WHO – Japan Forum 2018 – Opening the door to significant use of ICD-11 and ICF,
Tokyo, Japan, 30th November 2018

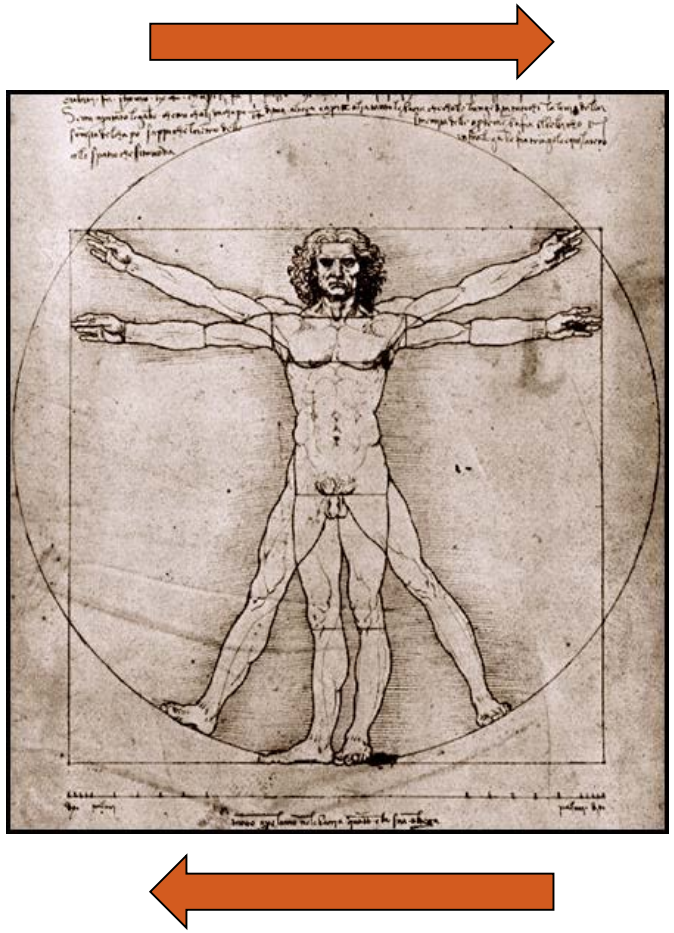
The V-Chapter of ICD-11 – Pioneering the New Frontier through the link with the Classification on Functioning

Nenad Kostanjsek
Classification, Terminology and Sandards Team
Department of Information, Evidence and Research (IER)
email: kostanjsekn@who.int

World Health Organization

Linking Disease & Functioning

Disease



Functioning

Capturing the impact of health conditions in terms of functioning is NOT new….

- **Generic functioning measures**
  - Activity of daily living (ADL) scales
    - Barthel index (1955)
    - Katz index (1957)
  - Instrumental Activities of Daily Living (IADL) scales
    - Fries's Health Assessment Questionnaire (HAQ) (1980)
    - Granger's Functional Independence Measure (FIM) (1987)

- **Condition-specific functioning instruments** e.g. Parkinson
  - Parkinson: Webster scale
  - United Parkinson disease rating scale
  - Self assessment Parkinson's disease Disability scale
  - Parkinson symptom Diary
  - Parkinson Disease Questionnaire (PDQ-39)

BUT they

- often do not capture functioning as multidimensional experience
- remain in a DATA SILO because they are not derived or linked and coded with an international data standard and conceptual framework.

Capturing the impact of health conditions in terms of functioning is NOT new….(cont.)

- Social medicine
  - Fully structured disability evaluation e.g.
    - American Medical Association (AMA) Guides to the Evaluation of Permanent Impairment, first published in 1958 and now in its 6th edition
  - Semi- or unstructured disability evaluation

BUT they

- often do not capture functioning as multidimensional experience
- remain in a DATA SILO because they are not derived or linked and coded with an international data standard and conceptual framework.

Examples of integrated documentation of Disease & Functioning data

D. Wurde ein Auftrag auf Pflegebedürftigkeit nach dem Pflege-Versicherungs-Gesetz gestellt?

Pflegestufe		nein	ja	GdB	Merkzeichen
	Schwerbehinderung anerkannt	☐	☐		

II. Klinische Anamnese

Clinical Anamnesis

Beschwerden des Versicherten (seit wann?) und Verlauf

Diabetes mell. seit Jahren bekannt. Vor 1/2 Jahr Myokardinfarkt, AHB/AR nicht durchgeführt.
Seit MI Luftnot beim Treppensteigen und langsamen Spazierengehen. Kann keine Einkaufstaschen mehr tragen. Hat seine Erkrankung noch nicht verarbeitet und ist depressiv gestimmt. Auch in der Familie zieht er sich zurück und spielt beispielsweise nicht mehr mit den Enkeln, weil es ihm zu anstrengend ist.

