A Global Standard for Assistive Technology Services
Linda-Jeanne Elsaesser, PT, ATP

- President, Elsaesser Consulting, Saylorsburg PA, USA
- Physical Therapist and Rehabilitation Engineering and Assistive Technology Society of North America (RESNA) certified Assistive Technology Professional (ATP) 1996
- Provider of mobility-related assistive technology services to individuals and organizations since 1982
  Classification and terminology of assistive products for persons with disability
Invitation to the ISO/TC 173 Assistive Products Seminar, Thursday 10th May 2018 Crowne Plaza Hotel, Nairobi, Kenya

Now it is time to register for the Assistive Products International Seminar organized by ISO Technical Committee 173 Assistive Products and hosted by Kenya Bureau of Standards (KEBS) on Thursday 10th May 2018 at the Crowne Plaza Hotel, Nairobi, Kenya.

For reservations to the seminar please contact the following person:
Luiza Kiguta: email: kigutal@kebs.org, Tel. 0722856345.

Theme: "ACCESS TO GOOD QUALITY AND AFFORDABLE ASSISTIVE PRODUCTS"

Access to good quality and affordable assistive products has been mandated by the Convention on the Rights of Persons with Disabilities (CRPD) for ten years but still only 10% of people in need of assistive products have access to them. One of the elements of adjusting this situation is efficient production, procurement and provision of assistive products and consequently, the role of standards and standardization.

The seminar focuses on standard implementation and standardization development for assistive products and related services, especially in low and middle-income countries. The seminar is open to the public as well as for all attending ISO TC 173 and related standardization working groups meeting during the week.

Public

• Consumers (user, assist)
• Providers of:
  • Products (designers, engineers, manufacturers, distributers, suppliers)
  • Services (clinicians, counselors, educators, specialists, technologists, O&P)
• System (administrators)
• Policies (regulators)
• Researchers (basic and applied)
• Academics (post-secondary education and training)
United Nations

2030 Sustainable Development Goals continues efforts to end all forms of poverty, fight inequalities, and protect the environment while assuring no one is left behind.
The World Health Assembly as the decision-making body for the World Health Organization (WHO) acknowledged that the UN development goals would not be achieved without addressing issues related to the health and rehabilitation of persons with disabilities.
International Classification of Functioning, Disability, and Health (ICF) offered a different approach where disability is seen as the negative interaction between an individual (with a health condition) and that individual's contextual factors (environmental and personal factors).
2006
UN Convention on the Rights of Persons with Disabilities (CRPD)

general obligations included access to assistive technologies
Global priority research agenda for improving access to high-quality affordable assistive technology

2013
WHO was requested to develop and coordinate a global initiative to realize the obligations of the Convention on the Rights of Persons with Disabilities towards increasing access to assistive technology

2014
Global Cooperation on Assistive Technology (GATE) was initiated

2015
WHO GATE Research Group meeting in Budapest
Nominated to participate
Global Cooperation on Assistive Technology (GATE)

Key stakeholders at a side event of the High-level meeting of the General Assembly on disability and development, New York, United States of America, 23 September 2013, requested WHO to develop and coordinate a global initiative to realize the objectives of the Convention on the Rights of Persons with Disabilities towards increasing access to assistive technology (article 32 in particular).

In response to this, WHO organized a key stakeholders meeting in Geneva on 3 and 4 July 2014 and established a global initiative, the Global Cooperation on Assistive Technology (GATE). This is in partnership with stakeholders who represent international organizations, donor agencies, professional organizations, academia, and user groups.

The vision of the GATE initiative: A world where everyone in need has high-quality, affordable assistive products to lead a healthy, productive and dignified life.

The GATE initiative has only one goal: to improve access to high-quality, affordable assistive products globally. To achieve this, the GATE initiative will focus on four interlinked activities (4P):

1. Policy: assistive technology policy framework (ATP)
2. Products: Priority Assistive Products List (APL)
3. Personnel: assistive products training package (APT)

Assistive technology:
Is the application of organized knowledge and skills related to assistive products, including systems and services. Assistive technology is a subset of health technology.

Assistive products:
Any external product (including 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. Assistive products are also used to prevent impairments and secondary health conditions.

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.

