

An Introduction to the International Classification of Functioning (ICF)

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LIVING IN OUR
ENVIRONMENT:
The Promise of ICF

12th Annual North American Collaborating Center Conference on ICF

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

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Presentation Agenda

Overview of the ICF

- Development
- Concepts and Building Blocks

Applications of the ICF

- Clinical
 - ICF as a framework for cross disciplinary classification and communication
- Statistical
 - ICF as a model for disability statistics & policy

Going Forward

- ICF-Coded photographic examples
- Hot Topics at the ICF Conference

Overview of the ICF

- **Development**
- **Concepts and Building Blocks**

International Classification of Impairments, Disabilities and Handicaps (ICIDH)

- The WHO developed a preliminary scheme concerning consequences of disease in 1972
- The first edition of ICIDH was published in 1980; reprinted with additional foreword in 1993
- Revision process for ICIDH initiated in 1993
- Evaluation, conferences and field trials
- Resulted in development of ICF

World Health Assembly, May 2001



- Endorse and publish ICF
- Use the ICF in Member States for:
 - *research*
 - *surveillance*
 - *reporting*
- Joint use with ICD
- Operational subsets:
 - *surveys*
 - *clinical encounters*
- Periodic revision

ICF as an International Standard

- To provide a **scientific basis** for consequences of health conditions
- To establish a **common language** to improve communications
- To permit **comparison of data** across:
 - countries
 - health care disciplines
 - services
 - time
- To provide a **systematic coding scheme** for health information systems

Basis of ICF

- ICF has been systematically revised in the last decade
 - large international and multidisciplinary participation
 - extensive field testing
 - guided by scientific principles
 - taxonomic guidelines: logic and terminology
 - practical utility: feasibility, ease of use, ethical guidelines
 - reliability, validity and comparability

Human Functioning & Not Disability Alone

Human Functioning

Body Functions

Body Structures

Activities

Participation

Not Disability Alone

vs. Impairments

vs. Activity Limitation
(1980 disability)

vs. Handicap

Medical Model

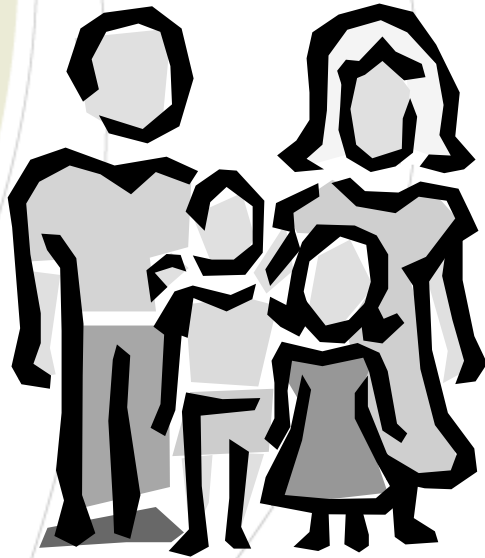
vs. Social Model

- | | | |
|---------------------------|-----|--|
| • <i>personal</i> problem | vs. | <i>social</i> problem |
| • medical care | vs. | social integration |
| • individual treatment | vs. | social action |
| • professional help | vs. | individual & collective responsibility |
| • personal adjustment | vs. | environmental manipulation |
| • behaviour | vs. | attitude |
| • care | vs. | human rights |
| • health care policy | vs. | politics |
| • individual adaptation | vs. | social change |

New Paradigm

vs.

