prosthetists and orthotists (P&O), clinical psychologists (CP) and through specialist rehabilitation medicine doctors (PMR) and nurses, it can also be delivered through appropriately trained community-based rehabilitation personnel and other health personnel. In this report, as with other WHO documents, the word rehabilitation also includes habilitation[7].

Rehabilitation is for all the population and for people with disabilities as defined by the United Nations Convention on the Rights of Persons with Disabilities[8] (UNCRPD).Many people with short-term health conditions benefit from rehabilitation and it contributes to the prevention of impairments associated with disability. In these cases, rehabilitation may optimize surgical outcomes, decreases the length of hospital stay, prevents complications, decreases re-admissions and facilitate a return to optimal functioning. Many people with disabilities benefit from rehabilitation and in addition to rehabilitation they may require other programs, such as those that support their social inclusion, their participation in education, their attainment of a livelihood or their access to justice. programs that include people with disabilities and whose primary aims are education, training, employment or social inclusion should be delivered through non-health ministries and align to the mandate of that ministry.

[5] World Health Organisation. Fact Sheet http://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-(UHC)

[6] Rehabilitation interventions are a form of health intervention. Health interventions are: an act performed for, with or on behalf of a person or population whose purpose is to assess, improve, maintain, promote or modify health, functioning or health conditions. Examples, in the context of rehabilitation include; manual therapy, exercise prescription, provision of assistive products, education and modification of home environment.

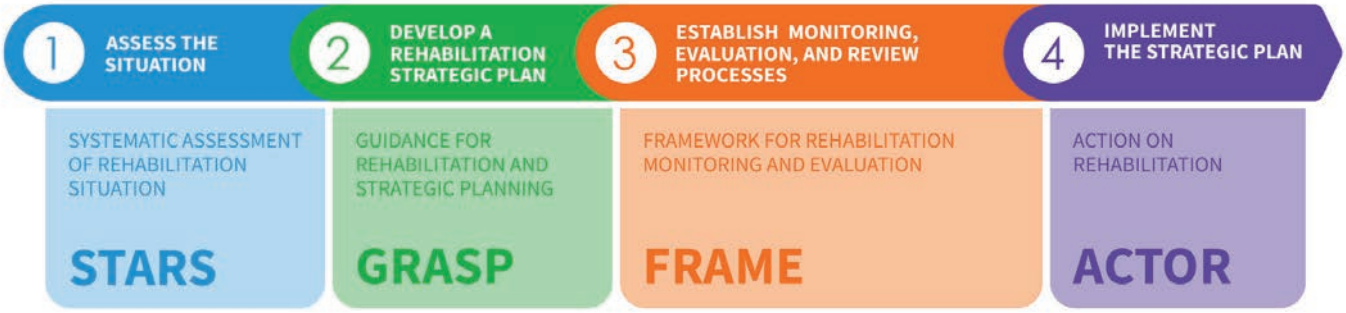
[7] Article 26 of the UN Convention on the Rights of Persons with Disabilities refers to both Rehabilitation and Habilitation. Habilitation refers to rehabilitation in the context of people who were born with congenital health conditions.

[8] As defined by the UNCRPD, People with disabilities are 'those who have long term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis to others'. However, rehabilitation is for all the population, for example people with short-term functioning difficulties as well and for many people who do not identify as having a disability.

Methodology

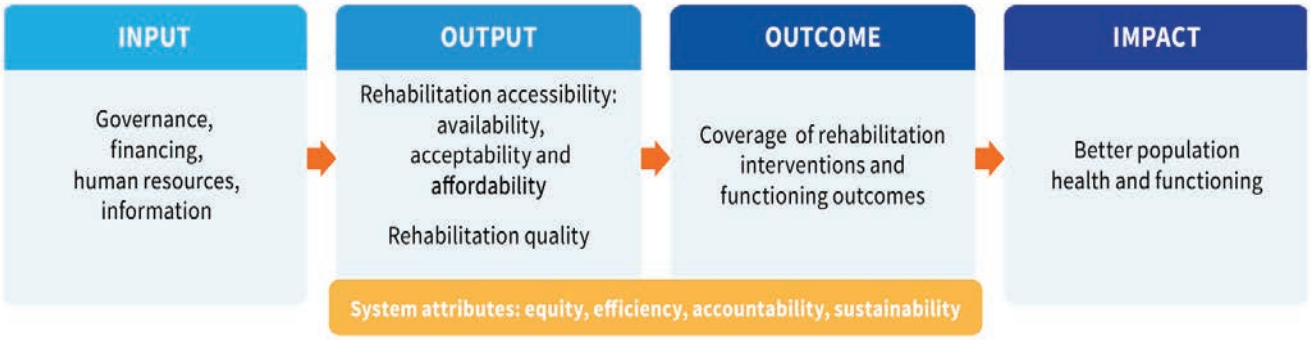
The WHO tool kit, ***the Rehabilitation in Health Systems-Guide for Action*** provides detailed guidance for a 4-phase process in which a national rehabilitation strategic plan can be developed and implemented. The first step in this process is to undertake a situation assessment using the Systematic Assessment of Rehabilitation Situation (STARS) resource. Figure 2 outlines the 4-phase process and the guidance that accompanies it.

Figure 2 Four phase process and guidance



Utilizing STARS, a situation assessment was conducted between between October 2019 – February 2020. The structure of STARS is informed by the six health system building blocks[9] and the Rehabilitation Results Chain (logic model) (Figure 3), and the rehabilitation in healthcare model (Figure 4). Derived from these 3 frameworks are 50 components of rehabilitation that exist in a mature health system, these 50 are considered during the assessment (listed in Appendix A). The structure of this STARS report is based on this Results Chain.

Figure 3 Rehabilitation Results Chain



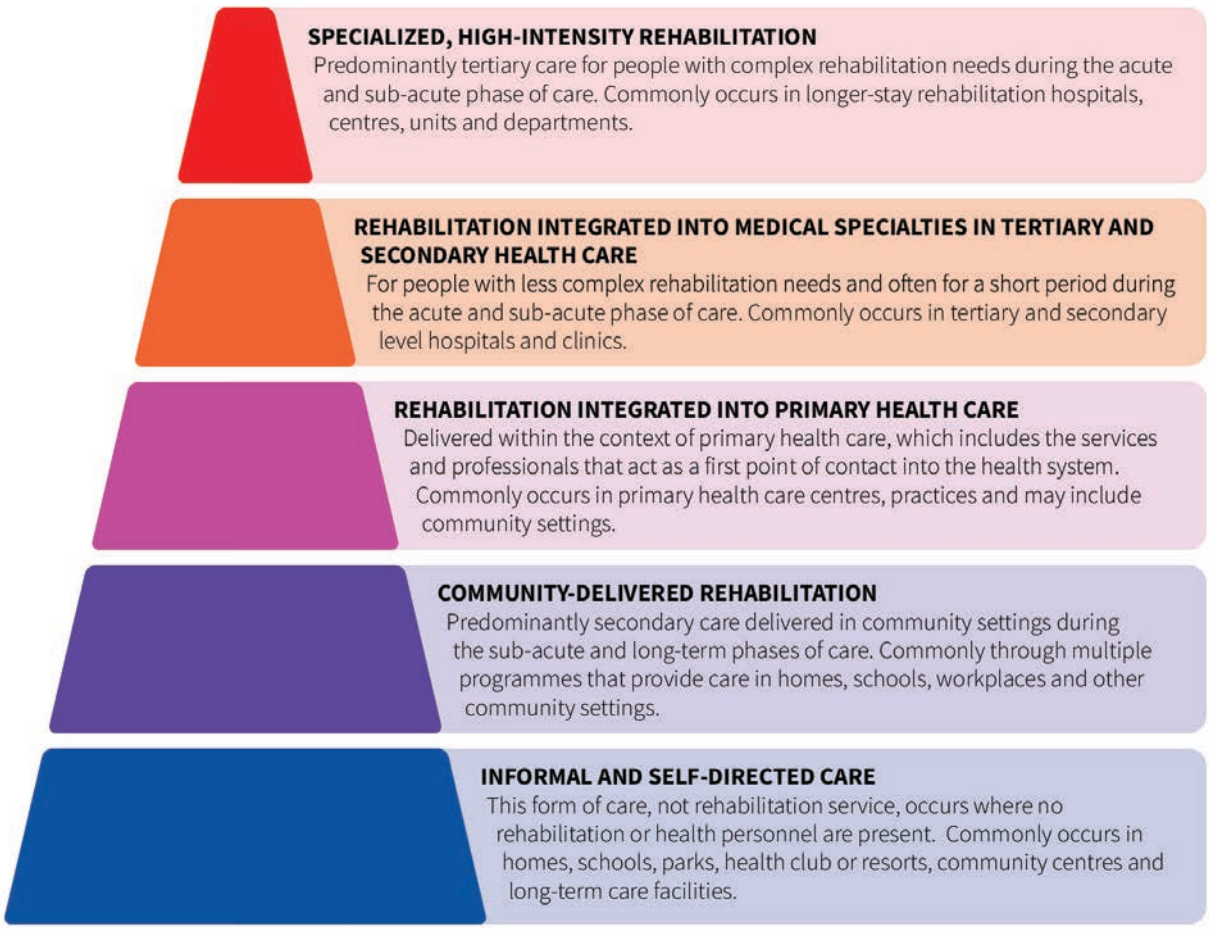
The assessment occurred in three stages. During stage one, the STARS data collection template was completed by the MoHP, DOHs, EDCD, Ministry of Social Developments (MoSD) and partners in rehabilitation. During stage two, a team of rehabilitation experts undertook an in-country assessment, including MoHP, WHO and HI rehabilitation experts. This component of the assessment occurred in November 2019. The assessment included key informant interviews (listed in Appendix B), focus group discussions, SWOT analysis (undertaken during consultation meeting 20th November 2019), and site visits to health and rehabilitation services. During the assessment process and report writing the data and information was analyzed against the 50 components of the STARS tool. Each component is described along a four-level grade reflecting the maturity of rehabilitation in the health system.

[9] Health governance, financing, human resources, information, services, and medicines and technology.

During the assessment a grade was given to each component of rehabilitation and results are included in this report.

The WHO STARS tool includes a larger (excel) document that describes each level of the grade and justification for score, this can be made available on request. The third stage of the situation assessment was the sharing of the draft report with MoHP and other national stakeholders for feedback before it was finalized in 2021.

Figure 4 Rehabilitation in Healthcare Model



2. Overview to Health System and Rehabilitation

2.1 Overview to the health system

Based on Nepal's 2011 census, it has a population of 26 million in 2011 which is expected to grow steadily to 33 million by 2030[10]. The Terai region of Nepal make up 50% of the population with 43% residing in the hills and 7% in the mountains. The population is urbanizing, and it was estimated that in 2017 up to 20% live in urban areas. The 2011 Nepal Census identified 126 ethnicities speaking 123 different mother tongues[11]. Hinduism is the major religion with 81.3% of the population, then 9% Buddhism, 4.4% Islam, 3% Kirant, 1.4% Christian and small number of others. The country experienced internal conflict for 10 years from 1996 to 2006, this was mostly in the hill areas and western parts of the country. There has been steady economic growth for many years, averaging 6% of Gross Domestic Product (GDP) annually, however Nepal remains a low income country where one in five people live in absolute poverty[12]. It is ranked 155th globally in terms of GDP per capita[13] making it one of the least developed country in South Asia.

The administrative structure of the health system is undergoing a significant shift due to the new federalist model of governance. There are now three levels of government, one federal, seven provincial and 753 local governments (Pallikas). The federalist model is resulting in a decentralization of health governance with roles and responsibilities being defined and provincial and local governments (Pallikas) playing a larger role.

The federal administrative structure of the MoHP and the DoHS are located in Kathmandu. This structure oversees the nation-wide planning, regulation, central resource management, development of guidance, standards, and national monitoring and evaluation. The 27 tertiary hospitals (or more) are administered under federal government. At the provincial level, there is a Ministry of Social Development that includes both health and social affairs, and the provincial health directorate (PHD) sits within this. The PHD is responsible to implement and supervise the health-related activities allocated by MoSD and MoHP. It is responsible for 77 respective hospitals although hospitals with 15 beds or less will be administered by the 753 local governments that oversee their primary healthcare. Local governments are responsible for the planning, budgeting and oversight of activities at this level. Some aspects of how these three levels of government will work together and achieve stated aims and functions are still being worked out.

The MoHP sets the priorities and direction for health through the National Health Policy, NHSS 2015-2020 and the NHSS-IP 2016-2021. These all aim to achieve Universal Health Coverage through improving access to quality and equitable health services. The NHSS has a 5-year time frame and four strategic directions: health system reform, equitable access, improved quality of services, and multi-sectoral approaches, it also defines nine outcomes and 28 outputs. The NHSS-IP then identifies an extensive range of activities to achieve these outcomes and the creation of a basic package of health services is a key initiative within this.

[10]Central Bureau of Statistics. National Population and Housing Census 2011 (PopulationProjection 2011-31). Kathmandu: Central Bureau of Statistics, 2014.

[11]https://unstats.un.org/unsd/demographic-social/census/documents/Nepal/Nepal-Census-2011-Vol1.pdf

[12]UNDP. Nepal Human Development Report 2014. Kathmandu: Government of Nepal, 2014.

[13]https://data.worldbank.org/indicator

2.2 Outline of rehabilitation in Nepal

There is government supported tertiary and secondary hospitals and a network of primary health care services. The private sector is large and growing and covers all three levels of tertiary, secondary and primary healthcare. The private sector includes profit and not-for-profit institutions and there is often little distinction between the two. In summary, there are some rehabilitation services in Nepal situated across all levels of healthcare and across government and private providers.

It is estimated that there are 1345 rehabilitation personnel working in Nepal[14] and they are made up of 7 professions, physiotherapy (PT), audiology, speech, language therapy (SLT), occupational therapy (OT), prosthetics and orthotics (P&O), clinical psychologists (CP), physical rehabilitation medicine doctor (PMR) and rehabilitation nurses (RN). There are relatively small numbers of many of these professions with physiotherapist making up 89% of all rehabilitation personnel.

Rehabilitation in Nepal is mostly situated in the private sector with 95% (or more) of personnel located there[15]. In government health services rehabilitation is at the tertiary level with gradual establishment in district hospitals and almost none in primary healthcare. In the private sector the distribution across the levels is different, with approximately 50% of rehabilitation personnel at tertiary and secondary hospitals and the other 50% working in a range of private practice clinics, community-based rehabilitation programs and rehabilitation centers.

There are at least four facilities that offer specialized, longer-stay rehabilitation for people with complex needs. These are predominantly located in the Kathmandu and Pokhara regions of the country and offer tertiary care. There is 1 rehabilitation bed for every 87,000 people which means the availability of specialized rehabilitation remains low compared with population size. There are few rehabilitation services for children and mostly what is provided is through rehabilitation personnel working in the private sector. There is some specialization within each profession but mostly this is limited. Some of the rehabilitation delivered in community settings has developed through non-government organizations (NGOs) and they have utilized community-based rehabilitation (CBR) approaches. These approaches have focused on people with significant long-term disabilities and include activities beyond rehabilitation, such as vocational training, employment support, empowerment, social inclusion and education.

[14]See Section of this report on Rehabilitation Workforce to explain this data.

[15]See Section of this report on Rehabilitation Workforce to explain this data.

