



2023

PRIORITY-SETTING EXERCISE FOR SHORTLISTING

# NATIONAL LIST OF ESSENTIAL ASSISTIVE PRODUCTS (NLEAP)



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**PRIORITY-SETTING EXERCISE FOR SHORTLISTING**

**NATIONAL LIST OF  
ESSENTIAL ASSISTIVE  
PRODUCTS (NLEAP)**

# FOREWORD



सत्यमेव जयते

डॉ. राजीव बहल, एमडी, पीएचडी  
DR. RAJIV BAHL, MD, PhD



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सचिव, भारत सरकार

स्वास्थ्य अनुसंधान विभाग  
स्वास्थ्य एवं परिवार कल्याण मंत्रालय एवं  
महानिदेशक  
भारतीय आयुर्विज्ञान अनुसंधान परिषद

**Secretary, Government of India**  
Department of Health Research  
Ministry of Health & Family Welfare &  
**Director-General**  
Indian Council of Medical Research

### Foreword

Assistive Products (APs) are crucial for improving the quality of life and inclusion of individuals with functional impairment, enabling independence and enhancing mobility in Activities of Daily Life (ADL). Recognizing their significance, the National List of Essential Assistive Products (NLEAP) was developed collaboratively to ensure equitable access to these products across India. The exercise brought together experts, stakeholders, and policymakers from various fields to engage in meaningful discussions and provide evidence-based recommendations. It prioritized impactful APs aligned with national health and social priorities, considering local context and sustainability.

The NLEAP will serve as a guiding framework for policymakers, healthcare providers, and relevant stakeholders to facilitate decision-making processes, inform resource allocation strategies, build structured systems for the provision of assistive products and generally foster the development of comprehensive AT programs across the country. It will also encourage private investors to invest in assistive technology startups and enterprises, promote local manufacturing, and create opportunities for innovation.

Alongside, we will need inclusive policies that promote the development, distribution, and use of identified assistive technology; an efficient distribution network to ensure last-mile delivery; the development of accessibility standards for assistive products; and continuous monitoring to assess the impact of the ecosystem on the lives of people with functional impairments. Additionally, public awareness generation and comprehensive training programs are critical to help individuals with functional impairment, caregivers, and professionals understand how to integrate APs into their daily lives. Encouraging the integration of assistive technology into various sectors such as education and employment in addition to healthcare, can also lay the groundwork for a strong AT ecosystem in the country.

Grateful for the dedication and expertise, we look forward to the positive outcomes benefiting millions of individuals with functional impairments in India.

*Rajiv Bahl*

Dr. Rajiv Bahl



राजेश अग्रवाल, भा.प्र.से.  
सचिव  
Rajesh Aggarwal, IAS  
secretary



सत्यमेव जयते



आजादी का  
अमृत महोत्सव



### Message

भारत सरकार  
सामाजिक न्याय और अधिकारिता मंत्रालय  
दिव्यांगजन सशक्तिकरण विभाग  
Government Of India  
Ministry Of Social Justice & Empowerment  
Department Of Empowerment of Persons With Disabilities  
(Divyangjan)

Assistive products (APs) play a crucial role in enhancing the quality of life and promoting independence for individuals with functional impairments. These products encompass a wide range of tools, devices, instruments, equipments, and technologies that enable people to overcome functional impairments and participate fully in all aspects of life. They can make a profound difference in the lives of individuals with functional impairments, empowering them to pursue education, employment, and social participation with greater ease and dignity.

Recognizing the significance of APs, it is imperative for us to identify and prioritize those that are most essential for the well-being of persons with functional impairment. The priority-setting exercise by ICMR will serve as a guiding framework to ensure that our efforts and resources are directed towards procuring and providing the most critical and effective APs for those in need.

I appreciate the efforts by all stakeholders, experts, professionals, and organizations working in the field of functional empowerment, for their active participation in this exercise. Their expertise and insights were invaluable in shaping the National List of Essential Assistive Products (NLEAP), ensuring its relevance and effectiveness in meeting the diverse needs of our fellow citizens.

Through a collaborative and inclusive approach, this dynamic list has been created, that reflects the current and emerging needs of persons with functional impairments. This exercise focused to assess the impact, cost-effectiveness, and accessibility of various assistive products. Specific needs of different functional impairment groups and ensured that the list is inclusive, gender-specific, and sensitive to the needs of marginalized communities.

I am confident that this priority-setting exercise will serve as a significant milestone in our collective journey towards an inclusive and barrier-free society. Together, let us strive to ensure that 'no person is left behind' and that every individual with a functional impairment has access to the APs required to realize their full potential.

This should be noted that DEPwD and many other Ministries and Organizations will be subsidizing lot of APs beyond this list, but this list (NLEAP) will ensure that these products will be definitely part of any Scheme.

Thank you for the dedication and commitment to this important cause. These contributions will make a lasting difference in the lives of countless individuals and will empower the persons with functional impairments.

**Rajesh Aggarwal**  
Secretary to the Government of India,  
Department of Empowerment of Persons with Disabilities (Divyangjan)



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### Message

Assistive products (APs) have been getting more and more attention due to increasing numbers of people with functional impairments. Our societies are ageing, so is the need of assistive products due to age related functional restrictions, limitations or impairments. Other factors responsible for the increased demand of the APs are injuries, mental illnesses, learning disorders, and chronic diseases. APs help in locomotion, vision, hearing, cognition, communication, self-care or sports/recreation/leisure activities. They can help people to perform everyday tasks, such as getting around, communicating, and accessing education and employment. However, APs can be expensive, and not everyone can afford them.

The National List of Essential Assistive Products (NLEAP) will help to ensure that people with functional impairments have access to the AP they need, regardless of their financial means. The current exercise has prepared a list of essential assistive products based on NLEAP that will help in availability of these products at affordable prices.

Prioritizing assistive products reflects a commitment to building a more inclusive society. The prioritization of assistive products can have several positive effects on market structures. When these products are prioritized, it can lead to several benefits for market structures, including:

1. Prioritization of assistive products can attract more players to the market.
2. When assistive products are prioritized, there is a greater focus on inclusivity and accessibility in society.
3. Improved awareness and recognition of the needs of individuals with functional impairments will lead to an increase in demand for such products, stimulating market growth.
4. Investment in research and development of identified products will be improved.
5. Larger production volumes can lead to reduced manufacturing costs, which can be passed on to consumers in the form of lower prices enhancing affordability.

Together, we can make sure that people with functional impairments have access to the APs they need to live their quality and healthy lives. The efforts should be made to update these products on regular basis as we are living in an era where technologies are changing at a very fast pace.

  
Vinod Paul





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# EXECUTIVE SUMMARY

Assistive products (APs) play a pivotal role in enhancing the quality of life and promoting independence among individuals with functional impairments. However, accessing and obtaining these products can pose significant challenges, particularly for economically disadvantaged populations.

ICMR carried out an extensive exercise to develop National List of Essential Assistive Products (NLEAP) in 2020 with inputs from subject experts, end-users, policy makers, non-governmental organisations, manufacturers, academicians, standardisation professionals, and international agencies as well as the assistive product lists developed by various agencies and countries. The primary objective of the NLEAP is to ensure universal accessibility to essential APs, while also serving as a point of reference for government agencies, healthcare providers, and rehabilitation services.