Old Paradigm

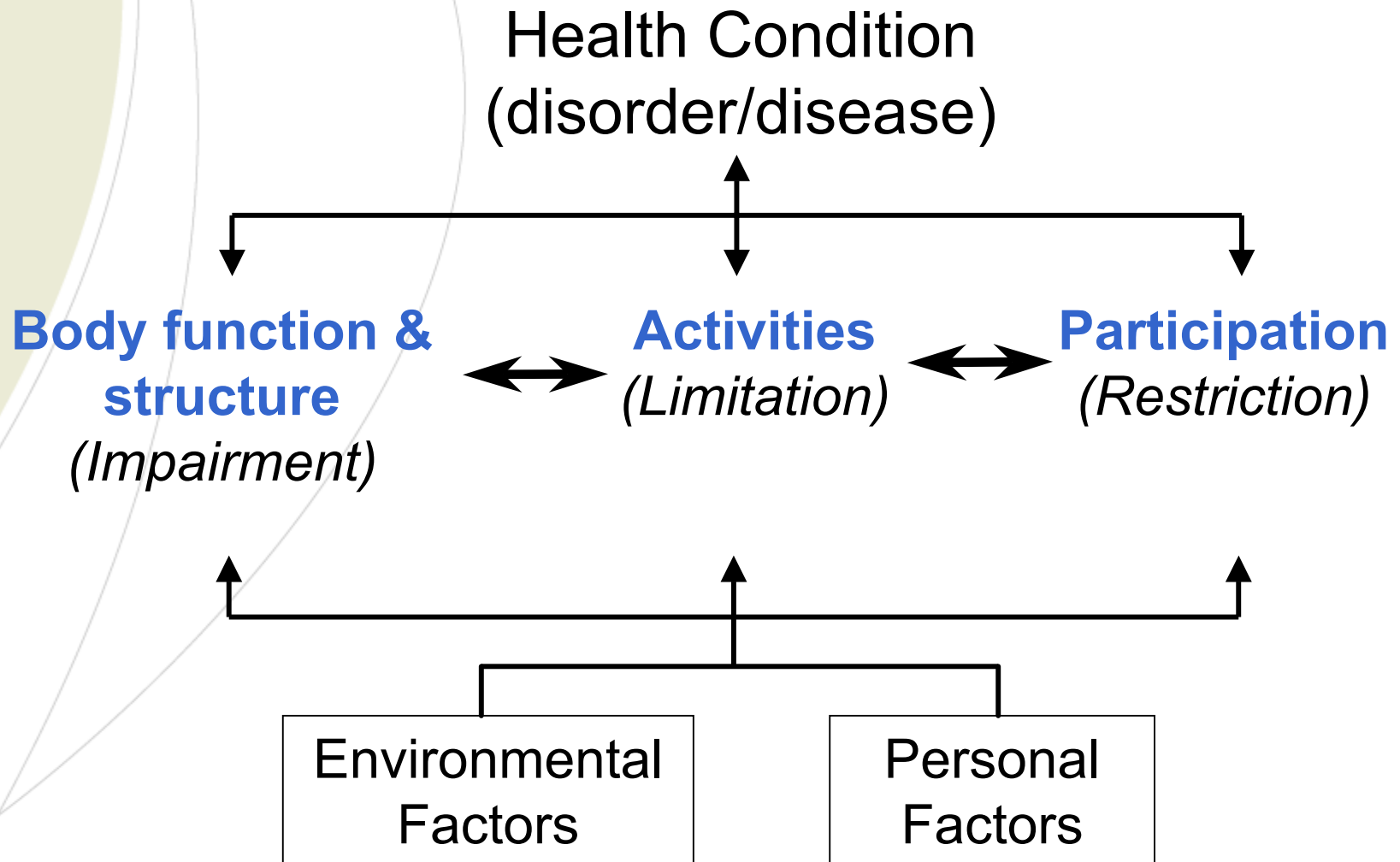


Everyone may have disability
Continuum
Multi-dimensional
Neutral language



Specific impairment groups
Categorical
Uni-dimensional

Interaction of Concepts ICF 2001



ICF Components

Body Functions & Structures



Functions

Structures

Activities & Participation



Capacity

Performance

Environmental Factors



Barriers

Facilitators

Activities and Participation Domains

- **Activity** *is the execution of a task or action by an individual*
- **Participation** *is involvement in a life situation*
- Partial overlap between domains
- Detailed categories as activities and broad categories as participation

