Use of Functional Status and Self-Management Measures: The International Classification of Functioning, Disability and Health (ICF)

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Classifications and Public Health Data Standards Section
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Objectives

- Introduce the *International Classification of Functioning, Disability and Health* (ICF).
- Describe the ICF-based "PAR-PRO," the "Participation Patient Reported Outcome" assessment instrument.
- Describe the ICF-based "AM-PAC," the "Activity Measure for Post-Acute Care," an assessment instrument with scales that provide an estimate of a patient's functional ability.
- Describe the ICF-oriented opportunities associated with the new CMS Minimum Data Set for Nursing Home Residents, Version 3.0, a conventional instrument for assessing quality.
- Suggest areas for future ICF-oriented research.

“The overall aim of the ICF classification is to provide a unified and standard language and framework for the description of health and health-related states” (2001, pg. 3).

How Should I Think About the ICF?

- A Conceptual Framework
  - Applying the conceptual framework without using ICF coding is fine, and encouraged.
  - Simple applications of the conceptual framework are as valuable as complex applications.
- A Coding Structure
  - The conceptual framework is substantially enhanced when ICF coding is applied; this is even more encouraged.
  - ICF coding is designed to work in tandem with ICD coding.
  - ICF coding can be either simple or complex.
  - A set of straightforward Coding Guidelines governs the ICF Coding Structure.

What ICF Is *Not*

- ***Not*** **an assessment or measurement instrument.**
- ***Not*** **a tool for disabled peoples' advocacy.**
- ***Not*** **electronically transmittable at this time.**
- ***Not*** **easily applicable to population-level statistics.**
- ***Not*** **easy to explain among lay audiences.**
- ***Not*** **entirely finished or, admittedly, completely researched (in re: today's absence of "Personal Factors").**

ICF Domains

Body Functions	**Activities & Participation**
Body Structures	**Environmental Factors**

ICF Domains

Body Functions

Chapter 1:	Mental functions
Chapter 2:	Sensory functions and pain
Chapter 3:	Voice and speech functions
Chapter 4:	Functions of the cardiovascular, hematological, immunological, and respiratory systems
Chapter 5:	Functions of the digestive, metabolic, and endocrine systems
Chapter 6:	Genitourinary and reproductive functions
Chapter 7:	Neuromusculoskeletal and movement-related functions
Chapter 8:	Functions of the skin and related structures

Activities & Participation

Chapter 1:	Learning and applying knowledge
Chapter 2:	General tasks and demands
Chapter 3:	Communication
Chapter 4:	Mobility
Chapter 5:	Self-care
Chapter 6:	Domestic life
Chapter 7:	Interpersonal interactions and relationships
Chapter 8:	Major life areas
Chapter 9:	Community, social and civic life

