North American Collaborating Center

ICF Newsletter

March, 2011

Click on the hypertext links below to view the ICF topics of interest to you.

1) **_Report on the 2010 NACC Conference on the ICF: June 23-24, 2010, at the U.S. National Institutes of Health, Bethesda, MD_**

   Read a summary of the NACC ICF Conference, including links to the NIH Videocast of the proceedings from this 2-day event.

2) **_World Health Organization "Functioning Topic Advisory Group" Commences Deliberations on ICF in Relation to ICD-11_**

   Learn about the new "f-TAG" that will be incorporating ICF concepts into the forthcoming revision of the ICD.

3) **_New Book: Rehabilitation & Health Assessment: Applying ICF Guidelines_**

   A new book edited by Mpofu and Oakland (2010) describes rehabilitation professionals' issues in the ICF context, and measuring participation.

4) **_Papers Describe the Development and Validation of the ICF-based World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0)_**

   Two new open-access publications provide an in-depth description of the WHODAS 2.0, focusing on the instrument's ICF-related properties.

5) **_Call for ICF-Related Papers From a New Journal: Rehabilitation Process and Outcome_**

   The Editor of this open-access journal invites your papers focusing on ICF instrument development and environmental factors.

6) **_Coder's Corner_**

   We continue with ICF Coder's Corner, an educational feature to help you build and enhance your skills as an ICF Coder.

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1)   *Report on the 2010 NACC Conference on the ICF: June 23-24, 2010, at the U.S. National Institutes of Health, Bethesda, MD*

On June 23-24, 2010, the North American Collaborating Center (NACC) conducted its 2010 Conference on the International Classification of Functioning, Disability and Health (ICF). NACC presented the 2010 ICF Conference on the campus of the U.S. National Institutes of Health (NIH), in the William K. Natcher Conference Center, in Bethesda, Maryland, USA.

Since the 1990s, NACC has conducted a series of conferences and professionals' meetings about the characteristics of classifying functional impairments. Since the publication of the ICF in 2001, the NACC Conferences have focused specifically on the ICF. The 2010 NACC ICF Conference emphasized implementing and teaching about the ICF.

About 85 persons attended all or a portion of the NACC ICF Conference. In addition, through the auspices of the NIH Office of Research Services, NACC produced a live, streaming Videocast of the entire ICF Conference, for the benefit of persons not able to attend in person in Bethesda. We present the links to the NIH Videocast of the entire ICF Conference at the end of this ICF Newsletter entry.

Conference Theme, Rationale, and Objectives

The roster of NACC Conference Advisory Committee members is at the end of this ICF Newsletter entry.

The Advisory Committee adopted "Enhancing Our Understanding of the ICF" as the Conference Theme. This theme reflected the idea that, although there is still demand for training about how to use the ICF, the field has matured somewhat, such that "introductory themes" would be less relevant in our 2010 Conference setting. The Advisory Committee developed conference activities that addressed "enhancement," by deepening and broadening our participants' understanding of the Classification, and of its practical uses in case-counting activities.

The Conference Rationale had been "to actively promote continued refinements to improve the [ICF] framework's scope and utility for disability monitoring and research."

The Conference Objectives included the following:

- "To review and accentuate current debates about the degree to which ICF can be applied in specific disciplines, such as Gerontology and the Rehabilitation Sciences;
- To raise awareness about the alignment of ICF coding with current health informatics initiatives;
- To provide an educational opportunity to learn about basic and applied ICF coding, in addition to but distinct from the familiar ICF conceptual framework; and
- To enable enhanced sharing of resources regarding ICF applications between and among American and Canadian scientists and government agencies."