Activities and Participation Domains

1. Learning and 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 and Civic Life

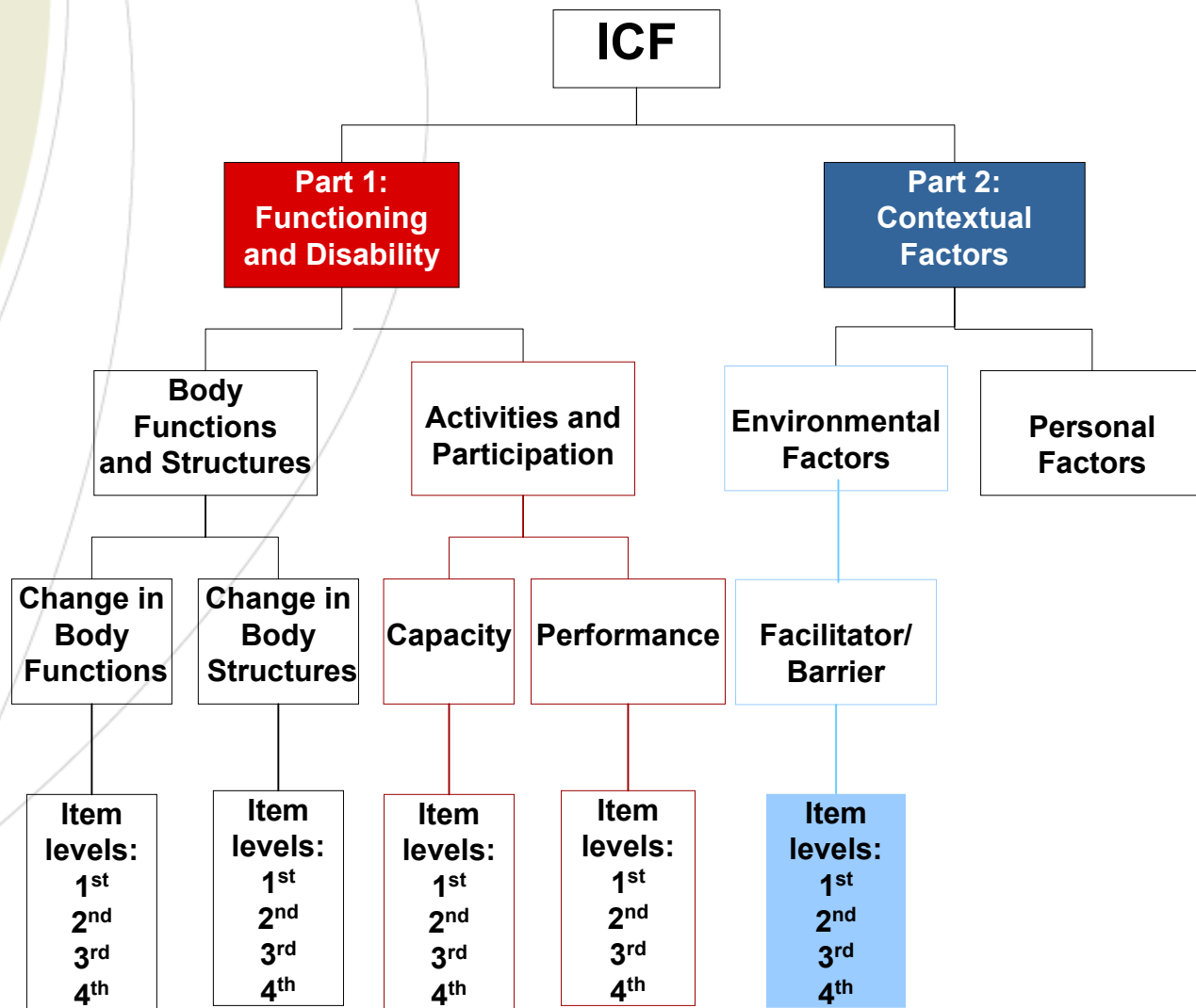
Environmental Factors



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*

ICF Structure



Classification

Parts

Components

**Constructs/
qualifiers**

**Domains and
categories
at different
levels**

ICF Implementation

- Crosswalk assessment tools to ICF
 - Identify gaps
 - Standardize assessment tools in relation to ICF codes for clinical specialties
- Develop new assessment tools based on ICF
- Improve ICF as a classification system
 - Content coverage
 - Qualifiers
 - Clarity (e.g., A&P)

Challenges

- Who should report functional status – patient, provider or both?
- How often should it be collected?
- Should it be measured with or without assistive devices/environmental factors?
- How should consumers be involved?
- Demonstrate value in relation to costs of collection (e.g., time, coding)
- Consider incentives for recording information

Applications of ICF

Clinical Applications of ICF

- Classification framework
- Universal language

Why do we need the ICF in the clinic?

