Training clinicians to use the ICF
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ICF 運用研討会
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Objectives
• Describe how we have trained clinicians
• Empirical comparison of training methods
• Discussion of training needs and identification of resources

Colleagues
• Geoff Reed, PhD (formerly APA, Consulting for WHO)
• Lynn Bufka, PhD (APA)
• Susy Stark, PhD, OTR/L (Washington University)

Training program developed by colleagues
• Communication Tool
• Theoretical Framework
• Scientific Basis for Consequences of Health Conditions
• Common Language
• Coding Scheme

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Theoretical context for learning

- Bloom’s Taxonomy
  - Knowledge, Attitude, Skills
- Adult Learning Theory
  - Experiences are important
  - Educator is a facilitator of learning
  - Real life application (Knowles, 2005)

Learning Strategies

- Didactic instruction
- Discussion and application to each clinician’s practice (e.g. code sets)
- Practice using codes
- Clinical scenarios
- Real case data (charts)
- Future learning opportunities

Who have we trained

Clinicians (OT, PT, SLP, MD, Psychologist, Social Workers, Nurses, Rehab Psychologists... et al)
Public Health/Policy staff
Administrative teams
Research teams

Curriculum content for clinicians

- Value of the ICF for clinicians - concept
- The architecture and content of the ICF
- Codes and qualifiers
- Challenges to using ICF clinically
- Using code sets
- Coding clinical encounters
- Linking scores to codes and qualifiers
- Implementation
- The future of ICF

Where we have provided training

- Meetings/congress
  - American Congress of Rehabilitation Medicine
  - American Occupational Therapy Association/World Federation of Occupational Therapy
  - American Psychological Association
- Professional Programs (e.g., OTR)
- Workshops
  *primarily North America, South Africa

Example training slides: value of ICF for clinicians
A tale of one “diagnosis”

Elizabeth Smith
- “49 year old white female with history of MS”
- “dependent for ADLs”
- MS, relapsing remitting course

Jennifer Jones
- “49 year old white female with history of MS”
- “dependent for ADLs”
- MS, relapsing remitting course

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

Clinical Uses of ICF: System Level
- Needs assessment
- Treatment planning
- Outcome assessment
- Utilization patterns
- Comparison of different interventions
- Consumer satisfaction
- Service performance
- · outcomes
- · cost-effectiveness
- Resource Allocation
- Electronic records
- Clinical terminology

ICF and Health Care Services
- Provides conceptual basis for moving from treating problems (impairments) to treating people (in the lived experience)
- Encourages consideration of sociocultural and other environmental factors as well as biomedical factors when developing intervention strategies
- Common language promotes a better understanding of the contribution of each health care practitioner
- Can enhance communication and encourage collaboration during planning and treatment

ICF and Professional Assessments
- ICF is not an assessment or measurement tool
- ICF is a classification system: a framework and set of classifications on which assessment and measurement tools may be based, and to which they can be mapped
- To be useful in health care, ICF requires professional expertise to translate the results of professional assessments into ICF codes
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

Example training slides: ICF architecture and content

WHO Family of International Classifications

ICF Constructs

Health Condition (ICD-10 Disorder/Disease)

- Body function & structure (Impairment)
- Activities (Limitation)
- Participation (Restriction)

Environmental Factors

Personal Factors

Body Functions and Body Structures

- **Body Functions** are the physiological and psychological functions of body systems
- **Body Structures** are the anatomical parts of body systems
- **Impairments** are problems in Body Functions or Body Structures

Activities and Participation

- **Activity** is the execution of a task or action by an individual
- **Limitation** is a problem in executing an activity
- **Participation** is involvement in a life situation
- **Restriction** is a problem in participating
- At times, concepts of Activity and Participation may overlap or be difficult to distinguish
Environmental Factors

- Environmental Factors are considered from the perspective of the person whose situation is being described and can serve as Facilitators or Barriers.