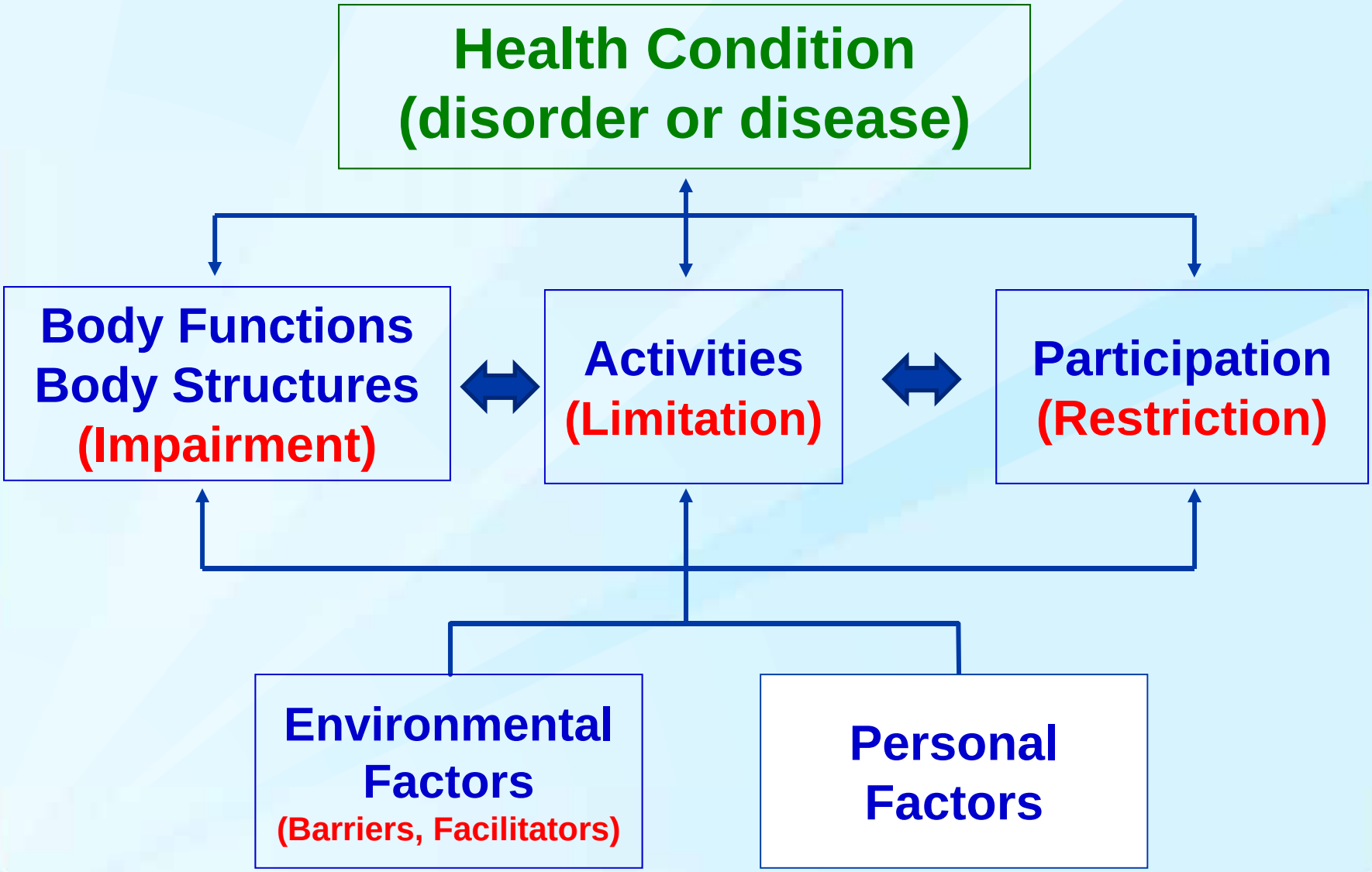
Body Structures

Chapter 1:	Structures of the nervous system
Chapter 2:	The eye, ear, and related structures
Chapter 3:	Structures involved in voice and speech
Chapter 4:	Structures of the cardiovascular, immunological and respiratory systems
Chapter 5:	Structures related to the digestive, metabolic, and endocrine systems
Chapter 6:	Structures related to the genitourinary and reproductive systems
Chapter 7:	Structures related to movement
Chapter 8:	Skin and related structures

Environmental Factors

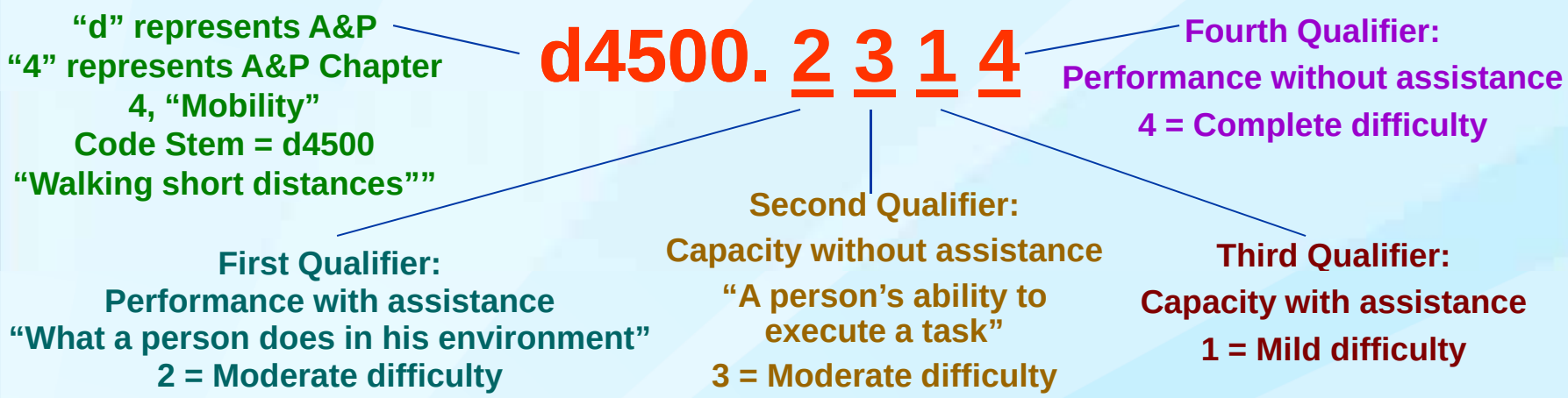
Chapter 1.	Products and technology
Chapter 2.	Natural environment and human-made changes to the environment
Chapter 3.	Support and relationships
Chapter 4.	Attitudes
Chapter 5.	Services, systems and policies