- Change in health care emphasis – acute to chronic conditions
- Change in focus – disease to function
- Need for ‘common language’ across countries, disciplines, conditions, and populations
- Acknowledgement of environmental factors affecting the participation of people with disabilities in society

A tale of one “diagnosis”

Elizabeth Smith

- “49 year old white female with history of MS”
- “dependent for ADL’s”
- MS, relapsing remitting course

Jennifer Smith

- “49 year old white female with history of MS”
- “dependent for ADL’s”
- MS, relapsing remitting course

Elizabeth

- Uses an attendant to help her dress
- Has adapted equipment and a power wheelchair
- Works 60 hours a week as a faculty member
- Is a single mom with a 17 year old daughter – they will be visiting her two final college choices this summer

Jennifer

- Is unable to speak or eat
- Is living in an institution with 24 hour care
- An early onset of the diagnosis, lost her job when she was quite young
- Had one child who lives with her sister

Elizabeth

- Dependent for dressing. Relies on attendant **d540.44**
- Independent moving around the community using a power chair. Unable to move around at all without chair **d460.14**
- Has managed position with reasonable accommodations and achieved tenure **d845.0**
- Successful parent **d7600.0**

Jennifer

- Dependent for dressing. Relies on attendant **d540.44**
- Dependent for mobility and moving around **d460.44**
- Unable to work **d845.4**
- Unable to parent **d7600.4**

Aspects of the ICF that are useful clinically

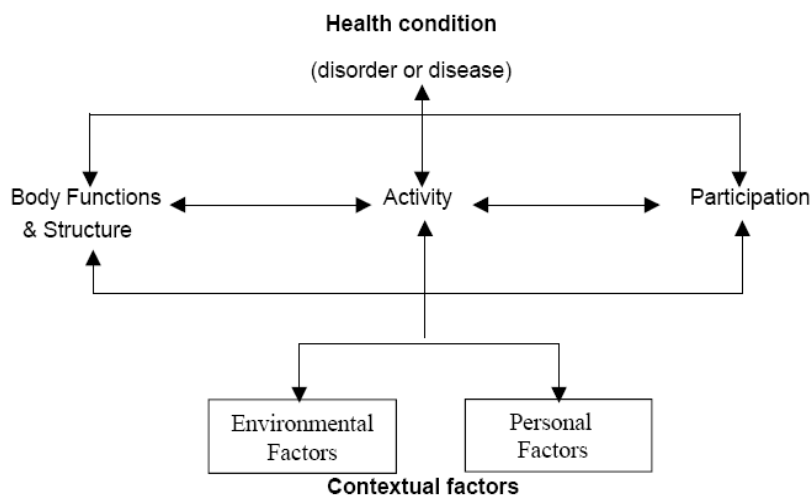
Classification



Model



| Construct | First qualifier | Second qualifier |
|------------------------------|---|--|
| Body Functions (b) | Generic qualifier with the negative scale used to indicate the extent or magnitude of an impairment <i>Example: b175.3 to indicate a severe impairment in specific mental functions of language</i> | None |
| Body Structure (s) | Generic qualifier with the negative scale used to indicate the extent or magnitude of an impairment <i>Example: s730.3 to indicate a severe impairment of the upper extremity</i> | Used to indicate the nature of the change in the respective body structure 0 no change in structure 1 total absence 2 partial absence 3 additional part 4 aberrant dimensions 5 discontinuity 6 deviating position 7 qualitative changes in structure, including accumulation of fluid 8 not specified 9 not applicable <i>Example: s7300.32 to indicate the partial absence of the upper extremity</i> |
| Activity & Participation (d) | PERFORMANCE Generic qualifier <u>Problem in the person's current environment</u> <i>Example: a5101.1_ to indicate mild difficulty with bathing the whole body with the use of assistive devices that are available to the person in his or her current environment</i> | CAPACITY Generic qualifier <u>Limitation without assistance</u> <i>Example: a5101._2 to indicate moderate difficulty with bathing the whole body and implies that there is moderate difficulty without the use of assistive devices or personal help</i> |
| Environmental Factors (e) | Generic qualifier, with negative and positive scale to denote extent of barriers and facilitators respectively <i>Example: e145.2 to indicate that products for education are a moderate barrier. Conversely, e145-2 would indicate that products for education are a moderate facilitator</i> | None |