III. Rehabilitaionsrelevante und weitere Diagnosen

Diagnoses relevant for Rehabilitation

	nach ICD 10
1. Chronische ischämische Herzkrankheit	I25.8
2. Diabetes mellitus	E11
3. Leichte depressive Episode	F32.0

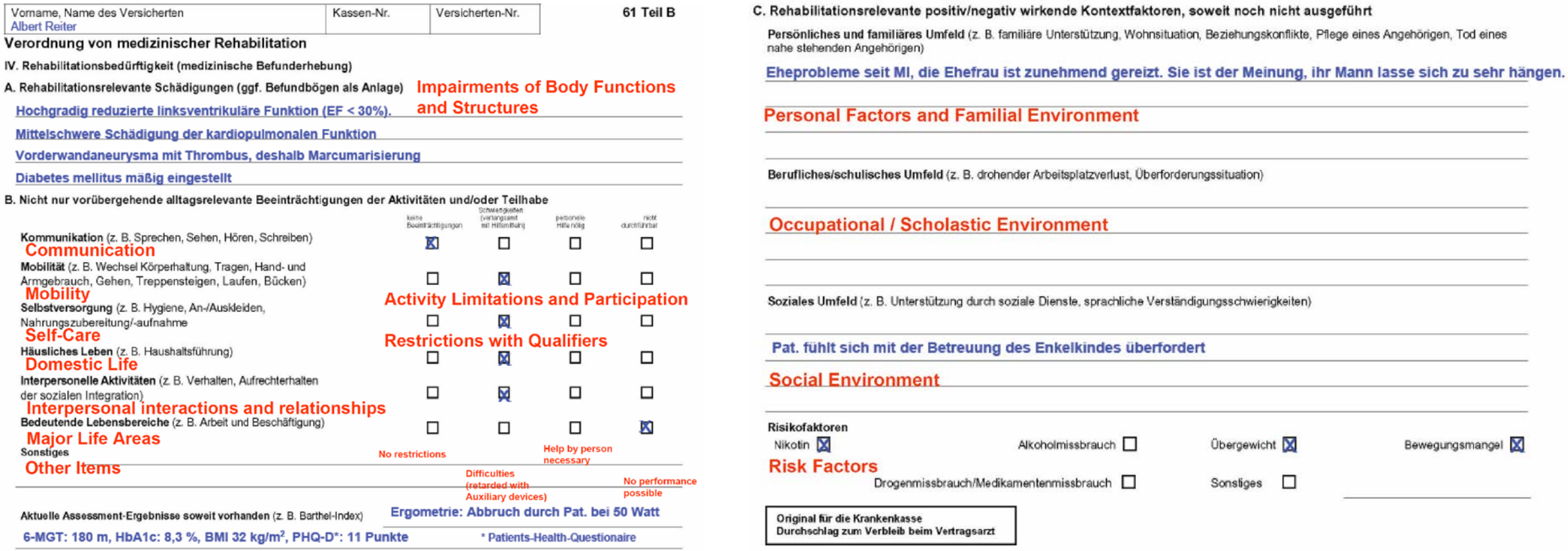
Diagnose(n) Nummer(n) **ist/sind zurückzuführen auf**

Arbeitsunfall, Schulunfall ☐ sonstiger Unfall ☐ Berufskrankheit ☐ Gesundheitsschaden nach dem BVG ☐

Original für die Krankenkasse
Durchschlag zum Verbleib beim Vertragsarzt

Quelle: Dr Wolfgang Seger

Examples of integrated documentation of Disease & Functioning data



Vorname, Name des Versicherten	Kassen-Nr.	Versicherten-Nr.
Albert Reiter		

61 Teil B

Verordnung von medizinischer Rehabilitation

IV. Rehabilitationsbedürftigkeit (medizinische Befunderhebung)

A. Rehabilitationsrelevante Schädigungen (ggf. Befundbögen als Anlage) — Impairments of Body Functions and Structures

Hochgradig reduzierte linksventrikuläre Funktion (EF < 30%).