Conference Thematic Image
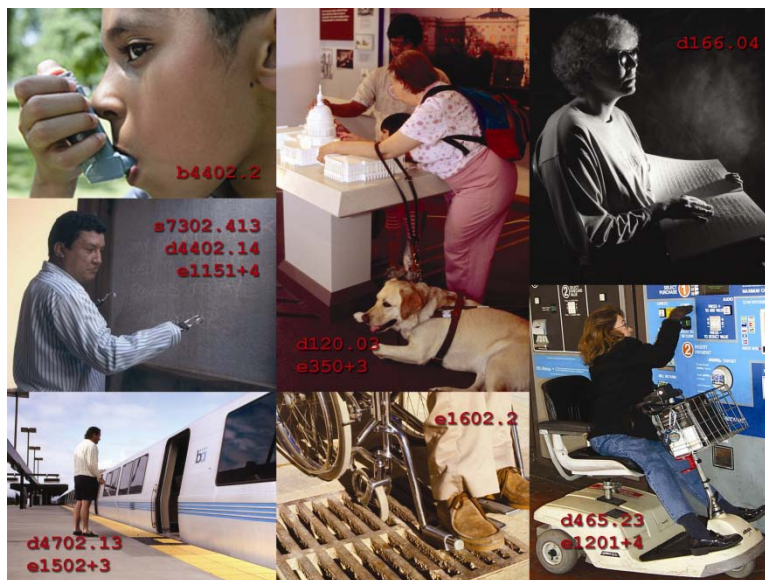
This composite photograph served as our Conference Thematic Image. NACC prepared it as the foundation for the Conference's Training Segment on ICF coding. The image incorporated seven photographs as primary examples for demonstrating the breadth and depth of ICF coding.

Each of the seven photographs portrays a disabled person doing ordinary things. We provide a key for the ICF coding within each photograph at the end of this ICF Newsletter entry. WHO contributed three of the photographs from its "Images of Health and Disability Photo Gallery"; the Centers for Disease Control and Prevention contributed the remainder. We used this composite photograph on the cover of our Program Booklet.

Welcoming Remarks

Following opening remarks from the Head of the NACC, Marjorie Greenberg, Dr. Edward Sondik, Director of the U.S. National Center for Health Statistics, formally welcomed the conferees, encouraging them to learn as much as possible about the ICF during their time at the conference. Dr. Justine Carr, Chair of the U.S. National Committee on Vital and Health Statistics (NCVHS), provided welcoming remarks on behalf of the NCVHS, which was a co-sponsor for this conference. This NACC ICF Conference had been planned as one of several events marking the 60th Anniversary of the establishment of the NCVHS. Dr. Carr referred to the longstanding support provided by NCVHS on the topic of functional status classification and measurement, focusing primarily on utilizing the ICF.

Training Segment

Utilizing the component photographs of the Thematic Image shown above, John Hough delivered a general tutorial on the ICF and ICF coding as the first modular presentation during the Conference. Catherine Sykes presented an overview of the ICF eLearning Tool, describing the WHO Field Testing activities for the Tool, and inviting participants to a full-scale Field Test conducted by NACC on the day following the ICF Conference, also on the NIH Campus in Bethesda.

Keynote Address

Rosaly Correa-de-Araujo, M.D., M.Sc., Ph.D. served as our Keynote Speaker. Dr. Correa is a health services researcher and a cardiologist by training. She serves as the Deputy Director of the Office on Disability, within the Department of Health and Human Services, Office of the Secretary. The Office on Disability coordinates disability-related activities throughout the Department, and Dr. Correa performs a leading role in those activities. Dr. Correa welcomed the conferees on her own behalf as well as that of Mr. Henry Claypool, Director of the Office on Disability.