Example training slides: codes and qualifiers

Illustration of Coding Levels: Body Functions

- Component: Body Functions
- Chapter: 2, Sensory Functions and Pain (first level of detail)
  - b210, Seeing Functions (2nd level)
  - b2102, Quality of vision (3rd level)
  - b21022, Contrast sensitivity (4th level)

Illustration of Coding Levels: Activities & Participation

- Component: Activities and Participation
- Chapter: 5, Self-care (first level of detail)
  - d540, Dressing (2nd level of detail)
  - d5404, Choosing appropriate clothing (3rd level)

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.
- Qualifiers determine the meaning of a particular code as applied to a particular person.
Overview of Qualifiers

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 Factors (e codes)
- Facilitator or barrier

Qualifier Severity Scale
In all areas except Body Structures and Environmental Factors, qualifiers are based on the following severity scale:

0 NO problem (none, absent, negligible,...)
1 MILD problem (slight, low,...)
2 MODERATE problem (medium, fair,...)
3 SEVERE problem (high, extreme, ...)
4 COMPLETE problem (total,...)
8 not specified
9 not applicable

Body Functions Qualifier

Item code: Fluency of speech
Qualifier Code (Severity):
3, severe

b 3300.3
A 24-year-old man who has been diagnosed with stuttering demonstrates marked difficulty both starting sentences and transitioning from one word to another.

Example training slides: challenges in using ICF clinically

Capacity vs. Performance

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.
- 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 9th 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.
**Capacity vs. Performance**

- 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.

**Ratings for d166 Reading:**

- **Patient 1:**
  - Qualifier 1: 3 Severe (Performance current environment)
  - Qualifier 2: 0 None (Capacity without assistance)

  d166.3089

**Example training slides:**

**Code Sets**

- 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

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ICF Checklist 2.1a

- Developed by WHO
- Data can come from written records, clinical interview and observation
- Includes the “highlights” or major 3 digit items in ICF

Activity:
Design Your Own Code Set

Mrs. Norc

Mrs. Norc is an 85-year-old woman with arthritis, diabetes, hypertension, vision impairments and mild hearing loss reported difficulty with several daily activities including bathing (specifically transferring in and out of tub) transferring on/off her toilet, getting in and out of bed, talking on the phone, reaching high cabinets and getting in and out of her car. An intervention was provided in her condo that involved bathroom modifications for the toilet and shower, grab bars near the bed, assistive devices (reacher) and training in the use of her equipment.

Assessment | ICF codes
--- | ---
Lighthouse Near Acuity Vision test (Elam, 1997) | vision b21002
depression* | depression b152
audition* | audition b230
UE function* | UE ROM b7102
UE Strength b7300
UE Grip b7300
UE sensation b285
balance* | sitting balance standing balance b2351
Get up and Go test (Mathias et al, 1986) | mobility d410
**Assessment** | **ICF codes**
---|---
Short Blessed Memory Test (Katzman, et al, 1983) | cognition b144
The Functional Independence Measure (FIM) (Keith, Granger, & Hamilton, 1987) | activities d550 d520 d510 d540 d530, 5300, 5301 d4200, 4208

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**Mrs. NORC, Coded**

**Body Function**

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**Mrs. NORC, Coded**

**Activities and Participation**

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**Environment**

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**Learning methods**

- Adult learning theory
  - Assessment (pretest), Praxis (practice, design)
- Delivery (3-24 hrs)
  - Didactic sessions (information and experiential)
  - Self directed learning (guided information and experiential)
- Techniques
  - Information
  - Issues
  - Cases
  - Discussion
- Resources for continued self-directed learning

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**Evaluation methods**

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Two Empirical Evaluations of ICF Training Effectiveness

Susy Stark
Karen Dilfer
Geoffrey Reed

Research question

What is the best way to teach clinician’s how to use the ICF?

