National List of Essential Assistive Products (NLEAP)

Indian Council of Medical Research
Ansari Nagar, New Delhi

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List of Acronyms

APL	Priority Assistive Products List
BIS	Bureau of Indian Standards
CDSCO	Central Drugs Standard Control Organization
CHC	Community Health Centre
DH	District Hospitals
GBD	Global Burden of Disease Survey
GHTF	Global Harmonization Task Force on Medical Devices
HWC	Health and Wellness Centres
ICF	International Classification of Functioning, Disability, and Health
ICMR	Indian Council of Medical Research
IMDRF	International Medical Device Regulators Forum
IPHS	Indian Public Health Standards
ISO	International Organization for Standardization
LMIC	Low Middle-Income Countries
MDA 2017	Medical Devices Rules 2017
MDMC	Medical Device Monitoring Centres
MoHFW	Ministry of Health and Family Welfare
NABL	National Accreditation Board for Testing and Calibration of Laboratories
NACO	National AIDS Control Organization
NCD	Non-Communicable Diseases

NEDL	National Essential Diagnostics List
NHM	National Health Mission
NHSRC	National Health System Resource Centre
NLEAP	National List of Essential Assistive Products
MLEM	National List of Essential Medicines
NRHM	National Rural Health Mission
PHC	Primary Health Centre
QC	Quality Control
QMS	Quality Management System
RPwD Act 2016	Rights of Persons with Disability Act 2016
SC/SHC	Sub-Centre/Subsidiary Health Centres
SDG	Sustainable Development Goals
SDHs	Sub-Divisional/District Hospitals
UD	Universal Design
UHC	Universal Health Coverage
UNCRPD	United Nations Convention on Rights of Persons with Disabilities
WHA	World Health Assembly
WHO	World Health Organization
WHS	World Health Survey
WRD	World Report on Disability

1. Background

Any restriction or lack of ability to perform an activity in a manner or within the range considered normal for human beings, resulting from an impairment, is termed as a disability. Impairment concerns the physical aspects of health; disability is the loss of functional capacity resulting from an impairment of an organ; handicap is a measure of the social and cultural consequences of an impairment or disability (Barbotte et al., 2001). Globally, around 785-795 million persons aged 15 years and older are living with a disability based on 2010 population estimates. Of these, the World Health Survey estimates that 110 million people (2.2%) have very significant difficulties in functioning while the Global Burden of Disease Survey estimates 190 million have (3.8%) have severe disability. Including children, over a billion people (about 15% of the world's population) were estimated to be living with disability (WHO, 2011).

Over the years, a variety of perspectives on disability have been developed. WHO defines disability as an umbrella term, covering impairments, activity limitations, and participation restrictions. Impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations. Thus, disability is a complex phenomenon, reflecting an interaction between features of a person's body and features of the society in which he or she lives.

International Classification of Functioning, Disability, and Health (ICF) is a multipurpose classification of health and health-related domains- domains that help us to describe changes in body function and structure, what a person with a health condition can do in a standard environment (their level of capacity), as well as what they actually do in their usual environment (their level of performance). ICF conceptualizes disability, not solely as a problem that resides in the individual, but as a health experience that occurs in a context. Structurally, the ICF is based on three levels of functioning (body functions and structures, activities, and participation) with parallel levels of disability (impairments, activity limitations, and participation restrictions).

United Nations' Convention on the Rights of Persons with Disabilities (UNCRPD-2006) is the first legally binding disability-specific human rights convention, adopted by

the United Nations gives two descriptions of disability. The Preamble to the Convention states that “Disability results from the interaction between persons with impairments and attitudinal and environmental barriers that hinder their full and effective participation in society on an equal basis with others.” Again, it emphasizes that “Persons with disabilities include 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 with others.” Both expressions reflect a shift from a medical model to a social model of disability.

In India, different definitions of disability conditions have been introduced for various purposes, essentially following the medical model and, as such, they have been based on various criteria of ascertaining abnormality or pathologic conditions of persons. In absence of a conceptual framework based on the social model in the Indian context, no standardisation for evaluating disability across methods has been achieved. In common parlance, different terms such as disabled, handicapped, crippled, physically challenged, are used inter-changeably, indicating noticeably the emphasis on pathologic conditions.

Rights of Persons with Disability Act, 2016) is built upon the premise of equal opportunity, protection of rights and full participation, it provides definitions of disabled person following the rights based medical model. According to the Rights of Persons with Disabilities Act, 2016, "Person with disability" means a person suffering from not less than forty per cent of any disability as certified by a medical authority (any hospital or institution, specified for the purposes of this Act by notification by the appropriate Government). As per the act "Disability" has been categorised into 21 types, which are defined as below:

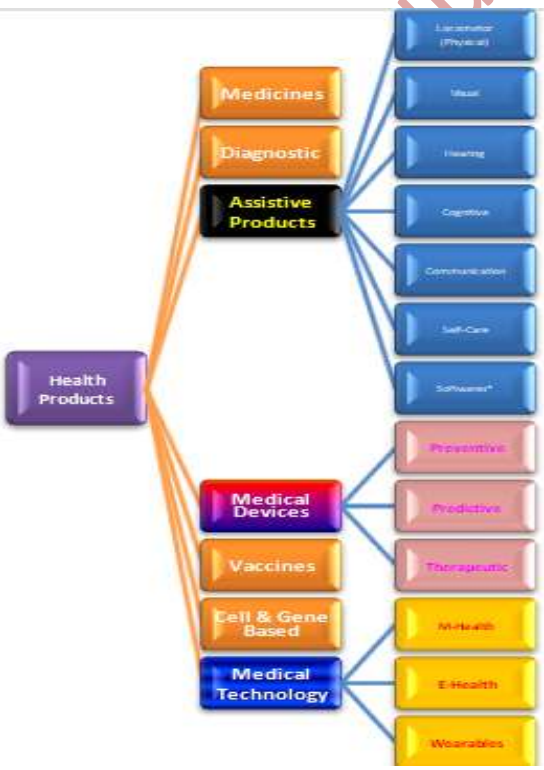
Sr. No.	Disability as per RPwD Act 2016	Body parts/ Functions affected	Definition
1.	Blindness	Eyes	Total absence of sight; or visual acuity not exceeding 6/60 or 20/200 (Snellen's) in the better eye with correcting lenses; or limitation of the field vision subtending an angle of 20 degree or worse.
2.	Low-vision	Eyes	Impairment of visual functioning even after treatment or standard refractive correction but who uses or is potentially capable of using vision for the planning or execution of a task with appropriate assistive device.
3.	Leprosy Cured persons	Cognition, Mobility Limitations, Legs and Hands	Person who was treated for Leprosy but is still suffering from loss of sensation in hands or feet and paresis in the eyelid without manifested deformity. This also covers person with sufficient mobility even though there is manifested deformity and paresis in their hands and feet. Other category is extreme physical deformity.
4.	Hearing Impairment (deaf and hard of hearing)	Ears, Speech	Loss of sixty decibels or more in the better ear in the conversational range of frequencies.
5.	Locomotor Disability	Mobility, Bones, Arms and Legs	Any condition of the bones, joint or muscles leading to substantial restriction of the movement of the limbs or cerebral palsy. Conditions include poliomyelitis (PPRP), cerebral palsy, amputation, spinal injuries, head injuries, soft tissues, fractures, muscular dystrophies.
6.	Dwarfism	Full body	Also known as short stature, an adult height of less than 147 centimeters (4 ft 10 in), regardless of sex.
7.	Intellectual Disability	Cognition, Learning, Speech	The term Mental Retardation has been replaced by Intellectual Disability in RPwD Act 2016. A condition characterized by significant limitation both in intellectual functioning (reasoning, learning, problem-solving) and in adaptive behavior which covers a range of every day social and practical skills.
8.	Mental Illness	Cognition, Memory & Nervous System	A substantial disorder of thinking, mood, perception, orientation or memory that grossly impairs judgement, behaviour, capacity to recognise reality or ability to meet the ordinary demands of life.
9.	Autism Spectrum Disorder (ASD)	Cognition & nervous system	ASD is a developmental disorder that affects communication and behavior. Although autism can be diagnosed at any age, it is described as a "developmental disorder" because symptoms generally appear in the first two years of life.
10.	Cerebral Palsy (CP)	Brain	A group of non - progressive conditions characterized by abnormal motor control posture resulting from brain insult or injuries occurring in the perinatal, neonatal or infant period of development.
11.	Muscular Dystrophy (MD)	Muscular system	MD are a group of more than 30 genetic diseases characterized by progressive weakness and degeneration of the skeletal muscles that control movement. Some forms of MD are seen in infancy or childhood, while others may not appear until middle age or later. The disorders differ in terms of the distribution and extent of muscle weakness (some forms of MD also affect cardiac muscle), age of onset, rate of progression, and pattern of inheritance.
12.	Chronic Neurological conditions	Nervous System	Chronic neurological conditions, such as—(i) "multiple sclerosis" means an inflammatory, nervous system disease in which the myelin sheaths around the axons of nerve cells of the brain and spinal cord are damaged, leading to demyelination and affecting the ability of nerve cells in the brain and spinal cord to communicate with each other; (ii) "Parkinson's disease" means a progressive disease of the nervous system marked by tremor, muscular rigidity, and slow, imprecise movement, chiefly affecting middle-aged and elderly people associated with degeneration of the basal ganglia of the brain and a deficiency of the neurotransmitter dopamine. But MS and PD have been cited only as examples. There are other conditions that can be categorized under Chronic Neurological Conditions. Some more examples can be: Alzheimer's disease and Dementia, Dystonia, ALS (Lou Gehrig's disease), Huntington's disease, Neuromuscular disease, Multiple sclerosis, Epilepsy, Stroke.
13.	Specific Learning Disabilities	Cognition, Memory	A specific learning disability is a disorder that interferes with a student's ability to listen, think, speak, write, spell, or do mathematical calculations. Students with a specific learning disability may struggle with reading, writing, or mathematics.

	(SLD)		
14.	Multiple Sclerosis (MS)	Skin and nervous System	Multiple sclerosis (MS) involves an immune-mediated process in which an abnormal response of the body's immune system is directed against the central nervous system (CNS).
15.	Speech and Language disability	Ears, Pharynx, Larynx, Nervous System	Speech and Language disability a communication disorder such as stuttering, impaired articulation, a language impairment, or a voice impairment that adversely affects a child's educational performance.
16.	Thalassemia	Blood	It is a blood disorder passed down through families (inherited) in which the body makes an abnormal form or inadequate amount of hemoglobin. Hemoglobin is the protein in red blood cells that carries oxygen. The disorder results in large numbers of red blood cells being destroyed, which leads to anaemia.
17.	Hemophilia	Blood	Hemophilia is usually an inherited bleeding disorder in which the blood does not clot properly. This can lead to spontaneous bleeding as well as bleeding following injuries or surgery. Blood contains many proteins called clotting factors that can help to stop bleeding.
18.	Sickle Cell Disease	Blood	Sickle cell anemia is one of a group of disorders known as sickle cell disease. Sickle cell anemia is an inherited red blood cell disorder in which there aren't enough healthy red blood cells to carry oxygen throughout your body.
19.	Multiple Disabilities including Deaf-blindness	Physical, Eyes, Ears and Nervous System	A combination of two or more disabilities namely Blindness/low vision; Speech and Hearing Impairment; Locomotor disability including leprosy cured; Mental retardation; and Mental illness. Deafblindness is a unique disability that combines varying degrees of both hearing and visual impairment. All individuals who are deafblind experience extreme challenges with communication, the way they access information, and mobility and most have additional physical and medical conditions.
20.	Acid Attack Victims	Muscular System and Cognition	An acid attack, also called acid throwing, vitriol attack, or vitriolage, is a form of violent assault involving the act of throwing acid or a similarly corrosive substance onto the body of another "with the intention to disfigure, maim, torture, or kill". Acid attacks can often lead to permanent blindness.
21.	Parkinson's Disease (PD)	Nervous System and Muscular System	Parkinson's disease is a progressive nervous system disorder that affects movement. Symptoms start gradually, sometimes starting with a barely noticeable tremor in just one hand. Tremors are common, but the disorder also commonly causes stiffness or slowing of movement. In the early stages of Parkinson's disease, your face may show little or no expression. Your arms may not swing when you walk. Your speech may become soft or slurred. Parkinson's disease symptoms worsen as your condition progresses over time. Although Parkinson's disease can't be cured, medications might significantly improve your symptoms. Occasionally, your doctor may suggest surgery to regulate certain regions of your brain and improve your symptoms.

As per the Census 2011, in India, out of the 121 Cr population, about 2.68 Cr persons are 'disabled' which is 2.21% of the total population (Census of India, 2011). According to the National Sample Survey, December 2018 prevalence of disability in the population is 2.2%, prevalence among males (2.4%) was higher as compared to females (1.9%). In NSS, December, 2018 a total of 1,06,894 persons with disabilities were surveyed. Among persons with disabilities while 62.1 % had a care giver, for 0.3 % of the persons with disabilities caregiver was required but not available. In case of 37.7 % of the persons with disabilities no caregiver was required. (NSS 2018).

Assistive products refers to any external product (including aids, devices, equipment, instruments or software), especially produced or generally available, the primary purpose of which is to maintain or improve an individual's functioning and independence, and thereby promote their well-being. These are also used to prevent impairments and secondary health conditions.

Assistive devices and technologies are those whose primary purpose is to maintain or improve an individual's functioning and independence to facilitate participation and to enhance overall well-being. They can also help prevent impairments and secondary health conditions.



Assistive products/technology is a subset of health products. The term 'assistive technology' (AT) refers to those products, devices and applications of technology that can provide support to disabled people and older persons in their daily routine lives. It is now accepted and preferred term for describing such technologies, and is increasingly used in place of older terms such as 'rehabilitation technology' or 'technical aids'. International Organisation for Standardisation (ISO) uses the term technical aids (Steyaert 1999). Harmonisation of ICF and ISO terms is required.

Examples of assistive devices and technologies include wheelchairs, prostheses, hearings aids, visual aids, and specialized computer software and hardware that increase mobility, hearing, vision, or communication capacities.

In fact, assistive technologies need not be restricted to those that are used directly by the disabled (or old) person themselves, but also include those that are used by caregiverss, such as lifting aids, or that are used to deliver services, such as tele-alarms.

Following from this definition, assistive technologies may be of two kinds - aids specifically designed to meet the needs of disabled people and older people, and more

general-purpose technologies that are nonetheless of particular benefit to disabled people and older people.

In the general-purpose category are a variety of consumer products, household amenities and utilities, including labour-saving devices (e.g. washing machines), amenities (e.g. inside toilet) and utilities (e.g. the telephone) that can be particularly important for people with disabilities. Such everyday technologies have a significant role to play in supporting independence and self-care. However, even in a Europe approaching the end of the millennium, a small but unacceptable number of disabled people and older people still live without access to such basic facilities as a private indoor toilet or telephone.

ISO (the International Organization for Standardization), a worldwide federation of national standards bodies classify assistive products according to their function. The classification consists of three hierarchical levels and the codes each consist of three pairs of digits. Like other classifications, for each level, codes, titles, explanatory notes, inclusions, exclusions and cross-references are given.

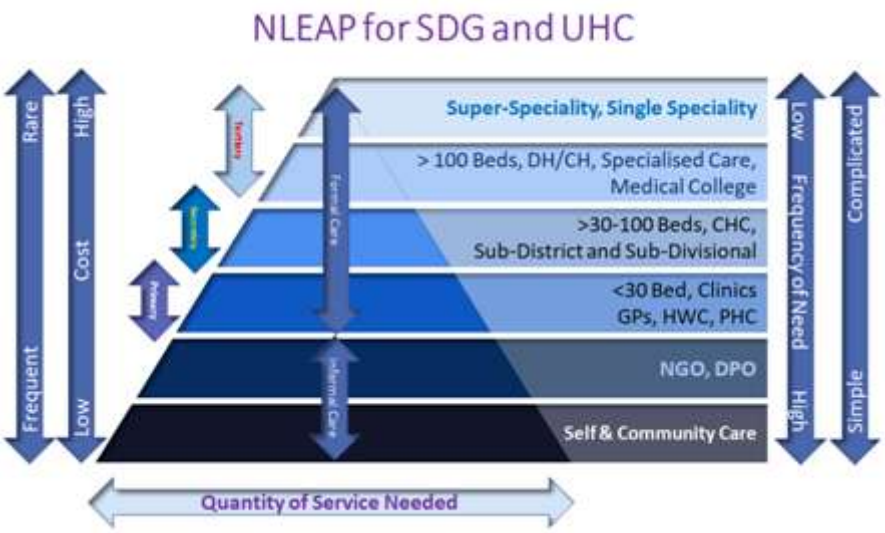
Priority Assistive Products: Those products that are highly needed, an absolute necessity to maintain or improve an individual's functioning and which need to be available at a price the community/state can afford based on the burden of disability in the coutry.