Despite the importance of the above assistive products, access and availability can be a challenge, particularly for low-income populations. Efforts to prioritize and provide essential assistive products to those in need can help to improve the lives of persons requiring assistive technology. Priority-setting exercise for essential assistive products involve evaluating the needs of the target population and determining which assistive products have the need, greatest impact, least burden, and are most cost-effective. Identification and prioritization of essential assistive products are based on different levels among different stakeholders which can help to optimize the utilization of the limited resources available for health and are used most effectively and efficiently.

This document outlines the process through which prioritization of these products was achieved. Priority setting exercise for shortlisting of NLEAP was undertaken using the Blind Funnel Method, which involved the engagement of a multidisciplinary panel of experts and the implementation of a systematic and impartial evaluation process. The 12-step approach encompassed activities such as consensus-building and Delphi methods, literature reviews, and synchronized meetings to prioritize and narrow down the selection of essential APs. The process entailed the identification and finalization of indicators including burden, impact, need, and cost-effectiveness. Engaging the stakeholders ensured that the needs and perspectives of the target population were taken into account during the prioritization process.

The process involves the desk review which helps in categorizing the NLEAP into distinct domains and conducting a comprehensive review of existing literature and resources to gather information on the impact, burden, demand, and cost-effectiveness of APs. This information served as the basis for the selection and prioritization of essential APs.

Overall, the development of the Priority NLEAP and the utilization of the Blind Funnel Method offered a structured and transparent approach to prioritizing essential APs. By ensuring access to high-quality assistive products, this initiative aims to enhance the well-being and quality of life of individuals with functional impairments and older adults.

# ACKNOWLEDGEMENTS

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# ABBREVIATIONS

ICMR	Indian Council of Medical Research
NLEAP	National List of Essential Assistive Products
AT	Assistive Technology
AP	Assistive Product
NEC	National Expert Committee
PwDs	Persons with Disabilities
PMR	Physical Medicine and Rehabilitation
ICF	International Classification of Functioning, Disability, and Health
BIS	Bureau of Indian Standards
ISO	International Organization for Standardization
NPOs	Non Profit Organizations
ABDM	Ayushman Bharat Digital Mission
PEAP	Prioritized Essential Assistive Product
DHR	Department of Health Research
DG	Director General
DGHS	Directorate General of Health Services
WHO HQ	World Health Organization Headquarters
WHO SEARO	World Health Organization Regional Office for South East Asia
VMMC-SJH	Vardhman Mahavir Medical College and Safdarjung Hospital
AIIMS	All India Institute of Medical Sciences
RML	Ram Manohar Lohia Hospital
NIHFW	National Institute of Health and Family Welfare
IIT	Indian Institute of Technology
IIHMR	Indian Institute of Health Management Research
LHMC	Lady Hardinge Medical College
PHDCCI	Punjab, Haryana and Delhi Chamber of Commerce and Industry
AIIPMR	All India Institute of Physical Medicine and Rehabilitation
CMC	Christian Medical College
AMTZ	Andhra Pradesh MedTech Zone
NIPMR	National Institute of Physical Medicine and Rehabilitation

MoH&FW	Ministry of Health and Family Welfare
PGI	Post Graduate Institute of Medical Education and Research
ALIMCO	Artificial Limbs Manufacturing Corporation of India
DCGI	Drugs Controller General of India
IIIT	Indian Institute of Information Technology
NHSRC	National Health Systems Resource Centre
NITI Aayog	National Institution for Transforming India Aayog
IAPMR	Indian Association of Physical Medicine and Rehabilitation
KWSH	Kasturba Women's Hospital
RIMS	Regional Institute of Medical Sciences
JSI	John Snow, Inc.
IAAT	Indian Association of Assistive Technologists
P&O	Prosthetics and Orthotics
BSUSC	Bihar State University Service Commission
UNDP	United Nations Development Programme
WHF	World Hearing Forum
ICRC	International Committee of the Red Cross
CRC	Composite Regional Centre
DEPwD	Department of Empowerment of Persons with Disabilities
AMJNISHD	Ali Yavar Jung National Institute of Speech and Hearing Disabilities
NIEPD	National Institute for Empowerment of Persons with Disabilities
CDSCO	Central Drugs Standard Control Organization
CDAC	Centre for Development of Advanced Computing
PCI	Pharmacy Council of India
NCPEDP	National Centre for Promotion of Employment for Disabled People
ADIP	Assistance to Disabled Persons for Purchasing Aids and Appliances
NIEPMD	National Institute for Empowerment of Persons with Multiple Disabilities
PDUNIPPD	Pandit Deendayal Upadhyaya National Institute for Persons with Physical Disabilities
NEST	New, Emerging and Strategic Technologies
MEA	Ministry of External Affairs

# INTRODUCTION

Assistive products (APs) play a pivotal role in enhancing the quality of life and promoting independence for individuals with functional impairments. These APs are utilized in numerous countries to address to a wide range of needs, encompassing diagnostics, clinical/surgical management, rehabilitation, mobility, communication, activities of daily living (ADL), as well as leisure, sports, and recreational activities. Despite their immense significance, accessing and availing APs can prove challenging, particularly for low-income populations. Prioritizing and providing essential APs to those in need through concerted efforts can greatly enhance the lives of individuals with functional impairments. Furthermore, the utilization of APs yields broader social and economic advantages, such as heightened engagement in education, social/community activities, and the workforce, while concurrently reducing healthcare costs. It is imperative to undertake further research and investment in this domain to ensure universal access to the necessary APs for all individuals.

The National List of Essential Assistive Products (NLEAP) of 380 APs was compiled by the National Expert Committee (NEC) under the Indian Council of Medical Research (ICMR) for people with functional impairments. It is a list of APs and technologies that are deemed essential for individuals with functional impairments to improve their quality of life, independence, and participation in society. The NLEAP serves as a reference for government agencies, health providers, and rehabilitation services to prioritize the provision of APs to individuals with functional impairments. The list aims to ensure that the most important assistive products are available, affordable, and accessible to people with functional impairments to enhance their ability to live a full and independent life. The APs included in the NLEAP can vary from country to country, but typically include items such as wheelchairs, mobility aids, hearing aids, visual aids, and rehabilitation equipment. By providing a comprehensive and up-to-date list of essential assistive products, the NLEAP helps to standardize the provision of assistive devices and technologies and ensures that people with functional impairments have access to the equipment they need to live full and independent lives.

The NEC suggested that the ICMR should come out with a shorter list through prioritization. The shortlisting of the NLEAP is particularly significant in countries like India with limited resources. It will enable government in allocating resources efficiently, promote affordability, drive local manufacturing and innovation, facilitate health system integration, and foster partnerships and collaborations. The process of shortlisting and prioritization will help in overcoming resource limitations and ensuring that individuals with functional impairment and older persons can access the essential assistive products they need for improved independence, inclusion, and well-being.

Priority-setting exercise for essential APs involves evaluating the needs of the target population and determining which products have the greatest impact, high burden, and are cost-effective. It's a comprehensive process which includes desk review, need assessment, impact evaluation, burden analysis, product research, and cost-effectiveness evaluation. The information gathered through this process is used to select and prioritize the most appropriate APs for the target population, based on the level of need. The prioritization exercise can be an ongoing process, with continuous evaluation and adjustment to ensure that the Assistive products continue to meet the needs of the target population and are cost-effective.