Mittelschwere Schädigung der kardiopulmonalen Funktion

Vorderwandaneurysma mit Thrombus, deshalb Marcumarisierung

Diabetes mellitus mäßig eingestellt

B. Nicht nur vorübergehende alltagsrelevante Beeinträchtigungen der Aktivitäten und/oder Teilhabe

Activity Limitations and Participation

	keine Beeinträchtigungen	Schwierigkeiten (verlangsamt mit Hilfsmittel)	personelle Hilfe nötig	nicht durchführbar
Kommunikation (z. B. Sprechen, Sehen, Hören, Schreiben) — Communication	☒	☐	☐	☐
Mobilität (z. B. Wechsel Körperhaltung, Tragen, Hand- und Armgebrauch, Gehen, Treppensteigen, Laufen, Bücken) — Mobility	☐	☒	☐	☐
Selbstversorgung (z. B. Hygiene, An-/Auskleiden, Nahrungszubereitung/-aufnahme) — Self-Care	☐	☒	☐	☐
Häusliches Leben (z. B. Haushaltsführung) — Domestic Life	☐	☒	☐	☐
Interpersonelle Aktivitäten (z. B. Verhalten, Aufrechterhalten der sozialen Integration) — Interpersonal interactions and relationships	☐	☒	☐	☐
Bedeutende Lebensbereiche (z. B. Arbeit und Beschäftigung) — Major Life Areas	☐	☐	☐	☒
Sonstiges — Other Items				

Restrictions with Qualifiers

No restrictions — Difficulties (retarded with Auxiliary devices) — Help by person necessary — No performance possible

Aktuelle Assessment-Ergebnisse soweit vorhanden (z. B. Barthel-Index)

Ergometrie: Abbruch durch Pat. bei 50 Watt

6-MGT: 180 m, HbA1c: 8,3 %, BMI 32 kg/m², PHQ-D*: 11 Punkte

* Patients-Health-Questionaire

C. Rehabilitationsrelevante positiv/negativ wirkende Kontextfaktoren, soweit noch nicht ausgeführt

Persönliches und familiäres Umfeld (z. B. familiäre Unterstützung, Wohnsituation, Beziehungskonflikte, Pflege eines Angehörigen, Tod eines nahe stehenden Angehörigen)

Eheprobleme seit MI, die Ehefrau ist zunehmend gereizt. Sie ist der Meinung, ihr Mann lasse sich zu sehr hängen.

Personal Factors and Familial Environment

Berufliches/schulisches Umfeld (z. B. drohender Arbeitsplatzverlust, Überforderungssituation)

Occupational / Scholastic Environment

Soziales Umfeld (z. B. Unterstützung durch soziale Dienste, sprachliche Verständigungsschwierigkeiten)

Pat. fühlt sich mit der Betreuung des Enkelkindes überfordert

Social Environment

Risikofaktoren

Nikotin ☒ Alkoholmissbrauch ☐ Übergewicht ☒ Bewegungsmangel ☒

Risk Factors

Drogenmissbrauch/Medikamentenmissbrauch ☐ Sonstiges ☐

Original für die Krankenkasse
Durchschlag zum Verbleib beim Vertragsarzt

Evolution of the Functioning section in ICD-11

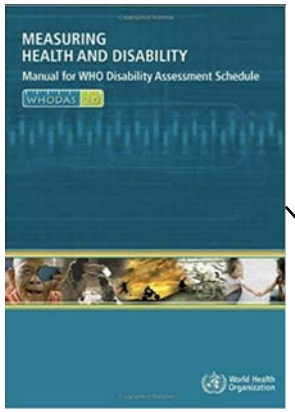
1. ICD Concept Title
2. Hierarchy, Type and Use
   a)Parents
   b)Type
   c)Use
3. Textual Definition(s)
   a) Description (short)
   b) Definition (long)
4. Terms
   a) Index Terms
      1. Synonyms
      2. Inclusion Terms
   b) Exclusion Terms

5. Clinical Description
   a) Body System(s)
   b) Body Part(s)*[Anatomical Site(s)]*
   c) Manifestation Properties
      a) Signs & Symptoms
      b) Findings
   d) Causal Properties
   e) Etiology Type
      a) Infection (agents)
      b) Injury (mechanisms)
   f) Risk Factors
   g) Genomic Characteristics
   h) Temporal Properties
   i) Severity Properties
   j) Functional Properties
   k) Specific Condition Properties
   l) Treatment Properties
   m) Diagnostic Criteria