The Governments of Ecuador, Pakistan, Germany, Ireland, China, Republic of Korea, United States of America, and Zimbabwe hosted a side event of the 69th World Health Assembly, launching the WHO Priority Assistive Products List (WHO-APL), which is the first step of WHO's GATE initiative towards improving global access to assistive products for everyone, everywhere. This list contains a list of total 50 products

The Priority Assistive Products List is the first of four tools to be developed by the GATE initiative, towards increasing access to high-quality affordable assistive products as an integral component of universal health coverage. Till now Tajikistan and Nepal are the only two developing countries, that have prepared their Assistive Products List based on WHO-APL.

The issues are different in developed and developing countries, and rehabilitation measures should be targeted according the needs of the disabled with community participation. In India, a majority of the disabled resides in rural areas where accessibility, availability, and utilization of rehabilitation services and its cost-effectiveness are the major issues to be considered.

The Government of India has been assisting persons with disabilities in procuring durable and scientifically manufactured, modern aids and appliances meeting BIS standard that can promote their physical, social and psychological independence by reducing the effect of disabilities.



Every year through National Institutes, State Governments, DDRCs and NGOs, persons with disabilities are provided with devices such as prostheses and orthoses, tricycles, wheel-chair, surgical footwear and devices for activities of daily living, learning equipment (Braille writing equipment, Dictaphone, CD player/ tape recorder), low vision aids, special mobility aids like canes for blind, hearing aids, educational kits, communication aids, assistive & alerting devices and devices suitable for the persons with mental disabilities. The availability of devices will be expanded to cover uncovered and under-served areas.

1. The National List of Essential Assistive Products (NLEAP)

a. Guiding principles

Assistive products enable people to live healthy, productive, independent and dignified lives; to participate in education, the labour market and civic life. Assistive products can also help to reduce the need for formal health and support services, long-term care and the work of caregivers. Without assistive products, people may suffer exclusion, are at risk of isolation and poverty, and may become a burden to their family and on society. The positive impact of assistive products goes far beyond improving the health and well-being of individual users and their families. There are also socioeconomic benefits to be gained, by virtue of reduced direct health and welfare costs (such as recurrent hospital admissions or state benefits), and by enabling a more productive labour force, indirectly stimulating economic growth (WHO, 2016).

India has vast network of government and private healthcare institutions in urban and rural areas as depicted in above diagram. The level of expertise is also different at these institutions. While prescribing, the level of expertise and infra-structure required, should be taken into consideration.

b. Process followed for developing the NLEAP

ICMR initiated the steps to prepare a list of assistive products on the pattern of WHO's Priority Assistive Products List (WHO-APL). DG, ICMR constituted a National Expert Committee (NEC) under the leadership of Dr. R.K. Srivastava, Ex. DGHS, to assist in preparation of list of assistive products. The NEC recommended creation of 4 sub-groups, each representing their specialities like public health, physical medicine & rehabilitation (PMR), geriatrics and engineering. Each of the specialties had one leader with involvement of two more members. These Sub-Groups were (1) public health specialists led by Dr. Harshad Thakur, Director NIHFW; (2) physical medicine & rehabilitation professionals led by Dr. Rajendra Sharma, HoD PMR, RML; (3) geriatric medicine experts led by Dr. A.B. Dey and (4) engineering professionals led by Dr. PVM Rao, IIT-Delhi. Lead Expert of each sub-group was given liberty to include more members. Dr. Sanjiv Kumar, Ex. NHSRC; Dr. Arvind Mathur, renowned geriatrician; Dr. S.L. Yadav, AIIMS; Dr. Balakrishnan, IIT-Delhi; Dr. Shipra Chaudhary, RML Hospital; Dr. Shweta Bhandari, and Dr. Suman Badhal, Safdarjang Hospital; Dr. Monika Saini, Dr Rajni Bagga, Dr Manoj and Dr Niraj – NIHFW; contributed towards finalisation of the complete master list of assistive products.

In addition to this Mr. Prakash Bachani, Scientist, Bureau of Indian Standards and Dr. Sangeeta Abrol, Ministry of Health & Family Welfare contributed by providing BIS-ISO standards and health ministry perspectives. Each sub-group met many times to discuss the assistive products from their speciality angles. As India has already a National List of Essential Medicines (NLEM), hence during various Expert Group meetings by ICMR, it was agreed that the

list may be termed as National List of Essential Assistive Products (NLEAP). During its meetings, NEC and Sub-Groups felt the need to go beyond simple list to classify them age-wise (different requirements in different age groups), disability-wise (21 disabilities as per RPwD Act 2016 or Visual, Hearing, locomotor, Cognitive, Communication, Self-Care), system-wise (Primary, Secondary or Tertiary Health Care Systems), cost-wise (Low, Medium or High), provision-wise (Govt., Private, Insurance, Welfare, NGO), Indigenous vs. Imported (available in India or to be imported), BIS-ISO Standards, and Technology-wise (Simple, complex, advanced including softwares). Current list was prepared after Expert Group consultations and referring to Safdarjung list, CGHS list, ALIMCO list, Mobility India list, EU list, BIS-ISO list, text-books, and National Trust (with a network of more than 700 NGOs). Complete procedure of harmonisation was followed as per agreed protocol to prepare the list. Following documents were referred:

Sr. No.	Lists	Institute/Author
1.	Priority Assistive Products List (APL)	World Health Organisation (WHO)
2.	APL Lists of Individual countries	Nepal, Tajikistan
3.	A Handbook of Assistive Technology For People With Visual Disability	Dr. Suraj Singh Senjam , Dr. Vivek Gupta , Dr. Praveen Vashist AIIMS, Delhi
4.	Assistive Devices and Technology: Products for Persons With Disabilities	Dr. Sara Varughese CBM Bengaluru Published by Ministry of Social Justice and Empowerment (MoSJE)
5.	ATs for Elderly	International Longevity Centre (ILC), Pune
6.	Assistive technologies for people with disabilities Part II: Current and emerging technologies	European Parliament
7.	Directory of Manufacturers	ALIMCO, MoSJE, Govt. of India
8.	Inputs from AT Manufacturer	Dr. P.J. Singh, Tynor Mr. Rohit Kothari, Vandana Surgicals,

		Mumbai
9.	Washington Group	US Govt.
10.	ISO-9999	International Standards Organisation
11.	NGO Consultations	More than 700 NGOs including The Cradle
12.	Users' Perspective	Inputs and suggestions from the users required

c. Scope of NLEAP

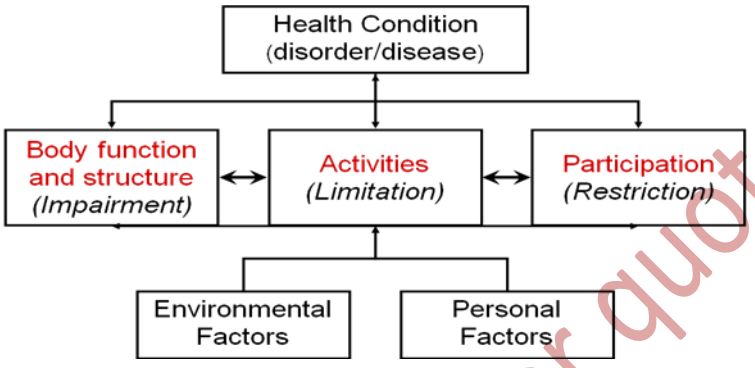
Following criteria have been taken into consideration while determining the scope and level of availability of assistive products:

- Enough training/knowledge to prescribe AP to the beneficiaries
- Type of AP (Simple/Advanced)

  Respective details of each AP have been given in accordance with the following parameters:

  - ❖ Name of AP
  - ❖ ICF-Body Structure
  - ❖ ICF-Body Function
  - ❖ Type (Device/Software)
  - ❖ Disease in which AP is used
  - ❖ Disability in which AP is used
  - ❖ BIS/ISO of AP
  - ❖ Indigenous/Imported
  - ❖ Prescribed by Therapist/Professional
  - ❖ Type of Device (Simple/Advanced)

d. Rationale



To achieve and sustain Universal Health Coverage (UHC) through health system strengthening, each country needs to rework and align its resources and systems to address the needs and challenges. There is a looming need of providing assistive technologies and devices for elderly, persons with disabilities (PwDs), patients with non-communicable diseases (NCDs) such as stroke, diabetes, congenital birth defect associated disabilities and people in humanitarian crisis and disasters. ICMR thus aims to deliberate, contribute and guide the way forward towards building a National list of Essential Assistive Products (NLEAP) -India, with focus on the principal themes of appropriateness, quality, affordability, accessibility and standardization of ATs and strategies for strengthening and service provision.

e. Content and format of the NLEAP

A total of 383 assistive products have been included in the NLEAP through a consultative process. Separate lists of APs have been prepared for each type of health centres/facility: Health & Wellness Centre (HWC), Community Health Centre (CHC) and Sub-District Hospital (SDH), District Hospital (DH) and Medical Institutions. NLEAP also encompasses new initiative of Government of India, Health and Wellness Centre (HWC). By 2022, existing 1,50,000 Sub Centres and Primary Health Centres will be converted to HWCs.

f. **Implementation of the NLEAP**

Ministry of Social Justice and Empowerment (MoSJE), Government of India is the nodal agency for care of persons with disabilities. An overarching legal provision in form of Rights of Persons with Disabilities Act 2016 (RPwD Act

2016) was enacted by MoSJE. RPwD Act has clearly delineated the steps for provision of assistive products. It directs every Ministry to develop their own systems for care of PwDs. Health and healthcare has been mentioned more than 25 times in the said act. Subsequently, Ministry of Health and Family Welfare has included the assistive products under the list of health products vide notification S.O. 648(E) dated 11th February, 2020.

The ADIP (Assistance to Disabled Persons for Purchase/Fitting of Aids/Appliances) Scheme under MoSJE is providing ATs to the PwDs. It was conceived in 1981 to provide "durable, sophisticated, scientifically manufactured, modern, standard aids and appliances" to disabled persons. Since that period the ATs like sicks, walkers, spectacles, wheelchairs, tri-cycles, smart cane, cochlear implants are being extended to the needy people. The NLEAP will facilitate ADIP scheme to provide better products to those who need.

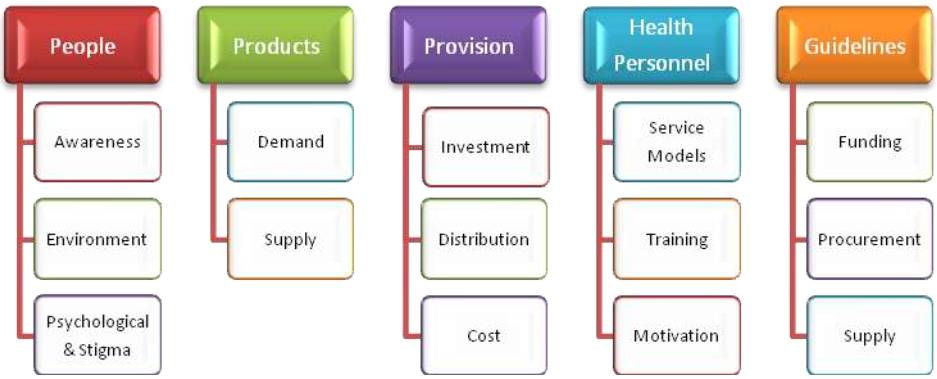
Department of Health and Family Welfare, Ministry of Health and Family Welfare vide its notification S.O. 648(E) dated 11th February, 2020 specified that in pursuance of sub-clause (iv) of clause (b) of section 3 of the Drugs and Cosmetics Act, 1940 (23 of 1940), the Central Government, after consultation with the Drugs Technical Advisory Board (DTAB), specified that the following devices, intended for use in human beings or animals, will be considered as drugs, with effect from the 1st day of April, 2020, namely:— All devices including an instrument, apparatus, appliance, implant, material or other article, whether used alone or in combination, including a software or an accessory, intended by its manufacturer to be used specially for human beings or animals which does not achieve the primary intended action in or on human body or animals by any pharmacological or immunological or metabolic means, but which may assist in its intended function by such means for one or more of the specific purposes of (i) diagnosis, prevention, monitoring, treatment or alleviation of any disease or disorder; (ii) diagnosis, monitoring, treatment, alleviation or assistance for, any injury or disability; (iii) investigation, replacement or modification or support of the

anatomy or of a physiological process; (iv) supporting or sustaining life; (v) disinfection of medical devices; and (vi) control of conception.

In lieu of above notification, it is the duty of medical professional to prescribe the ATs as per medical requirements (just like any other medicine), which means all the procedures and precautions will be required for prescription of ATs so that the desired effects are observable. The ATs prescribed so by the medical professionals will be issued only after assessing, and after assurance that the general principles of follow-up will be ensured. The ATs should be comfortable and performs the functions of the body part or fulfill environment deficiencies. Each of the 21 disabilities as per RPwD Act 2016 would require different AT, or same AT would be required for different disabilities as per functional impairment.

g. **A regulatory framework for AT prescription at National and International level**

Appropriate mechanisms are being developed for the prescription of ATs. The care will be taken to ensure for 6As+Q+U (Awareness, Availability, Accessibility, Adaptability, Affordability, Acceptibility, Quality and Use). ICMR is working on the policy briefs for 5Ps (People, Policy, Products, Personnel, Provision). NLEAP cuts across areas of Policy, Products and Provision i.e. what are the policy level initiatives by the government or private sector; which products to be covered under public health, private health, insurance, charity or loaning; and how the provision of ATs will be ensured by appropriate professionals.



h. References

Barbotte, E., Guillemin, F., & Chau, N. (2001). Prevalence of impairments, disabilities, handicaps and quality of life in the general population: a review of recent literature. Bulletin of the World Health Organization, 79, 1047-1055.

Census of India. 2011. The First Report on Disability. Registrar General and Census Commissioner, New Delhi, India.

Cook AM, Hussey SM. Assistive technologies. Principles and practice. 2002.

NSS 76th round (July – December 2018); Persons with Disabilities in India.

Steyaert, J. (1999). Increasing the IMPACT of assistive technology. Assistive Technology on the Threshold of the New Millennium, 659-662.

World Health Organization (2011). World Report on Disability. Geneva.

World Health Organization. (2016). Priority assistive products list: improving access to assistive technology for everyone, everywhere (No. WHO/EMP/PHI/2016.01). World Health Organization.

A Hasan Sapci; H Aylin Sapci. Innovative Assisted Living Tools, Remote Monitoring Technologies, Artificial Intelligence-Driven Solutions, and Robotic Systems for Aging Societies: Systematic Review. JMIR Aging 2019;2(2):e15429) doi: 10.2196/15429

Marasinghe KM, et al. Assistive technologies for ageing populations in six low-income and middle-income countries: a systematic review BMJ Innov 2015;1:182–195. doi:10.1136/bmjinnov-2015-000065

Torkamani M, McDonald L, Saez Aguayo I et al. A randomized controlled pilot study to evaluate a technology platform for the assisted living of people with

dementia and their carers. J Alzheimers Dis. 2014;41(2):515-23. doi: 10.3233/JAD-132156.

Tanioka T. Nursing and Rehabilitative Care of the Elderly Using Humanoid Robots. J Med Invest. 2019;66(1.2):19-23. doi: 10.2152/jmi.66.19

Rocha A1, Martins A, Freire Junior JC, et al. Innovations in health care services: the CAALYX system. Int J Med Inform. 2013 Nov;82(11):e307-20. doi: 10.1016/j.ijmedinf.2011.03.003. Epub 2011 Apr 9.

Barata AN. Social Robots as a Complementary Therapy in Chronic, Progressive Diseases. Adv Exp Med Biol. 2019;1170:95-102. doi: 10.1007/978-3-030-24230-5_5.