Meaningful Outcomes

- “Previous level of function”
- The ICF encourages practitioners to move away from treating problems (impairments) and towards treating people (in the lived experience)
- Socio-cultural as well as biomedical factors considered when developing intervention strategies

Clinical Uses of ICF: System Level

- Needs assessment
- Outcome assessment
- Utilization patterns
- Comparison of different interventions
- Electronic records

Interdisciplinary Team Approaches

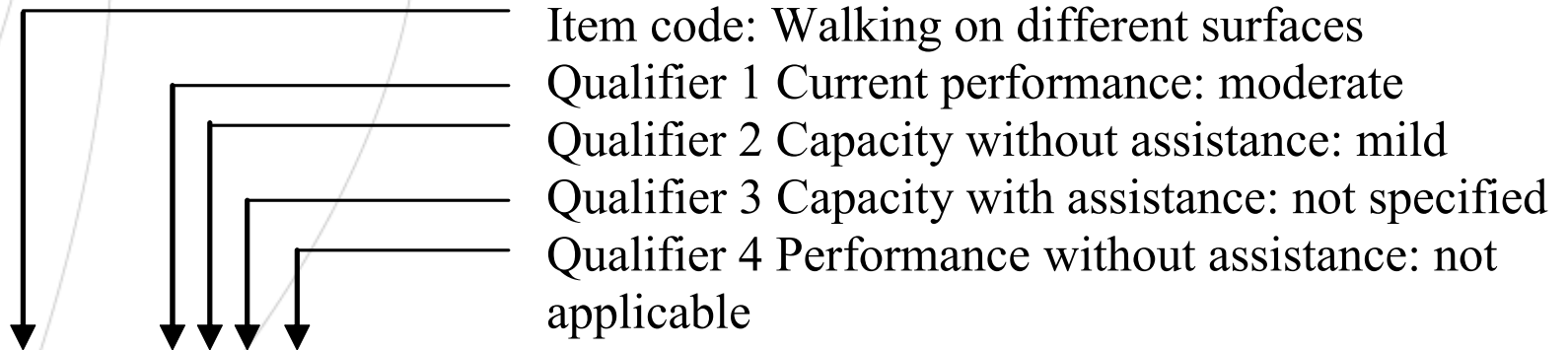
- The common language promotes a better understanding of the contribution of each health care practitioner
- Can enhance communication and encourage collaboration during planning and treatment

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

Illustration of Code with Qualifiers

Component: Activities and Participation



d 4502 . 2189

Gregory: current performance 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

ACTIVITY and PARTICIPATION

“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

Source: NCVHS, Hendershot, G.

The 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

Clinical Uses of ICF: Individual Treatment Level

Individual Treatment

- Assessment
- Intervention planning
- Outcome measurement

Adapted from: Sykes, Millar & Miller

Sandy

- 26 year old woman
- Nanny in Africa
- Snatched by croc
- Escapes, but loses Right UE to crocodile bite
- Flown back home to St. Louis for treatment

Sandy continued

| Presentation /Assessment | ICF Code | Outcome | Intervention |
|---|--|--|--|
| Pain Phantom pain Symptoms of PTSD memory extreme emotions disorganized thoughts | b280.4 b144.3 b152.3 b160.3 | Pain Scale PTSD scale Executive function assessment | Pain medication Counseling: cognitive behavioral intervention |
| Amputation of R UE below the elbow | s730.41 | Radiographic images | Surgical intervention |

Sandy continued

| Presentation /Assessment | ICF Code | Outcome | Intervention |
|--|--|---|--|
| <p>Decreased ADL perf.</p> <ul style="list-style-type: none"> Washing Toileting Dressing Eating Housework Family relationships Intimate relationships Loss of job | <ul style="list-style-type: none"> d510._3 d530._3 d540._3 d550._2 d640._3 d760._2 d770._4 d845._2 | <ul style="list-style-type: none"> DASH FIM COPM RNLI | <ul style="list-style-type: none"> ADL retraining using 1 handed techniques Family tx Peer support Vocational counseling |
| <ul style="list-style-type: none"> Prosthesis Adaptive equipment | <ul style="list-style-type: none"> e115 e115 | | <ul style="list-style-type: none"> Acquisition and training in use of |