# METHODOLOGY OF THE PRIORITY NLEAP

During NEC Meetings held over last four years, the experts had suggested using a robust, unbiased, and objective method of prioritizing and shortlisting assistive products which can be adopted by different stakeholders for innovation, production, distribution, and provision. Such method was developed in-house with inputs from experts, partners, and stakeholders. It was named as Blind funnel method, wherein **11 relevant broad categories** of stakeholders were identified to make it as a representative of each and every profession or domains. These groups are selected and referenced from the concepts like Technology 5.0, Industry 4.0, Society 5.0 and Ayushman Bharat Digital Mission (ABDM).

The ICMR team assigned a timeline to come out with minimum number of essential assistive products for any state government or ministry to adopt them for procurement, distribution, and deployment to the end users.

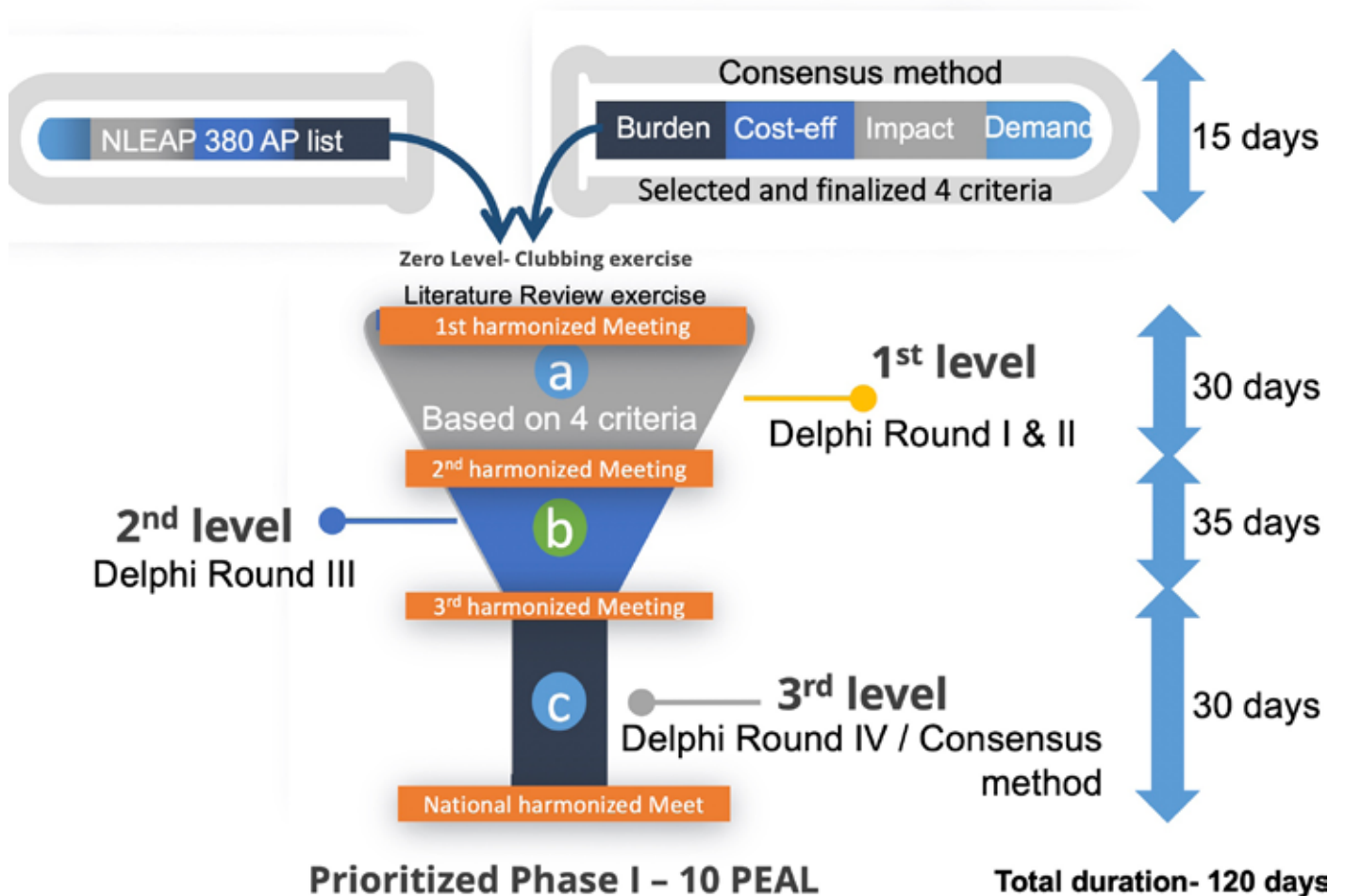
The Blind Funnel Method provides a structured and transparent approach for prioritizing essential assistive products in the development of a National List of Essential Assistive Products. By engaging a multidisciplinary expert panel and employing a systematic and unbiased evaluation process, this method aims to promote equitable access to high-quality assistive products for individuals with disabilities and older adults, enhancing their overall well-being and quality of life.

The Blind funnel method includes a 12-step approach **{Copyright: Salaj Rana, Ravinder Singh}**, regarding priority-setting exercise ensure that essential APs are available and accessible to those who need them the most, particularly in low and middle-income countries. It aims to harmonize the process of identifying and prioritizing essential APs across different stakeholders, to create a unified list of prioritized APs that can be used to guide national procurement and distribution efforts. The method includes the steps starting from identifying NLEAP of 380 APs and consensus method to select and finalize 4 indicators such as demand, burden, impact, and cost-effectiveness. Further steps included clubbing exercise, literature review, 1<sup>st</sup> harmonized stakeholders meeting, 1<sup>st</sup> level Delphi method, 2<sup>nd</sup> harmonized meeting, 2<sup>nd</sup> level Delphi method, 3<sup>rd</sup> harmonized stakeholders meeting, 3<sup>rd</sup> level consensus method followed by NLEAP launch or dissemination. A timeline for completing this exercise was agreed to be within 90-120 days.