Shibata T, Wada K. Robot therapy: a new approach for mental healthcare of the elderly-a mini-review. Gerontology. 2011;57(4):378-86. doi: 10.1159/000319015. Epub 2010 Jul 15.

Birks M, Bodak M, Barlas J et al. Robotic Seals as Therapeutic Tools in an Aged Care Facility: A Qualitative Study. J Aging Res. 2016;2016:8569602. Epub 2016 Nov 20.

Mitchell UA, Chebli PG, Ruggiero L, Muramatsu N. The Digital Divide in Health-Related Technology Use: The Significance of Race/Ethnicity. Gerontologist. 2019 Jan 9;59(1):6-14. doi: 10.1093/geront/gny138.

i. List of Tables

HEALTH AND WELLNESS CENTRE* (3-114)= 112 ATs										
Name of AP	**ICF- Body structure**	**ICF- Body function**	**Type**	**Disease**	**Disability**	**BIS/ISO**	**Indegenous/ imported**	**Prescribed by**	**Type of Device**	**Rationale**
Philadelphia collar	Cervical vertebral column	Stability of several joints	Device	Musculoskeletal	Locomotor	60312	Indigenous	Medical Officer/ Orthopedician/ PMR/ Rehabilitation worker	Simple	Used in Cervical spine injury which can be managed at PHC/Subcentre
LS Corset	Cervical vertebral column	Stability of several joints	Device	Musculoskeletal	Locomotor	60312	Indigenous	Orthopedician	Simple	Used in Cervical spine injury which should be managed at tertiary level
Abdominal binders	Muscles of trunk	Muscle tone function, other specified	Device	Abdominal surgeries	Self care	60403	Indigenous	Medical Officer	Simple	Used to provide support to abdominal muscles
Hernia belts	Structure of pelvic region, other specified	Muscle tone function, other specified	Device	Hernia repair surgeries	Self care	60303	Indigenous	Medical Officer	Simple	Can provide temporary comfort untill the treatment of the hernia
Short cock up splint	Structure of upper extremity, other specified	Power of isolated muscles or muscle groups	Device	Musculoskeletal, Neurological	Locomotor	60612	Indigenous	Medical Officer	Simple	Used in post traumatic cases to get the injured wrist back in shape/easy to use
Tennis elbow support	Elbow joint	Control of simple voluntary movement	Device	Musculoskeletal conditions	Locomotor	60615	Indigenous	Medical Officer	Simple	Easy to use
Arm sling	Structure of upper arm	Control of complex voluntary movement	Device	Musculoskeletal, Neurological	Locomotor	60624	Indigenous	Medical Officer/Rehabilitation worker	Simple	Used to rest the arm after fracture or dislocation
Soft heel pad/ cushions	Ligaments and fasciae of ankle and foot joint	Pain in lower limb including feet	Device	Musculoskeletal	Locomotor	61203	Indigenous	Orthopedician/ PMR/ Medical officer	Simple	Walk and stand without pain
Metatarsal bar/pad with insole	Bones of ankle and foot	Pain in lower limb including feet	Device	Musculoskeletal	Locomotor	61203	Indigenous	Orthopedician/ PMR/ Medical officer	Simple	Used in forefoot pain
Arch support	Structure of ankle and foot, other specified	Mobility of tarsal bones	Device	Musculoskeletal	Locomotor	61203	Indigenous	Orthopedician/ PMR/ Medical officer	Simple	Evenly distribute the pressure across the feet and align the body

PP AFO - Solid	Structure of ankle and foot, other specified	Power of isolated muscles or muscle groups	Device	Musculoskeletal, Neurological	Locomotor	61206	Indigenous	Medical Officer/ Orthopedician/ PMR	Simple	Simple device. Easy to use
Knee sleeve without hinge	Knee joint	Stability of single joint	Device	Musculoskeletal	Locomotor	61209	Indigenous	Medical Officer/PMR/ Orthopedician	Simple	Simple, easy to use
Hip Protector	Structure related to movement, other specified	Perceptual function	Device	Geriatric	Self care	90624	Indigenous	ALL Mos	SIMPLE	to prevent hip fractures
Transfer board	Structure of upper and lower extremity	Mobility of several joints	Device	Musculoskeletal, Neurological	Locomotor	123103	Indigenous	ALL Mos	SIMPLE	easy transfer of patient, affordable, easy to use
Parallel bar	Structure of lower extremity	Gait pattern function	Device	Musculoskeletal, Neurological	Locomotor	44807	Indigenous	ALL Mos	SIMPLE	for rehabilitative purpose
Portable ramps	Structure of upper and lower extremity	Gait pattern function	Device	Musculoskeletal, Neurological	Locomotor	183015	Indigenous	ALL Mos	SIMPLE	should be available for easy transfer and movement
Walking cane/ stick	Structure of lower extremity	Gait pattern function	Device	Musculoskeletal, Neurological	Locomotor	120303	Indigenous	ALL MOs	SIMPLE	for elderly and as easy mobility aid
Tripod cane	Structure of lower extremity	Gait pattern function	Device	Musculoskeletal, Neurological	Locomotor	120316	Indigenous	ALL Mos	SIMPLE	for more stability
Quadcane	Structure of lower extremity	Gait pattern function	Device	Musculoskeletal, Neurological	Locomotor	120316	Indigenous	ALL Mos	SIMPLE	for more stability
Axillary crutches	Structure of lower extremity	Gait pattern function	Device	Musculoskeletal, Neurological	Locomotor	120312	Indigenous	ALL Mos	SIMPLE	affordable and should be easily accessible and available
Walker/ Walking frames	Structure of lower extremity	Gait pattern function	Device	Musculoskeletal, Neurological	Locomotor	120603	Indigenous	ALL Mos	SIMPLE	for elderly and as easy mobility aid
Manual wheelchair - Push wheelchairs	Structure of upper and lower extremity	Power of all muscles of the body	Device	Musculoskeletal, Neurological	Locomotor	122218	Indigenous		SIMPLE	accessible and needed for transport
Positioning belts	Muscles of trunk	Tone of muscles of trunk	Device	Musculoskeletal, Neurological	Self care	90703	Indigenous	ALL Mos	SIMPLE	

Pillows	Structure of nervous system, other specified	Power of muscles of al limbs	Device	Musculoskeletal, Neurological	Self care	90706	Indigenous	ALL Mos	SIMPLE	accessible
Transfer board	Structure of upper and lower extremity	Power of muscles of all limbs	Device	Musculoskeletal, Neurological	Locomotor	93304	Indigenous	ALL Mos	SIMPLE	easy transfer of patient, affordable, easy to use
Commode chair	Structure of nervous system, other specified/ Lower extremity	Power, tone of limbs, stability of lower limbs	Device	Musculoskeletal, Neurological	Self care	91203	Indigenous	ALL MOs	SIMPLE	
Indwelling catheters	Structure of nervous system, other specified/ bladder	Urinary continence	Device	Musculoskeletal, Neurological		92403	Indigenous	ALL Mos	SIMPLE	
Bed pans	Structure of nervous system, other specified/ Lower extremity	Fecal continence	Device	Musculoskeletal, Neurological	Self care	91223	Indigenous	ALL Mos	SIMPLE	accessible
Writing Boards	Structure of nervous system, other specified/ Upper extremity	Power of isolated muscles or muscle groups , mobility of several joints	Device	Musculoskeletal, Neurological	Self care	221206	Imported/ Indigenous	Physician	Simple	For noting or writing down things, as a part of leisure or recreational activities in a hospital
Accessible board games	Structure of brain	Higher level cognitive function	Device		Cognition	300309	Indigenous	Physician	Simple	For admitted children, to keep them engaged mentally.
Picture boards	Structure of inner ear	Hearing function	Device	Hearing impairment, NDD	Communication	222103	Indigenous	Physician	Simple	To aid in comprehending situations for the dumb and deaf patients

Smartphone applications	Structure of inner ear	Hearing function	software	Hearing impairment, NDD	Communication		Indigenous	Physician	Simple	To aid in comprehending situations for the dumb and deaf patients
Spectacles-Low vision, long distance, short distance, filter and protection	Structure of eye	Seeing function	Device	Visual impairment, Geriatric	Visual, Self care	220306	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Magnifying lenses	Structure of eye	Seeing function	Device	Visual impairment, Geriatric	Visual, Self care	220309	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Prismatic lenses	Structure of eye	Seeing function	Device	Visual impairment	Visual, Self care	220309	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Color assistance products	Structure of eye	Seeing function	Device	Visual impairment, Geriatric	Visual, Self care		Imported	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Large print books	Structure of eye	Seeing function	Device	Visual impairment, Geriatric	Visual, Self care		Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Cane-White/Green/Ultrasound/Laser	Structure of eye	Seeing function	Device	Visual impairment	Visual, Self care	123903	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Fire and smoke alarms	Structure of eye	Seeing function	Device	Visual impairment	Visual, Self care	222721	Indigenous	Physician	Advanced	To aid in comprehending situations for the weak eyesight/ Blind patients
Tactile materials for floor and stairs	Structure of eye	Seeing function	Device	Visual impairment	Visual	183015	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Braille reading material	Structure of eye	Seeing function	Device	Visual impairment	Visual	50615	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Braille display	Structure of eye	Seeing function	Device	Visual impairment	Visual	50615	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Braille note taker	Structure of eye	Seeing function	Device	Visual impairment	Visual	221221	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients

Braille writing equipment	Structure of eye	Seeing function	Device	Visual impairment	Visual	221212	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Optical magnifier	Structure of eye	Seeing function	Device	Visual impairment	Visual	220309	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Low vision Lamps	Structure of eye	Seeing function	Device	Visual impairment	Visual		Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Typoscope	Structure of eye	Seeing function	Device	Visual impairment	Visual	223018	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Reading stand	Structure of eye	Seeing function	Device	Visual impairment	Visual	180306	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Talking or touching watch	Structure of eye	Seeing function	Device	Visual impairment	Visual		Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Screen reader	Structure of eye	Seeing function	Device	Visual impairment	Visual	223912	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Embossed pictures	Structure of eye	Seeing function	Device	Visual impairment	Visual	123918	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Tactile maps	Structure of eye	Seeing function	Device	Visual impairment	Visual	123915	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Tactile images and screens	Structure of eye	Seeing function	Device	Visual impairment	Visual	123918	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Portable reading devices	Structure of eye	Seeing function	Device	Visual impairment	Visual		Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Digital audio recorder	Structure of eye	Seeing function	Device	Visual impairment	Visual	221803	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Tactile and audio signages	Structure of eye	Seeing function	Device	Visual impairment	Visual	123918	Imported	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Talking signs	Structure of eye	Seeing function	Device	Visual impairment	Visual	222716	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients

Tactile labels	Structure of eye	Seeing function	Device	Visual impairment	Visual	222727	Imported	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Talking labels	Structure of eye	Seeing function	Device	Visual impairment	Visual	222727	Imported	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Phone and tablet applications	Structure of eye	Seeing function		Visual impairment	Visual	222424	Indigenous			
Magnification apps	Structure of eye	Seeing function	Software	Visual impairment		220318	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Colour detection apps	Structure of eye	Seeing function	Software	Visual impairment			Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Money identification apps	Structure of eye	Seeing function	Software	Visual impairment			Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Object identification apps	Structure of eye	Seeing function	Software	Visual impairment			Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Crowdsourcing apps	Structure of eye	Seeing function	Software	Visual impairment			Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Light identification apps	Structure of eye	Seeing function	Software	Visual impairment			Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Scan and read apps	Structure of eye	Seeing function	Software	Visual impairment			Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Screen reading apps	Structure of eye	Seeing function	Software	Visual impairment			Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Voice recognition apps	Structure of eye	Seeing function	Software	Visual impairment			imported	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Location and GPS apps	Structure of eye	Seeing function	Software	Visual impairment			imported	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Reading apps	Structure of eye	Seeing function	Software	Visual impairment			imported	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients

Security apps	Structure of eye	Seeing function	Software	Visual impairment			Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Guide dogs	Structure of eye	Seeing function	Live Device	Visual impairment	Visual		Imported	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Pill Organiser	Structure of brain	Memory function	Device	& Geriatric	Cognitive, Self care	41904	imported	ALL Mos	Advanced	
Pill holder	Structure of brain	Memory function	Device	& Geriatric	Cognitive, Self care	41904	Indigenous	ALL Mos	Advanced	
Pill Alarm	Structure of brain	Memory function	Device	& Geriatric	Cognitive, Self care	222716	Indigenous	ALL Mos	Advanced	
Automatic Medicine dispenser	Structure of brain	Higher level cognitive function	Device	& Geriatric	Cognitive, Self care		Indigenous	ALL Mos	Advanced	
Pill splitter	Structure of brain	Higher level cognitive function	Device	& Geriatric	Cognitive, Self care	41904	Imported	ALL Mos	Advanced	
GPS locator	Structure of brain	Memory function	Software	& Geriatric	Cognitive, Self care	222724	Indigenous	ALL Mos	Advanced	
Simplified mobile phone	Structure of brain	Higher level cognitive function	Device	& Geriatric	Cognitive		Indigenous	ALL Mos	Advanced	
Time managemen t product	Time management product	Structure of brain	Higher level cognitive function		& Geriatric					
Portable timer	Portable timer			Device		222712	Indigenous	HWC & above	ALL Mos	simple
Watches and Alarm	Watches and Alarm			Device		222712	Indigenous	HWC & above	ALL Mos	Simple
Alarm clock	Alarm clock			Device		222712	Indigenous	HWC & above	ALL Mos	Simple
Personal calenders	Personal calenders			Device		222715	Imported	HWC & above	ALL Mos	Simple
Daily planner	Daily planner			Device		222715	Imported	HWC & above	ALL Mos	Simple
Travel Aid	Structure of brain	Memory function	Device	& Geriatric	Cognitive		Indigenous	ALL Mos	Advanced	
Heaters			Device		Self care	270303	Indigenous	ALL Mos	Advanced	To aid in home care
Compressio n stockings	Structure of upper and lower extremity	Functions of veins/ Lymphatics	Device		Self care	40606	Indigenous	ALL Mos	simple	To aid in home care

Computers	Structure of the nervous system, other specified	Power and tone of muscles of all limbs	Device	Neurological	Cognitive, Self care, leisure					
Alternate Input										
Head eye Tracking			Device			223612	Imported	ALL Mos	Advanced	To aid in using computer
On screen Keyboards			Device			223618	Indigenous	All Mos	Advanced	To aid in using computer
On screen mouse			Device			223618	Indigenous	All Mos	Advanced	To aid in using computer
Touch screen			Device			223621	Indigenous	All Mos	Advanced	To aid in using computer
Voice Recognition			Device			223612	Indigenous	All Mos	Advanced	To aid in using computer
Keyboard								All Mos	Advanced	To aid in using computer
Adaptive keyboards, intellikey, minikey			Device			223603	Indigenous	All Mos	Advanced	To aid in using computer
One hand Keyboard			Device			223603	Indigenous	All Mos	Advanced	To aid in using computer
Washable keyboard			Device			223603	Indigenous	All Mos	Advanced	To aid in using computer
Switches								All Mos	Advanced	To aid in using computer
Single switch access			Device			240918	Imported	All Mos	Advanced	To aid in using computer
Sip and puff switch			Device				Imported	All Mos	Advanced	To aid in using computer
Touch /tongue controlled switches			Device				Imported	All Mos	Advanced	To aid in using computer
Single muscle twitch			Device				Imported	All Mos	Advanced	To aid in using computer
Gaze switches			Device				Imported	All Mos	Advanced	To aid in using computer
Foot switches			Device				Indigenous	All Mos	Advanced	To aid in using computer
Mouse								All Mos	Advanced	To aid in using computer

Oversize tracking mouse ball			Device			223621	Indigenous	All Mos	Advanced	To aid in using computer
Joystick			Device			223621	Indigenous	All Mos	Advanced	To aid in using computer
Mouth stick			Device			223621	Indigenous	All Mos	Advanced	To aid in using computer
Head Wand			Device				Indigenous	All Mos	Advanced	To aid in using computer
***The Subcentres/PHCs which have not been transformed to Health and Wellness Centres will not be included**										