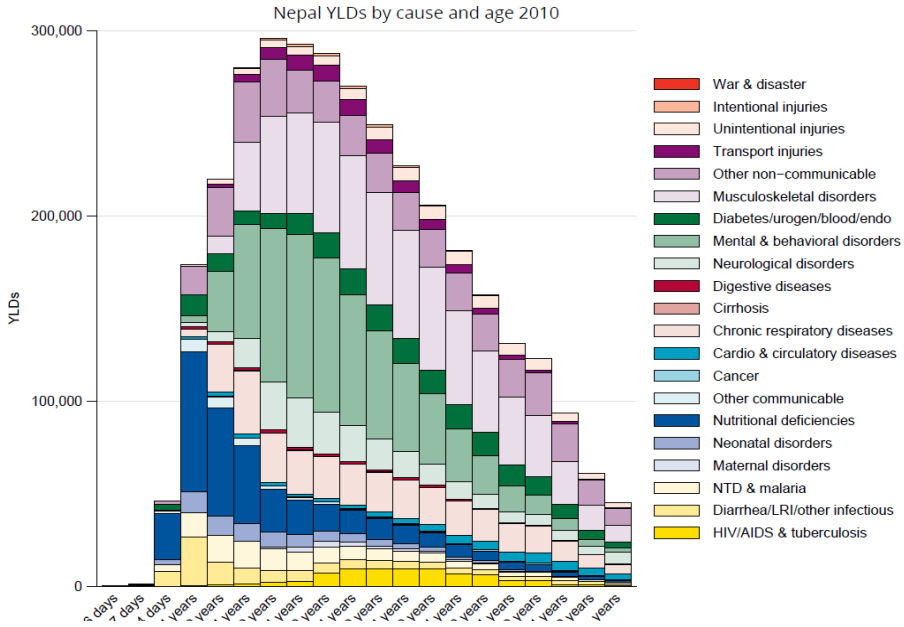
3. Health Trends and Rehabilitation Needs

Rehabilitation is relevant to a wide range of health conditions. Therefore, understanding the rehabilitation needs in the population of Nepal requires interpretation of different information from different sources, some of which are population level and some from administrative data and registries.

Globally, the health conditions that are most associated with moderate to high levels of disability include arthritis, back pain, hearing and vision disorders, hypertension, heart disease, asthma, lung and breathing problems, diabetes, stroke, depression, and dementia[16]. Figure 5 represents the Years Lived with Disability (YLDs) in Nepal, this data comes from the Global Burden of Disease Study and combines a 'disability weighting' of the health condition along with the prevalence of the health condition, all of which benefit from rehabilitation. In line with global trends, the health conditions associated with disability in Nepal are mental health, musculoskeletal, respiratory, nutritional and other non-communicable diseases.

Figure 6 adds to this information for Nepal by indicating the health condition trends and their change in prevalence over two decades. Notably, for Nepal there remains a significant contribution by the communicable and nutrition related health conditions but also increasing prevalence of both non-communicable diseases (NCDs) and road injuries, both of which significantly increase the rehabilitation needs within the population.

Figure 5 Nepal Years Lived with Disability by cause and age



[16]Murray CJ, Vos T, Lozano R, Naghavi M, Flaxman AD, Michaud C, et al. Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010. Lancet 2012;380: 2197–223.

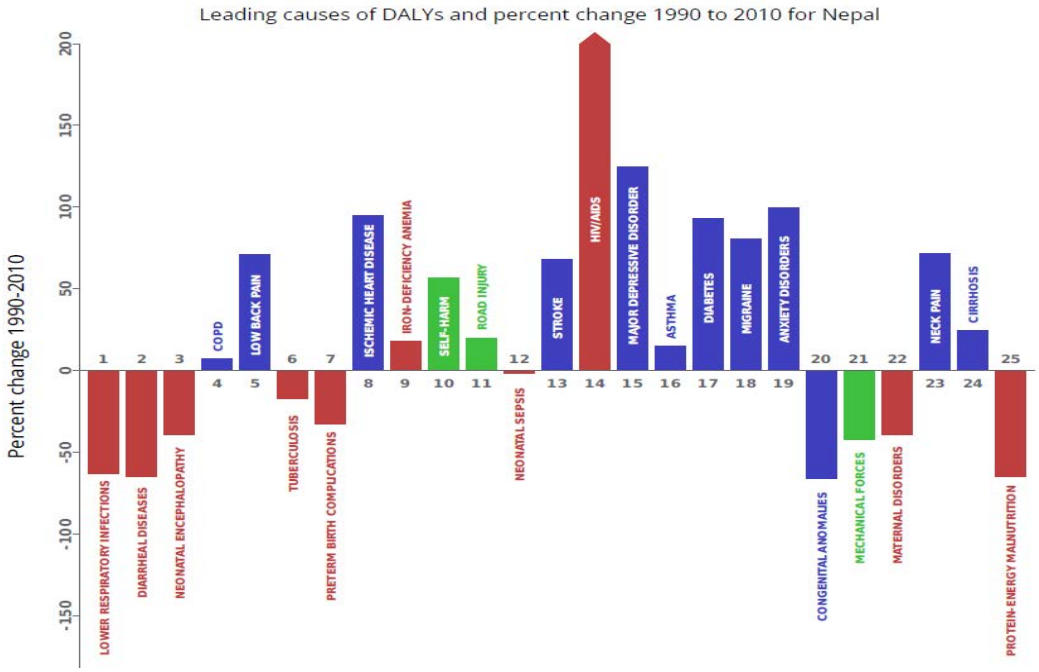


Figure 6 Nepal Leading Causes of Disability Adjusted Life Years and percent change 1990 - 2010

In addition to the information attained population health trends, information regarding particular groups of healthy conditions informs rehabilitation needs. The following data from Nepal was extracted from Nepal's Health Management Information Systems, Nepal's 2011 Census and a mental health household survey.

Table 1. Prevalence of selected rehabilitation amenable health conditions.

Health condition amenable to rehabilitation	12-monthprevalence	Source of data
Injuries (all injuries, fall and fractures)	801,623 people accessing services	HMIS (2017 - 2018)
Road Traffic Injuries	100,190 people accessing services	HMIS (2017 – 2018)
Neural Tube defects in children	4 in 10,000 live births	Household nutrition related survey[17]
Autism Spectrum Disorder	3 in 1000 school-age children	School-age population survey[18]
Depression	11.7% Population	Household mental health survey[19]
Anxiety	22.7% Population	Household mental health survey[20]
Disabling Vision Loss	2.0% Population	Census 2011
Disabling Hearing Loss	1.7% Population	Census 2011

[17]Prevalence of congenital defects includingselected neural tube defects in Nepal:results from a health survey. Shiva Bhandari, Jamuna Sayami, Ricky Raj, and Megha Raj Banjara. BMC Pediatrics 15 (1):33

[18]The Estimated Prevalence of Autism in School-Aged Children Living in Rural Nepal Using a Population-Based Screening Tool. Heys,M, etc. Journal of Autism and Developmental Disorders. 48, 3483–3498(2018)

[19]Anxiety and depression in Nepal: prevalence, comorbidity and associations. Ajay Risal, Kedar Manandhar, Mattias Linde, Timothy J Steiner & Are Holen. BMC Psychiatry. 16 (102), 2016

[20]Anxiety and depression in Nepal: prevalence, comorbidity and associations. Ajay Risal, Kedar Manandhar, Mattias Linde, Timothy J Steiner & Are Holen. BMC Psychiatry. 16 (102), 2016

Additionally, rehabilitation practitioners were questioned on the most common conditions they encounter amongst their clients. When talking to physiotherapists, the conditions commonly seen were; lower back and neck pain, arthritic joint pain, soft-tissue injury, stroke and children with cerebral palsy. Data from the Nepal Physiotherapy Association (NEPTA) Members Survey corroborated this and table 2 shows the most common types of clients seen. The speech and language therapists reported adult strokes with swallowing issues and children with communication difficulties as their most common clients. Prosthetists and orthotist reported common conditions to be amputations, club-foot and scoliosis. Rehabilitation medicine and nursing personnel reported spinal cord injury and traumatic brain injury.

Table 2 Common client groups seen by physiotherapists in Nepal[21]

Type of patient	% of physio's reporting that they see these types of clients
Musculoskeletal	89.7
Adult neurology	67
Sports	47
Geriatrics	44
Pediatrics	41.6
Intensive Care Unit	36
Prevention / Health Promotion	29.7
Cardiopulmonary	29
Women's health	22.3
Community based rehabilitation, i.e. people with long term disabilities.	19.7

Summary of Rehabilitation Needs

- As there are a wide range of health conditions amenable to rehabilitation the information regarding rehabilitation needs in the population comes from multiple sources. Drawing on the Global Burden of Disease study and information attained through national sources it is clear that significant needs exist in the population.
- Key population groups in need of rehabilitation include adults with cardiovascular, respiratory, neurological, muscular-skeletal and mental health conditions, as well as children with developmental conditions such as cerebral palsy and autism spectrum disorder.

[21]Nepal Physiotherapy Association (NEPTA) Members Workforce Survey

4. Rehabilitation Governance

4.1 Overview to Rehabilitation Governance

REHABILITATION IN HEALTH SYSTEM GOVERNANCE	STATUS
Rehabilitation unit within MOHP	Rehabilitation focal unit of MoHP is the LCDMS, within the EDCD, DoHs
Policy and legislation inclusive of rehabilitation	***National Health Policy 2019-*** refers to rehabilitation being embedded into local, provincial and central health services. ***Public Health Services Act 2018-*** identifies rehabilitation alongside promotive, preventive, curative and palliative care. ***Disability Rights Act 2017-*** refers to the government's responsibility to provide rehabilitation and creation of a rehabilitation fund.
Rehabilitation included in National Health Strategic Plan	***National Health Sector Strategy III, 2015-2020***, refers to rehabilitation on 3 occasions in context of need after earthquake and refers to physiotherapy as part of Basic Health Services. ***NHSS-IP*** refers to rehabilitation extensively (over 50 occasions), it is included in areas related to infrastructure, procurement, human resources, education of population, service access, quality improvement, emergencies and trauma, health information, includes much detail of rehabilitation actions.
Rehabilitation included in other health planning documents	***Birth defect surveillance, prevention and control 2015-2019-*** rehabilitation briefly mentioned as necessary service for children ***2 Minimum Service Standards- for Secondary Hospitals with Basic Services and for Tertiary Hospitals, MOHP*** – includes standards for physiotherapy in both documents (no other rehabilitation profession is included and none in the primary health care standards) ***National Strategy for Reaching the Unreached 2016-2030.*** Includes establishing of Physiotherapy/Rehabilitation unit in hospitals ***National Childhood Disability Management Strategy 2064 BS.*** Emphasizes rehabilitation in childhood disability management (only Nepali version) ***National Guidelines for Disability Inclusive Health Services, 2019*** – suggests phases for development of rehabilitation for people with disability.
National Rehabilitation Strategic Plan	There is no dedicated rehabilitation strategic plan however the MOHP ***'Disability Management – Prevention, Treatment and Rehabilitation (DMPTRSAP) 10-year Strategy and Action Plan 2073-2082 (2016-2026)'*** includes a rehabilitation component.
National Rehabilitation Coordination	A technical working group was created by the EDCD under chairmanship of Director of General Health Services for oversight of the DMPTRSAP, this has included rehabilitation stakeholders.
Performance/ Status Reporting for Rehabilitation	3 Rehabilitation indicators included in the NHSS-IP Results Framework. Otherwise very limited data collected and collated for national reporting. The DMPTRSAP also includes rehabilitation indicators but some of their data sources are yet to be established.

4.2 Rehabilitation Leadership

After the April 2015 earthquake the leadership from MoHP strengthened, notably supporting greater planning of rehabilitation. The earthquake resulted in many people sustaining injuries that required rehabilitation which highlighted its importance to MoHP leadership. After the earthquake there was international support directed towards rehabilitation and combined with MoHP's growing awareness the leadership and planning moved forward. Within the MoHP administrative structure, there was the health secretary level decision to allocate disability and rehabilitation under Leprosy Control Division (Now Leprosy Control and Disability Management Section) which rehabilitation is situated within. The section has a Consultant Dermatologist as the chief who spearhead leprosy, disability, rehabilitation and assistive technology related activities with the support of 2 health officers and 3 staff from EPDs.

In addition to the leadership of MoHP, the MWCSC has also contributed with a focus on the rehabilitation for people with disabilities. It was reported during the assessment that MoHP and MWCSC are supporting for rehabilitation, yet their precise roles are still to be determined. Within the MWCSC administrative structure there is National Disability Fund (a physical rehabilitation center) that delivers physiotherapy and prosthetics and orthotics services. Overall, it could be characterized that leadership structures for rehabilitation are 'emerging' and that some aspects are clear but not all, and that this leadership is trying to translate into strong political and financial commitment.

4.3 Rehabilitation Planning

The coordination culture inculcated by injury-rehabilitation sub-cluster of MoHP for 2015 earthquake response galvanized the coordination for rehabilitation beyond the earthquake related needs, and in 2016 the MOHP developed the DMPTRSAP 2073-2082' . The DMPTRSAP includes components related to rehabilitation with a focus on people with disabilities. These components include actions to strengthen early identification of children, provision of therapy services, psychosocial services, assistive products, medical rehabilitation, prosthetics and orthotics and strengthening the rehabilitation workforce and standards. Building on the DMPTRSAP and also in 2016 the National Health Sector Strategy (NHSS) and its Implementation Plan (NHSS-IP) included rehabilitation. The NHSS-IP framed rehabilitation as a health service for all the population. The NHSS-IP mentions rehabilitation over 50 times, it is represented in sections related to:

- Infrastructure – rehabilitation units/departments in earthquake affected areas
- Health planning – planning, coordination and capacity in rehabilitation at the provincial, district, local government level
- Quality health services - availability, referrals, early identification of children, standards and protocols, women's health, reaching under-served populations.
- Health workforce - training, scope of practice, continuing medical education and training of other health professionals
- Health information–rehabilitation integrated into Health Information Systems for state and non-state providers
- Assistive products – procurement andquality standards
- Public health emergencies – integration of rehabilitation into preparedness and response.

4.4 Rehabilitation Coordination

Previously national coordination for rehabilitation was mostly informal, ad hoc and focused on people with disabilities. With the establishment of the focal unit within LCDMS this is improving however the current mechanism to coordinate rehabilitation is under the Working Group charged with oversight of the DMPTRSAP. As rehabilitation has already emerged as the health service for all, it is important to add technical committee focused to rehabilitation. It was also reported that the National Steering Committee for disability (created under the Disability Rights Act 2017) contributes to coordination. The chair to this steering committee is Ministry of Women, Children and Senior Citizens (MWCSC) and MoHP is a member to it. This could be a mechanism to harmonize the action of both ministries on the rehabilitation.

4.5 Rehabilitation Leadership, Planning and Coordination at the Sub-National Level

The descriptions above are for the leadership, planning and coordination of rehabilitation at the federal level, however under Nepal's federalist structure there is an increasing need for sub-national leadership and planning. Currently there is very little sub-national and local mechanisms, guidance nor technical capacity for rehabilitation within the Provincial Ministries responsible to oversee health and local bodies. The considerable strengthening will be required to promote the rehabilitation leadership and governance at the subnational and local level in future. There are mechanisms for disability coordination at these levels and these may include aspects of rehabilitation such as community-based rehabilitation.