Related links:
- Ageing & life course
- Blindness/Deafness prevention
- Disability and rehabilitation
- Essential medicines and health products
- Health systems
- Health technology
- Medical devices
- WHO Kobe centre
Furthered the aims of GATE

Summit Outcomes include:
A Global Standard for Assistive Technology Services

91 innovation snapshots to further global co-operation and
Summit Position Papers

Assistive Technology Provision Position Paper

“It is time to develop an AT provision standard.”
teaching hospital with international students from all disciplines, needed common language and framework for non-native English speakers, evidence-based reference materials, learn how to select products based on the user’s needs not the function of rapidly evolving products, clearly identify the intended functional outcome, provide knowledge and skill set that would be relevant to any country, understand cost-effectiveness and efficiency teach them how to fish…
Disability and Rehabilitation: Assistive Technology, September 2011; 6(5): 386–401

RESEARCH PAPER

Provision of assistive technology services method (ATSM) according to evidence-based information and knowledge management

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¹Elsaesser Consulting Inc., P.O. Box 466, Scythesburg 18353, USA and ²SUNY Buffalo, Rehabilitation Sciences, Buffalo 14214, USA

Accepted January 2011

Abstract

Purpose. This article develops a standardized method for assistive technology service (ATS) provision and a logical basis for research to improve health care quality. The method is ‘interoperable’ across disabilities, disciplines, assistive technology devices and ATSs.

Background. Absence of a standardized and interoperable method for ATS provision results in ineffective communication between providers, manufacturers, researchers, policy-makers and individuals with disabilities (TWD), a fragmented service delivery system, inefficient resource allocation and sub-optimal outcomes.

Objectives. Synthesise a standardized, interoperable AT service method (ATSM) fully consistent with key guidelines, systems, models and Federal legislation. Express the ATSM using common and unambiguous language.

Results. Guidelines, systems, models and Federal legislation relevant to ATS provision are reviewed. These include the RESNA Guidelines for Knowledge and Skills for Provision of Assistive Technology Products and Services (RESNA Guidelines), IMPACT2 model, international classification of functioning, disability and health (ICF) and AT device classification (ATDC). Federal legislation includes the Assistive Technology Act of 2004, Americans with Disabilities Act of 2008 and Social Security Act. Based on these findings, the ATSM is synthesised and translated into common and accessible language.

Conclusion. ATSM usage will improve communication between stakeholders, service delivery coherence, resource allocation and intervention outcomes.

Keywords: Rehabilitation Engineering and Assistive Technology Society of North America, RESNA, IMPACT2, World Health Organisation, international classification of functioning, disability and health, ICF, assistive technology device classification, Americans with Disabilities Act, Assistive Technology Act, Social Security Act
GATE assistive products service delivery model (APS)

Provision includes

- availability of affordable high quality assistive products and services,
- information systems,
- professional services, eligibility and funding mechanisms,
- infrastructure for maintenance and repair,
- AT service delivery systems and models,
- effects, costs and economic impact of AT and related services
Assistive technology services are provided:

- to people with widely varying levels of abilities, ages, sizes
- for many, multiple reasons
- at numerous locations
- by multiple disciplines
- in international contexts

- using thousands of diverse products
Assistive Technology services?