- Content model development
- Formation of Functioning TAG
- Initial approach
  - Identify relevant functioning domains for each disease category -> very labour and resource intensive
- Revised approach
  - Identify relevant functioning domains across disease categories -> less labour and resource intensive

World Health Organization

Using the Functioning section in ICD-11 – two possibilities

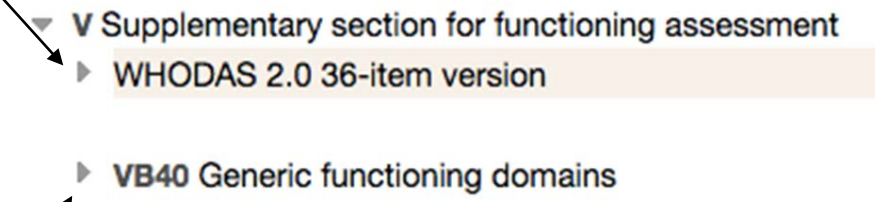


Annex 9

Suggested ICF Data requirements for ideal and minimal health information systems or surveys

Body Functions and Structures	Chapter and code	Classification block or category
Vision	2	b210–b220 Seeing and related functions
Hearing	2	b230–b240 Hearing and vestibular functions
Speech	3	b310–b340 Voice and speech functions
Digestion	5	b510–b535 Functions of the digestive system
Bodily excretion	6	b610–b630 Urinary functions
Fertility	6	b640–b670 Genital and reproductive functions
Sexual activity	6	b640 Genital and reproductive health
Skin and disfigurement	8	b810–b830 Skin and related structures
Breathing	4	b440–b460 Functions of the respiratory system
Pain*	2	b280 Pain
Affect*	1	b152–b180 Specific mental functions
Sleep	1	b134 Global mental functions
Energy/vitality	1	b130 Global mental functions
Cognition*	1	b140;b144,b164 Attention, memory and higher-level cognitive functions
Activities and Participation		
Communication	3	d310–d345 Communication receiving – producing
Mobility*	4	d450–d465 Walking and moving
Dexterity	4	d430–d445 Carrying, moving and handling object
Self-care*	5	d510–d570 Self-care
Usual activities*	6 and 8	Domestic life; Major life areas
Interpersonal relations	7	d730–d770 Particular interpersonal relationships
Social functioning	9	d910–d930 Community social and civic life

Annex 9 of the ICF



Option1: **Structured assessment** with WHO-DAS 2.0 allowing to generate an overall and domain specific functioning score

Option 2: **Selection of generic functioning domains** allowing to generate a functioning profile

World Health Organization

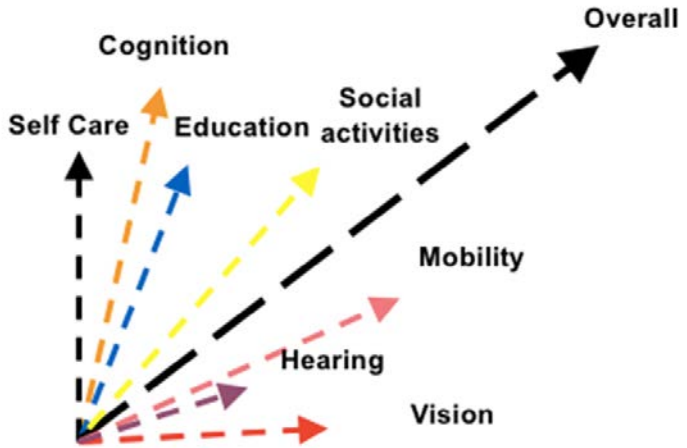
Option 1: Structured assessment with WHO-DAS 2.0 recommended

- V Supplementary section for functioning assessment
  - WHODAS 2.0 36-item version
    - Cognition
      - VA00 Attention functions
      - VA01 Memory functions
      - VA02 Solving problems
      - VA03 Basic learning
      - VA04 Communicating with - receiving - spoken messages
      - VA05 Conversation
      - VA0Y Other specified cognition
      - VA0Z Cognition, unspecified
    - Mobility
    - Self-care WHODAS
    - Getting along
    - Life activities
    - Participation and impact of health problems
    - VA7Y Other specified WHODAS 2.0 36-item version
    - VA7Z WHODAS 2.0 36-item version, unspecified

Summary Score

Cognitive Score	**6 items**
Mobility Score	**5 items**
Self care Score	**4 items**
Interpersonal Score	**4 items**
Life Act. Score	**5 items**
Participation Score	**6 items**

Using the Functioning section in ICD-11: Why structured assessment with WHO-DAS 2.0 recommended?