The ICF Relies on an Interactive Model



Anatomy of an ICF Code

Activities and Participation can be coded using 4 Qualifier digits



Environmental Factors can be coded with Barriers [.] or Facilitators[+]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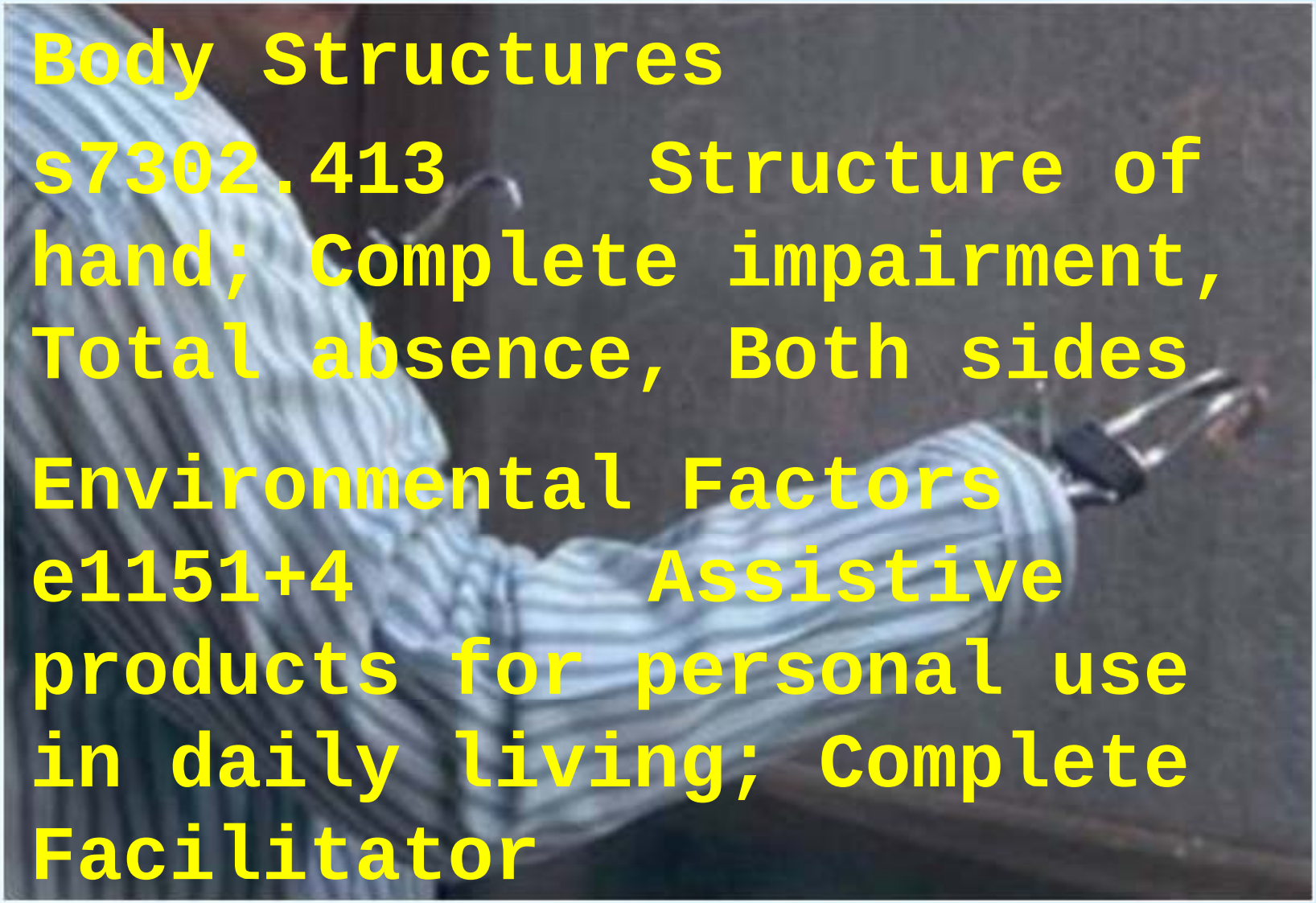
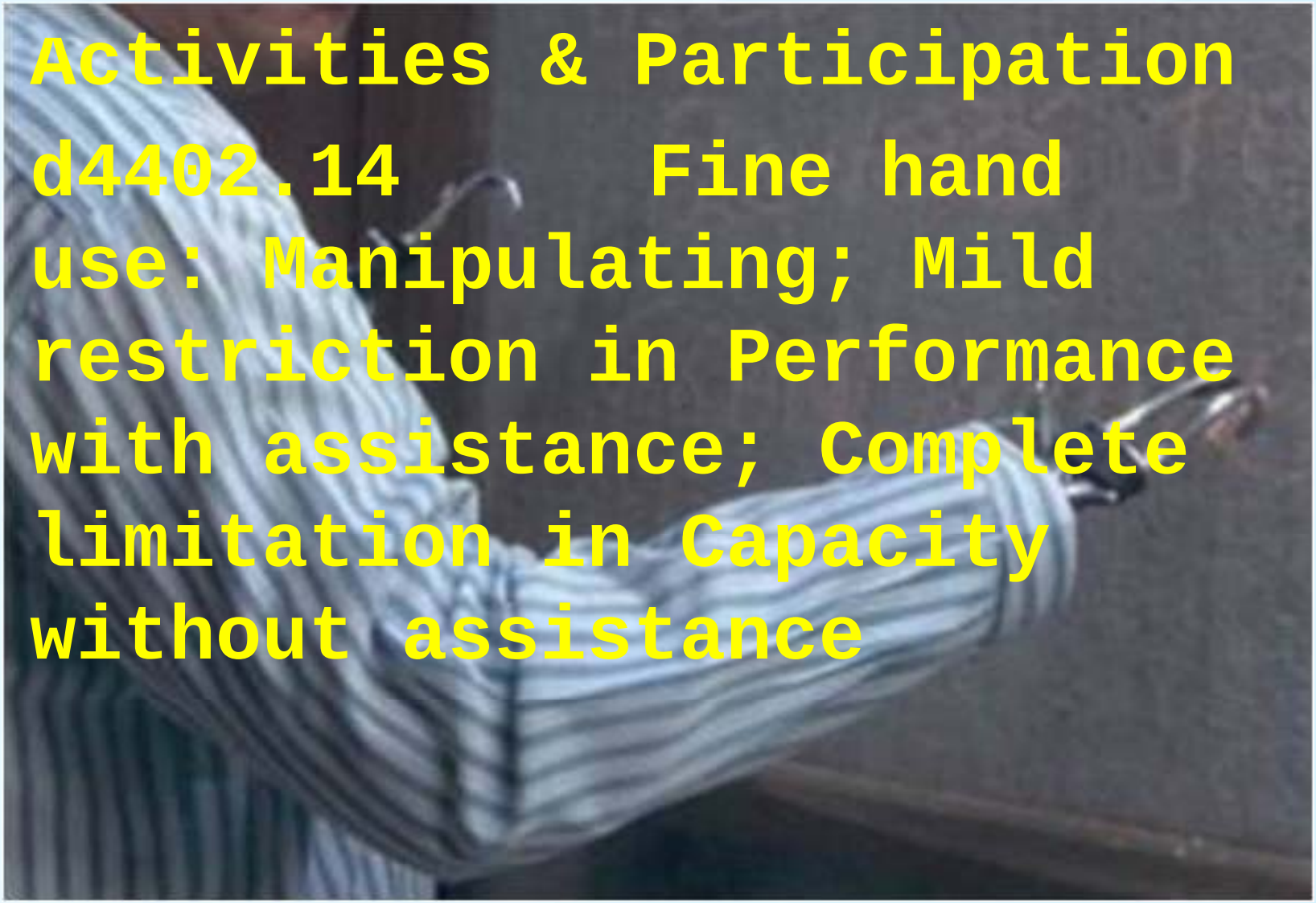
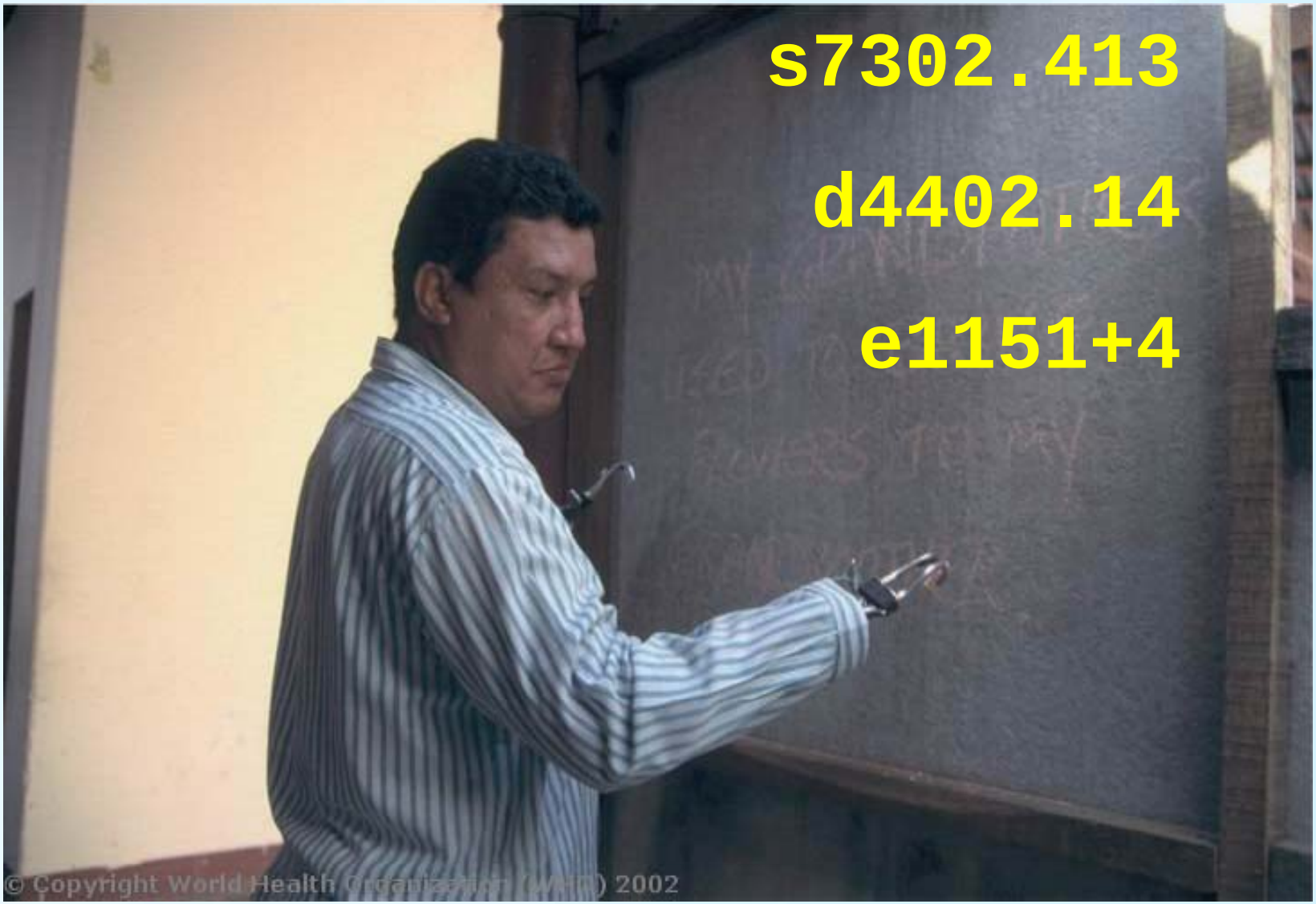

