

# Using the ICF in Clinical Practice

Geoffrey M. Reed, PhD

Lynn Bufka, PhD

American Psychological Association



12th Annual North American Collaborating Center Conference on ICF

**LIVING IN OUR ENVIRONMENT:  
The Promise of ICF**

**2006**  
**JUNE 5 to 7**  
Vancouver, British Columbia (Canada)

# ICF Components

## Body Functions & Structures



*Functions*

*Structures*

## Activities & Participation



*Capacity*

*Performance*

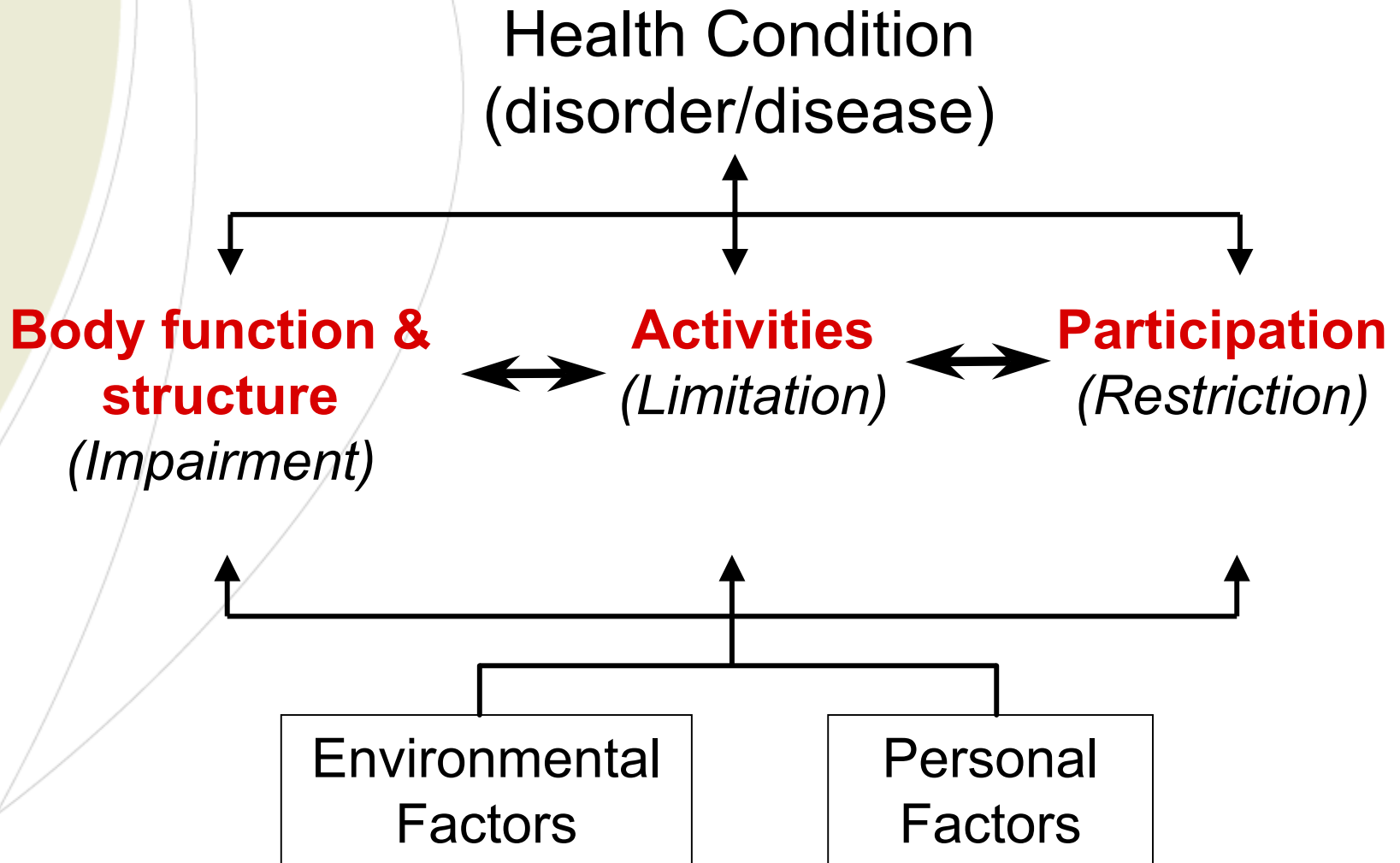
## Environmental Factors



*Barriers*

*Facilitators*

# Interaction of Concepts ICF 2001



# ICF is not.....

- An assessment or measurement tool
- It is ***a framework and set of classifications*** on which assessment and measurement tools may be based, and to which they can be mapped
- This distinction is often misunderstood