4.6 Regulation of the Rehabilitation

The regulation of the sector has occurred in the context of the wider health regulatory mechanisms which are not extensive in Nepal, but health laws are in place and mostly enforced. There is professional regulation of rehabilitation (physiotherapy, occupational therapy, prosthetist & orthoptist, speech and audiology)) personnel through the Nepal Health Professionals Council and this is for masters, bachelor and diploma level trained personnel. The registration of rehabilitation medicine and nursing is done through the respective Nepal Medical and Nursing Councils. There is some Medical Product Standards that apply to rehabilitation, for both medical equipment and assistive products. While some regulation exists, there were concerns regarding the limited enforcement for both product standards and people practicing as rehabilitation personnel with inadequate training.

4.7 Accountability for Rehabilitation

As rehabilitation is part of Universal Health Coverage and the MOHP is fundamentally accountable for achieving basic health services for all the population, it is clear that the MoHP is accountable for ensuring the citizen access to the rehabilitation they need. The accountability for rehabilitation is even clearer with the endorsement of the DMPTRSAP and NHSS-IP. While high-level accountability and responsibility for rehabilitation is mandated, there are limited reporting processes in place. Accountability requires measurable indicators and attaining information to track progress against these.

4.8 Transparency for Rehabilitation

Transparency entails a wider audience knowing how and why decisions were made, particularly regarding resource allocation. There are administrative practices within the MOHP that support the development

of annual working plan and budgets. Notably, EDCD/LCDMS has initiated a practice to organize the consultation with the stakeholders while deciding the annual working plan related to rehabilitation. Furthermore, the list of the approved fiscal year program, budget and implementation guidelines is published in MoHP website. Positively, during the development of the DMPTRSAP there was a consultative process with stakeholders and much of the decision making was transparent.

4.9 Assistive Product Leadership and Coordination

In the past, along with rehabilitation, there was limited attention regarding AP and AT and as a result there is limited planning, coordination and service delivery (see service delivery section of report). Previous AP support was linked to services for people with disabilities with leadership mostly from the MWCSC and local or international NGOs except for leprosy where EDCD/LCDMS has dedicated budget for crutches, splints, orthosis and prosthesis etc.

4.10 Assistive Product Planning

The MOHP in collaboration with partners in rehabilitation has developed the priority Assistive Product List(APL). The APL makes an important contribution to AP planning and raises the profile within the health system. A key purpose of the APL is to achieve financial support for the provision of these products for the population who need them. In this way the Nepal APL has not yet been fully financially supported but planning will continue for this. The APL can provide guidance to the local government units during procurement of AP especially with its guidance for budget ceilings and product codes, however not all are currently using its guidance.

AP was included in the DMPTRSAP and there are targets and goals related to AP. The actions areas intersect with emergency preparedness, financing and service provision and the MOHP, MWCSC and the local government are listed as key actors. The precise details of how AP will be developed in health, i.e. how it will be provided, procured, distributed is not elaborated although provincial and district hospitals are highlighted.

Legislative provision for AP exists in the Disability Rights Act 2017. In Chapter 8 of the law it states that government will fully or partially exempt AP from customs, excise duties or local taxes, this is also included in the DMPTRSAP. This legislation has come into place and taxes are not included for obvious (mostly physical) AP such as wheelchairs and crutches, it was reported however that the components and raw materials for some AP are still taxed as well as spectacles and hearing aids.

The MWCSC supports AP as it is the agency that allocates disability funding to local government units who can then choose to use it for procurement of AP. The 753 local government units get approximately $500 to $1500 per annum disability budget and it can be utilized this way. It is reported that there has been little coordinated procurement of AP across pallikas and the extent of health personnel engagement in the process has varied.

4.11 Rehabilitation Integrated into Emergency Preparedness

An aspect of health planning is the integration of rehabilitation into disaster and health emergency planning. Nepal now has considerable experience with emergencies since the earthquake in 2015 and it is a country that is vulnerable to disaster. The Health Emergency Operation Centre (HEOC) has identified rehabilitation as an important aspect of health and integrated into the response cycle guidance for hospital and post-hospital care. Additionally, rehabilitation has been integrated into the stakeholder mapping and referral pathways established between hub and satellite services. There is an appropriate stockpiling of assistive products, mostly of mobility products.

Summary of Rehabilitation Governance

- Since the 2015 earthquake there is increased leadership, planning and coordination for rehabilitation. There is clarity within the MOHP administrative structure regarding the locus of rehabilitation leadership, there has been an increase in technical capacity alongside partner support.
- The central planning for rehabilitation was significantly improved by its inclusion in both the DMPTRSAP and the NHSS-IP 2016-2021. The DMPTRSAP working group currently coordinates rehabilitation but greater clarity regarding the precise roles and responsibilities of MOHP and MWCSC is needed, also the current disability focused working group structure is not ideal in the mid to long term for rehabilitation.
- While rehabilitation leadership has improved through the allocation of focal unit in EDCD/ LCDMS. This administrative transformation has not converted to adequate resource allocation to rehabilitation.
- While planning has improved there is still limited routine reporting and few mechanisms to measure the performance of rehabilitation in the country, in particular through reporting on the status of rehabilitation and its outcomes as is commonly done in other areas of healthcare.
- The health system leadership and planning has improved at the federal level however at the sub-national/provincial and local level/pallikasthis remains limited. There is concern that the processes and capacity within both federal and provincial levels of the MOHP are not unclear to support implementation of the actions within the DMPTRSAP and the NHSS-IP.
- The leadership, planning or coordination for assistive product provision is gradually improving since the development of the PAPL and the inclusion of AP in the DMTRSAP.
- There has been good steps taken to ensure rehabilitation is integrated into the disaster preparedness and many lessons have been learnt from the earthquake in 2015.

5. Rehabilitation Financing

5.1 Overview to Rehabilitation Financing

Expenditure Item	2016/2017 Budget	Definition
Total rehabilitative care expenditure	3,760,000 USD	Includes the transfers from government domestic revenue, transfers distributed by government from foreign origin, and direct foreign transfers.
Foreign expenditure as % of total rehabilitative care expenditure	95% from foreign sources 5% from government	These are the revenues that are granted by the foreign governments, international agencies or donations from foreign sources (agencies or individuals donors) that directly fund domestic health programs.
Rehabilitative care expenditure as % of total health expenditure.	0.2%	Total health expenditure includes current health expenditure and capital investment.
Total rehabilitation expenditure for MOHP administrative purposes	Yes.	The LCDMS receives an annual budget from MoHP which can vary from year to year.
MWCSC (and Ministry of Youth & Sports, Truth & Reconciliation Commission) Total Expenditure for Rehabilitation Services	Yes. Difficult to disaggregate from the overall disability expenditure as rehabilitation and non-rehabilitation activities are funded.	This (should) include budget for the National Disability Fund rehabilitation services, funds for NGOs delivering rehabilitation in the context of CBR, and the disability funds allocated to local government and spent on AP. Small grants for youth with disabilities and those affected by the armed conflict is provided through NDF.
Assistive Product Expenditure	Not available	Figures not available and difficult to disaggregate from other disability activity expenditure at local government level.

*Sourced from National Health Accounts, 2016/2017.

5.2 Overview to the Health Financing Mechanisms and the Integration of Rehabilitation

There are multiple health financing mechanisms in Nepal and rehabilitation has been integrated into most of these. Table 3 summarizes the key mechanisms and the manner in which rehabilitation in Nepal has been integrated.

Table 3 Nepal's health financing mechanisms and integration of rehabilitation

Health financing mechanism	Integration of rehabilitation
Tax-based health financing. This is the key mechanism by which public hospitals and primary healthcare is funded - the budget for hospitals is run through the MOHP administrative structures while the budget for primary health care runs through local municipalities. Except the basic health services, these have a fee structure that includes means testing which is done through the Social Services Unit (SSU) at the hospital, fees generate revenue for services while means testing helps to maintain access for priority population groups. People registered as a person with disability are considered party of the priority groups.	Includes funding for rehabilitation personnel (civil servant and contractual) in government hospitals, infrastructure of the rehabilitation units/physiotherapy departments, medical equipment and some consumables.

National Health Insurance (NHI) scheme. A new government supported voluntary scheme that has been rolled out across 50% of districts of the country with approx. 10% enrolment of the population in these areas to date. The annual cost for a family is approx. $35 USD with cap of approx. $700 funds that are available annually.	Physiotherapy and a small number of post-surgical assistive products (cervical collar, crutches, hearing aids) is included as services that can be availed.
Private, out-of-pocket(OOP) financing. This is the money spent directly by individual and families on pharmaceuticals, government hospital fees, private hospitals, clinics and provider fees, as well as Ayurveda medicines.	Includes OOP expenditure mostly on service fees at government and private health facilities/services
Special fund for people with significant health conditions and subsequently costs. MOHP scheme that allocates 768 USD for individuals with 8 major conditions including Spinal Cord Injury and Traumatic Brain Injury. A special fund also exists for people requiring renal dialysis and various additional programmes such as funding to undertake cochlear implants for 20 people per year.	Once eligible for the scheme the funding can be spent at the discretion of the client on rehabilitation services.
Other insurance schemes. Over time Nepal has developed a range of voluntary community health insurance schemes, there are also some private insurance schemes.	Some have included physiotherapy services, but limited integration.
Conditional government grants for specific services. A contractual arrangement used by government for specific services. This is used by MOHP and MWCSC to contract private institutions to deliver rehabilitation.	This government mechanism has been used with NGOs, the Physical Rehabilitation Centers and for specific facilities such as the Spinal Injury Rehab Center, Banepa, Kavre.
Recurrent government budget allocated to disability and channeled through local government. It is at the discretion of local government to allocate their 'disability fund' to cover some assistive products and potentially rehabilitation costs.	Local government using disability budget for procurement of AP
External Development Partners. Nepal has a Sector Wide Approach to their health financing and EDP support for health is mostly directed through this.	HI and CBM have contributed for some time. USAID has invested in physical rehabilitation and currently funds thePhysical Rehabilitation Activity (PRA) to support integrating rehabilitation into the health system.

funds (including voluntary insurance schemes) and in 2015 this made up 60% of the total health expenditure (THE)[22]. After OOP the next largest contribution comes from government which made up approximately 20% of THE. This high proportion of OOP expenditure is undoubtedly the case for rehabilitation as 98% of rehabilitation personnel work outside of government health services, based on this it is estimated that at least 90% of rehabilitation expenditure would be OOP.

Data from the National Health Accounts indicates that the government expended nearly $4 million US dollars in 2016/2017 budget on rehabilitation and that 95% of these funds came from foreign agencies. This is a particularly high proportion and in other areas of health it is not so high with the total percent of foreign contribution to health expenditure being less than 10%. This highlights the reliance for rehabilitation has on EDP and the legitimate concerns regarding financial sustainability of rehabilitation in Nepal.

[22]Health Financing Profile, Nepal, 2017. World Health Organization, South East Asia Regional Office

The EDCD/LCDMS within the MOHP receives an annual budget for its activities and this has included activities related to central resource/guidance development for rehabilitation. The EDCD/LCDMS has also allocated budget to specific rehabilitation programmes and in 2018-2017, 2019-2018 this included to the National Disabled Fund (NDF) to support their Physical Rehabilitation Center (PRC).

The MWCSC allocates budget for disability programmes and some of these include rehabilitation delivered in the context of a Community Based Rehabilitation Programme. Recipients of these funds include Prerana Sarlhai, Disabled Empowerment Center, Surkhet and Banke, CBR Biratnagar and Nepal National Social Welfare Association, Mahendranagar. MWCSC also allocates budget for the Physical Rehabilitation Center at the NDF, and this center also reported budget for rehabilitation activities from the Ministry of Youth and Sports and the Ministry of Peace and Reconstruction.

The health system financing for AT has been very limited over many years, the small contribution was repeatedly reported throughout the assessment. In general, government expenditure on AP has come through the MWCSC that allocate disability budget to local government agencies that may spend some of this on AP.

Overall, integration of rehabilitation into general health financing mechanisms occurs, however the government allocation is small, there is high reliance on EDPs and most expenditure is undoubtedly from OOP.

5.3 Rehabilitation Affordability

Assessing the affordability of rehabilitation in Nepal considers the direct and indirect costs related to access. Relevant aspects of direct and indirect costs of healthcare are highlighted below. During the assessment process affordability was repeated as a major concern and the conclusion reached is that rehabilitation is often unaffordable.

Direct costs:

Overall high OOP contribution - as rehabilitation largely sits in the private sector : The large majority of rehabilitation exists outside of government health services and is directly paid for by OOP fees, this includes fees to for-profit and not-for-profit institutions. Having only a small proportion of rehabilitation in government health services makes it less reachable to the population.

Potentially high OOP fees - as the multi-fee structure of health services is not well suited to rehabilitation: For rehabilitation to be effective an appropriate dose is required which mostly necessitates multiple treatment sessions. Most hospitals include fees for each session of rehabilitation so this fee structure can quickly deter access as an adequate dose commonly makes rehabilitation unaffordable. This situation arises even in not-for-profit hospitals. Anecdotal reports from one of the rehabilitation hospitals suggest that the 80% of its clients must sell family assets to avail the service.

High Catastrophic Health Expenditure (CatHE) - pertinent to rehabilitation: Nepal has a high incidence of CatHE (10.7% of population[23]) which impacts of rehabilitation affordability as many people who experience CatHE have a significant injury or illness and are precisely the people who require rehabilitation. It was repeatedly reported that after a family pay costs associated with the initial acute care there is little left for rehabilitation.

[23]Health Financing Profile, Nepal, 2017. World Health Organization, South East Asia Regional Office

Indirect costs:

With uneven geographic distribution of rehabilitation and little of it in primary or secondary care, the transportation costs to reach rehabilitation are frequently high: A key cost to health care is the travel to and from healthcare facilities and they can have a large impact on affordability. Travel costs (including food & stay and caregiver costs) for rehabilitation were repeatedly reported as a key barrier to services by both providers and users and the following reasons were given. Travel costs can be particularly high for rehabilitation because:

- Rehabilitation is unevenly distributed across the country and not available in primary healthcare necessitating longer distances to travel for rehabilitation care.
- Rehabilitation is rarely a one-off appointment; effectiveness often relies on repeated appointments and therefore repeated travel.
- People in need of rehabilitation very commonly require a family member/care-giver (wife/husband and a young adult) to assist them which increases travel costs, loss of wages and other opportunity costs. Sometimes whole families travel which takes children out of school.
- People with mobility challenges find regular public transportation options are inaccessible necessitating individualized transport which is more expensive.

Summary of Rehabilitation Financing

- Overall health system expenditure for rehabilitation is very small at only 0.2% of Total Health Expenditure, and of this 95% comes from foreign sources.
- With only 2% of the total rehabilitation personnel employed in government health services the proportion OOP expenditure for rehabilitation is estimated to be extremely high.
- Financing for rehabilitation has been integrated into MOHP mechanisms, the biggest costs is personnel, and other costs include facilities and medical equipment. MWCSC finances a range of disability programmes and within these are some rehabilitation activities.
- Affordability of rehabilitation is a serious concern because it is not adequately reflected in a benefit packages, fee structures and significant travel costs required when accessing rehabilitation.
- The health system contribution to the financing of assistive products is very small, and the MWCSC contributes more through their allocation of disability funds to local government agencies.