Body Structures
s7302.413 Structure of hand; Complete impairment, Total absence, Both sides
Environmental Factors
e1151+4 Assistive products for personal use in daily living; Complete Facilitator


Activities & Participation
d4402.14 Fine hand use: Manipulating; Mild restriction in Performance with assistance; Complete limitation in Capacity without assistance


s7302.413
d4402.14
e1151+4
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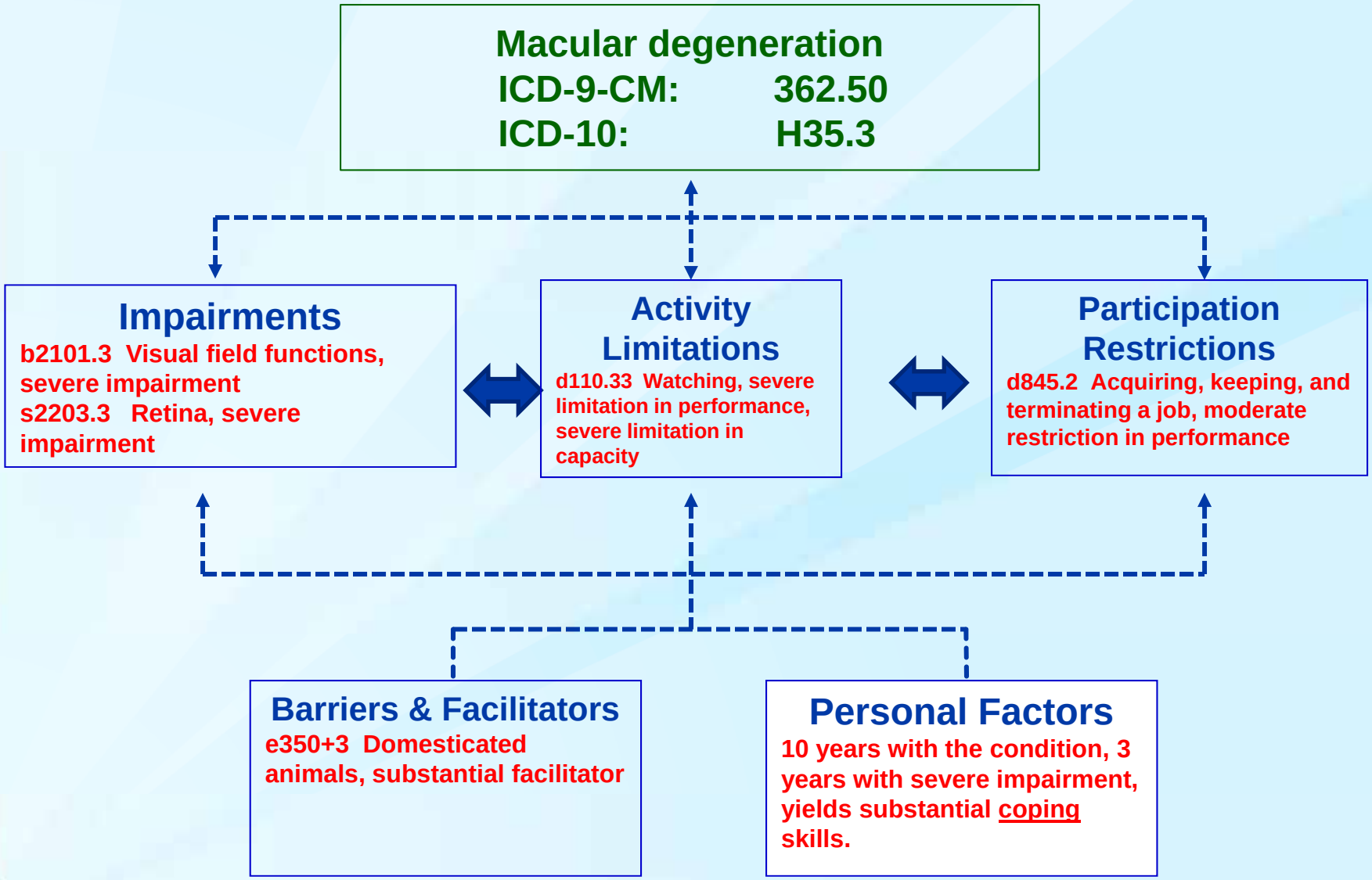
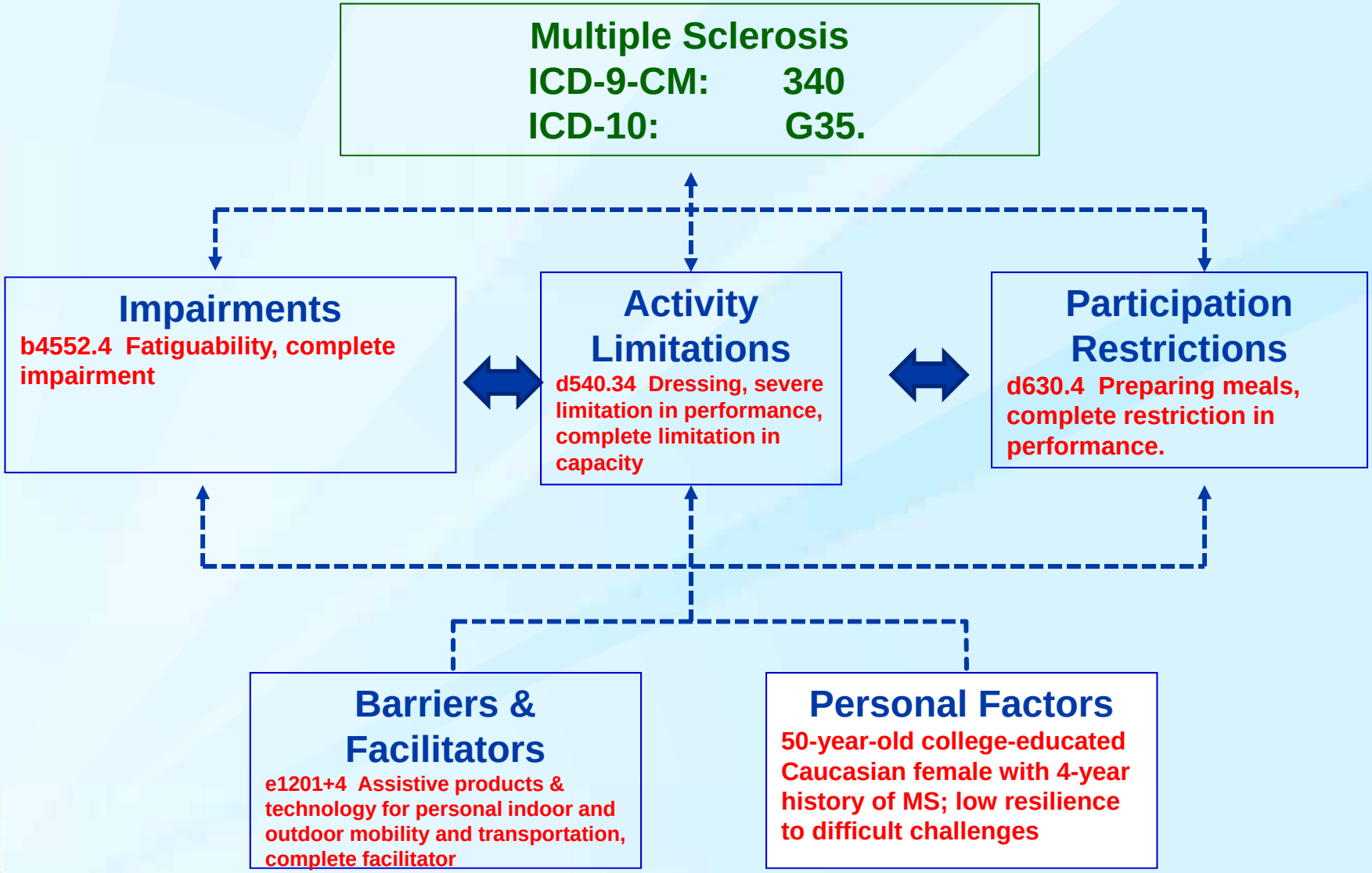
Vision Impairment: Macular Degeneration