ICF

International  
Classification of  
Functioning,  
Disability  
and  
Health

Short version



World Health Organization  
Geneva

# ICF is compatible with:

- A range of assessment approaches (e.g., psychometric measures, clinical interviews, direct observation, self-report)
- Specific assessment procedures that vary with profession, setting, and purpose of assessment
- Clinical judgment related to the evaluation of a particular client in a particular context

# Body Functions and Structures

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

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

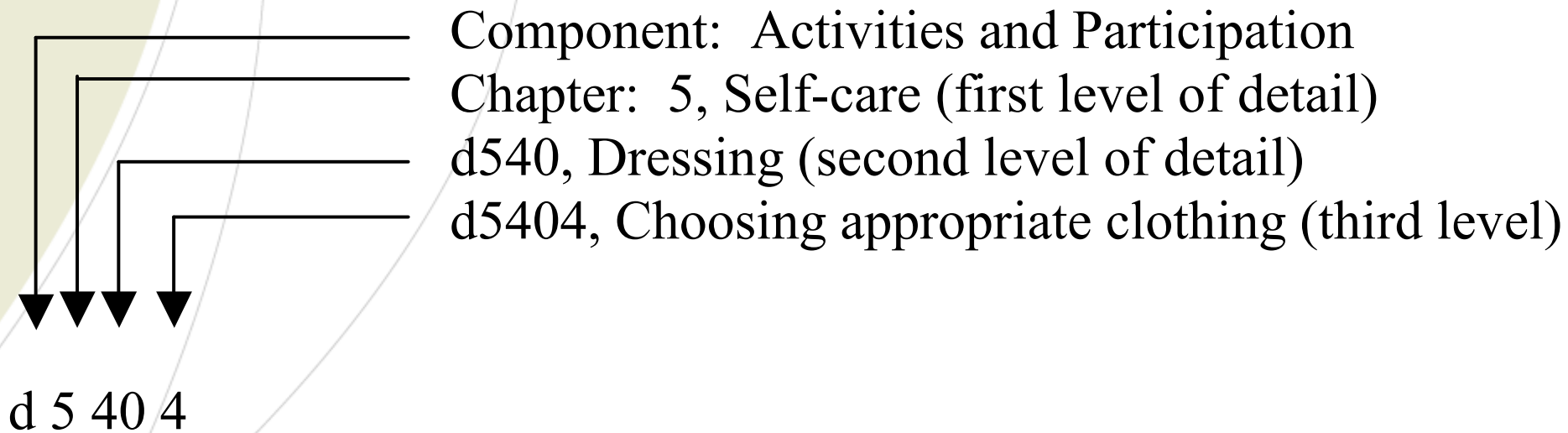
# Activities and Participation

1. Learning & Applying Knowledge
2. General Tasks and Demands
3. Communication
4. Movement
5. Self Care
6. Domestic Life Areas
7. Interpersonal Interactions
8. Major Life Areas
9. Community, Social & Civic Life

# Environmental Factors

1. Products and technology
  2. Natural environment and human-made changes to the environment
  3. Support and relationships
  4. Attitudes
  5. Services, systems and policies
- *Environmental Factors are to be coded from the perspective of the person whose situation is being described and can serve as Facilitators or Barriers*

# Illustration of Coding Levels



# Overview of Codes

## Body Functions (b codes)

- Magnitude of impairment

## Body Structures (s codes)

- Magnitude of impairment
- Nature of change
- Localization

## Activities and Participation (d codes)

- Performance in current environment
- Capacity without assistance
- Capacity with assistance
- Performance without assistance

## Environmental (e codes)

- Facilitator or barrier

# Qualifiers

- Qualifiers are ratings assigned to each code.
- Qualifiers are recognized as essential to the meaningful use of the classification because the domains and codes are expressed in neutral language.
- “Without qualifiers the codes have no inherent meaning” (WHO 2001: 222)

# Qualifiers

In Body Functions and Activities and Participation:

- 0 NO problem (none, absent, negligible,...) 0-4 %
- 1 MILD problem (slight, low,...) 5-24 %
- 2 MODERATE problem (medium, fair,...) 25-49 %
- 3 SEVERE problem (high, extreme, ...) 50-95 %
- 4 COMPLETE problem (total,...) 96-100 %
- 8 not specified
- 9 not applicable