CHC/SDH (119-181)+HWC Products (112)= 63+112=175 ATs										
Name of AP	ICF- Body structure	ICF- Body function	Type	Disease	Disability	BIS/ISO	Indegenous/ imported	Prescribed by	Type of Device	Rationale
LSO- Rigid	Structure of Vertebral Column, specified	Stability of several joints	Device	Musculoskeletal	Locomotor	60306	Indigenous	Medical Officer	Simple	Used to relieve pain of lower spine after going through a surgery
Finger orthosis	Structure of hand	Stability of several joints	Device	Musculoskeletal	Locomotor	60603	Indigenous	Medical Officer	Simple	Used in fracture, joint stiffnes etc
Thumb spica	Structurb of hand	Control of complex voluntary movement	Device	Musculoskeletal	Locomotor	60606	Indigenous	Medical Officer	Simple	Used in injury of the thumb, easy to use
Long cock up splint	Structure of upper extremity, other specified	Power of isolated muscles or muscle groups	Device	Musculoskeletal, Neurological	Locomotor	60613	Indigenous	Medical Officer	Simple	Used to immobilise the wrist movement during healing of the wrist injuries
Elbow orthosis-Static	Elbow joint	Stability of single joint	Device	Musculoskeletal	Locomotor	60615	Indigenous	Medical Officer/Rehabilitation worker	Simple	Use can be xplained by medical officer or rehabilitation worker
Elbow Gaiter	Elbow joint	Stability of single joint	Device	Musculoskeletal, Neurological	Locomotor	60615	Indigenous	Medical Officer/Rehabilitation worker	Simple	Used to keep the elbow straight and stablized
Shoulder immobilizer	Structure of Shoulder region	Stability of single joint	Device	Musculoskeletal	Locomotor	60621	Indigenous	Medical Officer/Rehabilitation worker	Simple	Used to stablize the dislocated shoulder joint
Soft insole	Structure of ankle and foot, other specified	Pain in lower limb including feet	Device	Musculoskeletal	Locomotor	61203	Indigenous	Orthopedician/PMR/ Medical officer	Simple	Used for cushioning, support, and pressure relief.
Shoe wedge/ Raise	Structure of ankle and foot, other specified	Gait pattern function	Device	Musculoskeletal	Locomotor	61203	Indigenous	Orthopedician/PMR	Simple	Used in codition like osteoarthritis of knee
CTEV shoes	Structure of ankle and foot, other specified	Stability of several joints	Device	Musculoskeletal	Locomotor	61203	Indigenous	Orthopedician/PMR/Rehabilitation worker	Simple	Used in the treatment of clubfoot

Leaf spring AFO	Structure of ankle and foot, other specified	Power of isolated muscles or muscle groups	Device	Musculoskeletal, Neurological	Locomotor	61206	Indigenous	Orthopedician/PMR/Rehabilitation worker	Simple	Provides smoother knee-ankle motion during walking
Offloader Knee orthosis	Knee joint	Stability of single joint	Device	Musculoskeletal	Locomotor	61209	Indigenous	Orthopedician/Medical Officer/PMR	Simple	Used in knee osteoartritis
KAFO- Drop lock/ Offset/ Polycentric	Structure of lower extremity	Power of isolated muscles or muscle groups	Device	Musculoskeletal, Neurological	Locomotor	61212	Indigenous	Orthopedician?/ PMR	Simple	Used in instability of knee and ankle, quadriceps weakness or absence, hyperextension of knee, varus or valgus deformity, and paralysis of one or both knee
Protective head gear	Structure of brain	Tone of all muscles of the body	Device	Musculoskeletal, Neurological	Self care	90603	Indigenous	ALL Mos	SIMPLE	For cerebral palsy patients (pediatrician available)
Manual wheelchair-bimanual handrim drive	Structure of upper and lower extremity	Power of all muscles of the body	Device	Musculoskeletal, Neurological	Locomotor	122203	Indigenous		SIMPLE	accessible and adaptable and can be steered by occupant itself
Manual wheelchair-single side drive	Structure of upper and lower extremity	Power of all muscles of the body	Device	Musculoskeletal, Neurological	Locomotor	122209	Indigenous	ALL Mos	SIMPLE	accessible and adaptable and can be steered by occupant itself
Ramps	Structure of upper and lower extremity	Gait pattern function	Device	Musculoskeletal, Neurological	Locomotor	183018	Indigenous	ALL Mos	SIMPLE	needed for transfer from wheelchair
Rails and grab bars	Structure of lower extremity	Gait pattern function	Device	Musculoskeletal, Neurological	Locomotor	181803	Indigenous	ALL Mos	SIMPLE	needed for balance and support
CP chair/ corner chair	Structure of brain (CP)	Tone of all muscles of the body	Device	Neurological	Locomotor	180903	Indigenous	PMR, PEDIATRICIAN	SIMPLE	paediatrician is available at CHC
Cushions for wheelchair	Structure of areas of skin, other specified	Sensory function of skin	Device	Musculoskeletal, Neurological	Self care	43303	Indigenous	PMR	SIMPLE	for posture control and sitting balance
Specialized mattress	Skin of trunk and back	Sensory function of skin	Device	Musculoskeletal, Neurological	Self care	43306	Indigenous	PMR	SIMPLE	
Bolsters	Structure of brain (CP)	Tone of all muscles of the body	Device	Neurological	Self care	44827	Indigenous	PMR	SIMPLE	

Wedges	Structure of brain (CP)	Tone of all muscles of the body	Device	Neurological	Locomotor	44827	Indigenous	PMR	SIMPLE	
Bed side guards	Structure of nervous system, other specified	Higher level cognitive function	Device	Musculoskeletal, Neurological	Self care	181226	Indigenous	ALL Mos	SIMPLE	
Overhead pulley	Structure of trunk	Power of muscles of trunk and lower extrmity	Device	Musculoskeletal, Neurological	Locomotor	123103	Indigenous	ORTHO,PMR	SIMPLE	for upper limb disabilty
Special chair	Structure of nervous system, other specified	Tone of all muscles of the body	Device	Musculoskeletal, Neurological	Self care	93307	Indigenous	PEDIATRICIAN, PMR, ORTHO	SIMPLE	affordable
Anti skid mat	Structure of nervous system, other specified	Proprioceptive function	Device	Musculoskeletal, Neurological	Self care	93306	Indigenous	ALL Mos	SIMPLE	affordable
Grab bars	Structure of lower extremity	Gait pattern function	Device	Musculoskeletal, Neurological	Locomotor	1818	Indigenous	ALL MOs	SIMPLE	for maintaining balance
suppository inserter	Spinal cord and related structures	Power of muscles of all limbs	Device	Neurological	Self care	41930	Imported	ALL MOs	SIMPLE	
Catheters for intermittant catheterization	Structure of nervous system, other specified/ bladder	Urinary continence	Device	Neurological	Self care	92406	Indigenous	ALL MOs	SIMPLE	accessible, affordable
Incontinence products, absorbents	Structure of nervous system, other specified/ bladder	Urinary continence	Device	Neurological	Self care	93021	Indigenous	ALL MOs	SIMPLE	
Incontinence alarms	Structure of nervous system, other specified/ bladder	Urinary continence	Device	Neurological, Geriatric		50903	Indigenous	ALL Mos	SIMPLE	

Modified cutlery	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	150913	Indigenous	ALL Mos	SIMPLE	self care
Heavy bottom utencils	Structure of nervous system, other specified	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	150903	Indigenous	ALL Mos	SIMPLE	self care
Pot holders	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	150903	Imported	ALL Mos	SIMPLE	self care
Cup holders	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	150916	Imported	ALL Mos	SIMPLE	self care
Kitchen finger protector	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	241806	Imported	ALL Mos	SIMPLE	self care
Ergonomic and safe box opener	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	240603	Imported	ALL Mos	SIMPLE	self care
Box topper with built-up handle	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	240603	Imported	ALL Mos	SIMPLE	self care

2 Litre handle	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	240603	Imported	ALL Mos	SIMPLE	self care
Multi opener	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	240603	Imported	ALL Mos	SIMPLE	self care
Jar opener jar closer faucet turner	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	240603	Imported	ALL Mos	SIMPLE	self care
Comfort grip gift boxed kitchen utensils for hand impairments	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	241806	Imported	ALL Mos	SIMPLE	self care
Clip on fork/spoon; rocking t knife	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	150913	Imported	ALL Mos	SIMPLE	self care
Food bumper	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	150921	Imported	ALL Mos	SIMPLE	self care
Clip on steel food bumper	Structure of nervous system, other specified/	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	150921	Imported	ALL Mos	SIMPLE	self care

	Upper extremity									
Inner lip plate	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	150921	Imported	ALL Mos	SIMPLE	self care
Three-section food plate	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	150918	Indigenous	ALL Mos	SIMPLE	self care
Protector and jar opener	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	240603	Imported	ALL Mos	SIMPLE	self care
Stove knob turner	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care		Imported	ALL Mos	SIMPLE	self care
Oven rack push-pull stick	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care		Imported	ALL Mos	SIMPLE	self care
Stove knob extended reach turner	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care		Imported	ALL Mos	SIMPLE	self care
Book holder	Structure of nervous system,	Power of muscles of all limbs, mobility of several	Device	Musculoskeletal, Neurological	Self care	223015	Imported	Nurses	Simple	For neat arrangement of books to read for patients.

	other specified/ Upper extremity	joints								
Assistive devices for writing like special pens, grips etc.	Structure of nervous system, other specified/ Upper extremity	Power of isolated muscles or muscle groups , mobility of several joints		Musculoskeletal, Neurological	Self care	221203	Imported/ Indigenous	Physician	Simple	For convenience of disabled patients.
Speech Generating Devices	Structure of inner ear	Hearing function	Device	Hearing impairments	Communication	220903	Imported	Physician	Advanced	To aid in comprehending situations for the dumb patients
Advanced Braille technology- Printers, Keyboards, Computer input and output hardware and software, Apps	Structure of eye	Seeing function	Device, Software	Visual impairment	Visual	50615	Indigenous	Physician	Advanced	To aid in comprehending situations for the weak eyesight/ Blind patients
Text recognition software	Structure of eye	Seeing function	Software	Visual impairment	Visual	221224	Indigenous	Physician	Advanced	To aid in comprehending situations for the weak eyesight/ Blind patients
Digital magnifier--	Structure of eye	Seeing function	Device	Visual impairment	Visual	220309	Imported	Physician	Advanced	To aid in comprehending situations for the weak eyesight/ Blind patients
Video magnification, e.g. closed-circuit television(CCTV), computer operating systems	Structure of eye	Seeing function	Device	Visual impairment	Visual	221818	Indigenous	Physician	Advanced	To aid in comprehending situations for the weak eyesight/ Blind patients
Telescopic magnification, e.g. contact lens telescopes	Structure of eye	Seeing function	Device	Visual impairment	Visual	220312	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Obstacle and object	Structure of eye	Seeing function	Device	Visual impairment	Visual	123906	Imported	Physician	Advanced	To aid in comprehending situations for the weak

location detectors										eyesight/ Blind patients
Fall detector	Structure of brain	Higher level cognitive function	Device	& Geriatric	Cognitive, Self care		Indigenous	ALL Mos	Advanced	mainly useful in urban setting
Movement detector	Structure of brain	Higher level cognitive function	Device	& Geriatric	Cognitive, Self care		Imported	ALL Mos	Advanced	mainly useful in urban setting

DH (185-190)+ 63+112= 06+ 63+112=181

Name of AP	ICF- Body structure	ICF- Body function	Type	Disease	Disability	BIS/ISO	Indegenous/ imported	Prescribed by	Type of Device	Rationale
Elbow crutches	Structure of lower extremity	Gait pattern function	Device	Musculoskeletal, Neurological	Locomotor	120306	Indigenous	ALL Mos	SIMPLE	these can be prescribed by the orthopedician who is available at SDH
Platform crutches	Structure of lower extremity	Gait pattern function	Device	Musculoskeletal, Neurological	Locomotor	120309	Indigenous	SURGEON, ORTHO, PMR	SIMPLE	these can be prescribed by the orthopedician who is available at SDH
Manual wheelchair-single side drive	Structure of lower extremity	Gait pattern function	Device	Musculoskeletal, Neurological	Locomotor	120309	Indigenous	SURGEON, ORTHO, PMR	SIMPLE	these can be prescribed by the orthopedician who is available at SDH
Lifts	Structure of lower extremity	Power of all muscles of the body	Device	Musculoskeletal, Neurological		183003	Indigenous		ADVANCED	needed for transfer from wheelchair
Standing frame	Structure of lower extremity	Power and tone of all muscles of the body	Device	Musculoskeletal, Neurological	Locomotor	53603	Indigenous	ORTHO, PMR	SIMPLE	for improving range of motion
Standing tables	Structure of lower extremity	Power and tone of all muscles of the body	Device	Musculoskeletal, Neurological	Locomotor	53603	Indigenous	ORTHO, PMR	SIMPLE	for improving range of motion

TERTIARY (194-392)+ 112+ 63+06= 199 + 112+ 63+06= 380

Name of AP	ICF- Body structure	ICF- Body function	Type	Disease	Disability	BIS/ISO	Indegenous/ imported	Prescribed by	Type of Device	Rationale
CTLSO	Structure of Vertebral Column, specified	Stability of several joints	Device	Musculoskeletal	Locomotor	60318	Indigenous	Orthopedician	ADVANCED	Complex device, Orthopaedician consultation is required for the use of the device
TLSO-Boston	Structure of Vertebral Column, specified	Stability of several joints	Device	Musculoskeletal	Locomotor	60309	Indigenous	Orthopedician	ADVANCED	
TLSO-Body jacket	Structure of Vertebral Column, specified	Stability of several joints	Device	Musculoskeletal	Locomotor	60309	Indigenous	Orthopedician	ADVANCED	
TLSO (Corset)	Structure of Vertebral Column, specified	Stability of several joints	Device	Musculoskeletal	Locomotor	60309	Indigenous	Orthopedician	ADVANCED	
ASH brace	Structure of Vertebral Column, specified	Stability of several joints	Device	Musculoskeletal	Locomotor	60309	Indigenous	Orthopedician	Simple	Rehabilitation worker can also explain, how to use the device
Taylor's brace	Structure of Vertebral Column, specified	Stability of several joints	Device	Musculoskeletal	Locomotor	60309	Indigenous	Orthopedician	Simple	Easy to wear, patient can wear it by own
Knight Taylor's brace	Structure of Vertebral Column, specified	Stability of several joints	Device	Musculoskeletal	Locomotor	60309	Indigenous	Orthopedician	Simple	Used in anterior compression fracture of spine
Williams brace	Structure of Vertebral Column, specified	Stability of several joints	Device	Musculoskeletal	Locomotor	60309	Indigenous	Rheumatologist	Simple	Used in Spondylolysis, Spondylolysis is treated at tertiary level
Cervical orthosis- Soft /Semi rigid	Cervical vertebral column	Stability of several joints	Device	Musculoskeletal	Locomotor	60312	Indigenous	Orthopedician	Simple	Used in Cervical spine injury which should be managed at tertiary level
Two post collar	Cervical vertebral column	Stability of several joints	Device	Musculoskeletal	Locomotor	60312	Indigenous	Orthopedician	Simple	Used in Cervical spine injury which should be managed at tertiary level
Four post collar	Cervical vertebral column	Stability of several joints	Device	Musculoskeletal	Locomotor	60312	Indigenous	Orthopedician	Simple	Used in Cervical spine injury which should be managed at tertiary level
SOMI brace	Cervical vertebral column	Stability of several joints	Device	Musculoskeletal	Locomotor	60315	Indigenous	Orthopedician	Simple	Used in Crvical Spine injury
Halo brace	Structure of Vertebral Column, specified	Stability of several joints	Device	Musculoskeletal	Locomotor	60315	Indigenous	Orthopedician	Advanced	External fixation device for cervical or thoracic spine, used in serious injury of spine, should be adjusted by orthopedician only
Minerwa body jacket	Structure of Vertebral Column, specified	Stability of several joints	Device	Musculoskeletal	Locomotor	60315	Indigenous	Orthopedician	Simple	Used in traumatic cervical or thoracic

										spinal injury which can be maged at teriary level
Yale orthosis	Cervical vertebral column	Stability of several joints	Device	Musculoskeletal	Locomotor	60315	Indigenous	Orthopedician	Simple	Used as post surgical protection in middle or lower cervical spine injury
Thoracic belts	Thoracic vertebral column	Stability of several joints	Device	Rib fractures	Self care	60307	Indigenous	Super Specialist like cardiac surgeonOrthopedician	Simple	Used to provide support to chest after thoracic surgery
Knuckle bender	Structurk of hand	Control of complex voluntary movement	Device	Musculoskeletal, Neurological	Locomotor	60607	Indigenous	Orthopedician	Simple	Close monitoring is required of the device
Elbow orthosis-Dynamic	Elbow joint	Control of simple voluntary movement	Device	Musculoskeletal	Locomotor	60615	Indigenous	Orthopedician	Simple	Proper use can be explained by the Orthopedician
Fracture Arm brace without elbow hinge and forearm support	Structure of upper arm	Mobility of bone function specified	Device	Musculoskeletal	Locomotor	60625	Indigenous	Orthopedician	Simple	Fracture should be treatd at tertiary care centre only
Fracture Arm brace with elbow hinge and forearm support	Structure of upper arm	Mobility of bone function specified	Device	Musculoskeletal	Locomotor	60625	Indigenous	Orthopedicina	Advanced	Proper use can be explained by the Orthopedician
Fracture Forearm brace	Bones of forearm	Mobility of bone function specified	Device	Musculoskeletal	Locomotor	60620	Indigenous	Orthopedician	Simple	Fracture should be treated at tertiary care centre
Aeroplane splint	Muscles of shoulder region	Stability of single joint	Device	Musculoskeletal, Neurological	Locomotor	60621	Indigenous	Surgeon	Simple	Used in burn patients or after axillary surgery which are managed at tertiary level
C & E heel	Structure of ankle and foot, other specified	Mobility of tarsal bones	Device	Musculoskeletal	Locomotor	61203	Indigenous	Orthopedician/ PMR	Simple	Protects foot from shear, torsion and vertical shock. Provides adjunctive therapy following spinal adjustments
Molded shoes	Structure of ankle and foot, other specified	Stability of several joints	Device	Musculoskeletal, Neurological	Locomotor	61203	Indigenous			
DB splint	Structure of ankle and foot, other specified	Stability of several joints	Device	Musculoskeletal	Locomotor	61203	Indigenous	Orthopedician/ PMR/ Rehabilitation worker	Simple	Used in the treatment of club foot