In her remarks entitled "The ICF and Contemporary Disability Research," Dr. Correa invoked some of the words of her organizational predecessor, Dr. Margaret Giannini, who had served until 2009 as Director of the Office on Disability. Dr. Giannini had also delivered the Keynote Address at the 2003 NACC ICF Conference in St. Louis, Missouri. Dr. Giannini's words in 2003 had been encouraging about using the ICF as much as possible, as the Classification had been recently published. She also expressed some frustration about the complexity of the ICF, and difficulties associated with practically applying ICF, such as for a "front-line manager," as she had been in her own office. Dr. Correa expressed the following about Dr. Giannini's earlier remarks:

"These are powerful remarks, and I think they guide your work during this year's ICF Conference: *we need to 'actualize' the potential of the ICF.* We need to find ways to bring this tremendous classification out of the ether and back down to earth. We need to support its broadened use, and no longer be satisfied with just its limited use. And we need to link the ICF in tangible, practical ways to our programmatic efforts on behalf of Americans with disabilities: in transportation, employment, our Community Living Initiative, health insurance reform, and emergency preparedness. Let me sum up by borrowing again from Dr. Giannini's own words: 'I have seen an inspirational quote that reads, 'I never said it would be easy. I only said it would be worth it.' That sentiment surely still pertains today."

Dr. Correa expressed optimism about how the ICF could be applied within the "Community Living Initiative" and the new Center of Excellence in Research on Disability Services Care Coordination and Integration, which are programs under the leadership of her Office on Disability.

Roundtable Discussion

The first Conference day featured a Roundtable Discussion, led by Professor Alan Jette from Boston University, who had also served as Chairman of the IOM Committee on the Future of Disability in America. Entitled "Toward a Common Language of Disablement," this Roundtable Discussion reprised the ideas expressed by four authors of invited editorials in a recent issue of the *Journal of Gerontology, Series A: Biological Sciences and Medical Sciences*, in which the authors debated the usefulness of applying the ICF in gerontology. The other discussants were Luigi Ferrucci, M.D., Ph.D. and Jack Guralnik, M.D., Ph.D., both from the NIH National Institute on Aging, and Judith Kasper, Ph.D., from Johns Hopkins University. These speakers delivered lively remarks and engaged the audience in thought-provoking oral discussion on applying the ICF.

Plenary Sessions

There were 9 Plenary Sessions during the NACC ICF Conference, involving 14 speakers. The titles and author names are presented below, within the description of the segments of the NIH Videocast. The Plenary Session modules included the following topics:

- using ICF coding for eligibility determinations in vocational rehabilitation;
- a review of developments with the online *Health Professionals' Manual for a Standardized Application of the ICF*, formerly referred to as the "APA Manual";
- applications of the ICF in Speech-Language Pathology;
- an update on recent ICF activities in Canada;
- two modules on theory, practice, and applications associated with the ICF-CY;

- incorporating ICF into physical therapy practice; and
- two modules on informatics applications of ICF coding.

Poster Session

On June 24, the Conference featured a day-long Poster Session, involving 17 posters on the ICF and ICF-CY. The Poster Session included two viewing times, during which conferees were able to discuss posters with the respective authors, and also a one-hour module in which 10 selected authors delivered brief oral remarks about their posters or current research. The poster authors represented 6 different nations, making this the most "international" component of our NACC ICF Conference. A selection of their poster topics included the following:

- linking ICF with occupational therapy to enhance children's participation in community settings;
- application of ICF for rehabilitation professionals concerned about health promotion and participation among women with multiple sclerosis;
- using ICF to examine physical activity measurement tools among people with intellectual disability;
- applications of ICF in Social Work;
- ICF in assessments of social capital in vocational rehabilitation counseling; and
- comparing vestibular rehabilitation and quality of life measures based on ICF.

Summary and Next Steps Forward

Marjorie Greenberg, Head of the North American Collaborating Center, provided a useful summation of the two days of conference activities. Complimenting both speakers and attendees, she focused on the advantages of convening as a group of both ICF learners and ICF experts, because it augments networking and facilitates our collaboration. She observed that even though the ICF is maturing, there is still much new

interest in it, especially in learning about it. She emphasized that this group of learners and experts is really in the vanguard of activities associated with classifying functional status; "you are all 'early-adopters'," she said, echoing the remarks earlier in the day by Plenary Session speaker Dr. Lollar.