# **Coding Clinical Cases**

# Clinical Coding Needs

- Framework for recording and communicating information regarding human functioning
- Convey specific functional concerns
- Identify and document need for intervention or environmental assistance
- Communicate across disciplines
- Potential to reduce inefficiencies in communication and documentation

# Scope of Coding

- Code only relevant items
- Use a checklist
- Develop a code set that reflects individual or clinic's area of practice
- Disease-specific code sets
- Discipline-based code sets
- Computer-based algorithms

# Activities and Participation Qualifiers

## Capacity

- describes an individual's ability to execute a task or action.
- indicates the highest probable level of functioning in a given domain at a given moment in a 'standardized' environment.

## Performance

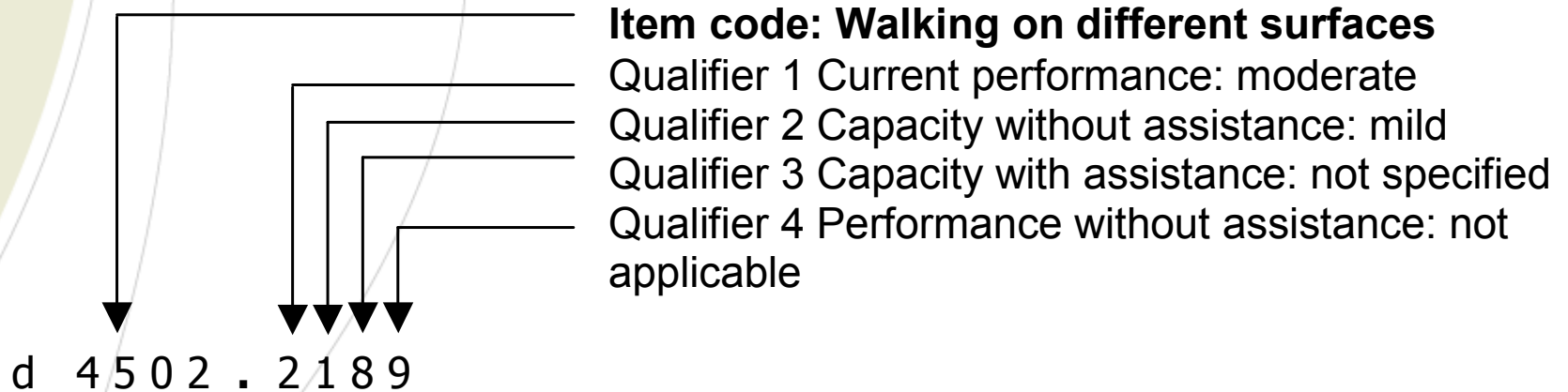
- describes what an individual does in his or her current environment
- the "lived experience"

# Activities and Participation

- **Performance qualifier**
  - Direct observation, self-reports, proxy reports
  - Avoid clinician predictions
  - Current environment might vary
  - Role of assistance
  - Intersection with environment
- **Capacity qualifier**
  - Standardized assessments with population normative data
  - Direct observation in clinical setting
  - Note type and amount of assistance in record
  - May not be relevant for certain domains

# Activities and Participation Qualifiers

## Component: Activities and Participation



A person with a balance difficulty has some problems walking on different surfaces and hence is not able to perform her job as a meter reader as efficiently as others. This has been particularly problematic since her route is under construction. No assistance is provided in the current environment. Performance is somewhat improved in a clinical assessment environment free of distractions and performance pressure. Capacity with assistance was not assessed

# Case Example: Gregory

## Article from the Washington Post, February 6, 2000

When diabetes ravaged Gregory Curry's right leg in June and doctors had to amputate it below the knee, his health plan paid for the surgery. No problem. But in August when Curry asked to be fitted with an artificial leg so he could continue physical therapy and resume his 12-year career as a DC government employee, he suddenly had a huge problem. Curry's HMO, NYLCare, rejected his request for a prosthetic leg. The District's NYLCare contract doesn't cover artificial limbs. You're on your own, the HMO told Curry.

The decision consigned Curry, 43, to crutches until he could raise enough for a \$5,200 prosthetic leg. He said he has no savings and couldn't come up with a \$2,600 down payment needed to begin paying for the leg in installments.

For 6 months Curry has stayed at home in SE Washington, infuriated and discouraged that he can't be on the job fixing boilers and keeping tenants in city public housing warm in winter and cool in summer. "The person isn't handicapped," he said. "It's the situation that has you handicapped."