Purpose of this pilot study

- Examine the most effective method to teach clinicians how to use the ICF in practice
  - Research Questions:
    - Type of learning format
    - Length of time to train
  - Preliminary hypothesis
    - Classroom learning would be more effective

Contributors

- Lynn Bufka
- Geoff Reed*
- Travis Threats
- Diane Brandt
- Trish Welch-Saleeby
- Karen Dilfer*
Overview

Study 1
• Randomized groups
• 2 learning methods (self directed & didactic)
• OT students (first year)
• 3 hour training

Study 2
• Single group
• Didactic learning method
• Health providers (department of public health in South Africa)
• 30 Hour training

Subjects

St. Louis
• 56 Occupational Therapy students (2 lab sections)
• Mean age 23 years (range 21-33 years)
• No clinical work experience
• 92.8% first year students
• 62.2 % MSOT

South Africa
• 68 Practicing health care professionals
• 4 regional groups in South Africa
  – Cape Town
  – Port Elizabeth
  – Durban
  – Kimberly
• English NOT first language of most participants

South African professionals

Previous exposure to ICF

St. Louis procedure
Pre Survey of Attitude, Basic ICF knowledge & coding skills
Lecture
Self Directed Learning
Post Survey of Attitude, Basic ICF Knowledge & coding skills

South Africa procedure
Pre Survey of Basic ICF knowledge & coding skills
Post Survey of Basic ICF Knowledge & coding skills
Perceptions of ICF (US students only)

11 questions [2 factors (confidence using, useful)]

Sample questions:

“ICF is a useful tool”

“I understand how the ICF defines disability”

(1=strongly agree, 5=strongly disagree)

Knowledge assessment

14 item true/false, multiple choice test

Sample question:

“The ICF is based on the_________ model of disability

A. Nagi
B. social
C. biopsychosocial
D. components of health”

Coding exercise

Case study
- vignette including assessment results using standardized assessments
- “code set” for typical patient seen in the clinic
- checklist with qualifiers provided

Learning methods

St. Louis
- 2 groups (28 in each group)
  - Self Directed learning
    - Mean time to complete: 2 hours
    - Avg team size: 5 (1-9)
  - Lecture format
    - 3 hour lecture/group activities
    - Discussion led by graduate student instructor

South Africa
- Single group, repeated in each region (9-24) participants per session
  - Lecture, group activities led by 1 or 2 skilled leaders
  - Data collected in 4/9 workshops

US students confidence by learning method

“I feel confident when I use the ICF”
(Likert Scale; 5= Strongly Agree, 1=Strongly Disagree)

Lecture: Mean, Pre:1.68 Post:3.29
Self Directed Learning: Mean, Pre:2.07 Post:2.68

US student confidence by learning method

“I think the ICF is confusing”
(Likert Scale; 5= Strongly Agree, 1=Strongly Disagree)

Lecture: Mean, Pre:3.61 Post:3.18
Self Directed Learning: Mean, Pre:3.61 Post:3.57
US student perception of value

US student confidence in using

Knowledge pre post for all groups

US Students coding skill by group

South Africa coding skill by subsection

ICC of SA raters for B,S

Body Function
pre .41 post .97

Body Structure
pre .25 post 1.0
Qualitative comments from US students

Self Directed Learning
- Could work at own pace
- Confusing to figure everything out alone
  “...Added to a level of bafflement.”
- Could be tedious

Lecture
- Interaction was helpful
- Opportunity to ask Questions and get Answers
- Session was too long
  “I would not have spent as much time in a self-directed assignment.”

Bias
- D codes were primarily described in the clinical data using the Functional Independence Measure – not used in SA
- Students had high exposure to ICF; clinicians had more clinical experience
- Students participating “for grade” compared to employees assigned to participate
- Age and experience
- Only 1 form of test
- US training and testing methods bias the results toward the US students
- Language barrier in SA population

Discussion
- All participants improved knowledge and skill
- Clinicians with experience are better coders, questions remain about establishing “competence”
- Value of the ICF may be influenced by the teaching method

Discussion
- Education increases the perception of usefulness of the ICF – education may be key to adoption and use of ICF by clinicians
- SDL is useful and effective to teach skills but future training may need to include didactic learning

Next Steps
- Further refinement of approach and experimentation with the training methods
- Determination of the best amount of time in didactic training vs SDL
- Examine the Inter-rater reliability of coding vs “accuracy”; establish metric of coding competency.

Other training resources

ICF Australian user guide version 1.0

WHO ICF application and training tools
http://www.who.int/classifications/icf/icfa pptraining/en/

US CDC has hosted webinars in the past
http://www.cdc.gov/nchs/icd/icf.htm

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Other trainings

German ICF Research Branch E-learning tool under construction

German ICF Research Branch train the trainer

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