GATE

- Provision: assistive products require a service delivery model
- Assistive technology is the application of knowledge and skills...including services
<table>
<thead>
<tr>
<th><strong>Assistive Technology definitions</strong></th>
<th>What</th>
<th>Why</th>
<th>Who</th>
<th>How</th>
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<tbody>
<tr>
<td><strong>US Assistive Technology Act</strong> (defines services)</td>
<td>The term 'assistive technology' means technology designed to be utilized in an assistive technology device or assistive technology service. The term 'assistive technology device' means any item, piece of equipment, or product system, whether acquired commercially, modified, or customized, that is used to increase, maintain, or improve functional capabilities.</td>
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<td><strong>WHO</strong></td>
<td>Health technology</td>
<td>Medical device (brief): An article, instrument, apparatus or machine that is used in the prevention, diagnosis or treatment of illness or disease, or for detecting, measuring, restoring, correcting or modifying the structure or function of the body for some health purpose. Typically, the purpose of a medical device is not achieved by pharmacological, immunological or metabolic means.</td>
<td>Medical technology</td>
<td>Medical equipment:Medical devices requiring calibration, maintenance, repair, user training and decommissioning – activities usually managed by clinical engineers. Medical equipment is used for the specific purposes of diagnosis and treatment of disease or rehabilitation following disease or injury; it can be used either alone or in combination with any accessory, consumable or other piece of medical equipment. Medical equipment excludes implantable, disposable or single-use medical devices.</td>
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<td><strong>WHO-ICF</strong></td>
<td>assistive devices, assistive products and technology, any product, instrument, equipment or technology adapted or specially designed</td>
<td>for improving the functioning of a disabled person.</td>
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<td><strong>WHO-GATE</strong></td>
<td>Assistive technology is the application of organized knowledge and skills related to assistive products, including devices and services. Assistive technology is a subset of health technology. Any external product (including 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. Assistive products are also used to prevent impairments and secondary health conditions.</td>
<td>persons with disabilities CRPD and people with functional limitations</td>
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<td><strong>ISO 9999</strong></td>
<td>Any product (including devices, equipment, instruments and software) especially produced or generally available, for participation- to protect, support, train, measure or substitute for body functions/structures and activities, or - to prevent impairments, activity limitations or participation restrictions</td>
<td>used by or for persons with disability</td>
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ASSISTIVE PRODUCTS?
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<th>WHERE/HTA</th>
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**Normative Vocabulary**

only one term corresponds to one concept and only one ISO 10241

Technology is defined as the application of scientific knowledge and skills for practical purposes. Source: English dictionary

Health technology is the application of organized knowledge and skills in the form of devices, medicines, vaccines, procedures and systems. A health intervention is defined as an act performed for, with or on behalf of a person or a population whose solutions primarily used to treat medical conditions, primarily persons with disabilities AND for use by all people to the greatest extent possible regardless of age, size, or ability technology.

Technology includes: interventions primarily used to treat medical conditions, solutions for people with functional limitations, primarily persons with disabilities AND for use by all people to the greatest extent possible regardless of age, size, or ability technology. 

Assisting technology products including generally available items and assistive products supported by provide and services for advice on the selection, acquisition, and use of technology used by people with functional limitations, primarily persons with disabilities, CRPD to optimize manage, improve, maintain, prevent, promote, etc. participation in their life situations. ICF

Persons with disabilities are those with long term impairments hindered by barriers to their full inclusion in society. Persons with disabilities have the right to choose assistive technology that includes commercially available items and technologies.

ISO 9999:2016 Assistive products (including software) are classified according to their function. Function is defined as the purpose for which a thing is suited; English dictionary. Classify is defined as arranging according to certain attributes a practical and meaningful set of related physiological functions, anatomical structures, actions, tasks, or areas of life.
Normative vocabulary

The ultimate objective of the standardization process is to obtain a normative vocabulary in which only one term corresponds to one concept and only one concept corresponds to one term.

ISO 12041 International terminology standards- Preparation and layout
US Assistive Technology Act

The term `assistive technology service' means any service that directly assists an individual with a disability in the selection, acquisition, or use of an assistive technology device. Such term includes--
(A) the evaluation of the assistive technology needs of an individual with a disability, including a functional evaluation of the impact of the provision of appropriate assistive technology and appropriate services to the individual in the customary environment of the individual;

(B) a service consisting of purchasing, leasing, or otherwise providing for the acquisition of assistive technology devices by individuals with disabilities;

(C) a service consisting of selecting, designing, fitting, customizing, adapting, applying, maintaining, repairing, replacing, or donating assistive technology devices;
(D) coordination and use of necessary therapies, interventions, or services with assistive technology devices, such as therapies, interventions, or services associated with education and rehabilitation plans and programs;

(E) training or technical assistance for an individual with a disability or, where appropriate, the family members, guardians, advocates, or authorized representatives of such an individual;

(F) training or technical assistance for professionals (including individuals providing education and rehabilitation services and entities that manufacture or sell assistive technology devices), employers, providers of employment and training services, or other individuals who provide services to, employ, or are otherwise substantially involved in the major life functions of individuals with disabilities; and
(G) a service consisting of expanding the availability of access to technology, including electronic and information technology, to individuals with disabilities.
Assistive Technology

- includes products and services used to optimize the health and well-being of people with functional limitations.