6. Rehabilitation Information

6.1 Overview to Rehabilitation Information

Rehabilitation Information	Availability
Rehabilitation data reflecting rehabilitation needs in the population	Limited. See the 'rehabilitation needs' section of this report.
Rehabilitation data reflecting the availability of rehabilitation	Limited. Rehabilitation not included in Nepal Health Facility Survey 2015. Data regarding number of rehabilitation units in government health services is reported on for NHSS-IP 2016-2021 results framework. Data reflecting rehabilitation personnel working in private sector is not available and is estimated by professional association.
Rehabilitation data reflecting the utilization of rehabilitation	Unavailable. This data is collected within facilities and includes the number of clients seen each month however it is not collated through all the facilities through the HMIS.
Rehabilitation data reflecting the outcomes of rehabilitation	Unavailable. Limited information is recorded in individual medical records using standardized measurement tools, some outcome measurement and collation occurs at specialized facilities but few.

6.2 Overview to Nepal's Health Information Systems

The MOHP has Health Management Information Systems (HMIS) and used information to track progress towards health goals and make decisions. A HMIS includes the information that comes from censuses, surveys, administrative data and routine facility data. The MOHP regularly undertakes national population and facility surveys, has a number of information systems for human resources, logistics, and routinely collates facility level data. In 2017 there was development of a framework guiding HMIS needs linked to the NHSS and Federalism[24]. The MOHP has adopted the District Health Information Systems 2 (DHIS2) software and this platform collates a wide range of monthly data. The MOHP has developed comprehensive guidelines for collection of facility level data, these are the Nepal Health Management Information System Guidelines, 2075 (2018).

6.3 Data Reflecting Rehabilitation Needs, Population Functioning and Disability

As outlined earlier in the report, rehabilitation needs can be correlated to measures of health conditions that benefit from rehabilitation and the Global Burden of Disease data provides the best estimates and trends of these. Disability prevalence data in Nepal is also available from the 2011 Census[25] and information about the disability situation is included in the population survey that focused on the living conditions of people with disabilities was conducted in 2016[26]. Other data that can inform rehabilitation needs is the injury data from the HMIS[27] and population surveys for specific conditions such as the National Mental Health Survey, both of which exist in Nepal. In addition, there have been studies and reports on specific issues such as pelvic organ prolapses and clubfoot that contribute to the understanding of needs. Nepal has a moderate level of data for a range of health conditions that inform the population need for rehabilitation.

[24]Framework for Improved Management of Health Information in the Context of Federal Governance Structures in Nepal, June 2017. DFID

[25]National Population and Housing Census, 2011. Central Bureau of Statistics, Government of Nepal

[26]Living Conditions Among People with Disability in Nepal. SINTEF, 2017

[27] Nepal HMIS, 2017-2018

6.4 Data reflecting Availability and Utilization of Rehabilitation

Currently, data and information for availability of rehabilitation is the rehabilitation workforce data that is provided by the professional associations, which is based on registrations in respective governing councils. There is also the MOHP data for rehabilitation personnel in government hospitals but as this is a small proportion of the overall rehabilitation workforce it is less informative. Information regarding rehabilitation personnel density provides a crude measure of availability, but this data does not make (precisely) clear what is available at which level of healthcare.

Regarding data on rehabilitation utilization, this is very limited due to the high proportion of rehabilitation delivered privately and because basic utilization data from government hospitals is not collated beyond an individual facility level. The rehabilitation facilities that undertake more specialized rehabilitation, such as SIRC, HRDC and Green Pastures Hospital (GPH) have good utilization data.

6.5 Utilization of Rehabilitation Information used in Decision Making

The MOHP has many good practices whereby available information is used to inform decision making. However, with relatively small amounts of rehabilitation information available it is a reasonable assumption that this is not occurring frequently for rehabilitation. Additionally, with few rehabilitation sector indicators or targets within programme monitoring frameworks there has been limited imperative to do so, and currently some of the indicators that do exist in the NHSS-IP and DMPTRS do not have established data sources to enable the tracking and reporting of results.

6.6 Rehabilitation Research

In general, rehabilitation research is not well established in Nepal however there is a small amount occurring by the physiotherapists with some engaged during their master's and PhD programmes. Overall there are few rehabilitation personnel with advanced degrees and limited opportunities for rehabilitation research funding and supervision. It was noted that the Nepal Health Research Council has included disability as a priority topic and some academics were considering accessing these funds.

Summary of Rehabilitation Information

- Availability of detailed information about the rehabilitation needs in the population is a challenge in many countries due to the wide range of health conditions which are amenable to rehabilitation and the limited data collected. There is some data that informs needs in Nepal however it is from multiple sources and has not been analyzed and interpreted for rehabilitation.
- The key data that reflects the availability of rehabilitation is the data on location of rehabilitation personnel, this was best sourced from the professional associations but not routinely reported and there are challenges with keeping this data updated.
- Data about the utilization of rehabilitation occurs at the level of facility but this information is not collated at provincial or national level so trends over time are not understood. There was some information about average length of stay for in-patients in specialized rehabilitation facilities.
- There is limited rehabilitation research occurring within the country.

7. Rehabilitation Human Resources and Infrastructure

7.1 Overview of Rehabilitation Personnel

Profession	Description	Estimated number working[28]			Nepal Training Institutions
		Gvt	Pvt	TOTAL	
Physiotherapy	Physiotherapists are experts in movement and specialize in the structures and activities of the human body. They undertake functional diagnosis, provide exercise, manual therapy, and assistive products as well as guidance and advice to maximise mobility and manage pain.	27 * as civil servant extra on short contract	1173	*1200 (approx.)	Yes. Bachelor at Kathmandu University School of Medical Sciences
Audiology, Speech and Language Pathology	Speech and language therapists are experts in communication disorder and address issues related to speech, listening, and understanding language. They also assist people with swallowing difficulties to eat and drink safely. Audiologists are experts in hearing loss and balance. They provide and train people in the use of assistive products (hearing aids).	1+ (data not available but TuTH, Bir and Lumbini Hospitals have)	50	51	Yes. Bachelor at Institute of Medicine, Tribhuvan University.
Clinical Psychology	Psychologists are specialists in behaviour and brain function. They provide assessment and various therapy techniques to help people cope more effectively and optimize their functioning.	24 (on contract)	3	27	Yes.
Prosthetics and Orthotics	Orthotists and prosthetists construct fit and train people in the use of orthoses (splints and braces) and prostheses (artificial limbs).	0	37 (9 Cat 1, 14 Cat 2, certificate -8, others -6)	37	No.
Occupational Therapy	Occupational therapists focus on helping people participate in the occupations of everyday life, such as self-care activities, education, work, leisure, and family life.	0	13 (8 OT & 5 OT Assistants)	13	No.
Physical and rehabilitation medicine	Physical and rehabilitation medicine doctors specialize in functioning. They can provide oversight of rehabilitation programmes and case management for people with complex needs, and as medical specialists, they can conduct advanced assessments and provide pharmacological interventions.	0	1	1	No.
Rehabilitation nursing	Rehabilitation nurses help people adapt following an injury or illness by helping care for physical and emotional needs. They can help facilitate exercise programs and ensure lessons from therapy are carried through into everyday tasks.		30 (situated across 3 facilities)	30	Limited. Short courses run through SIRC but no official certification
TOTALS		52 4%	1307 96%	1359	

[28]All data provided by rehabilitation professions during the MOHP collection of rehabilitation workforce data for STARS report.

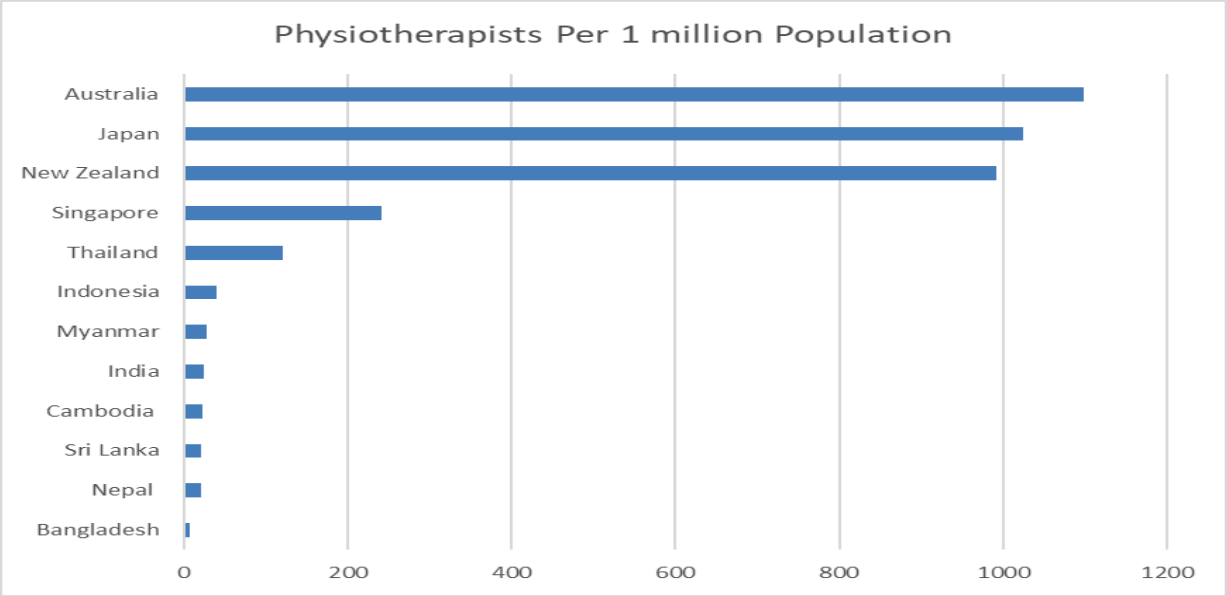
*This data was sourced through the professional associations of each profession. The physiotherapy data reported by NEPTA suggests that over 3000 Nepali people have been trained as physiotherapists in Nepal and India however, they estimate of those currently working in Nepal as a physiotherapist is 1200.

7.2 Rehabilitation Personnel Availability

There is at least one worker available for each of the 7 most common rehabilitation professions in Nepal, and these are physiotherapists (PTs), speech language therapists (SLT), occupational therapists (OT), prosthetists and orthotists (P&O), clinical psychologists (CP), rehabilitation nurses (RN) and physical rehabilitation medicine doctor (PRM). This is a helpful foundation for the sector however most professions have a very small number available (e.g. 1 PRM) and only three professions have certified training programmes (PT, SLT and CP) in Nepal.

The overall number of rehabilitation professionals is 1359 which is equates 0.5 per 10,000 populations, this is quite low for the Asia Pacific Region. PTs make up 89% of the overall rehabilitation workforce which means there are very low levels of other professions. When comparing just the density of physiotherapy (figure 7), it shows that Nepal's ratio of physiotherapists per 1,000,000 populations is similar to Myanmar, India, Cambodia and Sri Lanka and well below countries like Thailand and Indonesia. To equal the population ratio of Indonesia would require doubling current levels and for Thailand it requires quadrupling the rehabilitation workforce. And while this is already a big challenge, to reach the ratios of high income countries like Australia would require multiplying current levels by approximately 50.

Figure 7 Physiotherapists per population in selected Asia and Pacific Countries



Source. *WHO rehabilitation workforce data based on combination of professional association data and reporting by countries to WHO.*

Under-development and low density of rehabilitation professions is a common issue in middle and low-income countries. Figures 8 and 9 highlight this situation globally. These two tables consider the prevalence of rehabilitation relevant health conditions in a country by utilizing Global Burden of Disease data and then reflect the density of health personnel. In Figure 8 the health personnel include doctors, nurses and rehabilitation personnel and then in Figure 9 it includes only rehabilitation personnel. The significant contraction of the spread of personnel in low- and middle-income countries in figure 9 demonstrates this significant reduction in rehabilitation personnel in these countries as compared to doctors and nurses.

Figure 8 Prevalence of rehabilitation-relevant health conditions compared to the density of all health professionals who can deliver rehabilitation, including all doctors and nurses. *This data is from 12 low- and lower-middle-income countries, 16 upper-middle-income countries, and 31 high-income countries.*

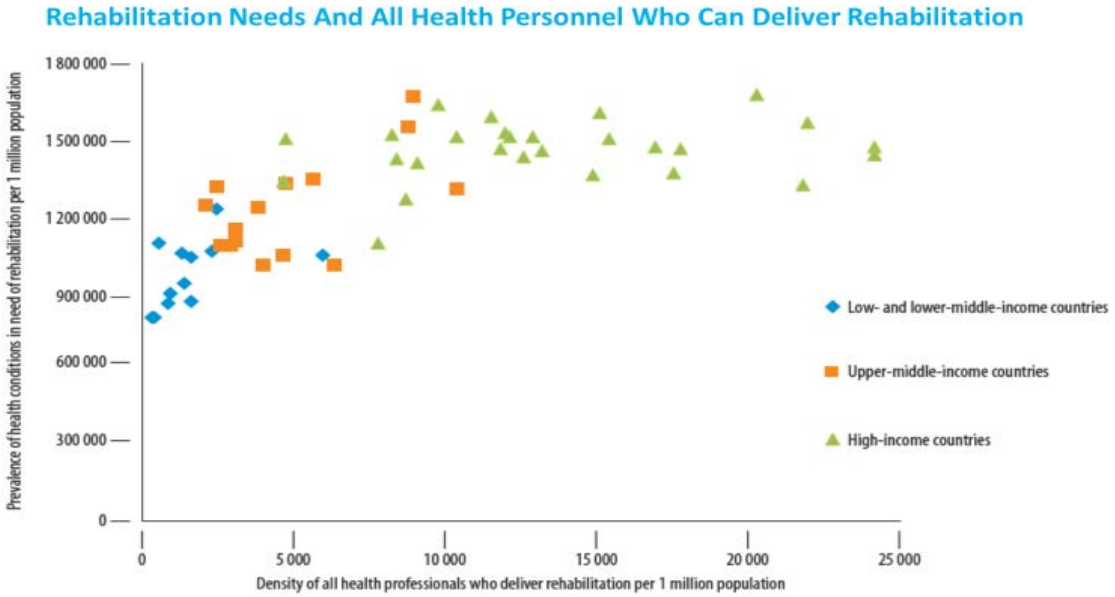
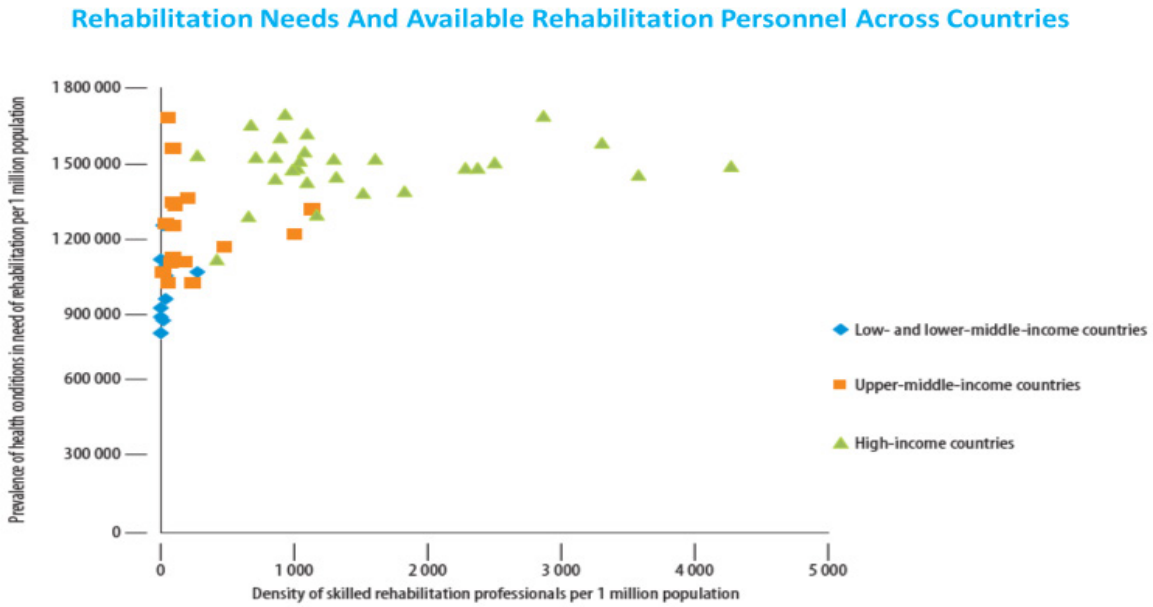


Figure 9 Prevalence of rehabilitation-relevant health conditions compared to density of all health professionals who deliver rehabilitation, excluding doctors and nurses. *This data is from 12 low and lower-middle income countries, 16 upper-middle income countries, and 31 high-income countries.*



7.3 Rehabilitation Workforce Training and Professional Development

There is a PT bachelor's degree programme that commenced in 2010 at Kathmandu University School of Medical Sciences, previously it was a Diploma degree. There are plans to establish a Masters programme and there are a few PTs with PhDs and undertaking them. 29 physiotherapists have graduated in M.Sc in rehabilitation science, mostly from Bangladesh, the graduates work across a range of government, private, NGO, INGO and community hospitals in Nepal. While training exists in Nepal it is interesting that the data from the Nepal Physiotherapy Association (NEPTA) Member Survey[29] found approximately 70% of those who responded were trained at universities in India and the large majority of these at the Rajiv Gandhi University of Health Sciences, India.