UCBL	Structure of ankle and foot, other specified	Stability of several joints	Device	Musculoskeletal	Locomotor	61203	Indigenous	Orthopedician/ PMR	Simple	Used to stablized a flexible foot deformity
Toe pick up splint	Muscles of ankle and foot	Power of muscles of one limb	Device	Musculoskeletal, Neurological	Locomotor	61213	Indigenous	Orthopedician/ PMR	Simple	Used in the treatment of the foot drop
SMO	Structure of ankle and foot, other specified	Stability of several joints	Device	Musculoskeletal, Neurological	Locomotor	61203	Indigenous	Orthopedician/ PMR	Simple	Used for bening hypotonia and excessive pronation
PP AFO-Articulated	Structure of ankle and foot, other specified	Power of isolated muscles or muscle groups	Device	Musculoskeletal, Neurological	Locomotor	61206	Indigenous	Orthopedician/ PMR	Advanced	Complex device, proper traing of use is required
FRO	Muscles of lower leg	Power of muscles of one limb	Device	Musculoskeletal, Neurological	Locomotor	61206	Indigenous			
Pneumatic Walker	Bones of lower leg	Stability of a single joint	Device	Foot fractures	Locomotor	61206	Indigenous	Orthopedician	Simple	Used in the treatment of Metatarsals fracture, sprained ankle, broken ankle etc
PP Knee orthosis	Knee joint	Stability of single joint	Device	Musculoskeletal	Locomotor	61209	Indigenous	Orthopedician/ PMR	Simple	Used to support knee
Knee sleeve with hinge	Knee joint	Stability of single joint	Device	Musculoskeletal	Locomotor	61209	Indigenous	Orthopedician/ PMR	Advanced	Support and stablize an injured knee
PTB brace/ Fracture leg brace	Bones of lower leg	Stability of single joint	Device	Musculoskeletal	Locomotor	61213	Indigenous	Orthopedician	Simple	Used in tibial fractures
KAFO-Microprocessor	Structure of lower extremity	Power of isolated muscles or muscle groups	Device	Musculoskeletal, Neurological	Locomotor	61212	Indigenous	Orthopedician/ PMR	Advanced	Complex device, proper training of the use need to be explained by experts only
Ischial weight bearing/relieving KAFO	Structure of lower extremity	Stability of single joint	Device	Musculoskeletal, Neurological	Locomotor	61212	Indigenous	Orthopedician/ PMR	Simple	Used to relieve lower extremity of weight bearing through long bones
HKAFO	Structure of lower extremity	Power of isolated muscles or muscle groups	Device	Musculoskeletal, Neurological	Locomotor	61218	Indigenous	Orthopedician/PMR	Simple	Used for traumatic paraplegia, spina bifeda, muscular dystrophy and rotational control
RGO	Structure of lower extremity	Gait pattern function	Device	Musculoskeletal, Neurological	Locomotor	61218	Indigenous	Orthopedician/ PMR	Advanced	Used in children with paralysis of lower trunk, hips and lowe extremeties
Trilateral orthosis	Hip joint	Stability of single joint	Device	Developmental dysplasia hip	Locomotor	61215	Indigenous	Orthopedician/ PMR	Advanced	used in the treatment of unilateral Legg-Perthes disease in pre-

										adolescents
Hip abduction orthosis	Hip joint	Stability of single joint	Device	Developmental dysplasia hip	Locomotor	61215	Indigenous	Orthopedician/ PMR	Advanced	Used after hip replacement surgery or hip dislocation
Pavlik harness	Hip joint	Stability of single joint	Device	Developmental dysplasia hip	Locomotor	61215	Indigenous	Orthopedician	Advanced	Used in children with hip dysplasia
Hip spica	Hip joint	Stability of single joint	Device	Developmental dysplasia hip	Locomotor	61215	Indigenous	Orthopedician/ PMR	Simple	Used to immobilize the hip or thigh
Forequarter amputation prosthesis	Bones of shoulder region	Mobility of several joints	Device	Amputation	Locomotor	61821	Indigenous	Orthopedician/ PMR/Surgeon	Advanced	Proper fitting and use need to be explained by the expert
Shoulder disarticulation-body powered	Joints of shoulder region	Mobility of several joints	Device	Amputation	Locomotor	61818	Indigenous	Orthopedician/ PMR/Surgeon	Advanced	Proper fitting and use need to be explained by the expert
Shoulder disarticulation-Passive	Joints of shoulder region	Stability of several joints	Device	Amputation	Locomotor	61818	Indigenous	Orthopedician/ PMR/Surgeon	Advanced	Proper fitting and use need to be explained by the expert
Transhumeral/Elbow disarticulation-body powered	Bones of upper arm and elbow joint	Mobility of several joints	Device	Amputation	Locomotor	061815 / 12	Indigenous	Orthopedician/ PMR/Surgeon	Advanced	Proper fitting and use need to be explained by the expert
Transhumeral/Elbow disarticulation-Passive	Bones of upper arm and elbow joint	Stability of several joints	Device	Amputation	Locomotor	061815 / 12	Indigenous	Orthopedician/ PMR/Surgeon	Advanced	Proper fitting and use need to be explained by the expert
Externally powered Transhumeral/Elbow disarticulation	Bones of upper arm and elbow joint	Mobility of several joints	Device	Amputation	Locomotor	061815 / 12	Indigenous	Orthopedician/ PMR/Surgeon	Advanced	Proper fitting and use need to be explained by the expert
Transradial/ wrist disarticulation-body powered	Bones of forearm and wrist joint	Mobility of several joints	Device	Amputation	Locomotor	061809 / 06	Indigenous	Orthopedician/ PMR/Surgeon	Advanced	Proper fitting and use need to be explained by the expert
Transradial/ wrist disarticulation-passive	Bones of forearm and wrist joint	Stability of several joints	Device	Amputation	Locomotor	061809 / 06	Indigenous	Orthopedician/ PMR/Surgeon	Advanced	Proper fitting and use need to be explained by the expert
Externally powered Transradial/ wrist disarticulation	Bones of forearm and wrist joint	Mobility of several joints	Device	Amputation	Locomotor	061809 / 06	Indigenous	Orthopedician/ PMR/Surgeon	Advanced	Proper fitting and use need to be explained by the expert
Hooks/ work specific terminal devices	Bones of hand	Mobility of several joints	Device	Amputation	Locomotor	61825	Indigenous	Orthopedician/ PMR/Surgeon	Advanced	Proper fitting and use need to be explained by the expert

Silicone Hand/ glove	Bones of hand	Mobility of several joints	Device	Amputation	Locomotor	61803	Indigenous	Orthopedician/ PMR/Surgeon	Advanced	Proper fitting and use need to be explained by the expert
Silicone Thumb/finger	Bones of hand	Mobility of several joints	Device	Amputation	Locomotor	61803	Indigenous	Orthopedician/ PMR/Surgeon	Advanced	Proper fitting and use need to be explained by the expert
Hindquarter amputation	Bones of pelvic region	Mobility of several joints	Device	Amputation	Locomotor	62421	Indigenous	Orthopedician/ Surgeon	Simple	Proper training for the use of the device is required/Rehabilitation can be done at the CHC level
Hip disarticulation prosthesis	Hip joint	Mobility of several joints	Device	Amputation	Locomotor	62418	Indigenous	Orthopedician	Simple	Proper training for the use of the device is required/Rehabilitation can be done at the CHC level
Transfemoral prosthesis	Bones of thigh	Mobility of several joints	Device	Amputation	Locomotor	62415	Indigenous	Orthopedician/ Surgeon	Simple	Proper fitting and use by the professionals of the prosthesis is required/Rehabilitation can ben done at the CHC level
with shuttle lock & PU/silicone liner	Bones of thigh	Mobility of several joints	Device	Amputation	Locomotor	62415	Indigenous	Orthopedician/ Surgeon	Advanced	Proper fitting and use by the professionals of the prosthesis is required/Rehabilitation can ben done at the CHC level
with suction valve	Bones of thigh	Mobility of several joints	Device	Amputation	Locomotor	62415	Indigenous	Orthopedician/Surgeon	Advanced	Proper fitting and use by the professionals of the prosthesis is required/Rehabilitation can ben done at the CHC level
with slicone/PU liner	Bones of thigh	Mobility of several joints	Device	Amputation	Locomotor	62415	Indigenous	Orthopedician/ Surgeon	Advanced	Proper fitting and use by the professionals of the prosthesis is required/Rehabilitation can ben done at the CHC level
with Jaipur/SACH/ Multicentric/Dynamic response foot	Bones of thigh	Mobility of several joints	Device	Amputation	Locomotor	62415	Indigenous/ imported	Orthopedician/ Surgeon	Advanced	Proper fitting and use by the professionals of the prosthesis is required/Rehabilitation can ben done at the CHC level

Knee disarticulation prosthesis	Knee joint	Mobility of several joints	Device	Amputation	Locomotor	62412	Indigenous	Orthopedician/ Surgeon	Advanced	Proper fitting and use by the professionals of the prosthesis is required/Rehabilitation can ben done at the CHC level
Transtibial Prosthesis	Bones of lower leg	Mobility of several joints	Device	Amputation	Locomotor	62409	Indigenous	Orthopedician/ Surgeon	Advanced	Proper fitting and use by the professionals of the prosthesis is required/Rehabilitation can ben done at the CHC level
with shuttle lock & PU/silicone liner	Bones of lower leg	Mobility of several joints	Device	Amputation	Locomotor	62409	Indigenous	Orthopedician/ Surgeon	Advanced	Proper fitting and use by the professionals of the prosthesis is required/Rehabilitation can ben done at the CHC level
with slicone/PU liner	Bones of lower leg	Mobility of several joints	Device	Amputation	Locomotor	62409	Indigenous	Orthopedician/ Surgeon	Simple	Proper fitting and use by the professionals of the prosthesis is required/Rehabilitation can ben done at the CHC level
with Jaipur/SACH/ Multicentric/Dynamic response foot	Bones of lower leg	Mobility of several joints	Device	Amputation	Locomotor	62409	Indigenous	Orthopedician/ Surgeon	acce	Proper fitting and use by the professionals of the prosthesis is required/Rehabilitation can ben done at the CHC level
Symes Prosthesis	Bones of ankle and foot	Mobility of several joints	Device	Amputation	Locomotor	62406	Indigenous	Orthopedician/ Rehabilitation worker	Simple	Proper fitting to be done and proper use need to be explained by the expert/Rehabilitation can be done at the CHC level
Partial foot prosthesis/ Shoe fillers	Bones of ankle and foot	Mobility of several joints	Device	Amputation	Locomotor	62403	Indigenous	Orthopedician/ Rehabilitation worker	Simple	Proper fitting to be done and proper use need to be explained by the expert/Rehabilitation can be done at the CHC level
Weighted cuffs	Structure of basal ganglia or cerebellum, Structure of upper and	Supportive functions of leg or arm	Device	Neurological	Self care	44818	Indigenous	ORTHO,PMR	SIMPLE	Need assisstance

	lower extremity									
Rollator	Structure of lower extremity	Gait pattern function	Device	Musculoskeletal, Neurological	Locomotor	120606	Indigenous	ORTHO,PMR	ADVANCED	advanced
Weight support treadmill trainer	Structure of upper and lower extremity	Gait pattern function	Device	Musculoskeletal, Neurological	Locomotor	44807	Indigenous	ORTHO,PMR,	ADVANCED	physiotherapy at tertiary level
Manual Wheelchair- with postural support	Structure of upper and lower extremity	Power of all muscles of the body	Device	Musculoskeletal, Neurological	Locomotor	122218	Indigenous	PMR	ADVANCED	advanced
Powered wheelchair- Joy stick/ Sip & Puff/ Switch/ LED control	Structure of upper and lower extremity	Gait pattern function	Device	Musculoskeletal, Neurological	Locomotor	122306	Indigenous	PMR	ADVANCED	advanced
Standing wheelchair	Structure of upper and lower extremity	Power of all muscles of the body	Device	Musculoskeletal, Neurological	Locomotor	183007	Indigenous	ORTHO, PMR	ADVANCED	advanced
Stair climbing wheelchair	Structure of upper and lower extremity	Power of all muscles of the body	Device	Musculoskeletal, Neurological	Locomotor	122315	Indigenous	PMR	ADVANCED	advanced
Manual tricycle	Structure of lower extremity	Power of all muscles of the body	Device	Musculoskeletal, Neurological	Locomotor	121809	Indigenous	ORTHO,PMR	SIMPLE	
Powered tricycle/ scooter	Structure of upper and lower extremity	Power of all muscles of the body	Device	Musculoskeletal, Neurological	Locomotor	121606	Indigenous	ORTHO,PMR	ADVANCED	advanced
Stair lifts	Structure of upper and lower extremity	Power of all muscles of the body	Device	Musculoskeletal, Neurological	Locomotor	183011	Indigenous		ADVANCED	advanced
Tilt table	Structure of upper and lower extremity	Power and tone of all muscles of the body	Device	Musculoskeletal, Neurological	Locomotor	53606	Indigenous	ORTHO,PMR	SIMPLE	for bed ridden people
Modified seating	Muscles of trunk	Tone of muscles of trunk	Device	Musculoskeletal, Neurological	Self care	43304	Indigenous	PMR	ADVANCED	
Long handed bathing brush	Structure of upper and lower extremity	Power of muscles of the body	Device	Musculoskeletal, Neurological	Self care	93330	Indigenous	ALL Mos	SIMPLE	self care
Lift from wheel chair to tub	Structure of upper and lower extremity	Power of muscles of the body	Device	Musculoskeletal, Neurological	Locomotor	123615	Indigenous	ALL Mos	ADVANCED	advanced
Soap-dispensing back brush	Structure of upper and lower extremity	Power of muscles of the body	Device	Musculoskeletal, Neurological	Locomotor	93333	Imported	ALL Mos	SIMPLE	
Automatic flush	Structure of nervous	Power of	Device	Musculoskeleta	Locomotor	91206	Indigenous		ADVANCED	advanced

system	system, other specified/ Upper and Lower extremity	muscles of all limbs		l, Neurological						
Zip puller	Structure of nervous system, other specified	Power of muscles of all limbs	Device	Musculoskeleta l, Neurological	Self care	90915	Indigenous	ALL Mos	SIMPLE	self care
Buttoning device	Structure of nervous system, other specified	Power of muscles of all limbs	Device	Musculoskeleta l, Neurological	Self care	90918	Indigenous	ALL Mos	SIMPLE	self care
Dressing & undressing assistive devices	Structure of nervous system, other specified	Power of muscles of all limbs	Device	Musculoskeleta l, Neurological	Self care	90912	Indigenous	ALL Mos	SIMPLE	self care
Stocking aid	Structure of nervous system, other specified	Power of muscles of all limbs	Device	Musculoskeleta l, Neurological	Self care	90903	Indigenous	ALL Mos	SIMPLE	self care
Shoe horn and boot jacks	Structure of nervous system, other specified	Power of muscles of all limbs	Device	Musculoskeleta l, Neurological	Self care	90909	Indigenous	ALL Mos	SIMPLE	self care
Long handled mirrors	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs	Device	Musculoskeleta l, Neurological	Self care	92418	Indigenous	ALL Mos	SIMPLE	self care
Pistol-grip toenail clipper	Structure of nervous system, other specified/ Upper extremity	Power of isolated muscles or muscle groups , mobility of several joints	Device	Musculoskeleta l, Neurological		93609	Imported	ALL Mos	SIMPLE	self care
Nail care combination set	Structure of nervous system, other specified/ Upper extremity	Power of isolated muscles or muscle groups, mobility of several joints	Device	Musculoskeleta l, Neurological		93609	Imported	ALL Mos	SIMPLE	self care
Magnifying nail clipper	Structure of nervous system, other specified/ Upper extremity	Power of isolated muscles or muscle groups , mobility of several joints	Device	Musculoskeleta l, Neurological		93609	Imported	ALL Mos	SIMPLE	self care
Long handle toenail scissors	Structure of nervous system, other specified/ Upper extremity	Power of isolated muscles or muscle groups , mobility of several joints	Device	Musculoskeleta l, Neurological		93609	Imported	ALL Mos	SIMPLE	self care