# Gregory: coded

## **BODY STRUCTURE**

*“Amputate ... below the knee”*: **s7501.4**

s = body structure

7 = related to movement

5 = lower extremity

01 = lower leg

.4 = COMPLETE impairment

## **ENVIRONMENT**

*“Health maintenance organization rejected his request for a prosthetic leg”*: **e5801.3**

e = environment

5 = services, systems, and policies

8 = health services, systems, and policies

01 = health systems, “...such as systems for implementing regulations and standards that determine eligibility for assistive technology or other adaptive equipment...”

.3 = SEVERE barrier

## **ACTIVITIES and PARTICIPATON**

*“Consigned to crutches”*: **d465.3**

d = activity & participation

4 = mobility

65 = walking and moving around

.3 = SEVERE limitation

*“Can’t be on the job”*: **d8502.4**

d = activity and participation

8 = major life areas

50 = remunerative employment

2 = full time employment “engaging in all aspects of work

for payment on a full-time basis, as an employee”

.4 = COMPLETE difficulty

# Nina – how would you code?

Nina is a 35 year old female who sustained a closed head injury in a car crash. She was hospitalized for one week and then discharged to a rehab unit. A comprehensive evaluation of functioning revealed complaints of headaches, forgetfulness and irritability although she was “easy going” prior to injury. She had difficulty learning material at the first exposure but improved with repeated exposure. Staff noted that she had problems completing multi step tasks. She was an active chess player prior to the accident but even with cues from the RT, play improved somewhat but she could not strategize sufficiently to complete a game.

- **b1521.2** Regulation of emotion, *moderate*
- **b1643.2** cognitive flexibility, *moderate*
- **d1751.18** solving complex problems, *mild*
- **d9200. 3328** play, *moderate to severe*

# First Qualifier

- Performance in the lived environment
- A 30 year old man on a 28 day inpatient substance abuse unit is generally able to independently use a calendar and agenda to keep track of appointments and manage his time appropriately to arrive on time for about 2/3 of scheduled meetings and sessions. However, prior to admission, he frequently missed appointments or was extremely late to scheduled therapy.

# First Qualifier, cont.

- What is the appropriate code?
  - d230 Carrying out daily routine
- How does one rate it?
  - d230.1 (mild impairment)
- What is the “lived” environment?
  - Inpatient substance detoxification unit
  - Behavior observed in this setting
  - Relevant for treatment recommendations and outcomes

# Second Qualifier

Capacity in a standard environment, without assistance. Aims to “indicate the highest probable level of functioning that a person may reach in a given domain at a given moment.”

## Second Qualifier, cont.

- After 5 attempts, a 52-year-old male post coronary artery bypass graft was able to come to a standing position from his wheelchair despite post-surgical pain.
- d410 Changing basic body position
- d4104 Standing
- How would you rate capacity without assistance?
  - d410.\_x/d4104.\_x

# Second qualifier, capacity without assistance

- During a FIM assessment in a rehab setting, a 55-year-old man who had a lower extremity amputation is able to put on and take off his pants while seated in his wheelchair with no assistance from a therapist.
- Does the use of a wheelchair count as assistance?
- d540.\_0 Dressing

# Third qualifier, capacity with assistance

- d620 Acquisition of goods and services
- Even with prompting and cuing from his therapist, a 65-year-old man with hemiparesis following a stroke is unable to complete all of the tasks in the simulated “Easy Street” environment.
- When his therapist is at his side and offering continuous guidance and prompts, a 65-year-old man with hemiparesis following a stroke is able to complete all of the tasks in the simulated “Easy Street” environment.

# Fourth qualifier, performance without assistance

- To justify to an insurance company that a college professor needs an IBOT (to which he normally has access), an OT evaluated his ability to perform work activities without an IBOT
- d8502.0\_\_4

# Fourth qualifier, performance without assistance

- A 33-year-old policeman with a subacute right ankle sprain is unable to chase a burglary suspect on the street.
- d4552.4\_\_ 9, indicating no assistance available
- Even with an ankle brace, a 33-year-old policeman with a subacute right ankle sprain is unable to chase a burglary suspect on the street.
- d4552.4\_\_ 4, indicating assistance made no difference

# Normative vs Idiographic Data

## Clinical Example (based on a true story):

Two individuals have sustained a TBI in the same location of same severity.

- Patient 1: Partner in law firm, before injury had high-level reading comprehension skills, able to process large amounts of written material in a day. After injury, she tests above population average in reading comprehension. While she is able to comprehend complex written legal material given sufficient time, she cannot manage workload. She is ultimately unable to retain her position.