There is a degree programmes in audiology, speech and language therapy, this occurs at Institute of Medicine at Tribhuvan University, Kathmandu. At this university it is also possible to study a MPHil in Clinical Psychology and become a clinical psychologist and PhD study is available as well. The training for prosthetists and orthotists is not available in Nepal. Some of the training undertaken was supported by EDPs to ensure personnel available for the Physical Rehabilitation Centers, there has been no government support for their training. There have been modular training courses run in Rehabilitation nursing at SIRC. There are no formal training courses available occupational therapy, rehabilitation medicine and rehabilitation nursing in Nepal.

The universities, professional associations and professionals themselves make efforts to deliver continuing medical education (CME) opportunities for rehabilitation personnel. It was reported that these opportunities are limited, and more are desired. There are a small number of rehabilitation personnel that have undertaken a master's or PhD in their profession.

7.4 Rehabilitation Workforce Distribution

The mal-distribution of the rehabilitation workforce in Nepal was reported as a serious concern. NEPTA was able to provide data on the distribution of its workforce (89% of total rehab workforce) and this data illustrates the mal-distribution, for example Bagmati Pradesh Province has 71% of all PTs and 6 times more personnel per population than any other province and 30 times more personnel per population than Karnali Pradesh. Other professions reported similar uneven distribution with large majority of personnel in Bagmati Pradesh suggesting at least 75% of total workforce are in this province.

Table 4 Distribution of Physiotherapists across Provinces

Province name	Population	Number of Physiotherapist	Percentage of total physiotherapists	Density of physiotherapists per 10,000 population
Province 1	4,534,943	103	8.5%	0.23
Province 2	5,404,145	78	6.5%	0.14
Bagmati Pradesh	5,529,452	857	71.0%	1.5
Gandaki Pradesh	2,403,757	57	5.0%	0.24
Province 5	4,741,716	87	7.5%	0.18
Karnali Pradesh	1,327,957	6	0.5%	0.04
Sudurpashchim Pradesh	2,552,517	12	1.0%	0.05
TOTALS	**26,494,487**	**1200**	100%	

[29]Nepal Physiotherapy Association Member Survey – 2019. Sourced from NEPTA President andGeneral Secretary ,NEPTA, November 2019.

Another concern regarding the distribution is the spread across government and private health facilities. Drawing on the data from all rehabilitation professions there is a very large proportion of rehabilitation personnel in private healthcare - 98%. This distribution varied a little across professions, for example the clinical psychologists report that almost half work in the medical college hospitals that attain some government funding while the others are in for-profit hospitals. The limited personnel in government hospitals reflects limited availability of rehabilitation services.

Another aspect of distribution was the split between the levels of tertiary to primary healthcare. When only considering personnel in government health services almost all are at tertiary level. When considering personnel in both government and private the split is more even. The NEPTA Member Survey results found 57% of the PTs worked in hospital settings (tertiary and secondary care) and the remaining across other community, private clinic and other setting (primary care). The SLTs reported 40% work in tertiary hospitals, 10% in secondary hospitals and 50% work in small clinics at the primary level. This result is interesting as the private sector split suggests the population need for rehabilitation is spread somewhat evenly across hospital (tertiary/secondary) and non-hospital settings (primary/community) and this potentially highlights that the government supported rehabilitation (mostly in tertiary hospitals) does not match population need.

7.5 Rehabilitation Workforce Planning

Health system engagement in rehabilitation workforce planning is quite recent in Nepal and it is only in the last few years when an effort was made to create PT posts in tertiary hospitals that centralized planning occurred. The post-earthquake planning has recently achieved at least one PT in each of the 27 government tertiary hospitals. Other opportunities for government to input to planning, such as support for establishing training courses or professional development opportunities has been limited with the courses that exist mostly due to partner support and individual champions. As the large majority of rehabilitation personnel sit outside government health services there is relatively small ongoing input to overall rehabilitation workforce planning. The mal-distribution of the rehabilitation workforce described earlier illustrates the consequences of this limited input.

7.6 Management and Supervision Practices

Management of rehabilitation personnel working in government or private hospitals occurs within the usual processes of these settings. It was reported by rehabilitation personnel that they are mostly overseen by senior practitioners and that most senior physiotherapists report to medical superintendent or some other senior managers within the context of their health facility management processes.

Formal supervision processes were reported to be limited for most professions with psychologists having the most established processes that included peer to peer supervision and mentoring for complex cases. There is some opportunity for personnel in hospitals to learn from seniors and each other through in-services but this was characterized as limited and for single practitioners there have not been cross-service mechanisms put in place.

7.7 Motivation of Rehabilitation Workforce

There was some variation in how the different rehabilitation professions reported motivation levels however most of them characterized it as low. Key issues raised by multiple professional associations were that other health personnel, doctors and nurses, do not understand rehabilitation, their profession and subsequently they experience an ‘under-valuing’ by other health personnel.

PTs, SLTs and OTs reported that doctors and nurses often don't refer or refer late because they have very limited rehabilitation knowledge and no experience or training on rehabilitation. Also, there is a common public perception that if a doctor or physician has to refer a client on then they are not a good doctor or physician, this also contributes to the situation.

There was also low motivation reported across professions because of the low level of financial return for their work. It was reported that it is a challenge to make a good salary as a therapist working in the for profit private hospitals/clinics as they are not perceived to 'high-profit making'. The NEPTA Member Survey found that 53% of PTs reported they were paid lower than their level of qualification. The job security and slightly better remuneration of the civil servant posts make them highly sought after. There was frustration reported because therapists are getting trained but there is not enough posts to employ them nor advocating for them in healthcare. Many professions reported their members sought jobs overseas and it was estimated by NEPTA that over time as much as 40% of its PTs had moved abroad for better work.

7.8 Rehabilitation Infrastructure and Equipment

Longer-stay in-patient rehabilitation facilities/settings. There are at least four facilities in Nepal that accommodate people for longer-stay rehabilitation and these places are all not for profit facility. With EDP support they have developed a moderate level of infrastructure and equipment. There is no government supported rehabilitation infrastructure and equipment for longer-stay rehabilitation facilities.

Tertiary and secondary hospital settings. Rehabilitation infrastructure in hospitals is mostly made up of physiotherapy departments and their treatment areas. In the hospitals visited during the assessment these spaces varied, some were adequate while other were very small compared to the hospital size and number of clients seen. The therapy departments generally included small treatment area with basic equipment, one of the common concerns raised was that there was limited space for private cubicles. Beyond the secondary level there is no rehabilitation infrastructure in government health services as rehabilitation personnel are not present at this level.

Rehabilitation medical equipment. Items such as treatment plinths, exercise equipment, electrotherapy and consumables were acceptable in some locations and very limited in others. For example, the physiotherapy department at the National Trauma Centre hospital was adequately equipped but the Surkhet Provincial Hospital was under equipped. Clinical Psychologists working in hospitals reported limited standardized assessment equipment and they have not had resources to adapt to the Nepal context and they rely on versions adapted for India.

Accessibility of rehabilitation infrastructure. The specialized rehabilitation facilities and the physiotherapy departments visited had a basic level of physical access with ramps present. Beyond this however, the degree of accessible infrastructure was low with narrow doorways, small treatment areas, poorly accessible toilets, small steps and ramps that were often too steep. Additionally, it was noted that there is limited accessibility across health facilities in general, including for people with physical, vision, hearing or communication impairments.

Summary of Rehabilitation Human Resources and Infrastructure

- Key rehabilitation professions are present in Nepal however there are low numbers compared to the population need.
- There is training in Nepal for three professions, physiotherapy, audiology speech language therapy and clinical psychology, all other professions must go abroad.
- Only 4% of the rehabilitation personnel in Nepal work in government health services, 96% operate in private services. Government jobs are highly desired however until recently they had not been adequately available .
- There is significant mal-distribution of rehabilitation personnel, data of physiotherapists showed 71% of all professionals are in Bagmati Province (3) alone, it is estimated that 75% of all personnel are in this province.
- Rehabilitation personnel report their role is under-valued in health, mostly because health personnel don't know rehabilitation and what they do. This experience along with low remuneration contributes to low motivation and high emigration of the workforce.
- Rehabilitation infrastructure across the country is limited, especially within government health services. There are no public specialized rehabilitation facilities and therapy departments within government hospitals had limited space, often inadequate for appropriate levels of client privacy.
- No prosthetic and orthotic departments existed in government hospitals. The services that exist had limited space and equipment. Future investment in and equipment is needed.

8. Rehabilitation Access and Quality

8.1 Overview to the Availability of Rehabilitation

Key information	% in place
Tertiary government hospitals with physiotherapy services	100%. 27 of 27 hospitals/ institutions have at least one physiotherapist
Tertiary government hospitals with audiology, speech and language services	4%. 1 of the 27 hospitals/ institutions
Tertiary government hospitals with occupational therapy, prosthetists and orthotists, psychology, rehabilitation nurses and medicine services	0%. (There are 24 clinical psychologists in government/ private medical colleges that are in contractual positions)
Secondary government hospitals with physiotherapy services	7%. 6 of 77 district hospitals with PT
Secondary government hospitals with occupational therapy, speech language therapy or psychology services	0%
Government primary care facilities with any rehabilitation services	0%

8.2. Rehabilitation Availability

8.2.1 Availability to specialized, high intensity, longer-stay rehabilitation hospitals, centers, units and day programmes.

Rehabilitation facilities that enable longer in-patient stays and more intense rehabilitation are a crucial component of rehabilitation in a country. In Nepal this type of rehabilitation has developed in the private (not for profit) hospitals with support from EDPs. There were no public tertiary hospitals that included a rehabilitation ward or physical rehabilitation medicine doctor. There are psychiatric inpatient beds at the Patan Mental Hospital and other general hospitals that include clients who are focused on their recovery and rehabilitation.

The key facilities providing the specialized rehabilitation are the:

1. Spinal Injury Rehabilitation Center (SIRC) - 75 beds
2. Hospital for Rehabilitation of Disabled Children (HRDC) - 100 beds
3. United Mission Hospital Nepal – Tansen Hospital – 50 beds
4. International Nepal Fellowship, Green Pastures Hospital, Pokhara - 40 beds
5. International Nepal Fellowship, Shining Hospital, Surkhet – 10 beds, + 30 dedicated to people with leprosy.

The total rehabilitation beds identified across the country was estimated to be 300 beds, this makes it 1 rehabilitation bed to 87,000 people. This is a low availability and compares to a rehabilitation bed density in a high-income country like Australia which is closer to 1 rehabilitation bed per 5000 population. It was noted that the majority of these facilities are located in Kathmandu valley or Pokhara region and that clients mostly come from those provinces (or nearby provinces).

This concentration of beds in two provinces means that the availability of rehabilitation beds is even lower for much of the country. Due to the concentration of beds, people are expected to travel long distances across the country to access rehabilitation, which is expensive (and commonly unaffordable) and not recommended as proximity to family is helpful during the rehabilitation process.

It was reported that occasionally patients in government tertiary hospitals beds receive rehabilitation for an extended period, for example at Kathmandu, National Trauma Centre/ Hospital, but this only occurred when there were government or private health insurance schemes covering costs. There are also some people that stay in rehabilitation beds in private hospitals, but this was not common because rehabilitation beds were reported to be less profitable for hospitals and demand from consumers to be low.

8.2.2 Availability of Rehabilitation in Tertiary and Secondary Level Hospitals

Rehabilitation is a highly integrated form of healthcare; rehabilitation interventions should be embedded into the delivery of a wide range of tertiary health care. In Nepal, and particularly in government hospitals this is only occurring to a limited extent. While it is good the government has recently achieved 100% of tertiary hospitals with a PT, further attention is required so that other rehabilitation personnel exist across tertiary healthcare. Tertiary government hospitals currently lack the services provided by SLT, CP, OT, P&Os and PRMs. The extent to which rehabilitation is integrated into tertiary care can also be assessed by the ratio of rehabilitation personnel to hospital beds, for example information from PTs in government hospitals indicated there is approximately 1 PT to 100 hospital beds, this compares to high income countries where it is closer to 1 PT per 15- 25 beds[30].

There are some positive examples of rehabilitation being integrated into the care of different medical specialties, it was reported to be occurring in cardiology, neurology, orthopedic, respiratory, cancer and women's health, and rehabilitation is frequently delivered in intensive care units, medical and surgical wards and out-patient departments. However, it was also reported that rehabilitation in most of the hospitals occurs in silos with limited integration of rehabilitation by medical and nursing teams hence the number of rehabilitation referrals are less than they should be.

Integration of rehabilitation is equally important in secondary healthcare, and this mostly requires the presence of PT, OT and SLT. The 77 District Hospitals(Secondary) of Nepal have almost no rehabilitation however due to partner funded earthquake response had led to the establishment of PT units in 6secondary government hospitals and are still operating. A significant contribution to secondary care is made by the outreach clinics undertaken by rehabilitation personnel from larger private tertiary hospitals, in some cases these outreach clinics are quite regular and provide much needed secondary care. The outreach clinics are considered integral to increasing access to rehabilitation for under-served, vulnerable populations, and while this approach is effective it is not an efficient approach for achieving high-levels of population coverage.