Multiple Sclerosis



Mapping to a Newly-Developed Functional Assessment Instrument

- Example: “PAR-PRO©,” a trademarked product of the Uniform Data System for Medical Rehabilitation.
- A 20-item instrument of home and community participation.
- “The development of the PAR-PRO was guided by the principles, definitions and domains of the ICF and designed for use in both disabled and nondisabled populations” (Ostir, *et al*., 2006).

Alignment of ICF A&P Chapters with Selected PAR-PRO© Items

Source: Adapted from Ostir, *et al*., 2006, Table 1.

4. Mobility		
	Moving around, using transportation	**Public transportation; Traveling/sightseeing; Driving a vehicle**
[5. Self-care]		
6. Domestic Life		
	Acquisition of goods and services	**Shopping for food, necessities**
	Household tasks	**Meal preparation/cooking; Light housework; Heavy housework; Yard work/home maintenance**
	Assisting others	**Caregiver activities**
7. Interpersonal Interactions and relationships		
	Particular interpersonal relationships	**Socializing inside/outside the home; Intimate relationship with significant other**
8. Major Life Areas		
	Education	**School/education**
	Work and employment	**Work/employment; Volunteer/public service**
	Economic life	**Money management/home finances**
9. Community, Social and Civic Life		
	Recreation and leisure	**Hobbies / arts & crafts; Playing sports / exercising**
	Religion and spirituality	**Movies / theater / concerts / sporting events Religious / spiritual activities**

Screenshot of the PAR-PRO® Participation Form

Source: Ostir, *et al*., 2006, pg. 1051.

APPENDIX 1: ASSESSMENT FORM

PAR-PRO PARTICIPATION FORM — Uniform Data System for Medical Rehabilitation

I. PATIENT/CASE IDENTIFICATION

1. UDSMR-Provided Facility Code _____
2. Unique Patient Tracking Number _____
3. Patient Age in Years at Admission _____ 4. Gender _____ (M/F)
5. Rehabilitation Impairment Group Code _____ (See Appendix A in IRF-PAI Training Manual for definitions)
6. Follow-up assessment period: If follow-up assessment was performed, please indicate the number of days between the discharge assessment and the follow-up assessment: _____ days

Who was the Respondent? (Check only one for each assessment)	Patient		Other*
7. Admission	☐	or	☐
8. Discharge	☐	or	☐

* Other respondent may include caregiver, family member, significant other or person knowledgeable of patient.

II. PATIENT SATISFACTION ☐

Note: *All satisfaction items reflect the patient's perspective on the inpatient rehabilitation experience, either directly from the patient or, if necessary, from a knowledgeable respondent*

Satisfaction Items - Scoring
1 Strongly Disagree
2 Disagree
3 Neutral
4 Agree
5 Strongly Agree

	Discharge	Follow-up
1. The information I received about the rehabilitation facility was accurate	☐	☐
2. I was satisfied with my involvement in setting the goals for this rehabilitation stay	☐	☐
3. I was satisfied that the treatment I received matched my rehabilitation goals	☐	☐
4. The staff treated me with dignity and respect	☐	☐

III. HOME AND COMMUNITY PARTICIPATION PROFILE

Ask the patient to rate his/her participation in the situations listed below. If the patient cannot provide a reliable response, ask a knowledgeable caregiver to complete this section.

Assessment at Admission (Retrospective - What patient used to do):
Rate patient's typical degree of participation in these life situations in the year prior to this hospitalization or episode of illness.

Assessment at Discharge (Prospective Goals - What patient would like to do in the future): Optional
At the time of the discharge assessment, ask patient to rate his/her expected level of participation in these life situations at the time of follow-up (i.e., what activities does the patient realistically expect or hope to be participating in at 3 to 6 months after discharge).

Assessment at Follow-up (Concurrent - What patient is actually doing at follow-up):
Rate patient's level of participation in these life situations during the 30 days prior to the date of the follow-up assessment.