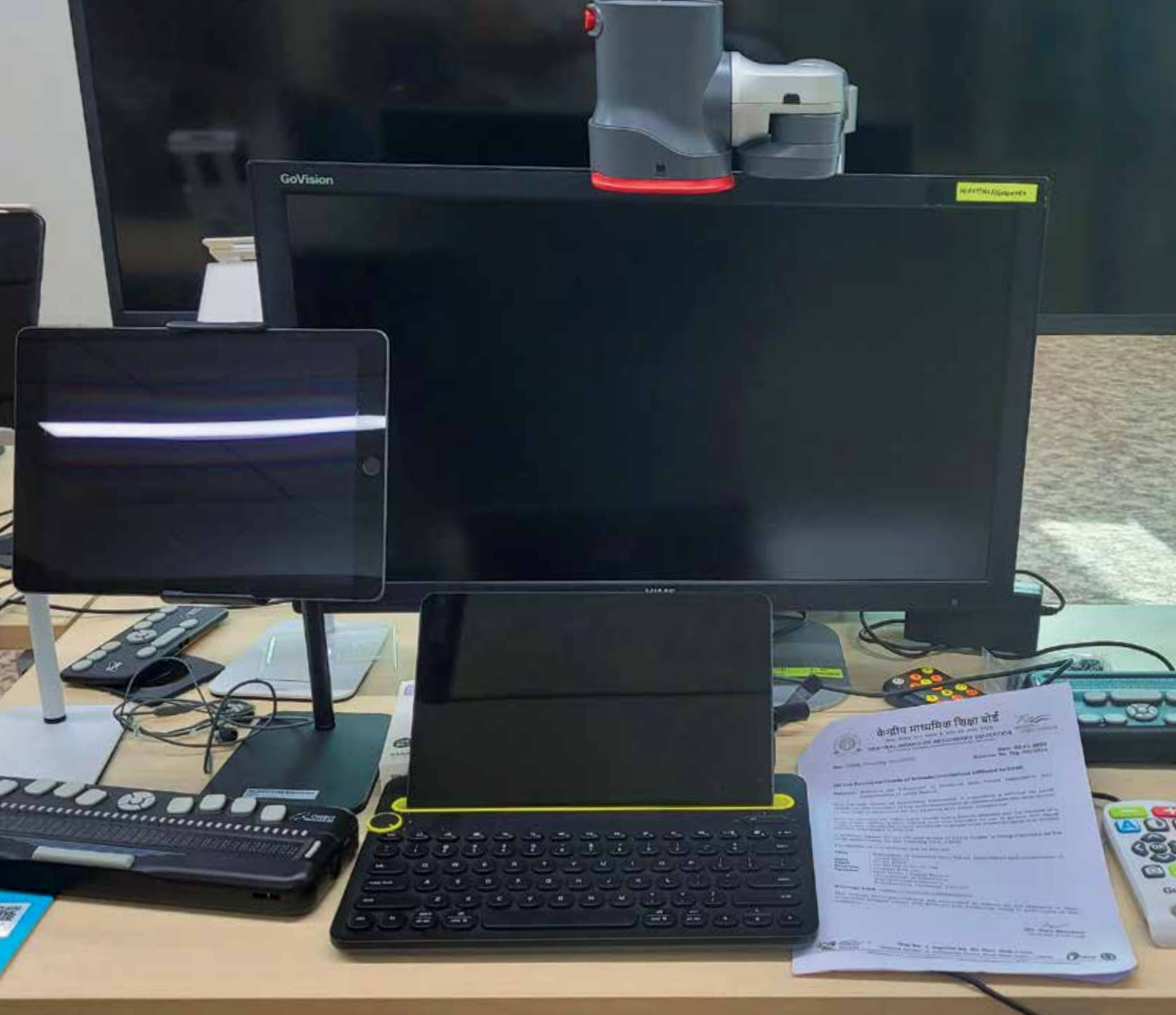
The Steps are as follows:

1. Identification/Collation of the Essential Assistive Products
2. Priority-setting Indicators selection
3. Identifying the relevant stakeholders
4. 0<sup>th</sup> Level – Clubbing exercise of priority-setting exercise (optional)
5. Literature/Desk Review exercise
6. 1<sup>st</sup> harmonized stakeholders meeting
7. 1<sup>st</sup> level of priority-setting exercise
8. 2<sup>nd</sup> harmonized stakeholders meeting
9. 2<sup>nd</sup> level of priority-setting exercise
10. 3<sup>rd</sup> harmonized stakeholders meeting
11. 3<sup>rd</sup> level of priority-setting exercise
12. National Dissemination Harmonized Meeting