Physical Rehabilitation Centers (PRCs). The PRCs in Nepal provide some tertiary and secondary rehabilitation care and they are the location for prosthetic and orthotic services. These were established in partnership with HI, ICRC and other international NGOs. They have mostly relied on EDP financial support and fees, they have had little funding from government. They were developed to respond to the needs of people affected by the civil conflict. The 5 PRCs are located close to conflict affected areas, most of them offer center based services as well as some satellite centers or outreach programs. They are situated in private hospitals, such as Nepalgunj Medical

[30]Allied Health Staffing Levels for Health Service Inpatients in Victoria. Phase 1 Macro-staffing Analysis. Department of Health, Victoria, Australia.

Medical College (NGMC), the International Nepal Fellowship (INF) Shining hospital, Surkhet, Green Pastures Hospital, Pokhara and in an NGO such as Prerana, NNSWA and CBR-Biratanagar. There is also the NDF, which provides prosthetics and orthotics, this sits under the MWCSC in Kathmandu. These centers are the key source of prosthetic and orthotic services for the country hence form an essential aspect of rehabilitation and require appropriate government funding.

8.2.3 Availability of Rehabilitation within Primary Health care

Provision of rehabilitation by trained rehabilitation personnel is extremely limited within government primary healthcare (PHC) services. It can occur through rehabilitation personnel located in PHC as well as through PHC doctors and nurses trained to deliver a limited set of rehabilitation interventions. In Nepal there are currently no government employed rehabilitation personnel in primary healthcare.

Delivery of basic rehabilitation interventions within primary healthcare does not always require dedicated rehabilitation personnel. Primary healthcare providers (e.g. doctors or nurses) can be trained in a selected set of priority rehabilitation interventions that are determined by population needs. These rehabilitation interventions can be 'protocol-based' and built into health provision. Currently in Nepal there has been little attention to this task-shifting opportunity. The new Basic Health Care Package provides an opportunity to strengthen provision of rehabilitation in this context with task shifting of limited rehabilitation interventions to nurses and doctors. Similar to this approach, there is another pilot study supported by international NGOs in which 20 health conditions have been identified and the rehabilitation care for these is being developed into protocols and training. This is a positive initiative and provides opportunity to identify what can be effectively and feasibly delivered at this level.

There are quite a few rehabilitation personnel that operate private clinics and home visiting services, some of this service occurs in the context of primary healthcare. This tends to occur in the major urban areas and be made up of mostly PTs, OTs and SLTs.

Linked to both secondary and primary care is the rehabilitation that is delivered in the context of Ayurvedic health care. In Nepal it is common for a physiotherapist to deliver rehabilitation in Ayurveda hospitals. In these settings the services focus on clients with musculo-skeletal conditions, pain, post-stroke or people with significant injuries such as traumatic brain or spinal cord injury. There is a mix of evidence based and non-evidence based approaches used in these settings.

8.2.4 Availability of Community-Delivered Rehabilitation.

Some people with rehabilitation needs benefit from rehabilitation being delivered in their community settings, such as their home. The population groups who most commonly require this include those with restricted mobility confined to homes, those recently discharged from health facilities and transitioning back to home or work, those with significant mental health conditions and children with disabilities who benefit from rehabilitation delivered in their everyday settings (see later section in this report). These groups of people often require rehabilitation for short to medium periods of time, and clear criteria should exist for eligibility to such programs with appropriate discharge from them.

Across Nepal, over many years, community-delivered rehabilitation or 'community-based rehabilitation' (CBR) programs have developed. These have generally combined rehabilitation with other disability support activities. Some programs employ rehabilitation personnel and provide adults and children with rehabilitation and assistive products.

EDPs contributed to the creation CBR programs in Nepal but now local NGOs such as Karuna Foundation, Prerana and CBR Biratnagar undertake the work. Most CBR programs now describe

development' (CBID). Their programs vary and have a mix of focus areas. There is not one CBID model that has been identified as scalable for Nepal although some provinces, such as Province one, has expanded this program approach over time. The extent of country coverage was explored during the situation assessment and in general it was reported that a small percentage of districts are covered, it was estimated that around 15-20% are covered by CBR or CBID programs.

8.2.5 Availability and Provision of Assistive Products

The provision of Assistive Products (AP) should occur through multiple health programs, for example physical rehabilitation programs often provide mobility products and hearing and vision programs respectively may provide hearing aids and low vision products. It may also occur outside of health services, for example within specialist schools for children with disabilities or disability focused NGO programs. A description of AP provision within Nepal is provided below, the description covers 6 categories of AP, this includes mobility, environment, vision, hearing, cognition and communication.

Assistive Products provided to support Mobility, including in the Environment[31]: Except for a limited number of products listed under the surgical items of social health insurance, there is no mechanism to provide mobility products through public health services. The rehabilitation within private hospitals (mostly not-for-profit), such as SIRC or INF, do provide mobility products. These centers generally fund products through a mix of user fees and local philanthropic or EDP support, these products may be provided by PT, P&O and OT personnel. Some of these centers there is the capacity to support environmental modifications in a person's home. The products commonly provided are crutches, wheelchairs and walking frames. The PRCs are the main place where prosthetic and orthotic products are provided, some of these centers also make equipment for children such as standing frames and supportive seating. Mobility products may be provided through the local government agencies that are allocated disability budget and use it to procure AP. To date there has been variable approaches used by local governments, this includes camps. Good practices reported are where health workers are engaged in the identification, procurement and provision of the products, it may also include engagement of local user groups.

Vision Assistive Products: The provision of low vision products such as magnifiers and telescopes has mostly occurred at the eye hospitals and where the conditional grants from government and EDPs have provided products. Some innovative examples of Public Private Partnerships are emerging and MOHP has worked with Netra Jyoti Sangh-Network of eye-hospital to support provision of vision products.

Hearing Assistive Products: Hearing aids are provided by people with training in audiology in the context of private shops and clinics, in all cases the consumer bears the cost of the hearing aid. There is extremely limited provision in government health services and hearing aids do not get government funding nor tax exemptions when imported. Local governments can use disability budget for purchasing or reimbursing a service provider or persons who purchased it, the APL provides a cost guide.

Assistive products to support communication and cognition[32]**:** In general, similar to provision of other AP, there is a reliance on families to privately purchase communication and cognition products. Communication products can be particularly important for children with disabilities

[31]Common examples of these are; wheelchairs, crutches, walking frames, splints, orthosis, prosthesis, handrails, bars, shower chairs, commodes and pressure cushions.

[32]Common examples of communication include; communication books, communication cards/pictures, software, head pointers. Common examples of cognition products include watches, pill organizers, portable travel aids, personal emergency alarms systems.

who benefit from communication books, boards and pictures. SLT's who work with children report requesting families to buy folders and materials for basic communication products. Similarly, with communication, the government support cognition products such as pill organizers or alarm systems, is non-existent. Similarly, to hearing aids, the local government can use disability budget for these products and be guided by the APL.

8.2.6 Rehabilitation for Children with Developmental Difficulties and Disabilities

Early identification and referral: Early identification and referral practices for children with developmental difficulties and disabilities are not formally established in Nepal. Within regular newborn care there is no standard screening practices or comprehensive checklist nor is there routine mechanisms for tracking newborns who are at-risk of delays, for example due to birth asphyxia or low birth weight. Within regular child health programs there is no routine child development milestone monitoring. The National Planning Commission has developed the 10 years multi-sectoral strategy for early childhood development (2018-2028) which enlist early stimulation within the recommended interventions for nutritional care of the children. This commitment reflects the wish of government to integrate the habilitation and rehabilitation within the management spectrum of early childhood development. Some EDP supported efforts have built some awareness and referral practices linked to club foot and a HI project with the LCDMS in 2017 identified 10 common conditions for early identification and referral. This pilot project demonstrated the feasibility of these practices.

Hospital based rehabilitation services: There are considered two specialists pediatric hospitals that offer care for children with disabilities, this is the HRDC just outside of Kathmandu and the Kanti Children's hospital in Kathmandu. These facilities offer specialized medical and surgical care for children with health conditions requiring complex interventions, such as club foot, children with complications post fractures and burns, and children with cerebral palsy or other congenital conditions. Other general tertiary and secondary hospitals do not offer specific services for children with disabilities although they may seek it there. Most of the hospitals don't have multi-discipline assessment clinics, nor use regular pediatric clinics, programmes, group sessions, outreach nor case management for these children.

Community delivered rehabilitation and Early childhood intervention (ECI) programmes: Children with developmental difficulties and disabilities benefit from rehabilitation being delivered in the community, particularly their everyday settings such as home, early childhood or education setting. Over time, countries need to develop government supported rehabilitation that is integrated into early childhood intervention programmes or other early child development services. Currently in Nepal, there is no government supported programme with outreach capacity for children with disabilities. Children with developmental difficulties and disabilities receive little rehabilitation and what is available mostly comes through private clinics and NGO centers that rely on EDP support.

Rehabilitation for school aged children: It was reported that the Ministry of Education, Science and Technology (MoEST) has made a few provisions to support the education of children with disabilities but there is no rehabilitation delivered within the education system. It was reported by rehabilitation personnel that children with disabilities have few opportunities for schooling, including mainstream and specialist schools. It was reported that there are a few privately-run special schools in major urban areas to meet the education needs of these children.

8.2.7 Availability of Rehabilitation within Mental Health care

There is a need to integrate rehabilitation into mental health care, especially for people with chronic mental health conditions. Mental health clients in specialized in-patient mental health facility and those living in the community with chronic mental health conditions should access

comprehensive rehabilitation through a range of personnel psychiatrist and nurses, psychologists and occupational therapists who deliver psychosocial and behavioral interventions. In Nepal, there is some integration of rehabilitation into the specialized in-patient facilities however there is little delivered in communities primarily because the services at this level are immature. There were a few NGOs that deliver services in partnership with government at this level. There are also few personnel with the specialization needed and more guidelines, standards and protocols would improve care. Nepal has a relatively large network of Drug Rehabilitation Centers in the country, many that are not-for-profit, these make an important contribution to people who experience substance abuse conditions.

8.3 Rehabilitation Quality

The quality of rehabilitation is assessed against key aspects of quality and safety relevant to rehabilitation.

8.3.1 Effectiveness of rehabilitation

This component of assessment focuses on utilization of evidence based interventions of sufficient dosage to bring about optimal results.

The effectiveness of rehabilitation in Nepal is **positively influenced** by:

- Most rehabilitation personnel have graduated from training institutions of satisfactory stature that have imparted knowledge of evidence-based practices.
- Evidence based practices are mostly utilized, protocols are used for some post-surgical clients.
- Therapy assistants are used in hospitals to help achieve an effective level of dosage.

The effectiveness of rehabilitation in Nepal is **negatively influenced** by:

- Limited development of national clinical practice guidelines, protocols, standards of care – under-prescription of rehabilitation, or late referrals are common.
- Limited supervision, mentoring of personnel and no accompanying standards for this.
- Large caseloads resulting in under-dosage of rehabilitation (rehabilitation is like medication, if the full dose is not given it is not (as) effective).
- Over-use of electrotherapy and under-use of patient education and coaching.
- Limited commitment to the use of rehabilitation outcome measurement.
- Limited multi-discipline teamwork and case coordination.

Limited sub-specialization within rehabilitation personnel to enable an expanded scope of practice, for example for children.

8.3.2 Timeliness and delivery of rehabilitation along the continuum of care

For in-patients in tertiary hospitals a timely commencement of rehabilitation occurs as personnel are on the wards and see patients quickly, but even in these settings there are reports of delayed referral from medical staff who do not understand rehabilitation and only refer once complications have arisen.

Other than tertiary in-patient settings, delays to access rehabilitation were reported as common. There were multiple situations reported where delays frequently occurred:

- People requiring specialized, longer-stay rehabilitation often have a delay from their initial in-patient stay to reaching a specialized facility. In the INF Surkhet facility most Spinal Cord Injury clients do not start rehabilitation until 6-12 months after the injury.
- People with neck or lower back pain often don't get referred (or self-refer) until the problem is chronic and pain relief medicines or unsolicited approaches have failed.
- It is common for children with cerebral palsy or other developmental delays and disabilities to not be referred or seen by a rehabilitation practitioner until they are 3-4 years of age.
- People that live far away from rehabilitation which is most people outside the major urban areas will commonly delay access because of travel cost and inconvenience.

8.3.3 Person-centered rehabilitation care that engages users, family, carers

In longer-stay rehabilitation facilities there is good engagement of users in their treatment process, this is done by joint goal-setting, treatment planning and educating carers, these processes were in place in centers such as SIRC, GPH and HRDC. However, in tertiary hospitals there is limited time to engage family and carers as the client stay is shorter and therapy staffing limited, this could be improved at this level, especially for those with significant conditions such as stroke. The SLTs and PTs who work from private clinics and undertake home visits report using these approaches much of the time.

8.3.4 Safety of rehabilitation

Safety within health services is important and equally for rehabilitation. Safety in the context of rehabilitation was reported as a concern due to the occasional mal-practice of qualified rehabilitation personnel and the lack of regulatory enforcement that enables people to claim they are a PT or psychologist but not be qualified. The assessment revealed that there are few mechanisms in place to address safety, such as safety standards, quality improvement initiatives, and regulation and product standards applied for AP.

8.3.5 Rehabilitation Acceptability

The rehabilitation delivered in Nepal is considered socially and culturally appropriate. Efforts are made to ensure a mix of genders within the rehabilitation personnel to accommodate preferences however it is not always possible if they work alone. Additionally, efforts to ensure services are appropriate in terms of the ethnicity and language are made but language barriers were reported. Caste may also influence the acceptability but most likely where correlated with economic status. Gender barriers were described during the assessment and it was suggested that these are expressed by the level of family support for woman and girls. SIRC reported that only 30% of clients were female and that this was likely to reflect a family's willingness to financially support their stay rather than the incidence of injury.

Access to rehabilitation is often not convenient in Nepal due its limited availability in primary health care and the scarcity of specialized longer-stay rehabilitation facilities which mean that people are expected to stay long distances away from family during their rehabilitation. During the assessment it was repeatedly reported that many people with significant rehabilitation needs are not willing to travel to rehabilitation centers, and even travel of a short to moderate distance is enough to stop people accessing the rehabilitation they need.

Summary of Rehabilitation Service Availability, Access and Quality

- There is a low number of longer-stay rehabilitation facilities and beds in Nepal and many people who require intense rehabilitation do not get it. Rehabilitation departments, wards and beds on the site of large tertiary hospitals are inadequate.
- Rehabilitation is expanding in government tertiary level hospitals and there are now 100% of government hospitals with PTs however 0% have a multi-discipline workforce. Further expansion should include other key rehabilitation professions and rehabilitation requires greater integration into medical and surgical care.
- There is very limited rehabilitation in both secondary hospitals and primary healthcare. Few rehabilitation personnel are located at this level and limited rehabilitation interventions have been built into the provision of primary healthcare delivered by other health personnel.
- There are some community delivered rehabilitation programs in Nepal but the coverage across the country is low, it is estimated less than 15-20%.
- Rehabilitation for children with developmental difficulties and disabilities is under-developed and requires further planning and resourcing, it mostly exists in private sector and relies on fees or EDP support.
- The provision of Assistive Products is limited in Nepal. There is little integration in MOHP services and it is mostly being made available through people privately purchasing or through local government provision. AP must be better distributed and provided in healthcare.
- There is only one prosthetic and orthotic services in government hospitals (BPKHIS), these services mostly rely on MWCSC support or EDPs, investment by health is much needed.
- The quality of rehabilitation is generally good with evidence-based approaches mostly utilized. Quality is detrimentally impacted by limited use of clinical practice guidelines, standards of care, supervision and mentoring, overuse of electrotherapy and under-dosing due to large caseloads in hospitals and fees deterring people from repeated sessions.