# Normative vs Idiographic Data

- Patient 2: Man of borderline intellectual functioning who dropped out of high school but has been able to maintain employment at a convenience store. His pre-injury reading comprehension was at 9<sup>th</sup> grade level, was able to read inventory and shipping reports (lists of items) as required for job. After injury, tests show moderate decrements in reading comprehension in comparison to population, which from history is likely not fully attributable to injury. He does not complain of a change in this area. Reading ability continues to be sufficient for employment and he is able to retain his job.

# Normative vs Idiographic Data

Ratings for d166 Reading:

Patient 1:

- Qualifier 1: 3 Severe (Performance current env.)
- Qualifier 2: 0 None (Capacity without assistance)

d166.3089

# Normative vs Idiographic Data:

Ratings for d166 Reading:

Patient 2:

- Qualifier 1: 0 None (Performance current env.)
- Qualifier 2: 2 Moderate (Capacity w/o assistance)

d166.0289

# Normative vs Idiographic Data

## Proposed approach:

- Ratings of capacity qualifiers should be made with respect to the population and are appropriately assigned based on standardized tests where available.
- Ratings of performance qualifiers, however, should be based on an *individual's particular life context, circumstances, and subjective experience*, including changes from premorbid functioning.

# Aggregating Ratings

- A method for determining the overarching 2<sup>nd</sup> level codes based on more detailed 3<sup>rd</sup> and 4<sup>th</sup> level ratings
- **Problem:** Clinicians code on a detailed level (3<sup>rd</sup> and 4<sup>th</sup> level) and payers, administrators, and decision makers may want a general 2<sup>nd</sup> level rating

# Aggregation Example

- Laura is a server at a sit-down restaurant and her job requires that she walk around tables, chairs, and other servers. She is currently receiving rehabilitation services for right hemiparesis following a mild stroke.
- **Walking d450.?**
  - Walking short distances d4500.0 (no)
  - Walking long distances d4501.1 (mild)
  - Walking on surfaces d4502.1 (mild)
  - Walking around obstacles d4503.3 (severe)

# Aggregation Example

## Proposed approach:

- Clinician should code Laura at d450.3
- A performance rating of 3 (severe) at the 2<sup>nd</sup> level is appropriate because her difficulty in walking around obstacles, as indicated by d4503, has a greater bearing on her ability to return to work

# What About the Environment?

An 18-year old man with a spinal cord injury caused by a gunshot wound is quadriplegic as a result of his injury. He is being discharged from a rehabilitation setting. Rebuilding Together has built a ramp at his home so that he can get in and out independently.

**e1550+3** Design, construction, and building products and technology for entering and exiting buildings for private use.

# Lydia

Lydia recently lost vision in both eyes and is now legally blind. Lydia has generally been able to adapt and continue her activities although is frustrated when using the computer, despite having special software for individuals with low vision. Additionally, she is not able to independently travel in her community as the “Dial-A-Ride” public transit is frequently inconsistent and destinations are often not within walking distance or require crossing very busy roads.

# Lydia, coded

s1106.373 Structure of cranial nerves, severe impairment, qualitative changes in structure, both sides

b210.3 Seeing functions, severe impairment

d4751.44 Driving, complete impairment

d3601.2414 Using writing machines

e1251+2 Assistive products and technology for communication

e5400.2 Transportation services, moderate barrier



# Coding Practice



# **Procedural Manual and Guide for a Standardized Application of the ICF**

# Goals of Manual

- Standard approach to the classification that is clinically grounded
- Consistent interpretation of concepts and operational definitions of terms
- Reliable, valid, and clinically useful classification using the ICF system
- Text and interactive versions (Internet-based or CD-ROM)

# Audience for Manual

- Multi-disciplinary health care professionals who work with individuals 18 years of age and older
- Written for an audience of professionals who have the training to independently assess clients and make a diagnosis and/or recommend a course of treatment

# Multidisciplinary Endeavor

- Audiology
- Medicine
- Nursing
- Occupational Therapy
- Physical Therapy
- Psychology
- Social Work
- Speech-Language Pathology
- Therapeutic Recreation
- Vocational Rehabilitation

# Manual Format

- Body Functions/Activities and Participation/Environment
- Additional Information
- Operational Examples
- Guidance on Qualifiers
  - Definition of Standard Environment
  - Assistance
  - Facilitator or Barrier
- Case Examples