Regarding next steps, her remarks focused on other methods for enhancing our understanding of the ICF. For example, complimenting Professor Rune Simeonsson for his presentation on the ICF-CY in tandem with Dr. Lollar, she suggested that one or a series of "webinars" or web seminars describing the ICF-CY in greater depth might represent low-cost, high-impact activities that the Collaborating Center could sponsor. She encouraged all conferees and participants over the NIH Videocast to continue sharing their own activities with the ICF and ICF-CY, especially toward enhancing networking and building a community of ICF users.

Finally, she encouraged as many conferees as possible either to participate in the Field Testing Exercise of the new "ICF eLearning Tool" on the NIH Campus (June 25), or to participate in the Field Testing on their own, given that WHO has specifically invited comments on the new eLearning Tool before its public release.

Summary of the NIH Videocast of the NACC ICF Conference

Day 1
Wednesday Morning, June 23, 2010

URL for the entire Day 1 Videocast (7 hours, 19 minutes total):
http://videocast.nih.gov/summary.asp?Live=9397

(To view the Videocast in "full-screen mode," on that NIH Videocast web page, click the "screen-within-a-screen" icon to the right of the "Menu" icon on the movie-viewer's toolbar. Use your Escape key to toggle back to normal viewing mode. This will enable you to move the slider bar to the minute-markers below for segments you want to watch.)

1) Welcome and Opening Remarks
Marjorie S. Greenberg, M.A.
~ 02:41 through ~ 24:00
Remarks by NCHS Director Edward Sondik, Ph.D.
~ 24:20 through ~ 29:00

2) "The National Committee on Vital and Health Statistics and International Classification of Functional Status"
Justine M. Carr, M.D.
~ 31:46 through ~ 48:33

3) Training Segment
Part 1: "Introduction to the ICF and ICF Coding"
John F. Hough, Dr.P.H., M.P.H., M.B.A, F.A.C.E.
~ 52:36 through ~ 106:35
Part 2: "Introduction to the ICF eLearning Tool"
Catherine Sykes, M.Sc., M.C.S.P., Dip.T.P.
~ 107:05 through ~ 123:25

4) Keynote Address: "The ICF and Contemporary Disability Research"
Rosaly Correa-de-Araujo, M.D., M.Sc., Ph.D.
~ 126:10 through ~ 201:22

Day 1
Wednesday Afternoon, June 23, 2010

5) Roundtable Discussion: "Toward a Common Language of Disablement"
Alan M. Jette, Ph.D., M.P.H., P.T., F.A.P.T.A.
~ 207:10 through ~ 223:05
Judith Kasper, Ph.D.
~ 224:00 through ~ 230:30
Luigi Ferrucci, M.D., Ph.D.
~ 230:45 through ~ 236:55
Jack Guralnik, M.D., Ph.D.

~ 237:00 through ~ 247:40
All 4 Roundtable Discussants, beginning with Dr. Jette:
~ 247:49 through ~ 268:50

6) "ICF in Vocational Rehabilitation Eligibility Determination"
David K. Howard, Ph.D., M.S.W., C.T.R.S. and John F. Hough,
Dr.P.H., M.P.H., M.B.A., F.A.C.E.
~ 270:24 through ~ 322:25
Discussants: Arun Karpur, M.D., and David Hollar, Ph.D.
~ 322:53 through ~ 337:06

7) "Health Professions Manual for the ICF"
Lynn Bufka, Ph.D.
~ 328:20 through ~ 370:33

8) "Applications of ICF in Speech-Language Pathology"
Travis T. Threats, Ph.D., CCC-SLP
~ 371:08 through ~ 380:15, and
~ 416:25 through ~ 437:40
Tammy Hopper, Ph.D., CCC-SLP
~ 380:20 through ~ 416:22

Day 2
Thursday Morning, June 24, 2010

URL for the entire Day 2 Videocast (6 hours, 35 minutes total):
http://videocast.nih.gov/summary.asp?Live=9398

9) "Update on ICF Activities in Canada"
Diane Caulfeild, B.Sc., P.&O.T., M.B.A.
~ 3:30 through ~ 37:52

10) "ICF-CY: Theory and Practice"
Donald J. Lollar, Ed.D.
~ 40:55 through ~ 66:28
Rune J. Simeonsson, Ph.D., M.S.P.H.