9. Outcomes and System Attributes

9.1 Coverage of Rehabilitation Interventions for population groups who need them

A core outcome of a health system is that the population who need rehabilitation receive it. This is assessed through understanding the coverage of rehabilitation interventions in the population groups most commonly requiring it. As there is limited quantitative data on the coverage of rehabilitation interventions across population groups the assessment relies on information about access to rehabilitation by these key groups. Accessibility is achieved through rehabilitation being available, affordable and acceptable.

The following conclusions were reached.

- ***Rehabilitation coverage for people with complex rehabilitation needs requiring longer stay and intense care.*** A large number of people requiring this type of rehabilitation miss out in Nepal. This conclusion is based on the limited number of dedicated rehabilitation beds for population (1 bed to 87,000 people), limited number of rehabilitation professionals for the population (density of 0.5 per 10,000 population), limited rehabilitation specialization within professions and limited knowledge of rehabilitation and subsequent referral by other health personnel. Corroborating this is local estimates that suggest only 10-20% of people who sustain a Spinal Cord Injury in Nepal actually reach a specialized rehabilitation service.
- ***People in tertiary hospitals receiving a range of medical and surgical care.*** This group are not well covered for rehabilitation, this conclusion is based on the low level of rehabilitation professions integrated into tertiary hospitals, the low level of rehabilitation knowledge and referral by doctors and the service fees for each session that reportedly deter access.
- ***Adults living in the community requiring rehabilitation.*** This group, particularly those with musculo-skeletal conditions or longer-term neurological conditions are frequently not covered, this conclusion is based on the few rehabilitation personnel located in government supported primary healthcare, the generalist primary healthcare providers not trained in delivery of rehabilitation interventions, the limited awareness of the benefits of rehabilitation and subsequent referral by both health providers and community members and the limited coverage of community-delivered rehabilitation.
- ***Children with developmental difficulties and disabilities.*** This group are not adequately covered by rehabilitation interventions, this conclusion is based on the non-existent specialized pediatric rehabilitation or 'child development services' with outreach capacity that should sit in a network of government health services, the limited multi-sectoral early childhood intervention programs and limited number of NGOs providing care.
- ***People who live in rural or remote areas.*** This group are commonly not covered adequately by rehabilitation interventions, this conclusion is based on the few rehabilitation personnel located outside of major urban areas and high travel costs to rehabilitation, the low level of health provider awareness of rehabilitation with correspondingly low referrals, and the many areas with difficult geographic terrain and poor physical infrastructure which prevents people traveling the distances required to reach rehabilitation.

9.2 Equity

Equitable coverage of rehabilitation interventions is considered in the context of common social stratifiers in Nepal such as economic, geographic, caste and gender inequalities. The following matters contribute to inequities of rehabilitation in Nepal.

- The large majority of rehabilitation personnel are located in private hospitals and clinics which require people to pay fees, this results in inequities related to economic inequality.
- The mal-distribution of rehabilitation personnel across the country results in larger travel costs for people in rural and remote areas and some less serviced provinces, this results in inequities related to geographic inequality.
- Rehabilitation has not been integrated into the government supported primary healthcare or the basic package of services, this contributes to inequities and relates to both the economic and geographic inequalities.
- Barriers to rehabilitation that are based on gender are a serious concern. Girls and woman experience more barriers, often because families are less financially and practically supportive of their rehabilitation access.

9.3 Efficiency

Efficiency can be difficult to assess accurately without extensive data, and efficiency is not a major focus for Nepal's health system. However, it was found that rehabilitation is not well structured across healthcare and in this way not optimally efficient (known as allocative efficiency). The following factors contribute to this finding.

- The overall structure of rehabilitation in Nepal, with limited availability in government hospitals and a high proportion of this care in tertiary hospitals suggests the overall structure is not optimally distributed to meet population needs and achieve efficiency.
- There has been limited task shifting of the delivery of selected (basic) rehabilitation interventions to primary healthcare personnel which can increase both the coverage of rehabilitation interventions as well as make efficiency gains.

9.4 Accountability and Transparency

Rehabilitation accountability and transparency is emerging with MoHP/DoHs recent plans and reporting mechanisms however there is much opportunity to strengthen this. The following issues contribute to this:

- With the recent MoHP/DoHs planning there has been satisfactory strides and the development of the reporting mechanisms. However, there remains limited data and information collection mechanisms for rehabilitation which restricts the accountability and data informed measures.

9.5 Sustainability

The sustainability of rehabilitation in Nepal is a serious concern due to the limited government financial support, only emerging (not established) understandings of rehabilitation across healthcare and the relatively high reliance on EDPs for rehabilitation. The following factors contribute to low rehabilitation sustainability,

- The MOHP has only recently demonstrated support for rehabilitation and funding remains relatively low with 95% of rehabilitation funding from foreign sources and a high OOP contribution.
- The sustainability of the provision of assistive products is not assured, especially not in health, as the government is yet to fund many assistive products nor ensure funding of the APL, and again EDP support and OOP sustains the access to the AP.

- The sustainability of prosthetic and orthotic services is concerning as these are essential services that require government funding, including capital investment, but as of yet the government has contributed only small amounts and services rely on EDPs that may not continue funding in future.

Summary of Rehabilitation Coverage and System Attributes

- In general, rehabilitation coverage of people in need is low. It is low for people requiring longer-stay more intense rehabilitation as well as people requiring rehabilitation in their home and local community. There is limited coverage of people who need a range of assistive products and there is limited coverage of rehabilitation in children with disabilities who require early identification and regular rehabilitation care.
- Equity concerns exist, these are mostly focused on people with fewer financial resources and those that have to travel distances for rehabilitation, which is most people outside the major urban areas. Equity concerns also exist for girls and woman as they experience less financial and practical support from families to facilitate their access.
- Accountability for the performance of rehabilitation across the country is slowly growing but it remains quite limited as there is little data collection and tracking of status nor the measurement of rehabilitation outcomes.
- Sustainability of rehabilitation remains a serious concern with limited public funding in rehabilitation and reliance on EDPs. Additionally, the high-level institutional support of MOHP could only be characterized as emerging and it is yet to be translated into significant increase in needed resources.

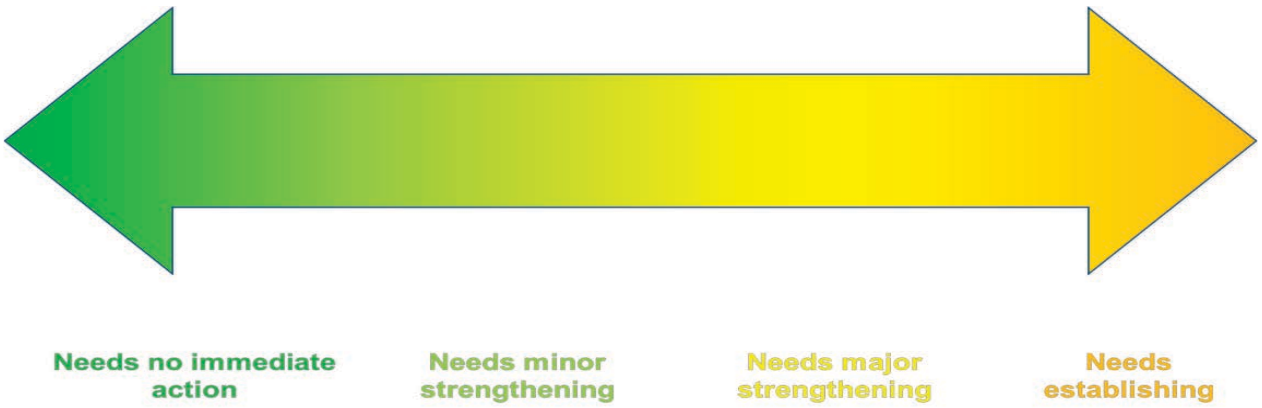
10. Results of the WHO STARS Rehabilitation Maturity Model

STARS includes guidance for assessing rehabilitation against 50 components which exist within a mature health system that can deliver comprehensive rehabilitation. The 50 components are informed by the WHO Health System Building Blocks and structured by the Rehabilitation Results Chain, under input, output, outcome and impact. The Rehabilitation Maturity Model is a tool within STARS that reflects these 50 components. It is an excel document that describes each of the 50 components across four levels of maturity, as illustrated in figure 12. Each of the 50 components are considered during the assessment process within a country and a grading is given. The purpose of the maturity grading exercise is to:

- Support assessment of both the maturity and performance of rehabilitation within a health system
- Engage the government in the assessment and provide direction for future development
- Provide a summative, visual overview to the assessment findings

The grading is undertaken as much as possible in discussion with the government however the consultant commonly completes the process. The 50 components and each maturity grading for Nepal is provided in Appendix A.

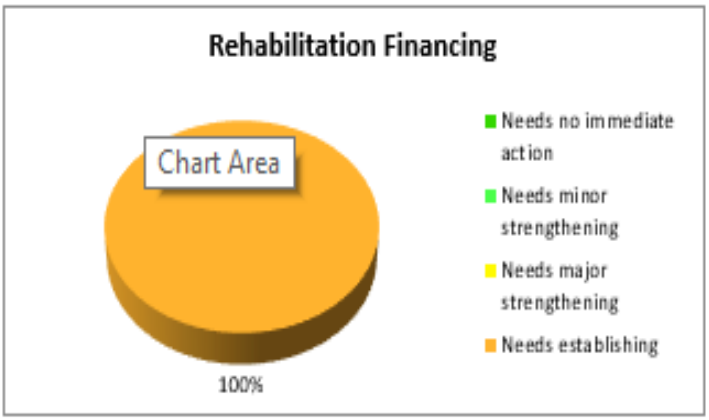
Figure 10. Levels of Maturity in the Rehabilitation Maturity Model

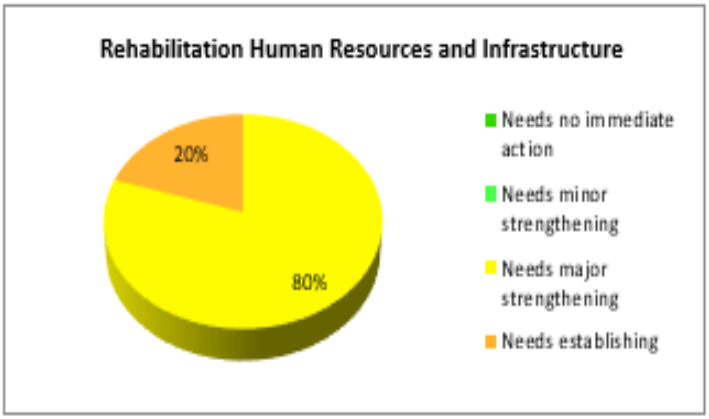


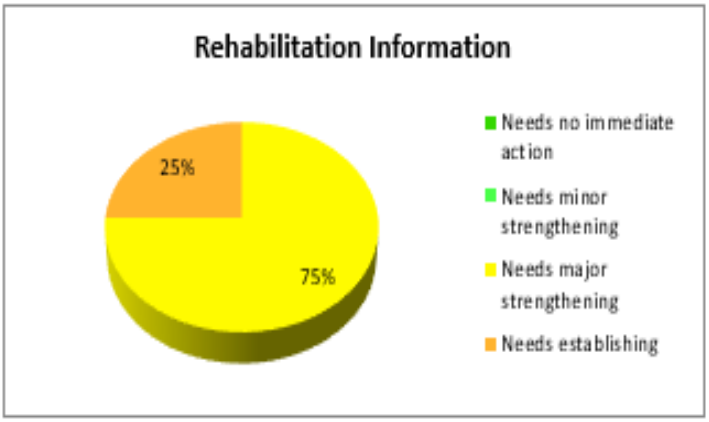
The maturity grading has not been designed for comparison between countries, but it is anticipated that the results may be comparable over time within a country.

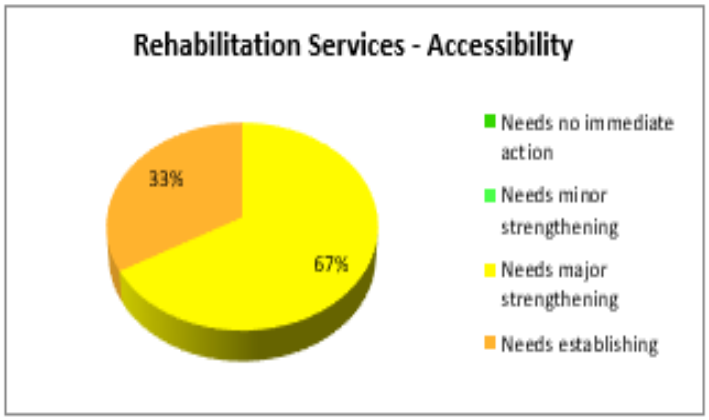
The 50 components are grouped under seven areas, and the summary of the results are presented over the page.


Rehabilitation Governance
14%
14%
72%
Needs no immediate action
Needs minor strengthening
Needs major strengthening
Needs establishing

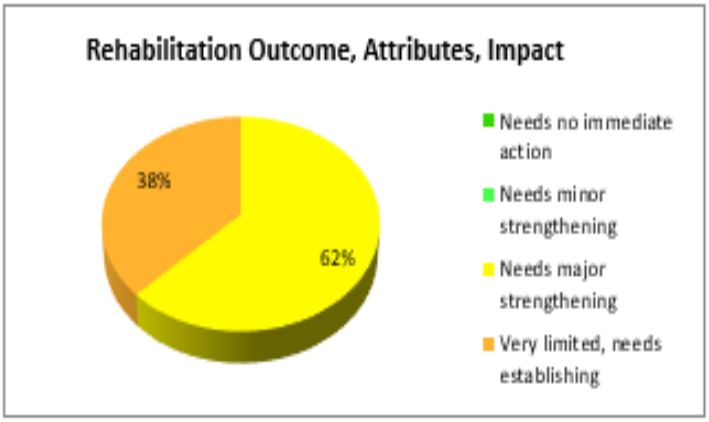

Rehabilitation Financing
Chart Area
100%
Needs no immediate action
Needs minor strengthening
Needs major strengthening
Needs establishing


Rehabilitation Human Resources and Infrastructure
20%
80%
Needs no immediate action
Needs minor strengthening
Needs major strengthening
Needs establishing


Rehabilitation Information
25%
75%
Needs no immediate action
Needs minor strengthening
Needs major strengthening
Needs establishing


Rehabilitation Services - Accessibility
33%
67%
Needs no immediate action
Needs minor strengthening
Needs major strengthening
Needs establishing


Rehabilitation Services - Quality
25%
75%
Needs no immediate action
Needs minor strengthening
Needs major strengthening
Needs establishing


Rehabilitation Outcome, Attributes, Impact
38%
62%
Needs no immediate action
Needs minor strengthening
Needs major strengthening
Very limited, needs establishing

11. Conclusions and Recommendations

The Strengths of Rehabilitation in Nepal

1. In recent years the MOHP/DoHs/EDCD/LCDMS has demonstrated leadership in rehabilitation, supported the national planning for rehabilitation in government healthcare and this has included the integration of rehabilitation in the DMPTRSAP and the NHSS-IP
2. There is knowledge that rehabilitation should be included in the health financing and health information mechanisms, some progress has been made
3. Rehabilitation professionals are being trained, either in Nepal or abroad and therefore there is supply for future government or private sector jobs
4. In recent years the government tertiary hospitals increased the posts for rehabilitation personnel and access at this level is slowly increasing
5. There are specialized rehabilitation facilities that are delivering quality, high-intensity, longer-stay rehabilitation for people with complex needs
6. There is EDPssupport and it is aligning to MOHP priorities
7. There has been some government support for the provision of assistive products. A Priority Assistive Product List has been created and duties and taxes removed for some of the key assistive products.