# BLIND FUNNEL METHOD FOR PRIORITIZING INDICATORS AND ASSISTIVE PRODUCTS



**BLIND FUNNEL METHOD  
12-STEP  
APPROACH**

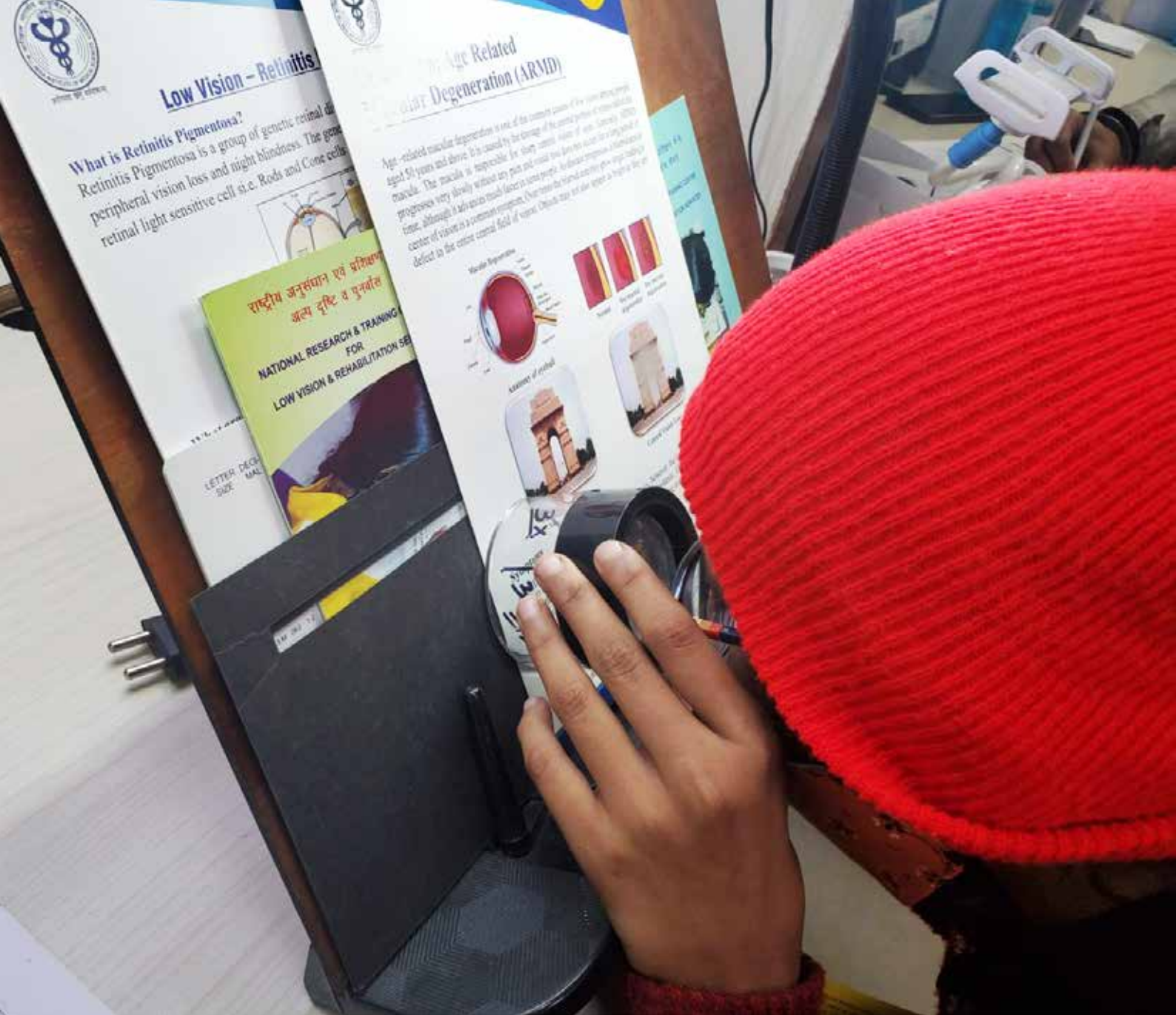


STEP 1



# IDENTIFICATION/COLLATION OF THE ESSENTIAL ASSISTIVE PRODUCTS

The National List of Essential Assistive Products (NLEAP) of 380 Assistive Products (APs) was compiled by the National Expert Committee (NEC) under the Indian Council of Medical Research (ICMR) for people with functional impairments. The process included four National Expert Committee (NEC) meetings – January, March, May, and June 2020. One meeting with International/Regional experts – January 2020. Eight expert sub-group meetings – Public Health, Engineers, Users (PwDs, Elderly), Policymakers (Programme Managers), PMR, Geriatrics, Paediatricians, Neurologists, and Psychologists in January to April 2020. Four major groups including – PMR, Public Health, Geriatrics, and Technology identified 370, 219, 35, and 67 APs respectively based on function/disability, disability and purpose, broad functions, and Complexity/Cost/Import-Export and categorized into various columns such as Product, ICF-Body structure, ICF-Body function, Type, Disease, Disability, Health Centre, ISO-BIS, Indigenous/Imported. All these lists were harmonised to make a comprehensive list of 380 assistive products.



# PRIORITY-SETTING INDICATORS SELECTION

Relevance to the stakeholders involved in the decisionmaking process helps to ensure that the indicators selected are seen as credible, which can in turn increase the likelihood that they will be used to inform procurement and distribution decisions. The selection of priority-setting indicators for APs is a complex process that requires careful consideration of multiple factors. By selecting the right indicators, decision-makers can prioritize the APs that would have the greatest impact on improving Assistive outcomes while making efficient use of available resources through methodologies like the consensus method selected by the scientific committee constituted by the organization.

## For this exercise, the indicators selected were:

1. **Burden of the disease:** This refers to the overall impact of a particular disease on a population;
2. **Impact:** This refers to the effects or consequences of a particular AP. E.g., if a new AP is introduced to impact a particular disease, it might be measured in terms of how many lives it affects and saves, how much it reduces the severity, or how much it reduces the burden of the disease;
3. **Demand:** This refers to a particular AP's level of desire or needs; and
4. **Cost-effectiveness:** This refers to the relationship between the cost of an intervention and the benefits that it provides. A cost-effective intervention in APs provides a high level of benefit relative to its cost.





# IDENTIFYING THE RELEVANT STAKEHOLDERS

It is important to engage the 11 stakeholders' groups as manufacturers, administrators, standardization, experts, policy-makers, allied private entities, NPOs (Non- Profit Organisations), Professionals, Academicians, End-users, Program managers and User Representatives in the priority setting exercise to ensure that the needs and perspectives of the target population are considered and reflected in the prioritization process. These groups are selected and referenced from the concepts like Technology 5.0, Industry 4.0, Society 5.0 and Ayushman Bharat Digital Mission (ABDM).

Priority-setting exercise for essential APs can be a complex and multi-faceted process that requires coordination and collaboration among various stakeholders to ensure that the needs and perspectives of the target population are considered and reflected in the prioritization process including below 11 Stakeholder groups.

## MANUFACTURERS

Involving manufacturers in creating an essential assistive products list leverages their technical expertise, promotes product innovation, addresses product availability and accessibility challenges, ensures quality assurance, considers cost factors, and facilitates partnership opportunities. Their involvement enhances the overall quality, effectiveness, and availability of the listed products, ultimately benefiting individuals with functional impairments and older adults who rely on assistive products for improved independence, functionality, and quality of life.

## ADMINISTRATORS

Involving administrators in creating an essential assistive products list brings expertise in policy alignment, resource management, service delivery integration, collaboration with stakeholders, evaluation and quality improvement, and advocacy and support. Their involvement ensures that the list aligns with existing policies, is feasible and realistic in terms of resource allocation, can be seamlessly integrated into healthcare delivery, reflects the needs and priorities of stakeholders, is subject to ongoing evaluation, and receives the necessary support for effective implementation.

## STANDARDIZATION EXPERTS

Involving standardization experts in creating an essential assistive products list brings expertise in ensuring product quality and safety, facilitating interoperability and compatibility, promoting market transparency and competition, harmonizing international standards, supporting regulation and policy development, and facilitating product evaluation and testing. Their involvement ensures that the listed products meet recognized standards, adhere to interoperability requirements, promote fair competition, comply with regulations, and undergo rigorous evaluation. This ultimately leads to the selection of high-quality, reliable, and safe assistive products that meet the needs of individuals with functional impairments and older adults.



## **POLICYMAKERS**

Involving policymakers in creating an essential assistive products list brings expertise in policy alignment, policy integration, advocacy, resource allocation, stakeholder engagement, and policy evaluation. Their involvement ensures that the list is aligned with broader healthcare policies, integrated into existing programs, receives political support and resource allocation, engages relevant stakeholders, and undergoes rigorous evaluation. This ultimately contributes to the effective provision and utilization of essential assistive products, improving the lives of individuals with functional impairments and older adults and promoting inclusive and equitable healthcare systems.

## **ALLIED PRIVATE ENTITIES**

Involving allied private entities in creating an essential assistive products list brings industry expertise, promotes product accessibility and availability, drives market competition and innovation, ensures a user-centered approach, supports customization and personalization, and fosters partnerships and collaborations. Their involvement enhances the overall quality, effectiveness, and availability of the listed products, contributing to improved independence, functionality, and quality of life for individuals with functional impairments and older adults.

## **NON-PROFIT ORGANIZATIONS**

Involving non-profit organizations in creating an essential assistive products list brings expertise in user advocacy, user needs assessment, accessibility and affordability considerations, network and reach, evaluation and impact assessment, and policy and advocacy support. Their involvement ensures that the list reflects the needs and preferences of user groups, promotes accessible and affordable products, leverages partnerships, generates evidence on product effectiveness, and contributes to policy and advocacy efforts. This ultimately leads to the selection and provision of essential assistive products that effectively meet the needs of individuals with functional impairments and older adults.

## **PROFESSIONALS**

Involving professionals in creating an essential assistive products list brings expert knowledge, clinical relevance, need assessment capabilities, continuity of care, training and education support, and quality assurance and evaluation expertise. Their involvement ensures that the listed products meet professional standards, address specific needs, align with treatment plans, promote effective utilization, and undergo rigorous evaluation. This ultimately leads to the provision of high-quality, effective, and user-centered assistive products that improve the functional outcomes and quality of life for individuals with functional impairments and older adults.

## **ACADEMICIANS**

Involving academicians in creating an essential assistive products list brings expertise in research and evidence-based practices, technological advancements, interdisciplinary collaboration, education and training, critical evaluation, and future research and innovation. Their involvement ensures that the list is based on sound scientific principles, incorporates the latest advancements, promotes interdisciplinary collaboration, supports education and training efforts, undergoes rigorous evaluation, and drives future research and innovation. This ultimately leads to the selection of high-quality, evidence-based, and user-centered assistive products that improve the lives of individuals with functional impairments and older adults.