~ 67:57 through ~ 98:37

11) "ICF-CY: Applications"
Janette McDougall, Ph.D.
~ 100:55 through ~ 145:50

Day 2
Thursday Afternoon, June 24, 2010

12) Poster Session Oral Presentations
~ 152:09 through ~ 216:20
Marie DiCowden, Ph.D.
Sandra A. Steiner, M.A., CCC-SLP
Coen van Gool, Ph.D.
Ai-Wen Hwang, Ph.D.
Yi-Ling Pan
Alia A. Algwhiri
David Hollar, Ph.D., and Arun Karpur, M.D.
Patricia Saleeby, Ph.D., presented by David K. Howard, Ph.D.
Debra Farmer Warrick

13) "Going Beyond Diagnosis® in a Learning Healthcare System
Incorporating ICF into Physical Therapy Practice"
Anita Bemis-Dougherty, P.T., D.P.T., M.A.S.
~ 219:34 through ~ 238:00
Harry Feliciano, M.D., M.P.H.
~ 238:30 through ~ 264:47 and, with Dr. Bemis-Dougherty:
~ 266:55 through ~ 280:30

14) "ICF and Biomedical Informatics: Part 1"
Allen Y. Tien, M.D., M.H.S.
~ 281:28 through ~ 317:30

15) "ICF and Biomedical Informatics: Part 2"
Vivian A. Auld, M.L.I.S.
~ 321:00 through ~ 338:50
Daniel Vreeman, P.T., D.P.T., M.Sc.

~ 339:12 through ~ 368:10 and, with Ms. Auld:
~ 368:43 through ~ 378:30

16) Summary Remarks and Conference Adjournment
     Marjorie S. Greenberg, M.A.
          ~ 379:05 through ~ 394:00

Members of the 2010 NACC ICF Conference Advisory Committee

Marjorie Greenberg	CDC National Center for Health Statistics (Chair)
Vivian Auld	NIH National Library of Medicine
Lynn Bufka	American Psychological Association
Diane Caulfeild	Canadian Institute for Health Information
John Hough	CDC National Center for Health Statistics
Katherine Jones	CDC National Center for Health Statistics
Jeannine Mtui	Affirma Solutions, Inc.
Mea Renahan	Canadian Institute for Health Information

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Citations for the 2009 Guest Editorials Forming the Basis for the June 23 Roundtable Discussion (2009)

Jette AM. Toward a common language of disablement. Guest editorial. *Journal of Gerontology Series A: Biological Sciences and Medical Sciences* 2009 (November); 64A(11):1165-1168.

PubMed ID #: 19617528   Abstract
A free copy of the article is available through PubMed Central.

Guralnik J, Ferrucci L. The challenge of understanding the disablement process in older persons: Commentary responding to Jette AM. Toward a common language of disablement. Guest editorial. *Journal of Gerontology Series A: Biological Sciences and Medical Sciences* 2009 (November); 64A(11):1169-1171.

PubMed ID #: 19628636   Abstract

A free copy of the article is available through PubMed Central.

Freedman VA. Adopting the ICF language for studying late-life disability: A field of dreams? Guest editorial. *Journal of Gerontology Series A: Biological Sciences and Medical Sciences* 2009 (November); 64A(11):1172-1174.

PubMed ID#: 19617529   Abstract
A free copy of the article is available through PubMed Central.

Jette AM. Beyond dueling models: Commentary responding Guralnik J, Ferrucci L. The challenge of understanding the disablement process in older persons, and Freedman V. Adopting the ICF language for studying late-life disability: A field of dreams? Invited response to Letter to the Editor. *Journal of Gerontology Series A: Biological Sciences and Medical Sciences* 2009 (November); 64A(11):1175-1176.