Key Challenges and Priority Areas for Action

1. MOHP/DoHs/EDCD/LCDMS leadership for rehabilitation is emerging, it needs to strengthen so that it converts to further prioritization and resource allocation within health. There is a need for further clarity regarding aspects of the leadership between MOHP and MWCSC. There is a need for an improved rehabilitation specific mechanism for central planning and coordination.
2. There is little awareness, technical capacity, practical guidance nor planning experience specifically for rehabilitation at the sub-national and pallikas level. Increasingly, this will be a focus for rehabilitation planning and support at this level will be needed.
3. Only 0.2% of Nepal's total health expenditure is allocated to rehabilitation. Of all the government financing for rehabilitation (approx. 4 million USD), 95% was from foreign sources. MWCSC disability budget channeled through local government can be allocated to assistive products. Physiotherapy (only) is included in the NHSS 2015-2020. Significant increases in investment are much needed.
4. Only 4% of the rehabilitation workforce is employed through government health services, 96% privately. There is a significant need to boost rehabilitation in government services to improve access, equity and sustainability.
5. Rehabilitation is yet to be substantially integrated into the Health Management Information Systems of Nepal, there are many gaps in information. Because of this it is difficult to hold the MOHP to account about the status of rehabilitation.
6. There remains a significant gap in the availability of longer-stay rehabilitation facilities and beds, there is 1 rehabilitation bed for every 87,000 people. Currently, large numbers of people in Nepal miss out on the rehabilitation they need or are expected to travel long distances to facilities.
7. The integration of rehabilitation across tertiary and secondary healthcare remains limited, the small number of rehabilitation personnel in government hospitals is indicative of this issue. There is a need for the rehabilitation to be further integrated into patient care and for medical personnel to know when rehabilitation is required. Government investment to create rehabilitation posts is required to expand increase access at this level.
8. There is extremely limited rehabilitation within primary healthcare which makes access difficult as people must travel far to reach services. There are few rehabilitation personnel at this level and rehabilitation interventions are not integrated into protocol based care and very limited inclusion within the new basic package of services.

9. There is very limited funding and provision of assistive products by government health services. The status of prosthetic and orthotic services is a serious concern and without government funding these services will become unsustainable and potentially unaffordable. Further work on AP tax exemptions and adoption of standards is needed.

10. Pediatric rehabilitation for children with developmental difficulties and disabilities is very under-developed. Maternal and child health services have not established early identification across all districts nor referral practices to rehabilitation, and there are major gaps in the rehabilitation available for children and the ability of these services to reach children in their homes and local community settings.

11. Concerns about quality for rehabilitation exist, for example there are no clinical practice guidelines, there is limited supervision and mentoring programmes and limited professional development opportunities.

Recommendations for Strengthening Rehabilitation in Nepal

Based on the situation assessment findings the following recommendations have been suggested for Nepal.

1. To strengthen government leadership at the federal, provincial and local levels

a. Develop a stronger multi-sectoral mechanism to steer and coordinate rehabilitation strengthening efforts, identify this for the federal level and how it can be developed/applied at the provincial level, ensure rehabilitation consumers are engaged.

b. Develop the rehabilitation focused strategic plan that updates and synergizes the current planning for rehabilitation that is within the DMPTRSAP and NHSS.

c. Further integrate rehabilitation into a range of Nepal's national and provincial health planning and standard setting, for example ensure it is included in planning for non-communicable disease (NCD), healthy ageing, early child development, as well as health emergency planning.

d. Develop specific guidance and build capacity for provincial planning, budgeting and monitoring of rehabilitation.

e. Strengthen rehabilitation advocacy and awareness raising so that the full spectrum of healthcare is promoted, beyond just preventive and curative care. Work with rehabilitation consumers in this process.

f. MOHP/DoHs/EDCD/LCDMS lead a review of the prosthetics and orthotics services and infrastructure in Nepal. Report on how the current services should be developed and invested in, ensuring an appropriate configuration with stronger linkages to government health services and financing.

2. To increase government investment in rehabilitation personnel and infrastructure so as to improve access at all levels of healthcare and across geographic areas.

a. *At the tertiary and secondary healthcare level*

- Further investment in rehabilitation personnel in government tertiary and secondary hospitals. Create new posts for a range of rehabilitation professions and improve their infrastructure and equipment. Address the mal-distribution of available rehabilitation by prioritizing the provinces where current availability is low.
- Further expand the components of rehabilitation that are funded within the National Health Insurance Scheme.

b. *At the primary healthcare level and reaching into the community*

- Identify the appropriate mechanism(s) for a gradual integration of rehabilitation into primary healthcare in Nepal. Develop and pilot test an appropriate, scalable 'Rehabilitation Package of Health Conditions for Primary Health Care (PHC)' /district hospitals, and develop guidance for protocol-based care. Ensure this package builds capacity in PHC/district hospital to identify all rehabilitation needs and referral mechanisms. In time, promote widespread uptake of this training package and build the rehabilitation readiness in PHC so that it is included in the next iteration of the Basic Healthcare Package.
- Where it can be prioritized, create new posts for rehabilitation personnel to be located in the larger PHC centers/facilities/district hospitals.

- Identify the outreach mechanisms that will be most effective at delivering rehabilitation at the community level. Work with health, disability and local government agencies to develop 'scalable models' of these services and document and upscale these across districts.
- Harness the opportunities of technology such as tele rehabilitation, to increase access to rehabilitation in PHC and at all levels of healthcare.

c. *Specialized rehabilitation services*

- Invest in rehabilitation infrastructure and create rehabilitation beds in government and private health services. Aim to establish dedicated rehabilitation wards/units/center/facilities in all provinces.

3. To improve the integration, quality and specialization of rehabilitation in healthcare

a. *Integrate rehabilitation across health professional training and utilize NHTC,*

- Integrate a rehabilitation module into under-graduate training for doctors and nurses.
- Integrate basic rehabilitation training into PHC level health workforce training opportunities.
- When working with provincial level health planners on rehabilitation, utilize the opportunity to build awareness and capacity in rehabilitation.

b. Nurture professional specialization and development of multi-professional networks related to key health condition groups, such as spinal cord injury, stroke or pediatric conditions including cerebral palsy. Utilize these groups to develop national resources such as clinical practice guideline, protocols, standards and IEC materials (e.g. patient education pamphlets).

c. Develop rehabilitation service models/programs for children with disabilities that include case coordination and community outreach, and strong linkages with early childhood intervention and education settings.

d. Improve the integration of rehabilitation into all areas of health care, like orthopedics, neurology, cardiology, and mental health care, hearing and vision health services.

e. Develop national standards and or standard operating procedures for rehabilitation service provision across government funded services.

f. Develop referral mechanisms to improve the continuum of rehabilitation between all levels of healthcare.

4. To improve the training of rehabilitation personnel

a. Increase the number of people being trained in a bachelor's degree level rehabilitation profession and continue to build the quality of their training courses through upgrading and creating bachelor's degree, masters and PhD programmes for all rehabilitation professions.

b. Train doctors in the specialty of rehabilitation medicine and build this medical specialty in healthcare

c. Support the creation of professional development opportunities for all rehabilitation personnel.

d. Improve support and supervision practices for rehabilitation personnel. Ensure hospitals develop 'senior' members of their rehabilitation personnel who can specialize in particular areas (e.g. neurology, cardiac, pediatrics) and subsequently provide 'on-the-job training' to a high level and by doing so improve quality and expand the scope of practice in these areas.

5. To strengthen the investment, coordination and provision of Assistive Products

a. Create a technical working group that is dedicated to Assistive Products and ensure multi-sectoral and agency representation.

b. Work with multiple government agencies (including those overseeing local government) to identify the financing mechanisms that will support funding of the Priority Assistive Products List of Nepal (APL) and update this guidance over time, especially regarding costing. Explore mechanisms for one door policy.

c. Review and streamline assistive product procurement mechanisms, utilize future guidance WHO-UNICEF guidance for procurement.

d. Review the current distribution mechanisms for assistive products and improve mechanisms ensuring they are better integrated into government health services.

e. Develop a model approach to AP provision with a center that provides a range of AP services, adopt standard operating procedures to support quality within healthcare.

6. To increase the integration of rehabilitation into health information systems and develop reporting mechanism that build accountability.

a. Alongside development of a national rehabilitation strategic plan, develop a national monitoring framework with indicators and targets.

b. Integrate rehabilitation into the District Health Information System - 2 (DHIS 2) platform at each level so that rehabilitation data is generated and can be used to track against rehabilitation indicators.

c. Develop minimum standards for rehabilitation data collection in health facilities in order to support quality improvement approaches.

d. Support generation of policy relevant research that can inform future rehabilitation service planning.

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APPENDIX A - Rehabilitation Maturity Model Scores for Nepal

Key to scores:

- Needs no immediate action
- Needs minor strengthening
- Needs major strengthening
- Needs establishing

REHABILITATION GOVERNANCE		
1	Rehabilitation legislation, policies and plans	3
2	Leadership, coordination and coalition building for rehabilitation	2
3	Capacity and levers for rehabilitation plan implementation are in place	2
4	Accountability, reporting and transparency for rehabilitation	1
5	Regulation of rehabilitation and assistive technology	2
6	Assistive technology policies, plans and leadership	2
7	Assistive technology programmes and procurement	2
REHABILITATION FINANCING		
8	Rehabilitation financing and coverage of the population	1
9	Scope of rehabilitation included in financing	1
10	Financing of rehabilitation and out-of-pocket costs	1
REHABILITATION HUMAN RESOURCES AND INFRASTRUCTURE		
11	Rehabilitation workforce availability	2
12	Rehabilitation workforce training and competencies	2
13	Rehabilitation workforce planning and management	2
14	Rehabilitation workforce mobility, motivation and support	1
15	Rehabilitation infrastructure and equipment	2
REHABILITATION INFORMATION		
16	Information about rehabilitation needs, including population functioning and disability	2
17	Information about rehabilitation availability and utilization	1
18	Information on rehabilitation outcomes and quality	2
19	Rehabilitation information used during decision-making	2
REHABILITATION SERVICES - ACCESSIBILITY		
20	Availability of specialized, high-intensity rehabilitation	2
21	Availability of community-delivered rehabilitation	2
22	Availability of rehabilitation integrated into tertiary care	2
23	Rehabilitation integrated into secondary care	1
24	Rehabilitation integrated into primary care	1
25	Occurrence of informal, self-directed rehabilitation	2

26	Availability of rehabilitation available across acute, sub-acute and long-term phases of care	2
27	Availability of rehabilitation across mental health, vision and hearing programmes	2
28	Availability of rehabilitation for target population groups based on country need	1
29	Early identification and referral to appropriate health and rehabilitation programmes for children with developmental difficulties and disabilities	1
30	Availability of rehabilitation in hospital, clinical settings and the community for children with developmental difficulties and disabilities	2
31	Availability of assistive products, including those for mobility, environment, vision, hearing, communication and cognition	2
32	Availability of assistive products and their service delivery	2
33	Affordability of rehabilitation	1
34	Acceptability of rehabilitation	2

REHABILITATION SERVICES - QUALITY

35	Extent to which evidence-based rehabilitation interventions are utilized	2
36	Extent to which rehabilitation interventions are of sufficient specialization and intensity to meet needs	2
37	Extent to which rehabilitation interventions empower, educate and motivate people	2
38	Extent to which rehabilitation interventions are underpinned by appropriate assessment, treatment planning, outcome measurement and note-taking practices	2
39	Extent to which rehabilitation is timely and delivered along a continuum, with effective referral practices	1
40	Extent to which rehabilitation is person-centred, flexible, and engages users, family, and carers in decision-making	2
41	Extent to which health personnel and community members are aware, knowledgeable and seek rehabilitation	1
42	Extent to which rehabilitation is safe	2

OUTCOME, ATTRIBUTES AND IMPACT OF REHABILITATION

43	Coverage of rehabilitation interventions for population groups that need rehabilitation	2
44	Functioning outcomes of rehabilitation for those who receive rehabilitation	2
45	Equity of rehabilitation coverage across disadvantaged population groups	1
46	Allocative and technical efficiency of rehabilitation	2
47	Multi-level accountability for rehabilitation performance	2
48	Financial and institutional sustainability of rehabilitation	1
49	Resilience of rehabilitation for crisis and disaster	2
50	The functioning of the population	1

APPENDIX B – List of People Consulted during Assessment

Dr. Bibek Kumar Lal, Family Welfare Division,
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Dr. Kedar Marahatta, WHO Nepal

Dr. Lonim Dixit, WHO Nepal

Mr. Susheel Lekhak, WHO Nepal

Dr. Subhash Lakhe, WHO Nepal

Mr. Kamaraj Devapitchai, WHO Nepal

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Ms. Pragya Sjrestha, USAID Nepal

Ms. Nirupama Rai, USAID Nepal

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Mr. Padam Khadga, Health Service Directorate, Karnali

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Mr. Gokarna Buda Magar, Health Post, Chinchu, Surkhet

Ms. Bina Shahi, Health Post, Chinchu, Surkhet

Ms. Dil Kumari Rana, Health Post, Chinchu, Surkhet

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Mr. Hitesh Neupane, NGMC

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Mr Iroj Shrestha, HRDC

Dr. Yam Gurung, HRDC

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Dr. Ram Prakash Shah, SIRC

Ms. Beena Manandhar, SIRC

Ms. Chanda Rana, SIRC

Dr. Christin Groves, SIRC

Dr. Raju Dhakal, SIRC

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Mr. Narendra Raj Rana Chetri, INF, Surkhet

Mr. Narayan Bahadur Khadka, INF, Surkhet

Ms. Princy Sigdel, INF, Surkhet

Ms. Neelam Lama Dahal, Neo clinic

Prof. Dr. Ranjeeta S. Acharya

Mr. Mohan Krishna Dangol, Kiritipur Hospital

Ms. Narmada Devkota, Kanti Children Hospital

Laxmi Karki, Autism Care Nepal Society

Mr. Yeti Raj Niraula, HI Nepal

Mr. Shamed Kumar Katila, Physiotherapy Rehabilitation Association of Nepal

Ms. Susmita Shrestha, Speech and Hearing Association Nepal (SHAN)

Mr. Bibek Bhattari, SHAN

Ms. Dev Kumari Parajuli, National Federation of Disabled Nepal

Mr. Mitha Ram Thapa, LCDMS,EDCD

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Mr. Tilak B. Poudel, EDCD

Mr. Maheshwor Ghimire, Nepal Amputee Association

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Ms. Sunita Thapa, Nepal Association of Welfare of Blinds

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