- services directly assist people in the selection, acquisition, and use of assistive products.
Why is the lack of a standard a problem?

- 1980’s lack of education, experience, knowledge; needed to establish competence
  - still no standardized curriculum for multidisciplinary provision of services or mandatory inclusion into clinical programs

- 1990’s increased emphasis on productivity and accountability; needed to improve efficiency, assure effectiveness and demonstrate intended outcomes are met
  - without identification of process cannot look to performance standards

- 2000’s decline in access to products and services due to policy changes with emphasis on cost containment
  - lack of evidence for comparative effectiveness and return on investment research establishing the value of AT
Without a standardized method or tool to connect services and outcomes, there is a lack of comparable data for AT, leading to problems in assessing the quality of services, coordination of systems, and the collection of data to inform policy decision making.
Evidence-based management- means finding the best evidence that you can, facing those facts, and acting on those facts
ISO was founded with the idea of answering a fundamental question: what's the best way of doing this?

Service architecture …must be able to comprise all relevant information and all business workflows, structuring them according to criteria and paradigms independent from specific sectorial aspects, temporary requirements or technological solutions.

Standards: the solution for global services
Assistive Technology Service Method (ATSM)

- User centric, evidence-based, cross-disability, multi-disciplinary, trans-environmental
- Enables application of discipline specific standards of practice and ethical codes
- Incorporates ISO standards for terminology and services to improve communication
- Indicates what information should be collected; RESNA guidelines on knowledge and skills for provision of assistive technology 1997
- Recognizes the value the WHO Family of International Classifications especially the common language and framework of the ICF 2001

30 years later…
Assistive Technology Service Method (ATSM)

- Understands the need to assess all variables that impact outcomes of assistive technology (IMPACT2 model 2004)
- Recognizes the need to measure personal factors not identified in the ICF (MPT)
- Looks to connect functioning of users to classifications of assistive products (ISO 9999, national databases)
- Identifies medical, functional and societal outcomes in order to align services, systems, and policies; roles and responsibilities
- Emphasizes consideration of Universal Design principles, Health promotion and prevention for sustainable, socially responsible actions (ISO26000)
## ASSISTIVE TECHNOLOGY SERVICE METHOD (ATSM)

<table>
<thead>
<tr>
<th>I. INFORM</th>
<th>II. ASSESS</th>
<th>III. STRATEGIZE</th>
<th>IV. IMPLEMENT</th>
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<td>PERSON</td>
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<td>Body functions and participation</td>
<td>Activities</td>
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<td>Universal Design</td>
<td>Body structures</td>
<td>Activity limitations</td>
<td>Participation restrictions</td>
<td>Redesign the activity</td>
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### Use AT products and services
- Classifications
- Databases

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Additional work

Context and content validity
- Guidelines on development of AT standards, practice guideline development, and the quality of reporting (GATeSS, FAST UK, AGREE instruments 2006)

Organizational performance and quality management
- Inter/national frameworks to assess organizations from a core values and concepts perspective (Baldrige Criteria for Performance Excellence program in the US National Institute of Standards and Technology, ISO 9000)
# Assistive Technology Service Method (ATSM)

<table>
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<th>I. Inform</th>
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<td>[US AT ACT]</td>
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<td>Body structures</td>
<td>Activity limitations</td>
<td>Substitute for the impairment</td>
<td>Select, Acquire, Use</td>
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<td>Universal Design</td>
<td>Discipline specific rules and regulations</td>
<td>Participation restrictions</td>
<td>Use AT devices and services</td>
<td>Accreditation</td>
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<td>International/national codes</td>
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<td>DEVICES:</td>
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<td>Restore, Augment, Compensate for [USCMS]</td>
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SECTION II: SUPPLIER PRODUCT-SPECIFIC SERVICE REQUIREMENTS

All Medicare-covered DMEPOS must serve a medical purpose and may require the prescribing physician to coordinate clinical services with other health care professionals (for example: orthotists; prosthetists; occupational, physical, and respiratory therapists; and pedorthists).