Publisher's Abstract.

Key for the ICF Coding within the Conference Thematic Image Composite Photograph

1	2	3
4		7
5	6	

1) Body Functions
b440.2   Depth of respiration, Moderate impairment

2) Activities & Participation
d120.03   Other purposeful sensing; No restriction in Performance with assistance; Severe limitation in Capacity without assistance

Environmental Factors
e350+3   Domesticated animals; Substantial facilitator

3) Activities & Participation
d166.04   Reading; No restriction in Performance with assistance; Complete limitation in Capacity without assistance

d325.04   Communicating with --- receiving --- written messages; No restriction in Performance with assistance; Complete limitation in Capacity without assistance

4) Body Structures
s7302.413   Structure of hand; Complete impairment, Total absence, Both sides

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

Environmental Factors
e1151+4   Assistive products for personal use in daily living; Complete facilitator

5) Activities & Participation
d4702.13   Using public motorized transportation; Mild restriction in Performance with assistance; Severe limitation in Capacity without assistance

Environmental Factors

e1502+3 Design, construction, and building products and technology for way finding, path routing, and designation of locations in buildings for public use; Substantial facilitator

6) Environmental Factors

e1602.2 Products and technology of urban land development; Moderate barrier

7) Activities & Participation

d465.23 Moving around using equipment; Mild restriction in Performance with assistance; Moderate limitation in Capacity without assistance

Environmental Factors

e1201+4 Assistive products and technology for personal indoor and outdoor mobility and transportation; Complete facilitator

2) *World Health Organization "Functioning Topic Advisory Group" Commences Deliberations on ICF in Relation to ICD-11*

During the 2010 Annual Meeting of the World Health Organization Family of International Classifications (WHO-FIC) Network, a newly-constituted group called the WHO Topic Advisory Group on Functioning met for the first time to commence its deliberations. The purpose of this Topic Advisory Group (TAG) is to advise WHO and its other TAGs on cross-cutting characteristics of functioning and functional status, for the forthcoming development of the *International Classification of Diseases, 11th Edition* (ICD-11), which is under development to replace the current editions of the ICD. The acronym for this group is "f-TAG."

The f-TAG is one of about 12 Topic Advisory Groups, or TAGs, supporting the development of ICD-11. Most TAGs are specific to one medical discipline or somatic area, such as the Internal Medicine TAG, Dermatology TAG, Neurology TAG, and Pediatrics TAG. But there are some specialized or cross-cutting TAGs, too, for example the External Causes and Injuries TAG and the Rare Diseases TAG. The f-TAG is constituted to "complement the work of existing Topic Advisory Groups in different disease areas with a particular focus on linking and improving the alignment between ICD and ICF," according to its Terms of Reference.

The co-chairs for the f-TAG are Dr. Cille Kennedy from the U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, and Dr. Gerold Stucki, Professor and Chair of the Department of Health Sciences and Health Policy at the University of Lucerne, Switzerland. Professor Stucki also serves as one of the co-chairs for the WHO-FIC Functioning and Disability Reference Group.

The f-TAG Terms of Reference, adopted in September, 2010, assert that "within the context of the overall ICD Revision the f-TAG is regarded as a cross-sectional TAG." The f-TAG involves the following specific tasks:

• Development and review of "Functional Properties" for ICD-11;
• Terminological and taxonomic alignment between ICD and ICF; and
• Developing "use cases" for joint application between ICD and ICF.

The life span of the f-TAG is limited to the development process period for ICD-11, which will continue until at least 2015. In the pages of this NACC ICF Newsletter, we will keep readers informed about the work of the f-TAG and its relationship with the other ICD-11 TAGs.