## USERS REPRESENTATIVES

Involving users' representatives in creating an essential assistive products list brings a user-centric approach, empowers individuals with functional impairments and older adults, provides practical knowledge and feedback, ensures user satisfaction and acceptance, promotes peer support and advocacy, and fosters co-creation and ownership. Their involvement enhances the relevance, effectiveness, and acceptance of the listed products, ultimately leading to improved independence, functionality, and quality of life for individuals with functional impairments and older adults.

## END USERS

Involving end users in creating an essential assistive products list is crucial for ensuring user-centeredness, addressing diverse needs, identifying gaps and emerging needs, empowering users, and enhancing user satisfaction and adherence. Their active participation leads to more effective, relevant, and inclusive assistive products that truly meet the needs of individuals with functional impairments and older adults, promoting their independence, well-being, and social inclusion.

## PROGRAM MANAGERS

There are around 36 national programs and schemes under 15 different Ministries, wherein assistive products can be integrated. Involving program managers in creating an essential assistive products list brings operational expertise, resource allocation insights, program integration considerations, stakeholder engagement, monitoring and evaluation capabilities, and a focus on program scalability and sustainability. Their involvement ensures that the essential assistive products list is not only effective in theory but also practical, feasible, and aligned with the broader healthcare program goals and objectives.

By engaging these various stakeholders, the priority-setting exercise can be informed by a diverse range of perspectives and expertise, helping to ensure that the prioritization of APs reflects the needs of the target population and is aligned with the broader goals of the healthcare system.



# 0<sup>TH</sup> LEVEL – CLUBBING OF THE NLEAP

It involved a clubbing of the NLEAP into various domains based on their intended use, need, and target end users. The clubbing of APs considered for a better understanding of the relevant participating stakeholders. Under this step, 380 APs were categorized into 6 domains such as loco-motor, visual, hearing, self-care, cognition, and communication which included 103 broad assistive products categories.





# LITERATURE/DESK REVIEW EXERCISE

It involved a robust literature/desk review of the existing literature and data on the impact, burden, demand, and cost-effectiveness of the APs. The research question was “What are the top assistive products for improving Activities of Daily Living (ADL) and enhancing the quality of life for individuals with functional impairments or age-related limitations, based on a literature review?” The search for relevant literature was done in PubMed, Web of Science, Cochrane Database of Systematic Reviews, Google Scholar and Scopus electronic databases from latest 5 years i.e. 2018 to 2023 using an advanced search method.

The keywords used were “Assistive devices, Assistive Products, Assistive Technology, Health, Need, Use, Innovation, Burden, Impact, Demand, and Cost-effectiveness”. The Boolean terms “AND”, “OR” were used along with keywords. All relevant English-language literature, regardless of methodological quality, were included. The selection of studies began with screening the titles and abstracts of potential studies to identify those that appear relevant to the research question.

The articles of potentially relevant studies were reviewed to determine whether they meet the inclusion criteria. The inclusion criteria were to find out the studies which used assistive products, technology, or device carried out during last 5 years. The exclusion criteria was any study which was conducted before 2018 and also where above keywords were not used. The author, the title of the study, purpose, design, methodology, and results were among the data retrieved. Three reviewers collaborated to create a data-extracting form to select which variables to extract. In an iterative procedure, one reviewer separately plotted the data, reviewed the results, and constantly modified the data-extracting form.

Of the included articles, 155 APs were evaluated. The majority of studies were in the domain of loco-motor (52%). The visual, hearing, self-care, and cognition domains each represented 11% of the studies included. The articles which mentioned the communication domain represented only 4%. Finally, top 54 APs were identified through the desk review.



# 1<sup>ST</sup> HARMONIZED STAKEHOLDERS MEETING AND 1<sup>ST</sup> LEVEL OF PRIORITY- SETTING EXERCISE

After the completion of the desk review exercise, we reached the level 1 of the priority-setting exercise which is an approach to involve the 1st harmonized stakeholders meeting, where relevant stakeholders identified in the 11 categories came together to identify and prioritize the needs of the target population. These meetings provide a platform for discussions on the most pressing needs based on methodologies like the Delphi method being deployed to prioritize at 1st level, the impact of Assistive products, the burden of use, and the cost-effectiveness of available options. The information and insights gathered from these meetings inform the priority-setting process and help to ensure that the prioritization of Assistive products reflects the needs and perspectives of the target population. This step will lead to the narrowing of the NLEAP addressing different domains.

This step involved two rounds. Round I includes a list of 380 APs from NLEAP, with an objective of reducing the number of selected APs from 380 to 100. Although, the target was to identify top 100 APs, but a total of 103 products were selected by the stakeholders from extensive list of 380 products. In Round II, the list of 103 APs, which had been prioritized in the Round I, was included, with the aim of further narrowing down the selection from 103 to 50 assistive products. The final list of Round II came to 59 APs.





# 2<sup>ND</sup> HARMONIZED STAKEHOLDERS MEETING AND 2<sup>ND</sup> LEVEL OF PRIORITY- SETTING EXERCISE

It involves 2<sup>nd</sup> harmonized stakeholders meeting, where relevant stakeholders would be different and blinded in the defined stakeholders' groups to promote a coordinated and consistent approach to priority setting, helping to ensure that the most essential APs are made available to those who need them, regardless of differences. The methodology used was Delphi method.

This step involved three rounds, starting with Round I containing a list of 59 APs that had been shortlisted during the previous stakeholders' meeting with an objective of reducing the number of selected APs from 59 to 20. It was followed by Round II containing a list of 54 APs shortlisted in the desk review, with an objective of reducing the number of selected APs from 54 to 20. In Round III, included a list of 100 APs extracted from the WHO-APL list, which originally consisted of 50 APs inclusive of Assistive Technology (AT) categories, with an objective of reducing the number of selected APs from 100 to 30.

The final list of 21 APs was prepared after Round 3 by harmonisation of all three prioritised lists.



# PRIORITIZED TOP 21 ASSISTIVE PRODUCTS



1 HEARING AIDS



2 VISUAL AIDS



3 WHEELCHAIRS



4 WALKER/ROLLATORS



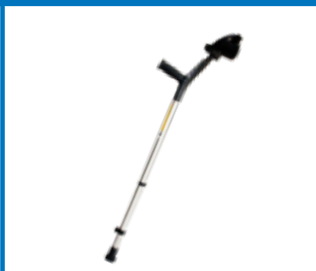
5 CANES FOR VISUALLY IMPAIRED



6 CANES FOR LOCOMOTION



7 CRUTCHES



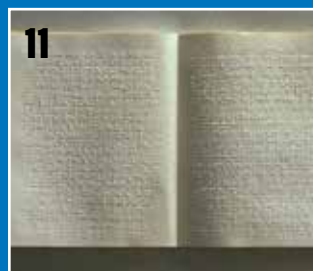
8 ORTHOSIS



9 PROSTHESIS



10 THERAPEUTIC FOOTWEAR



11 BRAILLE





TACTILE AND AUDIO SIGNAGES



PORTABLE RAMPS



TRICYCLES



PHONE



COCHLEAR IMPLANT



DEAFBLIND COMMUNICATOR



RAIL BAR AND BEDSIDE GUARDS



MODIFIED COMMODE



FALL DETECTOR



INCONTINENCE PRODUCTS

# NATIONAL LIST OF ESSENTIAL ASSISTIVE PRODUCTS (NLEAP) - 2023

The list of assistive products has been developed after extensive deliberations with experts, stakeholders and end-users. This list includes assistive products for all age groups. In particular, special attention should be given for Paediatric APs, which will be different in size, shape, design etc.