DMEPOS suppliers must meet the supplier product-specific service requirements in this section and implement the requirements stated in Appendices A through C, as applicable to their business.

A. Intake & Assessment
   1. Consult with the provider to confirm order and any changes or modifications
   2. Review the beneficiary’s record and document any relevant information
   3. Keep DMEPOS prescriptions and Certificates of Medical Necessity (CMNs) unaltered in the beneficiary’s record

[More information on DMEPOS Intake & Assessment]

B. Delivery & Set-Up
   1. Deliver and set-up equipment timely
   2. Provide all necessary equipment, items, or adjustments
   3. Provide loaner equipment while original is under repair (except orthotics/prosthetics)
   4. Ensure equipment is consistent with the prescriber’s order and beneficiary’s needs

[More information on DMEPOS Delivery & Set-Up]

C. Training/Instruction for the Beneficiary and any Caregivers
   1. Provide or coordinate training on equipment set-up, features, and maintenance
   2. Ensure training corresponds with risks, manufacturer’s instructions, and beneficiary need
   3. Verify and document training on items delivered via mail

[More information on DMEPOS Training/Instruction]
## ASSISTIVE TECHNOLOGY SERVICE METHOD (ATSM)

<table>
<thead>
<tr>
<th>I. INFORM</th>
<th>RESNA Guidelines</th>
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<th>II. ASSESS</th>
<th>PRE-INTERVENTION</th>
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<td>ICD codes</td>
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<td>Universal Design</td>
<td>Body functions and Body structures</td>
<td>Activities and participation</td>
<td>Environmental factors</td>
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<th>III. STRATEGIZE</th>
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<th>OUTCOME COVARIATES</th>
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<td>Intervention Approaches</td>
<td>US ATTAct</td>
<td>MPT</td>
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<td>Reduce</td>
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<td>personal assistance</td>
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<th>WHO-IOCHI</th>
<th>TARGET the entity on which the Action is carried out</th>
<th>ACTION a deed done by an actor to a target</th>
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<td>Assess the person, group, or population to establish baseline disability</td>
<td>Develop a strategy by considering intervention approaches</td>
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| MEANS the processes and methods by which the Action is carried out | Implement AT services, including identification of personal factors, to procure products for identified outcome |

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<tr>
<th>PERSON</th>
<th>CONTEXT</th>
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<th>ENVIRONMENT</th>
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<th>INTERVENTION APPROACHES</th>
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<tr>
<td>16 years old boy</td>
<td>unable to maintain sitting</td>
<td>assistive products are available to meet his needs</td>
<td>cerebral palsy scoliosis</td>
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<td>unable to walk</td>
<td>home is wheelchair accessible</td>
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<td>unable to push a wheelchair</td>
<td>family fully supportive</td>
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<td>system supports funding of assistive products and services</td>
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| SERVICES: |
| Select, acquire, and use |

| Use AT products and services |

| PRODUCTS: |
| Unable to participate in most activities in the home and community |
How to link information about the person to a product?
Wheelchairs —
Part 26: Vocabulary

Tilt-in-space wheelchair user
ISO 7176-26:2007(E)

Introduction

The provision and selection of wheelchairs and associated seating products relies on clear communication of information relating to these devices. Over time, many terms and definitions have evolved. Unfortunately, this process has resulted in a lack of clear meaning for some terms and duplication of other terms (sometimes with conflicting messages).

For example, the terms tilt and recline are sometimes used interchangeably, but usually have quite distinct meanings. If used inappropriately, an entirely inappropriate wheelchair may be specified or purchased.

The purpose of this part of ISO 7176 is to provide a collection of terms and their definitions to form the basis of clear communication across the field of wheelchair and associated seating and to eliminate confusion from duplication or inappropriate use of terms.

The vocabulary is drawn from surveys of the literature and language used by experts in this field. It excludes, however, terms which are adequately defined in the everyday language of English, medicine and technology.

ISO 7176 recognises that there are a number of terms in use which, because of duplication or inadequacies of meaning, should be replaced by terms from this vocabulary. To help people move towards a common vocabulary, these deprecated terms are included along with a reference to the preferred term.