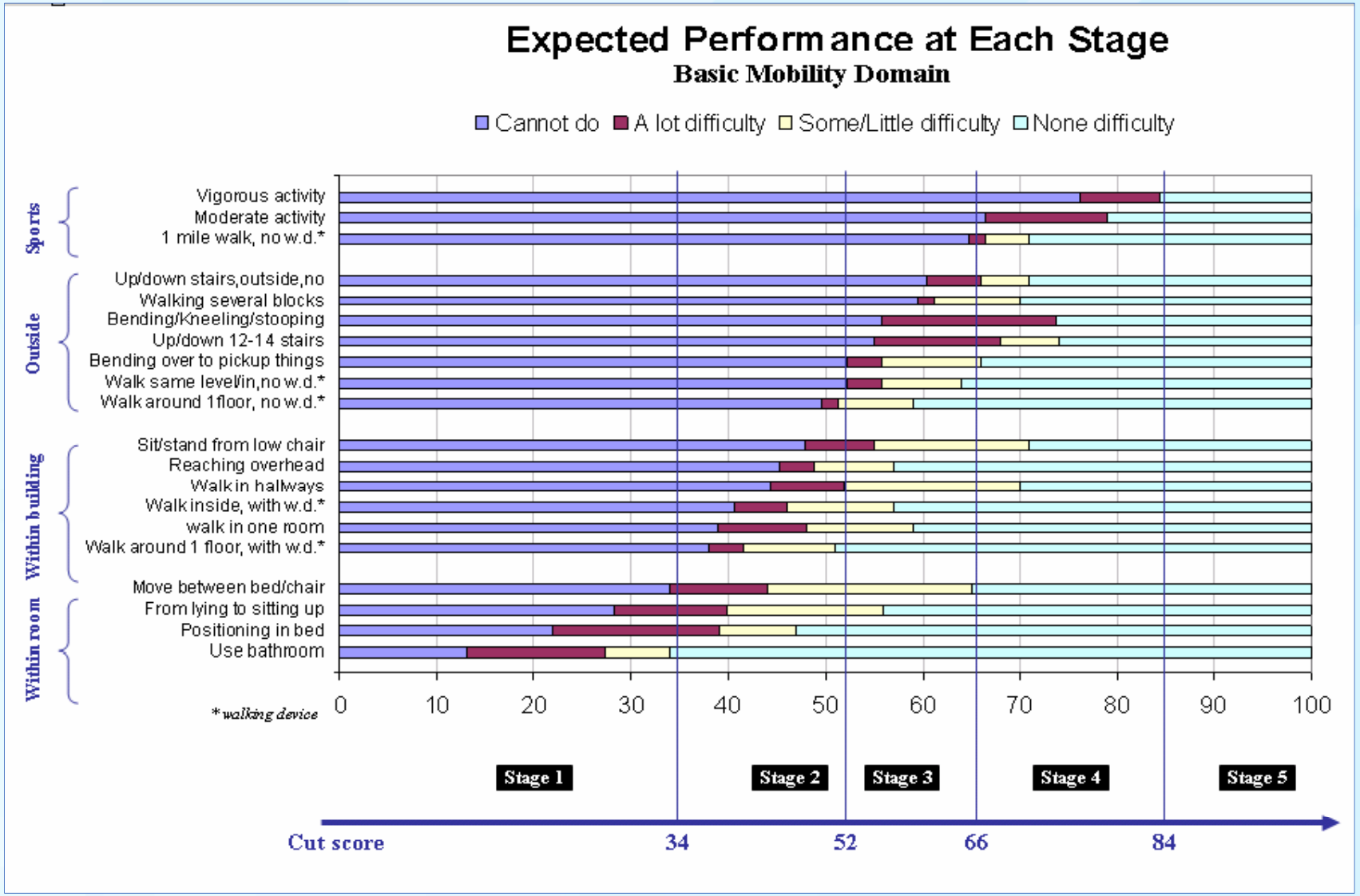
Participation Profile - Scoring
0 Did not participate in this life situation
1 Participated Monthly (Once every 3 - 4 weeks)
2 Participated Bi-weekly (Once every 2 weeks)
3 Participated Weekly (1-4 days per week)
4 Participated Daily/Almost Daily (5 or more days per week)

	Admission	Discharge	Follow-up
1. Work / Employment	☐	☐	☐
2. School / Education	☐	☐	☐
3. Volunteer / Public Service	☐	☐	☐
4. Meal Preparation / Cooking	☐	☐	☐
5. Light Housework	☐	☐	☐
6. Heavy Housework	☐	☐	☐
7. Caregiver Activities	☐	☐	☐
8. Money Management / Home Finances	☐	☐	☐
9. Shopping for Food, Necessities	☐	☐	☐
10. Yard work / Home Maintenance	☐	☐	☐

Mapping to a Newly-Developed Functional Assessment Instrument

- Example: “AM-PAC©,” a trademarked product of Boston University.
- A functional outcomes system that can be used across post-acute care settings, consisting of a comprehensive list of 240 functional activities (i.e., “the item bank”).
- “Unlike traditional functional outcome measures which are disease, condition, or setting-specific, the AM-PAC was designed to be used across patient diagnoses, conditions and settings where post-acute care is being provided; therefore, the AM-PAC is the ideal measure for developing benchmarks and for examining functional outcomes over an episode of post-acute care, as patients move across care settings” (Jette & Haley, 2007).