S.NO.	ASSISTIVE PRODUCT	ICF- BODY FUNCTION	DISABILITY	DESCRIPTION/TYPES	RATIONALE
1	Hearing Aids	Hearing function	Hearing	Digital hearing Aids with necessary accessories like batteries	To aid in hearing in sensori-neural hearing loss
2	Visual Aids	Visual function	Visual, Self-care	Spectacles - Low vision, long distance, short distance, filter and protection	To aid in comprehending situations for the weak eyesight/ persons with visual impairments
			Visual	Optical/Digital magnifier	To aid in comprehending situations for the weak eyesight/persons with visual impairments
3	Wheelchairs	Power of all muscles of the body	Locomotor	Manual Wheelchair-Bimanual Propulsion	Accessible and adaptable and can be steered by occupant itself as well as sports/recreation/Leisure activities
				Manual Wheelchair-Push Type	Accessible and needed for transport with help of the care-giver
				Manual Wheelchair-Single side Propulsion	Accessible and adaptable and can be steered by occupant itself as well as sports/recreation/ Leisure activities
4	Walkers and Rollators	Gait pattern function	Locomotor	Walkers/Walking frames	For elderly with mild physical/ locomotor/mobility impairment
				Rollators	Used in case of Advanced/severe physical/locomotor/impairment
5	Canes for Visually Impaired	Visual Function	Visual, Self-care	Cane- White/Red/ Ultrasound/Laser	To aid in comprehending situations for the weak eyesight/blind patients
6	Canes or Sticks for Locomotion	Gait pattern function	Locomotor	Quad Cane	For more stability
				Walking Cane/Stick	For elderly as easy mobility aid
7	Crutches	Gait pattern function	Locomotor	Crutches - Axilla	For providing support and stability for individuals with temporary mobility impairments
				Crutches - Elbow	For enhanced stability and weight distribution for individuals with long-term mobility challenges
8	Orthosis	Stability of several joints	Locomotor	Cervical Orthosis - Soft/ rigid	Used in cervical spine injury which should be managed at tertiary level
				Off-loader knee Orthosis	Used in knee osteoarthritis

9	Prosthesis	Mobility of several joints	Locomotor	Trans-tibial Prosthesis	Surgical management can be done at Tertiary Care Healthcare settings. Proper fitting and use by the professionals of the prosthesis is required/Rehabilitation can be done at CHC level
10	Therapeutic Footwear	Mobility	Locomotor	Therapeutic footwear	Required for the care of foot in patients with chronic diseases as well Locomotor/Mobility
11	Braille	Seeing function	Visual	Braille Reading material	To aid in comprehending situations for the weak eyesight/blind patients
		Learning and understanding function		Braille Display	To aid in comprehending situations for the weak eyesight/blind patients
12	Tactile and Audio Signages	Seeing function	Visual	Tactile and Audio Signages	To aid in comprehending situations for the weak eyesight/blind patients
13	Portable Ramps	Gait pattern function	Locomotor	Portable Ramps	Should be available for easy transfer and movement
14	Tricycles	Power of all muscles of the body	Locomotor	Manual Tricycle	Required for advanced mobility for long distance or workplace as well as sports/recreation/Leisure activities
				Powered Tricycle	Required for advanced mobility for long distance or workplace
15	Phone	Seeing function	Visual	Smart Phone with modification – Visual	To aid in comprehending situations for the weak eyesight/persons with visual impairments, as well as hearing impairment
		Hearing function	Hearing		
		Higher level cognitive function	Self care	Simplified mobile phone – Cognition	To be used by the older persons
16	Cochlear Implants	Hearing function	Hearing	Cochlear Implants	To aid in hearing in sensori-neural hearing loss (SNHL)
17	Deaf-Blind Communicators	Communication	Communication, Self-care	Deaf-Blind Communicators	Used for accustomed ways of communication
18	Rail Bars and Bedside guards	Gait pattern function	Locomotor	Rail and Grab Bars	Needed for balance and support
		IADL (Instrumental Activities of Daily Living)	Self care	Bedside Guards	Helpful/act in preventing the falls
19	Modified Commode Chair	Power, tone of limbs, stability of lower limbs	Self care	Commode Chair	Helpful/act in preventing the falls
20	Fall Detectors	IADL	Cognitive, Self-care	Fall Detectors	Useful during activities of daily living (ADL)
21	Incontinence Products	Urinary incontinence	Self care	Incontinence Products, Absorbents	They are crucial for the self-care among older persons and patients in ICUs





# 3<sup>RD</sup> HARMONIZED STAKEHOLDERS MEETING AND 3<sup>RD</sup> LEVEL OF PRIORITY- SETTING EXERCISE

It involves meeting of the stakeholders' to come together to participate in the meeting to discuss the till date progress and development including inputs from the relevant stakeholder participants. It would be focussing on the selection of 10 Prioritized APs (Phase-I) as selected by the methodology like the Consensus method by the involvement of the stakeholders like national program managers and other related experts.

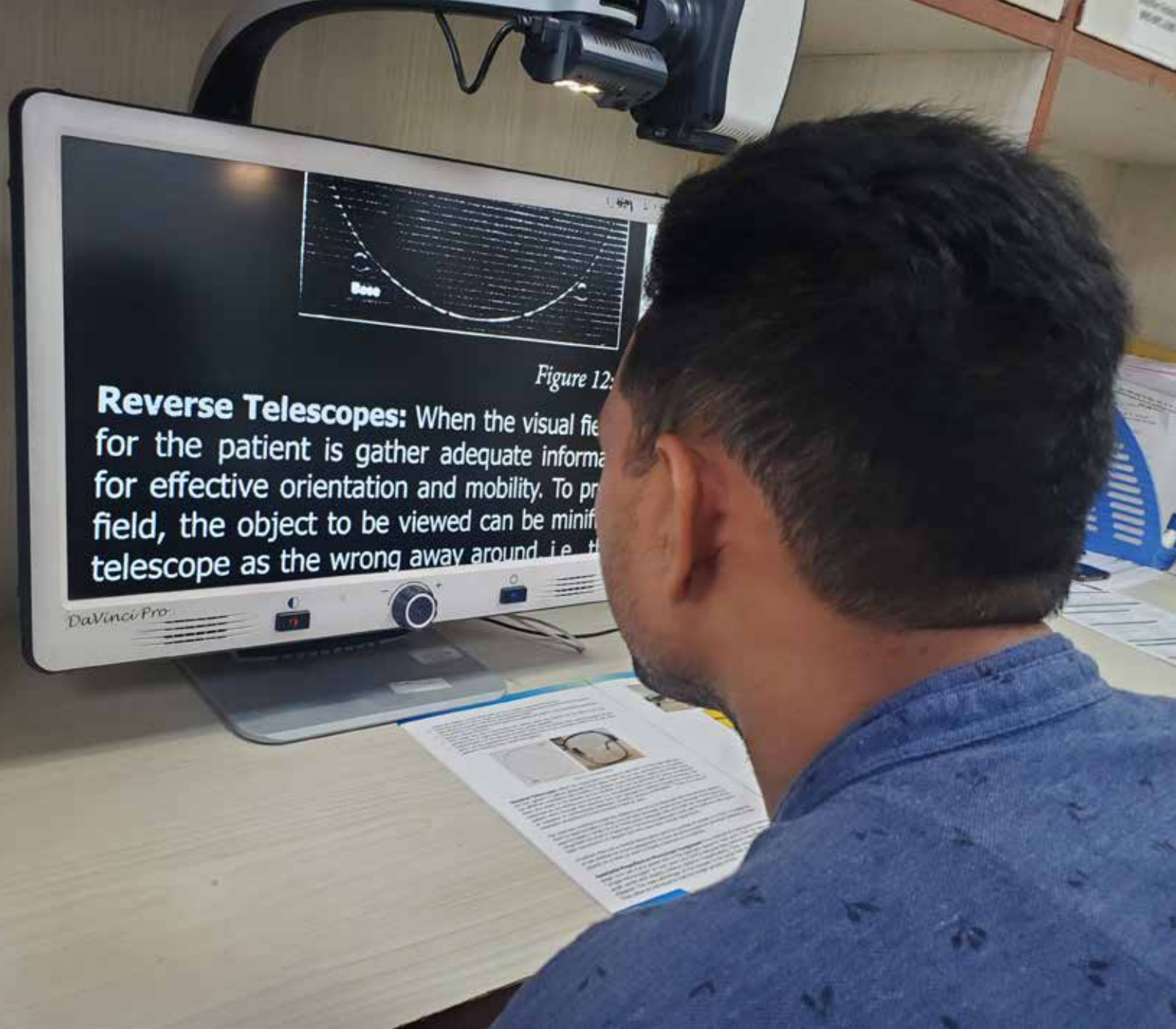
This step involved consensus-scoring method; APs were evaluated based on the four pre-selected indicators, namely Burden, Impact, Demand, and Cost-effectiveness, as established in Step 2. Each participant was assigned to submit their responses via scoring (0 to 10) each assistive product from the final list of 2nd Stakeholders' Meeting to indicate their selection and adhere to the target.