Applications of ICF

Statistical Applications of ICF

- Surveys
 - Model of disability
- Social policy
 - Creation and eligibility for programs
 - Monitoring progress toward full inclusion

Use of ICF in Surveys

- **Model of Disability**
 - **What is a disability?**
 - Overcome focus on impairment
 - What is the population universe?
- **Comparisons to general population**
- **Research**
 - **Combine data on functional status with data on health conditions**
 - **Provide data for social policy**

Examples of the ICF in Action

- Ask capacity or performance questions
- Select questions to fit purpose
- Thousands of ICF codes, limited patience of respondents

ICF in Action: Participation and Activity Limitation Survey (PALS)

- The Participation and Activity Limitation Survey (PALS) is a national survey conducted by Statistics Canada
- Questions based on the WHO's ICF-coding
- Gathers information about adults and children whose everyday activities are limited by a physical, mental or other health condition
- Data is used to plan services and programs required by persons with activity limitations to participate fully in society

Example 1. Agility

ICF Code

d540 Dressing

d5400 Putting on clothes

d5401 Taking off clothes

PALS Question

B57. Do you have any difficulty dressing and undressing yourself?

Example 2. Agility

ICF Code

d520 Caring for body parts

d5204 Caring for toenails

PALS Question

B61. Is it physically difficult for you to cut your own toenails?

Example 3. Mobility

ICF Code

d415 Maintaining a body position

d4154 Maintaining a standing position

PALS Question

B47. Do you have any difficulty standing in line for more than 20 minutes?

Example 4. Communicating

ICF Code

d330 Speaking

PALS Question

B29. Because of a condition or health problem, do you have any difficulty speaking?

Example 5. Pain

ICF Code

b280 Sensation of pain

PALS Question

B73. Do you have any pain or discomfort that is ALWAYS present?

B74. Do you have PERIODS of pain or discomfort that REOCCUR from time to time?

Use of ICF for Social Policy

- **Creation and Eligibility for Programs**
 - Disability income replacement programs
 - Provide information for tracking Healthy People 2010 Objectives in U.S.
- **Monitor Progress Toward Inclusion**
 - Education
 - Employment Equity & Discrimination
 - Assistive Technology
 - Care Giving
 - Social Participation



Photographic Examples

ICF-Coded Photographic Examples

b7303:

Power of muscles in lower half of the body



s7501: Structure of the lower leg
s7502: Structure of the ankle and foot



s750: Structure of the lower extremity
s8104: Skin of the lower extremity
d8500.0: (Remunerative) Self-employment
[0 = No difficulty]



s7501: Structure of the lower leg

s75011: (Structure of the) Knee joint

e1151+2: Assistive products & technology for personal use in daily living



e1401: Assistive products and technology for culture, recreation and sport



e1201+4: Assistive products and technology for personal indoor and outdoor mobility and transportation



A decorative graphic on the left side of the slide consists of overlapping semi-circular and teardrop shapes. The top shape is red, the middle is grey, and the bottom is gold. The text 'Going Forward' is written in white, italicized font across the red and grey sections.

Going Forward

The ICF in Subsequent Presentations

“Hot Topics” at this year’s ICF Conference

- Adequacy and sufficiency of the current set of Environmental Factors
- Is it time to revisit “Activities & Participation”?
- WHO-FIC Functioning and Disability Reference Group
- ICF in relation to other WHO classifications
- Forthcoming 2nd edition of *Disability in America*
- Moving from demonstration to an evidence-base
- U.N. Declarations on the rights of persons with disabilities



Thank you.

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b230: Hearing functions
s250: Structure of the middle ear



s7600: Structure of the vertebral column



b710: Mobility of joint functions
b730: (Muscle) Power functions
b770: Gait pattern functions
s740: Structure of the pelvic region
s750: Structure of the lower extremity



s750: Structure of lower extremity



Without IBOT:

d4601.2: Moving around within buildings other than home, Moderate Difficulty

d6200.2: Shopping, Moderate Difficulty

With IBOT:

d4601.0 Moving around, etc., No Difficulty

d6200.1 Shopping, Mild Difficulty

Environmental Factors domain :

e1209+2: Products & technology for personal indoor and outdoor mobility and transportation, Moderate Facilitator

Activities & Participation domain:

d465.0 Moving around using equipment, No Difficulty