The development and application of wheelchair standards is particularly dependent upon clear and consistent terms and definitions. Hence, a major proportion of this part of ISO 7176 includes terms and definitions used in more than one of the ISO standards specifically related to ISO Wheelchair Standards. These include the ISO 7176, ISO 10542, and ISO 16840 series, and ISO 7193. Future standards in these series will cite this document for definition of terms wherever possible, thus facilitating the consistent use of a common vocabulary.

This part of ISO 7176 is intended purely as a means of specifying terms and definitions. It does not attempt to classify wheelchairs and associated seating into any classification of device groupings as this is the purpose of ISO 9999. Annex A provides a standard set of descriptors for characterizing wheelchairs.
4.1.17
**stand-up wheelchair**
wheelchair (4.1.1) capable of transporting an occupant (4.2.2) in a seated position and which also has the capability to raise and maintain the occupant in a stand-up position

4.1.18
**stair-climbing device**
device intended to transport a person or an occupied wheelchair by climbing up or down stairs, but that is not fixed to the stairs

4.1.19
**stair-climbing chair**
stair-climbing device (4.1.18) that includes a seat for the occupant (4.2.2)

4.1.20
**stair-climbing wheelchair carrier**
stair-climbing device (4.1.18) that carries an occupied wheelchair

4.2  Wheelchair operators

4.2.1
**operator**
person who operates the wheelchair

NOTE  Can be either the occupant or the assistant.

4.2.2
**occupant**
user (deprecated)
person supported by the wheelchair seating system (4.7.2)

4.2.3
**assistant**
attendant (deprecated)
carer (deprecated)
person, other than the occupant (4.2.2), who manoeuvres the wheelchair
4.8.1

**recline**
change of the back support angle (4.9.24) from an upright sitting position toward a supine position without moving the seat

4.8.2

**tilt**
tilt-in-space (deprecated)
change of the seating orientation in the sagittal plane while maintaining the seat to back support angle (4.9.25)

See Figure 18.

ISO 7176-26:2007(E)

**Figure 18 — Tilt**

4.8.3

**fixed**
intended not to be moved, detached or adjusted
По моему можно было круче и понятнее отразить тот факт, что так передвигаться легче. Ведь, если я правильно понимаю, вы увеличили рычаг и сменили движение руки на более простое и привычное. Можно сделать более крутую презентацию для такого крутого кресла.
*Sunrise Medical
Quickie Iris
*Invacare
Solara

US AbleData database

1. Cheetah R82 Snug Seat
Not tilt, 3 wheel, discontinued
2013, 2016 80% thumbs up
2. Compass SPT
3. Jewel MPS Magic Mobility
One month later...

Libre Tilt by Freedom Design
discontinued early 2000’s
Broda
Gizmo Tilt-in-Space Wheelchair
replaced the Libre from 2004-2011 replaced by the NXT in 2011
Assistive products for persons with disability — Classification and terminology

Produits d’assistance pour personnes en situation de handicap — Classification et terminologie
Tilt-In-Space Wheelchairs by QUICKIE | Sunrise Medical

Manual Wheelchairs... Tilt-in-space wheelchairs designed for pressure relief and positioning. QUICKIE's tilt-in-space wheelchairs help to facilitate feeding and respiratory function, reduce pressure beneath the pelvis, and improve visual alignment by holding the head upright.

Images for tilt wheelchair

→ More images for tilt wheelchair

Report images
**DATASETS** - a collection of related sets of information that is composed of separate elements but can be manipulated as a unit by a computer.

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**Chapter 5 Self-care**

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| d520 Caring for body parts | | | | | | | | | |
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LANGUAGE AND FRAMEWORK OF THE ICF TO DESCRIBE FUNCTIONING AND DISABILITY

SERVICES:
severe neuromusculoskeletal and movement-related impairments (postural supports)
complete limitation in his ability to change his body position in sitting
complete limitation in his ability to move around using equipment
severe participation restrictions in many life situations

USE AT PRODUCTS AND SERVICES

PRODUCTS:

VOCABULARY STANDARDS
ISO 7176-26 Wheelchairs-Part 26: Vocabulary
4.1.1 wheelchair
device to provide wheeled mobility
with a seating support system
for a person with impaired mobility
4.1.2 manual wheelchair (not power)
4.2.3 assistant operated
(person who manoeuvres the wheelchair)
4.6.2 tilt (change to an upright sitting position)

NATIONAL DATABASES
US AbleData database
Wheeled mobility
Manual wheelchair adult child
? Assistant operated
Tilt in space - use of depreciated term
Prototypes, no longer manufactured, unavailable in US, listed by sellers?