Z-zoom variable magnifying mirror	Structure of nervous system, other specified/ Upper extremity	Power of isolated muscles or muscle groups , mobility of several joints	Device	Musculoskeletal, Neurological		94509	Indigenous	ALL Mos	SIMPLE	self care
Hair dryer stand	Structure of nervous system, other specified/ Upper extremity	Power of isolated muscles or muscle groups , mobility of several joints	Device	Musculoskeletal, Neurological		93609	Indigenous	ALL Mos	SIMPLE	self care
Broad handled equipments like combs, razors	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	241806	Indigenous	ALL Mos	SIMPLE	self care
Modified chopping board	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	150306	Imported	ALL Mos	SIMPLE	self care
Card shuffler	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	300309	Imported	PMR	Simple	Patients with arthritis, pain and loss of upper locomotive function admitted for elective procedure/surgery.
Shopping and laundry cart	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	243609	Imported	Physician	Simple	Easy Transportation of small daily items in a tertiary hospital
Playing card holder	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	300309	Imported	PMR	Simple	Patients with arthritis, pain and loss of upper locomotive function admitted for elective procedure/surgery.
Low vision playing cards	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological, Visual	Self care	300309	Imported	PMR	Simple	Leisure of low vision patients
Page turner	Structure of nervous system, other specified/ Upper extremity	Power of muscles of all limbs, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	223012	Imported	PMR	Simple	Patients with arthritis, pain and loss of upper locomotive function admitted for elective procedure/surgery.

Included are, e.g. products relating to the use of adjustable mirrors, door locks, windscreen wipers, indicators, turn signals, lights.	Structure related to movement, other specified	Mobility of joints generalized	Device	Musculoskeletal, Neurological	Locomotor	121208	Indigenous	PMR	Simple	To promote ease of locomotion
Devices designed either to enable a person to get into or out of a seat in a motor vehicle, or for supporting a person who is seated during travel, modified vehicle	Spinal cord and related structures	Power of muscles of all limbs	Device	Musculoskeletal, Neurological	Locomotor	121212	Indigenous	PMR	Simple	To promote ease of locomotion
Cochlear implants	Structure of inner ear	Hearing function	Device	Hearing impairment	Hearing	220621	Indigenous	Physician	Advanced	To aid in hearing in sensorineural hearing loss (SNHL)
Auditory brainstem implant	Structure of inner ear	Hearing function	Device	Hearing impairment	Hearing		Indigenous	Physician	Advanced	To aid in hearing in sensorineural hearing loss (SNHL)
Induction Loop Services	Structure of inner ear	Hearing function		Hearing impairment	Hearing	221830	Indigenous	Physician	Advanced	To aid in hearing in sensorineural hearing loss (SNHL)
Digital Hearing Aids with Batteries	Structure of inner ear	Hearing function	Device	Hearing impairment	Hearing	220606	Imported	Physician	Advanced	To aid in hearing in sensorineural hearing loss (SNHL)
Sound stimulators	Structure of inner ear	Hearing function	Device	Hearing impairment	Hearing	42715	Indigenous	Physician	Advanced	To aid in hearing in sensorineural hearing loss (SNHL)
Video Recording & Playing Devices	Structure of inner ear	Hearing function	Device	Hearing impairment, NDD	Hearing	221806	Indigenous	Physician	Simple	To aid in comprehending situations for the dumb and deaf patients
Devices for Real Time Text Communication	Structure of inner ear	Hearing function	Device	Hearing impairment, NDD	Communication	222409	Indigenous	Physician	Simple	To aid in comprehending situations for the dumb and deaf patients

Decoders for videotext and text television	Structure of inner ear	Hearing function	Device	Hearing impairment	Communication	221821	Indigenous	Physician	Advanced	To aid in comprehending situations for the dumb and deaf patients
Gesture to voice Technology	Structure of inner ear	Hearing function	Software	Hearing impairment	Communication		Indigenous	Physician	Simple	To aid in comprehending situations for the deaf patients
Voice to Gesture Devices and technology	Structure of inner ear	Hearing function	Software	Hearing impairment	Communication		Indigenous	Physician	Advanced	To aid in comprehending situations for Blind patients
Keyboard and mouse emulation software	Structure of inner ear	Hearing function	Software	Hearing impairment, NDD	Communication		Indigenous	Physician	Advanced	To aid in comprehending situations for the dumb and deaf patients
Electronic Fluency Devices	Structure of inner ear	Hearing function	Device	Hearing impairment, NDD	Communication	222115	Indigenous	Physician	Advanced	To aid in comprehending situations for the dumb and deaf patients
Light or Vibration Alarm system	Structure of inner ear	Hearing function	Device	Hearing impairment	Self care	222721	Indigenous	Physician	Advanced	To aid in comprehending situations for the dumb and deaf patients
Google glasses equipped with sign language interpreters	Structure of inner ear	Hearing function	Device+ Software	Hearing impairment	Communication	50606	Imported	Physician	Advanced	To aid in comprehending situations for the dumb and deaf patients
Various systems to provide real-time captioning	Structure of inner ear	Hearing function	Device	Hearing impairment	Hearing	223904	Indigenous	Physician	Advanced	To aid in comprehending situations for the dumb and deaf patients
Personal sound amplification products	Structure of inner ear	Hearing function	Device	Hearing impairment	Hearing	220906	Indigenous	Physician	Advanced	To aid in comprehending situations for the deaf patients
Infrared system for audio information	Structure of inner ear	Hearing function	Device	Hearing impairment	Hearing	221827	Indigenous	Physician	Advanced	To aid in comprehending situations for the dumb and deaf patients
Audio player with daisy capacity	Structure of eye	Seeing function	Device	Visual impairment	Visual	221803	Indigenous	Physician	Advanced	To aid in comprehending situations for the weak eyesight/ Blind patients
Audio-books voice	Structure of eye	Seeing function	Software	Visual impairment	Visual		Indigenous	Physician	Advanced	To aid in comprehending

recognition software										situations for the weak eyesight/ Blind patients
Audio operating systems for computers	Structure of eye	Seeing function	Software	Visual impairment	Visual		Indigenous	Physician	Advanced	To aid in comprehending situations for the weak eyesight/ Blind patients
Audio support software	Structure of eye	Seeing function	Software	Visual impairment	Visual		Indigenous	Physician	Advanced	To aid in comprehending situations for the weak eyesight/ Blind patients
Text-to-speech software	Structure of eye	Seeing function	Software	Visual impairment	Visual		Indigenous	Physician	Advanced	To aid in comprehending situations for the weak eyesight/ Blind patients
Electronic travel devices (ETDs)	Structure of eye	Seeing function	Device	Visual impairment	Visual		Indigenous	Physician	Advanced	To aid in comprehending situations for the weak eyesight/ Blind patients
Robotic guides and walkers	Structure of eye	Seeing function	Device+ Software	Visual impairment	Visual		Indigenous	Physician	Advanced	To aid in comprehending situations for the weak eyesight/ Blind patients
Talking barcode readers	Structure of eye	Seeing function	Device	Visual impairment	Visual	222727	Imported	Physician	Advanced	To aid in comprehending situations for the weak eyesight/ Blind patients
Talking health monitoring devices	Structure of eye	Seeing function	Device	Visual impairment	Visual, Self care		Imported	Physician	Advanced	To aid in comprehending situations for the weak eyesight/ Blind patients
Tactile and vibrating clocks and alarms	Structure of eye	Seeing function	Device	Visual impairment	Visual, Self care		Imported	Physician	Advanced	To aid in comprehending situations for the weak eyesight/ Blind patients
Talking kitchen tools	Structure of eye	Seeing function	Device	Visual impairment	Visual, Self care	150321	Indigenous	Physician	Advanced	To aid in comprehending situations for the weak eyesight/ Blind

										patients
Talking microwave ovens	Structure of eye	Seeing function	Device	Visual impairment	Visual, Self care	150321	Indigenous	Physician	Advanced	To aid in comprehending situations for the weak eyesight/ Blind patients
Talking washing machines	Structure of eye	Seeing function	Device	Visual impairment	Visual, Self care	151533	Indigenous	Physician	Advanced	To aid in comprehending situations for the weak eyesight/ Blind patients
Talking vacuum cleaners	Structure of eye	Seeing function	Device	Visual impairment	Visual, Self care	151209	Indigenous	Physician	Advanced	To aid in comprehending situations for the weak eyesight/ Blind patients
Talking wallets and purses	Structure of eye	Seeing function	Device	Visual impairment	Visual, Self care		Indigenous	Physician	Advanced	To aid in comprehending situations for the weak eyesight/ Blind patients
Talking ATMs	Structure of eye	Seeing function	Device	Visual impairment	Visual, Self care	223309	Indigenous	Physician	Advanced	To aid in comprehending situations for the weak eyesight/ Blind patients
Liquid level sensor	Structure of eye	Seeing function	Device	Visual impairment	Visual, Self care	150303	Indigenous	Physician	Advanced	To aid in comprehending situations for the weak eyesight/ Blind patients
Signature aid	Structure of eye	Seeing function	Device	Visual impairment	Visual, Self care	221209	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Phone with modification	Structure of eye	Seeing function	Software	Visual impairment	Visual	222403	Indigenous	Physician	Simple	To aid in comprehending situations for the weak eyesight/ Blind patients
Bionic eyes	Structure of eye	Seeing function	Device	Visual impairment			Indigenous	ophthalmologist/ retina specialist	Advanced	mainly used for retinitis pigmentosa patients need Retina specialist
Artificial silicon	Structure of eye	Seeing function	Device	Visual			Indigenous	ophthalmologist/	Advanced	mainly used for

retina				impairment				retina specialist		retinitis pigmentosa patients need Retina specialist
Retinal prostheses	Structure of eye	Seeing function	Device	Visual impairment			imported	ophthalmologist/ retina specialist	Advanced	need Retina specialist
Personal Emergency Alarm System- Wearable pendant/ bracelet/ Pin	Structure of brain	Higher level cognitive function	Device	& Geriatric	Cognitive	222718	Indigenous	ALL Mos	Advanced	mainly useful in urban setting
Personal digital assitance	Structure of brain	Higher level cognitive function	Device	& Geriatric	Cognitive	223306	Indigenous	ALL Mos	Advanced	mainly useful in urban setting
Time management product	Structure of brain	Higher level cognitive function		& Geriatric	Cognitive, Self care					
Computers with Daily planner software			Software			222715	Indigenous	ALL Mos	Simple	mainly useful in urban setting
Identification system	Structure of brain	Memory function		& Geriatric	Cognitive			ALL Mos	Advanced	
Talking IDs			Device				Imported	ALL Mos	Advanced	mainly useful in urban setting
Medic alert bracelet			Device			222718	Imported	ALL Mos	Advanced	mainly useful in urban setting
Sensory integration training wall	Structure of brain	Perceptual function	Device	ASD		43609	Indigenous	Neurologist/ pediatric	Advanced	need neurologist
Computer , I pad , phone based application	Structure of brain	Higher level cognitive function		& ASD	Cognition	222424	Indigenous	ALL Mos	Advanced	To aid in learning
Abbreviation expander							Indigenous	ALL Mos	Advanced	To aid in learning
Electronic math work sheet						221224	Imported	ALL Mos	Advanced	To aid in learning
Graphic oganizer							Indigenous	ALL Mos	Advanced	To aid in learning
Information data manager							Indigenous	ALL Mos	Advanced	To aid in learning
Optical character recognition							Indigenous	ALL Mos	Advanced	To aid in learning
Proof reading program						221224	Indigenous	ALL Mos	Advanced	To aid in learning
Speech recognizing							Indigenous	ALL Mos	Advanced	To aid in learning

program										
Speech synthesisers						223907	Indigenous	ALL Mos	Advanced	To aid in learning
Screen reader						223912	Indigenous	ALL Mos	Advanced	To aid in learning
Talking spell checkers							Indigenous	ALL Mos	Advanced	To aid in learning
Word predictor programs							Indigenous	ALL Mos	Advanced	To aid in learning
Apps for social skills, behaviour and communication						50303	Indigenous	ALL Mos	Advanced	To aid in learning
Alternate keyboards						223612	Indigenous	ALL Mos	Advanced	To aid in learning
Draft builder						221224	Indigenous	ALL Mos	Advanced	To aid in learning
Video games							Imported	ALL Mos	Advanced	To aid in learning
Virtual recognization system	Structure of brain	Higher level cognitive function	Software		Cognition		imported	ALL Mos	Advanced	To aid in learning
Smart pen	Structure of brain	Higher level cognitive function	Device		Cognition		Indigenous	ALL Mos	Advanced	To aid in learning
Talking Calculator	Structure of brain	Higher level cognitive function	Device		Cognition	221506	Indigenous	ALL Mos	Advanced	To aid in learning
Audio books	Structure of brain	Higher level cognitive function	Device		Cognition		Imported	ALL Mos	Advanced	To aid in learning
Personal FM litsening system	Structure of brain	Higher level cognitive function	Device		Cognition	221809	Indigenous	ALL Mos	Advanced	To aid in learning
Portable word processor	Structure of brain	Higher level cognitive function	Device		Cognition		imported	ALL Mos	Advanced	To aid in learning
Variable speed tape recorder	Structure of brain	Higher level cognitive function	Device		Cognition	221803	imported	ALL Mos	Advanced	To aid in learning
Electronic dictionaries	Structure of brain	Higher level cognitive function	Device		Cognition		imported	ALL Mos	Advanced	To aid in learning
Personal data manager	Structure of brain	Higher level cognitive function	Device		Cognition		Indigenous	ALL Mos	Advanced	To aid in learning
Switch adaptive	Structure of brain	Higher level	Device		Cognition	300309	imported	ALL Mos	Advanced	To aid in learning

toys		cognitive function								
Specialized Art and Crafts	Structure of brain	Higher level cognitive function	Device		Cognition	301803	Indigenous	ALL Mos	Advanced	To aid in learning
Emerging Technology	Structure of brain	Higher level cognitive function			Cognition			ALL Mos	Advanced	To aid in learning
Social Robots			Device+ Software	& ASD		426	imported	ALL Mos	Advanced	mainly useful in urban setting
Digital avatars and special games for ASD			Device+ Software				Indigenous	ALL Mos	Advanced	mainly useful in urban setting
Fine tunning sensory information			Software				imported	ALL Mos	Advanced	mainly useful in urban setting
Electronic AIDs to daily living	Structure of nervous system, other specified	Power of all muscles of the body	Device	Musculoskeletal, Neurological	Self care		Indigenous	ALL Mos	Advanced	mainly useful in urban setting
Direct (finger to button), remote control							Indigenous	ALL Mos	Advanced	mainly useful in urban setting
Switch access							Indigenous	ALL Mos	Advanced	To aid in home care
Voice access							Indigenous	ALL Mos	Advanced	To aid in home care
Environment control system	Structure of nervous system, other specified	Power of all muscles of the body	Device+ Software	Musculoskeletal, Neurological	Self care	241303	Indigenous	ALL Mos	Advanced	To aid in home care
Switch control							Indigenous	ALL Mos	Advanced	To aid in home care
Voice control							imported	ALL Mos	Advanced	To aid in home care
Biometric control							Indigenous	ALL Mos	Advanced	To aid in home care
Floor mopping robot	Structure of nervous system, other specified	Power of all muscles of the body	Device+ Software	Musculoskeletal, Neurological	Self care	151222	Indigenous	ALL Mos	Advanced	To aid in home care
Vaccum cleaning robot	Structure of nervous system, other specified	Power of all muscles of the body	Device + Software	Musculoskeletal, Neurological	Self care	151209	Indigenous	ALL Mos	Advanced	To aid in home care
Caretaking robots	Structure of nervous system, other specified/ Upper and Lower extremity	Power of all muscles of the body	Device	Musculoskeletal, Neurological	Self care		Imported	ALL Mos	Advanced	mainly useful in urban setting
Air purifiers			Device		Self care	40312	Indigenous	ALL Mos	Advanced	To aid in home care
Humidifiers			Device		Self care	270303	Indigenous	ALL Mos	Advanced	To aid in home care