The list of 21 APs was finalised by harmonisation of all respondents score sheets.



# NATIONAL DISSEMINATION HARMONIZED MEETING

It involves representatives from government agencies, international organizations, civil society groups, and the private sector who came together to discuss and agree on the most critical APs that should be prioritized for procurement and distribution. Overall, the National Dissemination Harmonised Meeting for prioritizing essential APs is an important step in ensuring that APs are available and accessible to those who need them the most. It is an example of how collaboration and consensus-building among different stakeholders could lead to more effective and efficient systems that could improve APs outcomes for all.



# EXPECTED OUTCOMES

The outcomes of the priority-setting exercise of NLEAP could have a significant impact on the assistance of the population, particularly in resource-constrained settings. Identification and prioritization of essential APs are based on a consensus among different stakeholders which could help optimize the utilization of the limited resources available for APs and are used most effectively and efficiently. Also, continuously evaluating the effectiveness of the APs and modifying them as needed to ensure they continue to meet the needs of the target population while also being cost-effective would be required. The expected outcomes of implementing such a list may include:



## IMPROVED ACCESSIBILITY

The list can help identify and prioritize the most essential assistive products needed by individuals with functional impairments. By ensuring their availability, it can significantly improve accessibility and independence for people with functional impairments in various aspects of life, such as mobility, communication, self-care, and education.



## ENHANCED QUALITY OF LIFE

Access to essential assistive products can directly contribute to an improved quality of life for individuals with functional impairments. It can enable them to participate more fully in social, educational, and professional activities, enhancing their overall wellbeing and sense of inclusion in society.



## INCREASED EMPOWERMENT AND AUTONOMY

Having access to assistive products that meet their specific needs empowers individuals with functional impairments to have greater control over their lives. It enables them to perform tasks independently, make informed choices, and engage in meaningful activities, fostering self-confidence and self-determination.



## BETTER HEALTH OUTCOMES

Essential assistive products, such as mobility aids, hearing aids, or communication devices, can have a positive impact on the health and well-being of individuals with functional impairments. By addressing their functional limitations, these products can promote physical and mental health, prevent secondary complications, and facilitate active participation in healthcare and rehabilitation.



## ECONOMIC BENEFITS

Ensuring access to essential assistive products can have economic benefits at both individual and societal levels. By enabling people with functional impairments to participate in education and employment, it can enhance their productivity, employability, and income-generating potential. Moreover, it can reduce healthcare costs associated with preventable complications or prolonged hospital stays.



## POLICY GUIDANCE AND RESOURCE ALLOCATION

The prioritized list serves as a valuable tool for policymakers and healthcare providers to guide decision-making, resource allocation, and policy development related to assistive products. It helps identify the most critical products, informs procurement strategies, and ensures that limited resources are directed to where they are most needed.



# WAY FORWARD

## 1. PRODUCTS

- **Enhanced Integration:** Assistive technologies will become seamlessly integrated into mainstream products, such as smartphones, wearables, and home appliances, making them more accessible to a broader user base.
- **Personalization:** There will be an increased focus on customizable assistive technology products that can be tailored to individual needs and preferences.
- **Internet of Things (IoT):** Assistive devices will be connected to IoT networks, allowing for greater automation, remote monitoring, and data exchange to improve functionality and user experience.

## 2. PROVISION

- **Affordable Accessibility:** Efforts will be made to reduce the cost of assistive technology products, making them more affordable and accessible to individuals with disabilities.
- **Improved Distribution Channels:** There will be advancements in distribution channels to ensure wider availability of assistive technology devices in both urban and rural areas.
- **International Collaboration:** Governments and organizations will collaborate on a global scale to improve the provision of assistive technology, sharing best practices and resources.

## 3. PERSONNEL

- **Specialized Training:** Professionals in various fields, such as healthcare, education, and technology, will receive specialized training to effectively use and support assistive technology.
- **Increased Awareness:** Efforts will be made to raise awareness among professionals and the general public about the benefits and applications of assistive technology, reducing stigma and promoting inclusivity.
- **Multidisciplinary Teams:** Collaborative teams comprising experts from different disciplines will work together to develop innovative assistive technology solutions and provide comprehensive support to users.

## 4. PEOPLE

- **User-Centered Design:** Assistive technology will be designed with a strong emphasis on user feedback, involving individuals with disabilities throughout the development process to ensure their needs are met effectively.
- **User Empowerment:** Users will have greater control over their assistive technology devices, with customizable settings and interfaces, enabling them to adapt the technology to their evolving needs.
- **Social Connectivity:** Assistive technology will facilitate improved social connectivity, enabling individuals with disabilities to engage in online communities, social networks, and virtual environments, fostering inclusivity and reducing isolation.

## 5. POLICY

- **Accessibility Standards:** Governments will continue to develop and enforce accessibility standards to ensure that products, services, and digital platforms are designed inclusively, making assistive technology a requirement rather than an afterthought.
- **Funding and Insurance Coverage:** Efforts will be made to improve funding options and insurance coverage for assistive technology, reducing financial barriers and enabling more people to access the devices they need.
- **Data Privacy and Security:** Policies and regulations will be established to protect the privacy and security of user data generated by assistive technology devices, ensuring that individuals' sensitive information is safeguarded.



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hello



how are you.



I am not...ng good



bye



good morning



I am fine



good afternoon



Home



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