To read a description of the overall ICD Revision Process, visit: http://www.who.int/classifications/icd/ICDRevision/en/index.html

For a general description of all the ICD Revision Topic Advisory Groups and how they work together, visit this WHO web page: http://www.who.int/classifications/icd/TAGs/en/index.html

To review the Terms of Reference for the new f-TAG, visit:

http://www.who.int/classifications/icd/TOR_FTAG13August10.pdf

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3)   *New Book: Rehabilitation and Health Assessment: Applying ICF Guidelines*

Springer Publishing Company has published a new book about applying ICF concepts and codes in many different rehabilitation settings. The editors of Rehabilitation and Health Assessment: Applying ICF Guidelines (2010) are Elias Mpofu, Ph.D., C.R.C., Associate Professor and Head of Discipline of Rehabilitation Counseling at the University of Sydney, Australia, and Thomas Oakland, Ph.D., A.B.P.P., A.B.P.N., a Research Foundation Professor at the University of Florida. More than 60 rehabilitation, measurement, and educational professionals from around the world served as contributors to this 760-page textbook.

According to the Springer website, "This examination of ICF guidelines provides a comprehensive survey of assessment tools, emerging technologies, and procedures necessary for personalizing rehabilitation and health care interventions. Editors Mpofu and Oakland have gathered an international team of experts to set forth this masterful volume-dedicated to helping students, researchers, and practitioners advance their understanding of test use, assessment, and measurement, using the framework and philosophy presented in the ICF model."

The publisher also wrote that "With this book, readers will learn how to apply ICF guidelines effectively, by expanding their knowledge of:

- Professional issues, such as ethical quandaries, cultural and diversity considerations, and working with children and youth;
- Cutting-edge assessment technologies, such as virtual world tools, functional magnetic resonance imaging, and pre-scored health status instruments;

- Assessments of patients' adaptation to disability, such as measures of pain, forgiveness, self-efficacy and resilience [and] spirituality; and
- Measures of participation, including physical and functional performance, community integration, sexual functioning, and recreational activities."

In a review of the new book in the journal *Rehabilitation Counseling Bulletin* (2011; 54(2):122-123), Paul W. Power, Emeritus Professor of Rehabilitation Counseling at the University of Maryland, wrote:

> "These chapter topics follow the engaging opening chapter, which discusses the current definitions, concepts, and models of disability, functioning, and health from the perspective of the ICF classification system. . . . They suggest this volume's uniqueness and emphasize the value of exploring aspects of functioning that can make a difference in the life adjustment of a person with a disability."

> *"Rehabilitation and Health Assessment* is highly recommended as a significant contribution to the rehabilitation assessment literature. Like anyone, a person with a disability must manage internal adjustment factors in the context of a community setting. Influences within this setting can make a decided difference in their positive coping and eventual personal productivity. Many of this book's chapters identify various external dimensions and describe appropriate measures for assessing their influence."

You can review a 40-page excerpt from the new book, including the Preface, the Table of Contents, and Chapter 1 entitled "Concepts and Models in Disability, Functioning and Health" by viewing this web page on the publisher's website:

http://www.springerpub.com/samples/9780826157348_chapter.pdf

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4) ***Papers Describe the Development and Validation of the ICF-based World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0)***

Two recently published open-access papers represent important advances for the World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0), which is a questionnaire for use in clinical settings. For the first time, scientists have quantitatively demonstrated that the WHODAS 2.0 exhibits sufficient internal consistency with many prominent disability concepts measured by conventional functional assessment instruments, such as the Functional Independence Measure, the London Handicap Scale, and the Short Form Health Survey.

This means that, in the authors' words, "the WHODAS 2.0 meets the need for a robust instrument that can be easily administered to measure the impact of health conditions, monitor the effectiveness of interventions and estimate the burden of both mental and physical disorders across different populations" (2010a, page 815).

Technically, WHODAS 2.0 is not a brand new instrument. The original and intermediate iterations of WHODAS had 36- and 12-item structured interviewer-administered and self-administered versions, as well as screening and proxy-administered short versions. The WHODAS also had been modified for use within the World Mental Health Surveys. The 36-item interviewer-administered version yielded scores for six domains of functioning, plus a score representing overall functioning. Respondents provide a rating for their degree of difficulty with a task, or rate their problems associated with a specific health condition, generally covering the 30 days prior to the WHODAS interview.