Incentive spirometer	Structure of respiratory system, other specified	Respiratory muscle function	Device	Musculoskeletal, Neurological, Respiratory	Self care	40327	Indigenous	ALL Mos	Advanced	To aid in home care
Telescopic length reacher	Structure of upper and lower extremity	Power of isolated muscles or muscle groups, mobility of several joints	Device	Musculoskeletal, Neurological	Self care	242103	Imported	ALL Mos	Advanced	To aid in home care
Seizure alrms for persons with epilepsy	Structure of brain	-	Device	Neurological	Self care	222718	Indigenous	ALL Mos	Advanced	To aid in home care

TO BE DECIDED (396-398)+ 380= 383

Name of AP	ICF- Body structure	ICF- Body function	Type	Disease	Disability	BIS/ISO	Indegenous / imported	Prescribed by	Type of Device	Rationale
Elastic WHO	Structure of upper extremity, other specified	Stability of several joints	Device	Musculoskeletal	Locomotor	60612	Indigenous			
PP WHO-Static	Structure of upper extremity, other specified	Power of isolated muscles or muscle groups	Device	Musculoskeletal, Neurological	Locomotor	60613	Indigenous			
WHO-Dynamic	Structure of upper extremity, other specified	Power of isolated muscles or muscle groups	Device	Musculoskeletal conditions	Locomotor	60613	Indigenous			

Total ATs = 383
AT's at HWC = 112
AT's at CHC/SDH = 175
AT's at DH = 181
AT's at Tertiary Level = 380
APs to be decided (level of availability) = 03

Annexure-I

Contributors
Prof. Balram Bhargava, Secy-DHR & DG- ICMR
Dr. R.K. Srivastava, Ex DGHS- Chairperson NEC
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Dr. Sandeep Singh, SIB-AIIMS, New Delhi
Dr. Rajendra Sharma, HoD PMR- RML Hosp
Dr. Harshad P. Thakur, Director-NIHFW
Dr. PV Madhusudhan Rao, IIT-Delhi
Dr. M. Balakrishnan, IIT-Delhi
Dr. Arvind Mathur, Jodhpur
Dr. S.L. Yadav, AIIMS-Delhi
Dr. Sanjay Wadhwa, AIIMS-Delhi
Dr. Avijit Bansal, CEO Windmills Health
Dr. Sanjiv Kumar, Ex. Director-IIHMR, New Delhi
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Dr. B.B. Chaudhary, Chairperson, The Cradle, New Delhi

WHO Experts
Dr. Chapal Khasnabis WHO-HQ
Dr. Patanjali Nayar WHO-SEARO
Mr. J.P. Singh, WHO-SEARO
Dr. Gaurav Gupta, WHO-India
Dr. Madhur Gupta, WHO-India

ICMR Secretariat
Dr. R.S. Dhaliwal, Head NCD
Dr. Ravinder Singh

Organisations:
Indian Association of Assistive Technologies (IAAT)
National Association for the Blind (NAB)
International Longevity Centre (ILC)
Mobility-India
The Association of Persons with Disability (APD)

Annexure-II

Minutes of the National Expert Committee (NEC) for National List of Essential Assistive Products (NLEAP) held on January 07, 2020 at 10.00am at Committee Room, ICMR Hqrs., New Delhi

Members Present

Prof. Balram Bhargava, DG- ICMR — Chairperson
Dr. R.K. Srivastava, Ex DGHS — Co-Chairperson
Dr. A.B. Dey, HoD Geriatric Medicine- AIIMS
Dr. Rajendra Sharma, HoD PMR- RML Hosp
Dr. Harshad P. Thakur, Director-NIHFW
Dr. PV Madhusudhan Rao, IIT-Delhi
Dr. M. Balakrishnan, IIT-Delhi
Dr. Arvind Mathur Jodhpur (Through Zoom)

WHO Experts

Dr. Chapal Khasnabis WHO-HQ (Through Zoom)
Dr. Patanjali Nayar WHO-SEARO (Through Zoom)

ICMR Secretariat

Dr. R.S. Dhaliwal, Head NCD
Dr. Ravinder Singh

Dr. S.L. Yadav, AIIMS-Delhi and Dr. Sanjiv Kumar, Ex. Director-IIHMR, New Delhi could not attend the meeting.

Prof. Balram Bhargava welcomed the members. In his opening remarks, he informed that ICMR has initiated process for creation of National Centre for Assistive Technologies (NCAT) and National List of Essential Assistive Products (NLEAP). He shared that Head of the Geriatric Medicine Department at AIIMS-Delhi and Director-IIT, Delhi have promised adequate space for NCAT.

Prof. Bhargava remarked that ICMR is looking forward to inputs from WHO-HQ, WHO-SEARO and UCL for providing technical support in this initiative. He also shared that the Health ministry and PMO have been updated with the progress being made by ICMR for assistive products. Prof. Bhargava requested the WHO Experts to support the ICMR for designing and establishing the national centre as well as for research and technical matters. He requested the committee to workout clear targets with definite timeline. Prof. Bhargava requested Dr. Srivastava to lead the group.

Dr. Srivastava thanked Prof. Bhargava and congratulated him for unconditional support to promote assistive products in India. He described the steps required for establishment of national centre and preparation of NLEAP. He shared that each initiative will be a building block to establish the centre and the NLEAP. He emphasised that ATs are not only required for PwDs, but also help in improving functionality of persons with non-communicable diseases (NCDs), children with neuro-development disorders & learning disabilities and geriatric age group. He further shared that the national list of essential assistive products (NLEAP) for India will be developed on the similar lines of the WHO APL list. The list will be a guide for the manufacturers as well.

He opined that the financial/ insurance systems should be involved to ensure that all these products are available, affordable and accessible to the users. He emphasised that this group has a responsibility to deliver a list, which is a result of a strong research process, evidence-based, need of the country and is free from any biases. This list would be one of the steps in the long process of improving the availability of ATs and overall healthcare system. Dr. Srivastava asked Dr. Ravinder Singh to provide background of the work.

Dr. Ravinder Singh said that assistive technologies (ATs) help in maintaining or improving functioning and promote well-being. These enable people with disabilities to live healthy, productive, independent and dignified lives, participating in education, the labour market and social life. They can reduce the need for formal health and support services, long-term care and the burden on carers. Without assistive technology, people with disabilities, older people and others in need are often excluded, isolated and locked into poverty, and the burden of morbidity and disability increases. ATs are required by various groups like people with disability (PwDs), older people, children with NDDs and SLDs, people with non-communicable diseases (Haemophilia, Thalassaemia, SCA, Genetic, Diabetes, Cancers), People with mental health conditions including dementia and autism and people with gradual functional decline. Basic list of ATs has been developed by WHO. However, we need to go beyond that list to classify them age-wise (different requirements in different age groups), disability-wise (21 disabilities as per RPwD Act 2016 or Visual, Hearing, locomotor, Cognitive, Communication, Self-Care), system-wise (Primary, Secondary or Tertiary Health Care Systems), cost-wise (Low, Medium or High), provision-wise (Govt., Private, Insurance, Welfare, NGO), Indigenous vs. Imported (available in India or to be imported) and Technology-wise (Simple/complex, involves softwares). He also shared terms & condition of National Expert Committee (NEC) and proposed timelines for meetings and deliberations. The NEC will advise ICMR for creation of NCAT and preparation of NLEAP. It consists of members from public health background, physical medicine & rehabilitation professionals, geriatric medicine experts and engineering professionals. The NEC will have four meeting in next six months. Each of the specialties will have one sub-group with involvement of other members. Each sub-group will meet as frequently as possible. There will be a National Consensus meeting after the meetings of sub-groups.

Dr. A.B. Dey welcomed the ICMR initiatives to develop National Centre for Assistive Technologies (NCAT) and NLEAP. He shared that the ICMR's request for space was discussed in detail with Director-AIIMS and DG-ICMR. He mentioned that the physical structure for Geriatrics Block of AIIMS will be completed by the end of 2020. Adequate space will be made available for NCAT.

Dr. Chapal Khasnabis congratulated ICMR for the confirmation of the NCAT. He assured Prof. Bhargava that the WHO protocol will be followed in providing the necessary technical support while designing the centre and NLEAP. He emphasized that the need for assistive technology should be understood for its role in non-communicable diseases, improving the quality of life and the functionality of elderly. Only then the spin off effect will percolate into various national health programs and we will be able to see the actual impact such as increase in productivity, more independence for the respective users etc. He also shared that the accessibility audit of the centre must be undertaken since the building was in the construction phase and the necessary

structural inputs can be implemented in both AIIMS as well as the IIT centres for ATs. He shared with the members that WHO is working on refining its APL list in terms of availability at primary, secondary and tertiary levels of healthcare facilities. The assistive devices will be categorised specifically for children and elderly. He shared his worry that as standards are not available for most of the products, it will be a challenge at the country-level for mass production and availability through the national programmes. He reiterated that WHO had followed a rigorous methodology for preparation of APL, which included Delphi technique and Consensus Meeting of various stakeholders. This authentic and unbiased scientific design made the list more acceptable to the countries and policy makers, which must be the aim of the NLEAP too. This list should be scientific & evidenced-based, which will be utilised by the government in addressing issues of the specific groups of people and patients.

Dr. PVM Rao provided the letter of Director IIT with assurance to extend space for Engineering Hub of NCAT. He elaborated that since IIT-Delhi doesn't have expertise for each of the concerned disabilities, specific NCDs or medical condition that requires AT intervention, hence we must think of involving other IITs across the country in the form of ICMR centres or Hub-and-Spoke Model. This idea was welcomed by all. Since this is the initial phase of planning so the centre can begin its work with an agenda that will be expanded in due course of time.

Dr. Harshad P. Thakur expressed his willingness in this initiative. He emphasised that National Institute of Health and Family Welfare (NIHFW) has adequate expertise and manpower to support NCAT and NLEAP. Although he has joined recently, but NIHFW will be very keen to take up any work assigned to its team.

Dr. Patanjali appreciated the steady progress that ICMR has made in developing the area of ATs in a very short time. He rightfully explained as to how the issue of access is of key importance and that we must aim towards ensuring that each district, taluka have smooth barrier free reach to the required ATs. For such a vision it is essential to involve officials from various ministries, national programme managers, policy makers, manufacturers, public health professionals. He added that the National Centre for ATs will play much complex role of focusing not only on research and development of individual ATs, but on national AT need, data, policy aspect, success models in innovation, health system strengthening and conditioning, addressing the gaps of public health research in this domain, multi stakeholder coordination etc. He advised that for NLEAP we must commence work with a research methodology in place to avoid any errors or confusion later. This list will be then taken up by the national centre so that the required products can be manufactured researched further and made sound in terms of quality, standards, and market ready.

Dr. Rajendra Sharma was supportive of the views of the group's approach for developing the NLEAP. He was of the opinion that in the beginning we must make concentrated efforts towards setting up the centre following which the partners can be expanded. It was crucial to work within deadlines at this prime time and later think of collaborations with various academic and research partners, also various ministries as the plan unfolds in future.

Dr. Arvind Mathur added to the discussions that he has been heading the various disability centres in the districts and he would certainly share his experiences for the

development of the list. He shared with the group that the AT centre must focus on knowledge sharing and advocacy as well , because unawareness of the available ATs is one area of concern that needs strong research based evidence and later on implementation. Secondly, the accessibility was a major concern and care must be taken that the entire planning benefits reaches up to the last person. The domain has suffered much ignorance and he said we must work on developing a list that finds takers in the healthcare system.

During discussions, the members agreed with the development of NCAT and preparation of NLEAP. The members appreciated the work done by ICMR and listed future course of action. The Group agreed with the proposed timelines for meetings and deliberations.

Recommendations:

1. The Group strongly recommended the creation of NCAT and preparation of NLEAP.
2. The Group recommended creation of 4 sub-groups. Each of the specialties will have one sub-group with involvement of two more members. The Sub-Groups are (1) public health specialists to be led by Dr. Harshad Thakur, Director NIHFW; (2) physical medicine & rehabilitation professionals to be led by Dr. Rajendra Sharma, HoD PMR, RML; (3) geriatric medicine experts to be led by Dr. A.B. Dey and (4) engineering professionals to be led by Dr. PVM Rao, IIT-Delhi. Each sub-group will meet as frequently as possible through video-conferencing, phone calls, emails or meetings. All Sub-groups are expected to prepare detailed proposal of NCAT and their list by the end of January 2020 and submit it to ICMR. Dr. Ravinder Singh will act as Member Secretary of all Sub-Groups.
3. The Group suggested that one meeting of PMR sub-group may be held parallel to National Conference of Indian Association of PMR to be held in third week of January 2020.
4. The Group agreed with four meeting of NEC in next six months.
5. The Group proposed to organise a National Consensus meeting after the meetings of sub-groups.

Minutes of the meeting of Sub-Group on National List of Essential Assistive Products (NLEAP) held on January 28, 2020 at NIMS, New Delhi

Members Present:

Dr. R.K. Srivastava Ex DGHS Chairperson
Dr. S.L. Yadav, AIIMS New Delhi
Dr. Shipra Chaudhary, RML Hospital
Dr. Ravinder Singh, ICMR Hqrs. New Delhi Member Secretary

Dr. R.K. Srivastava welcomed the members and shared that ICMR has initiated a process to prepare a list of assistive technologies for inclusion in the health systems. He provided the background of the work in hand. In year 2016, World Health Organization (WHO) prepared a basic list of 50 technologies for improvement of functioning of persons with disabilities, chronic diseases or elderly. WHO shared this with member countries to use it as base document for adaptation to the country needs. He requested Dr. Ravinder Singh to provide the action taken on the recommendations/suggestions of NEC.

Dr. Ravinder Singh thanked Dr. Srivastava and briefed the group about the progress on NLEAP. As per recommendations of the National Experts Committee (NEC) constituted for NLEAP, the terms of reference (ToR) were prepared and shared with all group members. All the members were contacted individually and shared the timelines as desired by DG-ICMR. Accordingly, this is the first meeting of Sub-Groups on NLEAP. Earlier, ICMR had prepared the broad classification of ATs based on age (children or elderly), disability (21 disabilities as per RPwD Act 2016 or Six Broad categories of functioning), health system (Primary, Secondary or Tertiary), cost (Low, Medium or High), manufacturing capabilities (indigenous or imported), complexity of technologies involved (simple or advanced). Another way to classify ATs would be based on International Classification of Functioning, Disability & Health (ICF), which has listed 3 broad domains (Basic Activity, Body Functions and Complex Activity & Participation) with 15 categories of functioning. He requested Dr. Yadav to share his views.