Domain 2 Mobility

I am now going to ask you about difficulties in getting around.

Show flashcards #1 and #2

In the past 30 days, how much difficulty did you have in:		None	Mild	Moderate	Severe	Extreme or cannot do
D2.1	Standing for long periods such as 30 minutes?	1	2	3	4	5
D2.2	Standing up from sitting down?	1	2	3	4	5
D2.3	Moving around inside your home?	1	2	3	4	5
D2.4	Getting out of your home?	1	2	3	4	5
D2.5	Walking a long distance such as a kilometre [or equivalent]?	1	2	3	4	5

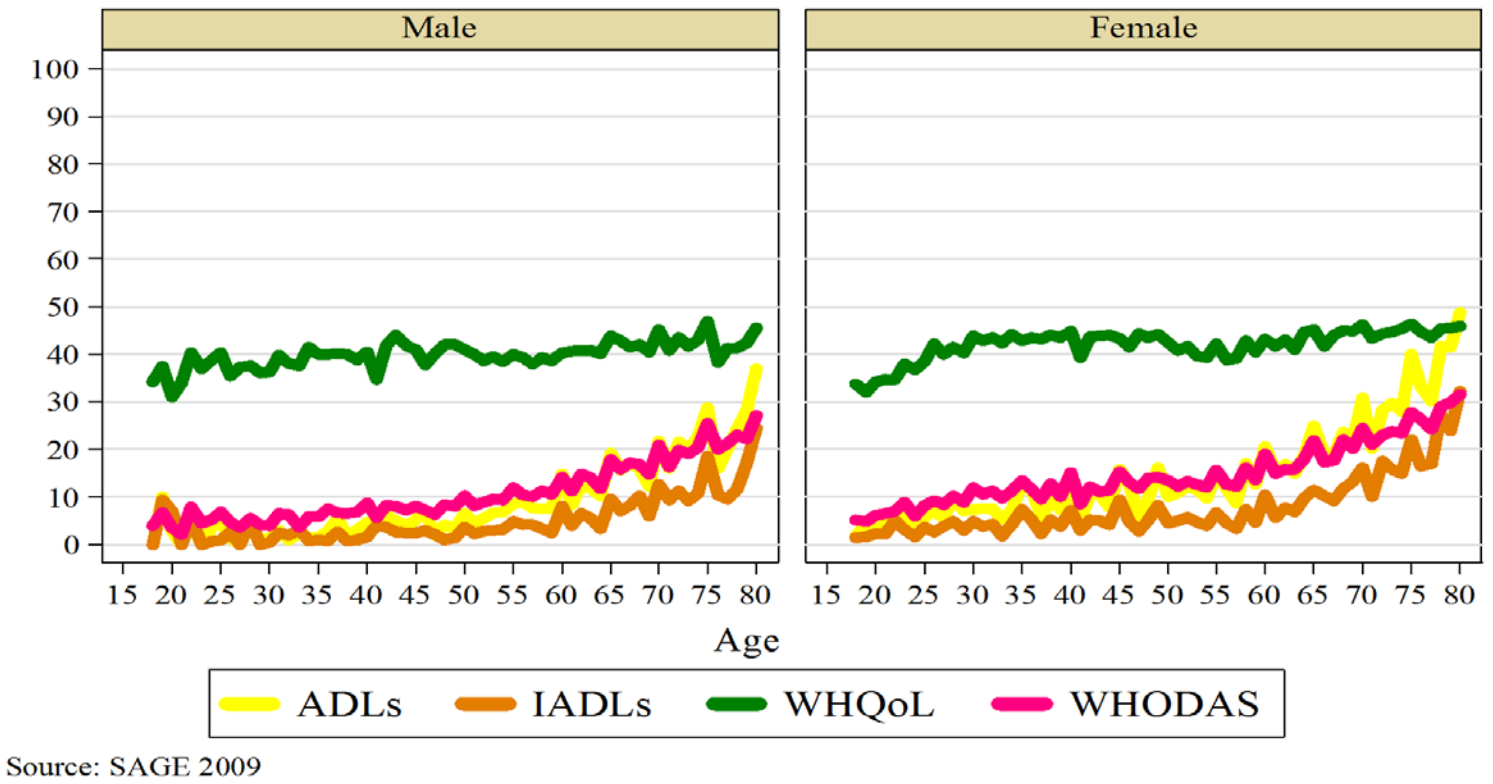
- Direct link to the International Classification of Functioning, Disability and Health (ICF)
- Cross-cultural comparability
- Psychometric properties
- Ease of use and availability
- Functioning is multidimensional, not an event (i.e. head count pre-defined categories)
- Ease comparability of functioning information across the continuum of care