INTERNATIONAL CLASSIFICATIONS
ISO 9999 Classification
12 Assistive products for activities and participation relating to personal mobility and transportation
12 22 Manual wheelchairs
 Devices providing wheeled mobility with a seating support system for a person with limitation in mobility and that rely
on an occupant or an assistant to provide power for the operation
12 22 18 Push wheelchairs
 Manual wheelchairs intended to be pushed and steered by an assistant, by pushing with both hands on the push
handles of the wheelchair (assistant operated?)
? Tilt for on a wheelchair

ONE TO ONE CONNECTION BETWEEN THE ICF DOMAINS AND ISO 9999 CLASSES

DATASETS
ASSISTIVE TECHNOLOGY DEVICE CLASSIFICATION

| Disability - severe mobility-related |
| Qualify health state of user |
| Body function and structure - severe NMSmr impairments |
| Activities and participation - complete limitations in changing body position and moving around using equipment |

Quantify purpose, location, and extent of use
Purpose - replace, restore, augment, compensate for
Location - in, on, near
Duration - always, continuous, intermittent
User - individual, group, everyone

Specify environments of use, available function for use and type of technology, intended outcome
Environments of use - one, many, all
Function used - mental, sensory, physical or are other intervention(s) needed;
    redesign the activity, modify the environment, obtain personal assistance
Type of technology - medical, assistive, universally designed, generally available
Outcome - medical, functional, societal

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Section

1. Interventions on Body Systems and Functions
2. Interventions on Activity and Participation Domains
   13. Interventions on Learning and applying knowledge
   14. Interventions on General tasks and demands
   15. Interventions on Communication
16. Interventions on Mobility
   SH - Mobility, Changing and maintaining body position
   SI - Carrying, moving and handling objects
   SJ - Walking and moving
   SK - Moving around using transportation
17. Interventions on Self care
18. Interventions on Domestic life
19. Interventions on Interpersonal interactions and relationships
20. Interventions on Major life areas
21. Interventions on Community, social and civic life
3. Interventions on the Environment
4. Interventions on Health-related Behaviours
The Assistive Technology Service Method (ATSM)

- comprehensively identifies an orderly, logical, and systematic provision of AT services
- demonstrates knowledge translation to deliver evidence-based, sustainable, and socially responsible interventions.
- as a knowledge to action framework in practice summarizes and structures existing knowledge, deploys it in action, and provides a framework for the expansion of that knowledge
as a process standard

The ATSM moves beyond a content standard (how services are delivered) to a process standard (comprising key components required) for effective provision of services.

- is not prescriptive but enables the insertion of existing service delivery criteria, discipline specific guidelines, and performance criteria benchmarks at the individual and organizational level.

- gives a template for providers to immediately improve services by assuring relevant information is gathered and all intervention strategies considered

- establishes a basis for educational curriculum, competency measures, and training activities
as the basis for a service standard

The ATSM connects persons with disabilities and intervention strategies to intended satisfactory outcomes

- becomes a tool to identify and document societal needs for new knowledge, products, research, and funding
- enables gathering and analysis of big data for comparative effectiveness and return on investment studies to inform public policy decision making
as a global standard for AT services

The ATSM becomes an international transaction space for effective communication

- Supporting efficient exchange of knowledge and expertise across disciplinary and institutional boundaries

- Leading to an international community of practice enabling participation by all stakeholders consumers, providers, academics, researchers, …
Do you agree a standard for assistive technology service provision is needed?

Is this standard as proposed consistent with your approach to services?

What recommendations do you have for improving this framework?

How do we move forward?

All comments and recommendations are greatly appreciated and will be responded to; thank you for your time and consideration.
Thanks
RESNA
AAATE
ARATA
WHO
ISO
and to all my colleagues for their ongoing support and in recognition of their efforts and accomplishments.