Dr. S.L. Yadav thanked ICMR for inviting him to a very important topic of assistive technologies. He appreciated ICMR for taking up long pending need of provision of ATs. He endorsed the views shared earlier. He acknowledged the role of various stakeholders. The Institutes like AIIMS, RML, Safdarjang and Professional Organisations like IAPMR/IAAT can provide useful inputs in this endeavour. A preliminary discussion was held within the Department of PMR, AIIMS and Dr. Rajendra Sharma, RML Hospital. Dr. Rejendra Sharma has deputed Dr. Shipra Chaudhary to prepare zero draft of the NLEAP. Dr. Yadav requested Dr. Shipra to provide the information on work done till date.

Dr. Shipra Chaudhary briefed the members on the preliminary work done by her. She stated that an online survey was undertaken of the work done in this area. WHO has prepared a list of 50 technologies. Ministry of Social Justice & Empowerment (MoSJE) has done considerable work on identification and provision of ATs through Artificial Limb Manufacturing Corporation Ltd. (ALIMCO) and other schemes of the Ministry. There are very few published studies in the scientific journals.

Dr. Srivastava reiterated that the list should be prepared based on the role in improvement of functioning. First column of the table should be disability, second should be appropriate AT and third column should be target domains to be improved by proposed AT.

Disability	**AT**	**Domains Covered**
e.g. Locomotor	Walking Stick	Locomotion/Movement
e.g. Blindness	Spectacle	Vision

Dr. Ravinder Singh provided the following documents to Dr. Shipra Chaudhary:

Sr. No.	**Lists**	**Institute/Author**
1.	Priority Assistive Products List (APL)	WHO
2.	APL List	Nepal, Tajikistan
3.	A Handbook of Assistive Technology For People With Visual Disability	Dr. Suraj Singh Senjam , Dr. Vivek Gupta , Dr. Praveen Vashist AIIMS Delhi
4.	Assistive Devices and Technology: Products for Persons With Disabilities	Sara Varughese CBM Bengaluru Published by Ministry of Social Justice and Empowerment (MoSJE)
5.	ATs for Elderly	International Longevity Centre Pune
6.	Assistive technologies for people with disabilities Part II: Current and emerging technologies	European Parliament
7.	Directory of Manufacturers	ALIMCO
8.	Inputs from AT Manufacturer	Rohit Kothari Mumbai
9.	Washington Group	US Govt.
10.	Users' Perspective	We should take the inputs and suggestions from the users also.

It was decided that Zero Draft should be prepared within next 10 days.

It was also recommended that other Sub-Groups may also be followed to hold meetings and prepare the list as per ToR.

Minutes of the meeting of Sub-Groups on National List of Essential Assistive Products (NLEAP) held on March 13, 2020 at CG Pandit Board Room, ICMR Hqrs., New Delhi

Members Present

Dr. R.K. Srivastava, Ex DGHS Chairperson
Dr. A.B. Dey, AIIMS, New Delhi
Dr. Arvind Mathur, Jodhpur (Through Video Zoom)
Dr. Sanjiv Kumar Ex. IIHMR
Dr. P.V.M. Rao, IIT-Delhi
Dr. Shipra Chaudhary, RML Hospital
Dr. Suman, VMMC-SJH, New Delhi
Dr. Monika Saini, NIHFW, New Delhi

ICMR Secretariat

Dr. R.S. Dhaliwal, Head-NCD
Dr. Ravinder Singh, ICMR Hqrs. New Delhi Member Secretary

Dr. R.S. Dhaliwal welcomed the members and shared that ICMR had constituted four working groups to prepare a list of assistive technologies. The work has been initiated after World Health Organization (WHO) launched a basic list of 50 technologies for improvement of functioning of persons with disabilities, chronic diseases or elderly. Background work was done by Dr. Ravinder Singh and all the documents having lists of assistive technologies were provided to all working groups. Based on the National Expert Committee (NEC) recommendations in its meeting held on January 28, 2020, terms of reference (ToR) were prepared by ICMR having activities to be performed by sub-groups along with deadlines to complete these activities. He requested Dr. Srivastava to Chair the meeting.

Dr. R.K. Srivastava thanked Dr. Dhaliwal and revisited the deadlines as agreed earlier. We have received zero drafts from all the four sub- groups. Harmonisation process was carried out for two lists by PMR and Public Health sub-groups. He requested the leaders of all four sub-groups to share the lists and processes followed by them.

Dr. Shipra Chaudhary briefed the members on the preliminary work done by her. She stated that an online survey was undertaken of the work done in this area. Various lists available online or offline were consulted. Some books were also consulted. Published studies in the scientific journals were also referred. A total of 370 technologies were listed under different heads in zero draft of PMR sub-group. As recommended by the NEC the list has been prepared under following heads:

Product	ICF-Body Structure	ICF-Body Function	Type	Disease	Disability	Health Centre	BIS/ISO Standard	Indigenous Or Imported

As there is no single classification of disability, the list has been prepared from different angles. Major focus of the sub-group to include an AT was its role in type of disability or improvement of body functions. The list prepared by Public Health sub-group was harmonised and a combined list was prepared.

Dr. Sanjiv Kumar along with Dr. Monika Saini shared the process followed by Public Health sub-group. All the ATs were included from the perspective of it use at different level of health system. A total of 217 technologies were identified to be included in the zero draft. The major focus of the sub-group was the use of technology at healthcare setting level, although disabilities for which it will be used was also considered while including it in the list. The list was handed over to PMR sub-group for harmonisation with their list.

Dr. A.B. Dey shared that the list has been prepared after consultation with various experts in the field of geriatric medicine and gerontology. A total of 35 broad categories of ATs are included in the zero draft, where each category has many sub-categories. Some of the ATs do not fall under any head and hence these have been classified under miscellaneous head. Book published by International Longevity Centre, Pune was of some help.

Dr. Arvind Mathur shared the advances in assistive technology devices for seniors and ageing-in-place technology and the way they have changed we deliver care and health services to ageing societies. The use of assistive technologies focuses on the support of daily activities, safety monitoring, memory aids, and preventing social isolation, improving the ease of living, maintain functional independence and also promoting ageing at the site. The assistive technologies could help both the patient and the caregivers. They are useful for carrying out in-home diagnoses and treatment to improve quality of life and improving adherence to treatments and access to specialists. The m-health is useful for managing the health of older people with chronic conditions, remembering medical appointments, improving support for people with dementia, and screening for cognitive decline. It is also useful for primary prevention and promotion of healthy habits regarding food and physical activity in the general population and as a tool to reduce costs, increase accessibility and improve the results of interventions. Following table shows relevant examples of the type of assistive technologies in use:

Class	**Product examples**
Products for cognitive functions	Memory devices and pill box reminders
Products for sensory functions	Spectacles, software for screen magnification and reading, hearing aids
Products related to orthotics and prosthetics	Artificial limbs (prosthesis), spinal orthotics and cervical collar
Products for personal mobility	Wheelchairs, canes and crutches
Products for activities of daily living (ADLs) including personal care and protection	Toilet chairs, diapers and robots

Products for communication and skills training	Voice and speech training devices, Braille apparatus and screen readers
Products for recreation and sports	Modified sports equipment
Products for housing, work and environmental improvement	Home modification, handrails or grab bar and controlled lighting

Development of novel patient monitoring and smart home technologies, artificially intelligent monitoring system, telecare, and robotic technologies have improved the functional independence and health care outcomes of older people. Following are the technology solutions for different ageing societies: (1) Novel smart home apps and sensor-based systems for older people living alone; (2) Home service robots and telemedicine apps for older people living with family members; (3) Wearable and remote monitoring devices for older people living in retirement communities; and (4) Technologies to assist older people with dementia living in nursing homes and assisted living facilities. Novel Patient Monitoring and Smart Home Technologies comprise sophisticated systems that consist of a home service robot; home and body sensor network; mobile device; cloud servers and remote caregivers. Supervised machine learning approach and context-based reasoning to perform a clinical assessment of dementia; proof-of-concept platforms that consist of a Zigbee network, sensors, a home client, and remote server; and novel protocols over SMS to monitor elderly and alert caregivers when a fall occurs. The use of telemedicine is becoming increasingly popular in assisting with the home management of People with Dementia (PwD) by offering services to the carers that may enhance their ability to care for their relative for longer. A digital platform, ALADDIN, is useful to reduce carer burden and distress and to improve their quality of life, in an attempt to delay institutionalization of PwD. Robot therapy is a new method of mental healthcare for older people. The Socially Assistive Robots (SAR) are being used as a complementary therapy in dementia and have shown to promote a potentially beneficial relationship.

Dr. P.V.M. Rao shared that the task of preparation of list was a difficult task as they are in constant touch with users group. They are getting feedback and most of the times the satisfaction of the users is most important factor for inclusion of AT in present list. They are working with more than 100 NGOs including National Trust. National Trust itself has been getting feedback from more than 700 NGOs.

Dr. Srivastava summarised the meeting and suggested that we need harmonisation of lists by all four lead groups and create a master list. Standardisation and Quality Assurance in Collaboration with BIS/ISO should be taken at top priority number 1. The manufacturers' perspectives would be included as priority 2, as it is required to find out the availability of ATs as whether we have indigenous technologies or we are importing .Both priority should move forwards These perspective are also required to reach to optimum cost or prepare Rate Contract List (Low/Medium/High). Simultaneously, the provision of ATs at different Healthcare Settings (Sub-Centre/PHC/CHC/ SDH/DH-

CH/Med. College) would be done after the consultations with various stakeholders. The 3rd priority, where we need to act later, we may categorise the ATs into Simple, Advanced or Softwares.

Recommendations:

- The Group agreed that harmonisation of lists by all four lead groups should be done to prepare a master list as per ICF classification. The Group suggested that harmonised list may be prepared within 10 days of this meeting. Dr. Ravinder Singh may immediately provide background documents required for this activity. A sub-committee of following experts is suggested:

    1. Dr. Sanjiv Kumar Chair
    2. Dr. Shweta Chaudhary RML
    3. Dr. Monika Saini NIHFW
    4. Dr. Suman Badhal, VMMC & SJH

- The Group recommended that standardisation and Quality Assurance should be undertaken in Collaboration with BIS/ISO.

- The Group recommended that the manufacturers' perspectives may be considered to find out the availability of ATs as whether we have indigenous technologies or we are importing. Their perspective is also required to get cost or Rate Contract List (Low/Medium/High).

- The Group recommended that ATs should be categorised into Simple, Advanced or Softwares.

- The Group recommended that the provision of ATs at different Healthcare Settings (Sub-Centre/PHC/CHC/ SDH/DH-CH/Med. College) need to be done after the consultations with various stakeholders.

Annexure-III

Terms of Reference (TORs)

National Expert Committee (NEC) on NLEAP

- To examine the available list of ATs in India and abroad for improving the health of PwDs and elderly;
- To convert the list into National List of Essential Technologies in public health system;
- To distribute these ATs at Primary, Secondary and Tertiary Care centres;
- To prioritise these ATs from engineering perspective (universal design/specifications/standards)
- To harmonise the list after stakeholders consultation; and
- To host the list on website for public opinion.

Methodology for NLEAP

- National Expert Committee will have 4 meetings (January, March, May, June 2020);
- One meeting with International/Regional experts (January 2020); and
- Expert Sub-Groups will have 8 meetings (Public Health, engineers, users (PwDs, elderly), policy makers (programme managers), PMR, Geriatrics, paediatrician, neurologists, psychologists) January-April, 2020.

Sub-Groups on – National List of Essential Assistive Products (NLEAP)

1. Purpose of the Sub-Groups

   To support the Indian Council of Medical Research ICMR HQ team (Disability, Rehabilitation and Assistive Technology) in the role as Sub-group member, towards the development of the National list of Essential Assistive Products for India.

2. Background

   To achieve and sustain Universal Health Coverage (UHC) through health system strengthening, each country needs to rework and align its resources and systems to address the needs and challenges. There is a looming need of providing assistive technologies and devices for elderly, persons with disabilities (PwDs), patients with non-communicable diseases (NCDs) such as stroke, diabetes, congenital birth defect associated disabilities and people in humanitarian crisis and disasters.

   ICMR thus aims to deliberate, contribute and guide the way forward towards building a National list of Essential Assistive Products (NLEAP)-India, with focus on the principal themes of appropriateness, quality, affordability, accessibility and standardization of ATs and strategies for strengthening and service provision.

3. Work to be performed The Groups are expected to develop the list of assistive technologies as relevant to India on the assigned working group theme.

   The Sub-Groups are as follows:

   (1) Public health specialists to be led by Dr. Harshad Thakur, Director NIHFW; Member: Dr. Sanjeev Kumar, Ex. Director IIHMR.

(2) Physical medicine & rehabilitation professionals to be led by Dr. Rajendra Sharma, HoD PMR, RML; Member: Dr. S.L. Yadav, AIIMS-Delhi.

(3) Geriatric medicine experts to be led by Dr. A.B. Dey. Member: Dr. Arvind Mathur, Jodhpur.

(4) Engineering professionals to be led by Dr. PVM Rao, IIT-Delhi. Member: Prof. Balakrishnan, IIT-Delhi.

The Group Leaders are expected to expand the group with more experts from concerned area. Each sub-group will meet as frequently as possible through video-conferencing, phone calls, emails or meetings.

ICMR will facilitate the meetings of individual sub-group and provide the space and technical support for the same. Dr. Ravinder Singh will be Member Secretary.

The common methodology to be adhered to strictly as per ICMR is as follows:

STEPS	ACTIVITIES	TIMELINE
STEPS I	Literature Review	January 2020 • To be undertaken by each working group individually • Submit the details of the team that will be working with each sub- group lead from their organization • Submit a prior work methodology with a brief of literature review (rationale, documentation and outcomes)
STEP II	Consultation meeting 1	January 2020 last week • To be undertaken by each sub-group individually, the list of consultants/experts being invited by the individual working group has to be submitted by each working group lead to ICMR • Submission of the summary report and the

		first list prepared based on the consultation
STEP III	Consultation meeting 2	Mid-February 2020 • This will be a follow up of the to the first consultation meeting • This will build upon the work of the 1st consultation meeting • This will be the round two of consultations
STEP IV	ICMR meeting To update the progress made by the working groups	End February 2020 This will be a meeting for the leads of working groups only • Presentation by the leads for the findings from the two consultation meetings • Share the updates regarding progress for the literature review publications
STEP V	Consultation-meeting 3	Mid March 2020 • Conclusive meeting • working groups and their experts (10 from each sub- group) with the ICMR team, MoHFW and WHO
STEP VI	Stakeholders Meet	End March 2020 • Finalising the NLEAP 2020 • Finalising the publications (each working group)
STEP VII	Launch of the India NLEAP	End April 2020 Launch of the India NLEAP • Launch of the series of publications associated with NLEAP

4. Tasks and Responsibilities of the Sub-Group leads

Task 4.1: Support the development of the NLEAP and individual publications.

- Assist the ICMR team in specifying the methodology and topics and structure of the assigned chapter(s) of the national list.
- Assist and work with the ICMR team in analysis and associated publications allotted area specific and one common methodology publication

Task 4.2: Coordinate and manage individual working group consultation meetings and publications

- Identify subject experts/ scientific experts for the consultation meeting.
- Coordinate with ICMR team development of background papers for the assigned area;
- Together with ICMR team, identify needs for illustrative contents in the assigned publication and the structure of the NLEAP, such as, figures, diagrams, illustrations, case studies, etc;
- Coordinate with ICMR team to develop and deliver the contents for assigned area according to timeline;
- Review and edit the contents to ensure that it is of high quality, based on evidence and sound methodology, and reflects the national perspective;
- Review and edit the contents to ensure its consistency, following the specific terminology and formats as agreed with the ICMR team;
- Coordinate with authors and other contributors to obtain relevant permissions (e.g. copyright) for all contents in the assigned chapter(s);
- Maintain a list of all authors and other contributors for incorporation in the acknowledgement section of the global report.

Task 4.3: Participate in regular online committee meetings and meetings in ICMR to discuss the development process, structure, contents and other issues related to the NLEAP and associated publications

5. Timelines

   Start date: January 2020

   End date: June 2020

6. Place of assignment

   The work will be performed at their respective organizations/ICMR HQ.

   ICMR will provide the venue for the consultation meetings, if requested.

7. Travel & Meetings

   Travel to ICMR headquarters and other meeting costs will be covered by ICMR HQ.

8. Each working group lead must submit the requested documents as per the indicated schedule.