World Health Organization

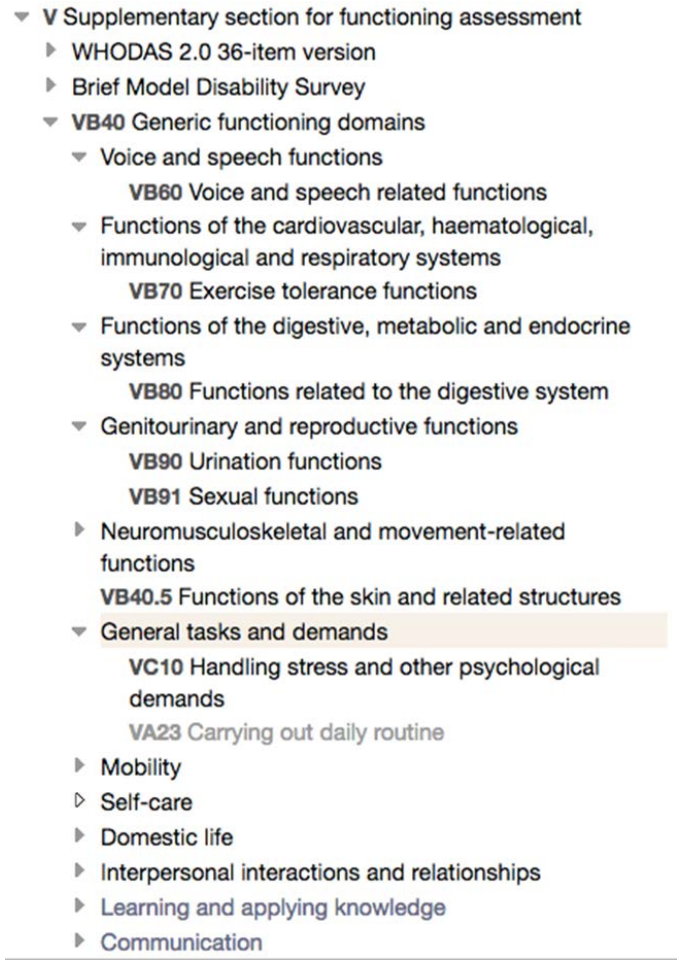
WHO Study on Global Ageing and Adult Health (SAGE)

Conducted in China, Ghana, India, Mexico, Russian Federation and South Africa in 2008-2009

n =45.000



Option 2: Selection of generic functioning domains Example



Reporting functioning problems related to an adverse event:

8B0Z Intracranial haemorrhage, unspecified

due to PL00 Drugs, medicaments or biological substances associated with injury or harm in therapeutic use with mode of PL13.9 Drug or substance interactions, as mode of injury or harm (XM86W0 Warfarin and XM7Q57 Penicillin (any)

Consequence to patient being:

- VA05 conversation - moderate difficulty
- VA14 walking - moderate difficulty

World Health Organization

The Functioning section in ICD-11
Upcoming enhancements & possible future developments

- Upcoming enhancements
  - Reinstate 5-point severity scale
  - More example user guidance in ICD-11 Ref. Guide
  - ICDfit module and interface for ICD-11 functioning section
  - WHODAS 2.0 scoring tool

- Possible future developments
  - Add future WHO DAS 2.0 modules
  - Expand scope: Environmental factors

Why ICD-11 Supplementary section for functioning in ICD-11

- **Need** for standardized & comparable functioning data is increasing. Key drivers incl.
  - Epi transition
  - Ageing societies & increased life expectancy -> how do you live with Health conditions matters more (mee-byo)
  - Big data & technology
- **Enable**
  - **joint use** of ICD & ICF (code once – use multiple times)
  - **coding** of functioning data & **reporting** of coded
  - **standardization** & international **comparability** of functioning data using global public goods
- **Entry point** ICD users to understand the "value proposition" of ICF - **not recreating ICF in ICD.**

World Health Organization