AM-PAC© Output Sample



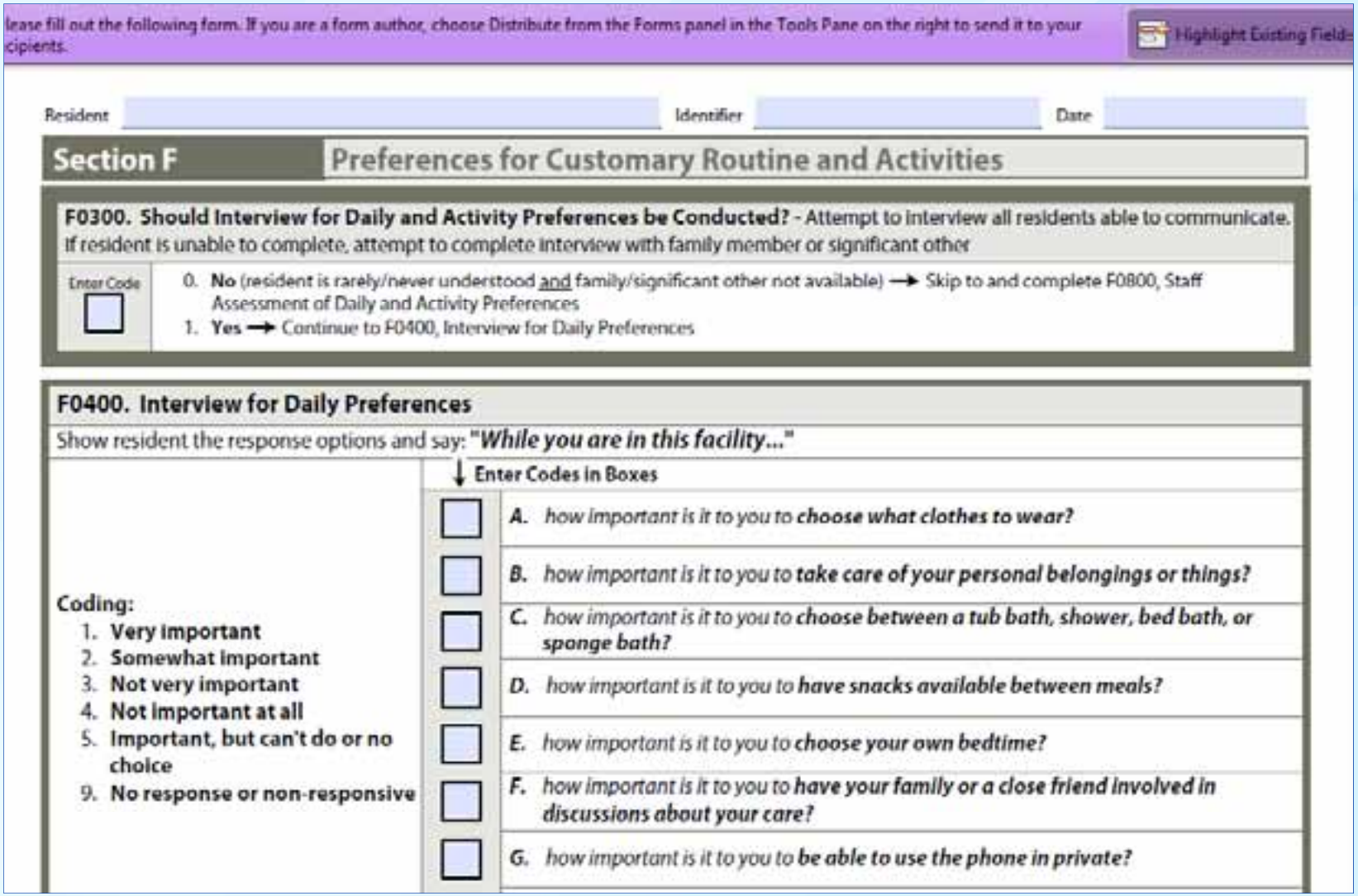
ICF and LOINC in Mapping to a Functional Assessment Instrument

- Utilizing an existing LOINC database, researchers can apply ICF concepts and codes to the existing CMS “Minimum Data Set for Nursing Home Residents Version 3.0” (“MDS 3.0”).
- MDS 3.0 data are conventionally collected for quality improvement and as supporting documentation for reimbursement.
- Expanding the ability to transpose existing MDS 3.0 data to ICF-oriented descriptions of clinical situations represents a “shovel-ready” approach toward applying the ICF in patient-focused measurements or outcomes.

CMS's Goals for MDS 3.0

- Introduce advances in assessment measures.
- Increase the clinical relevance of items.
- Improve the accuracy and validity of the tool.
- ***Increase the resident's voice by introducing more resident interview items.***
- Providers, consumers, and other technical experts in Nursing Home care requested that MDS 3.0 revisions focus on improving the tool's clinical utility, clarity, and accuracy.
- CMS also wanted to shorten the tool while maintaining the ability to use MDS data for quality indicators, quality measures, and payment.

Sample MDS 3.0 Assessment Sheet: "Preferences for Customary Routine"



lease fill out the following form. If you are a form author, choose Distribute from the Forms panel in the Tools Pane on the right to send it to your cipients.

Highlight Existing Fields

Resident | Identifier | Date

Section F — Preferences for Customary Routine and Activities

F0300. Should Interview for Daily and Activity Preferences be Conducted? - Attempt to interview all residents able to communicate. If resident is unable to complete, attempt to complete interview with family member or significant other

Enter Code ☐

0. **No** (resident is rarely/never understood and family/significant other not available) → Skip to and complete F0800, Staff Assessment of Daily and Activity Preferences
1. **Yes** → Continue to F0400, Interview for Daily Preferences

F0400. Interview for Daily Preferences

Show resident the response options and say: "***While you are in this facility...***"

Coding:

1. **Very important**
2. **Somewhat important**
3. **Not very important**
4. **Not important at all**
5. **Important, but can't do or no choice**
9. **No response or non-responsive**

↓ **Enter Codes in Boxes**

☐	A. *how important is it to you to* ***choose what clothes to wear?***
☐	B. *how important is it to you to* ***take care of your personal belongings or things?***
☐	C. *how important is it to you to* ***choose between a tub bath, shower, bed bath, or sponge bath?***
☐	D. *how important is it to you to* ***have snacks available between meals?***
☐	E. *how important is it to you to* ***choose your own bedtime?***
☐	F. *how important is it to you to* ***have your family or a close friend involved in discussions about your care?***
☐	G. *how important is it to you to* ***be able to use the phone in private?***

Summing Up

- The ICF represents a conceptual framework, and a hierarchical coding structure, that can induce and express characteristics of patient-oriented functional status most meaningful to patients.
- The PAR-PRO and AM-PAC are two representative newly-developed functional assessment instruments that rely on the ICF conceptual framework.
- The CMS MDS 3.0 data collection instrument provides an outstanding research opportunity for linking ICF concepts with existing quality-of-care data on persons in nursing home settings.
- More “mapping” studies using the ICF are warranted.