The authors described WHODAS 2.0 in the following way:

"The WHODAS 2.0 is grounded in the conceptual framework of the ICF and captures an individual's level of functioning in six major life domains:

i)   Cognition (understanding and communication);
ii)   Mobility (ability to move and get around);
iii)   Self-care (ability to attend to personal hygiene, dressing and eating, and to live alone);
iv)   Getting along (ability to interact with other people);
v)   Life activities (ability to carry out responsibilities at home, work, and school); [and]
vi)   Participation in society (ability to engage in community, civil, and recreational activities).

All domains were developed from a comprehensive set of ICF items and made to correspond directly with ICF's 'activities and participation' dimension (Table 1), which is applicable to any health condition" (Üstün, *et al.*, 2010a, page 815).

Through a long revision process during this decade, developers and consultants contributed to revising and field-testing the original WHODAS into an instrument that not only fully manifested ICF concepts, but also one in which individual questionnaire items could be associated directly with and mapped to a specific ICF Activities & Participation code.

The first article by Üstün and WHO colleagues (2010a) provides a robust summary of the research and field-testing activities that yielded today's modified instrument, the WHODAS 2.0.

The second article, by authors from the European Union-funded project known as Measuring Health and Disability in Europe (MHADIE), describes the WHODAS 2.0 validation procedures. The authors used factor analysis to confirm the latent structure of the WHODAS 2.0 instrument. They assessed internal consistency using the Cronbach's alpha test statistic, reproducibility using intra-class correlation coefficients, and responsiveness using an effect size coefficient measured over time to pick up changes in a patient's level of clinical severity.

These authors concluded that "The latent structure originally designed by WHODAS-2 developers has been confirmed for the first time, and it has shown good metric properties in clinic and rehabilitation

samples. Therefore, considerable support is provided to the WHODAS-2 utilization as an international instrument to measure disability based on the ICF model" (2010b, page 51).

Both articles are available without a subscription from open-access publishers. Our North American Collaborating Center thanks our colleagues at WHO for providing the first article through the open-access *Bulletin of the World Health Organization*, and also for providing some very useful, informative websites about how to utilize WHODAS, shown below.

Here are the citations and open-access website links:

a) Üstün TB, Chatterji S, Kostanjsek N, Rehm J, Kennedy C, Epping-Jordan J, Saxena S, von Korff M, Pull C, in collaboration with the WHO/NIH Joint Project [on Assessment and Classification of Disability]. Developing the World Health Organization Disability Assessment Schedule 2.0. *Bulletin of the World Health Organization* 2010(a); 88:815-823. DOI: 10.2471/BLT.09.067231

Table 1 in the article describes the "mapping" between the 36 items within WHODAS 2.0 and specific ICF codes:
http://www.who.int/bulletin/volumes/88/11/BLT-09-067231-table-T1.html

Link to the article in .HTML format:
http://www.who.int/bulletin/volumes/88/11/09-067231/en/index.html

Link to the article in .PDF format (9 pages):
http://www.who.int/bulletin/volumes/88/11/09-067231.pdf

PubMed ID # 21076562   Abstract

Frequently-Asked Questions about the WHODAS 2.0:
http://www.who.int/icidh/whodas/FAQ.html

WHODAS 2.0 Training Manual (2000; 22 pages):
http://www.who.int/icidh/whodas/training_man.pdf

WHODAS 2.0 Manual (2010; 152 pages):
http://whqlibdoc.who.int/publications/2010/9789241547598_eng.pdf

The Manual is also available for purchase from the WHO:
http://apps.who.int/bookorders/anglais/detart1.jsp?sesslan=1&codlan=1&codcol=15&codcch=748

b)   Garin O, Ayuso-Mateos JL, Almansa J, Nieto M, Chatterji S, Vilagut
       G, Alonso J, Cieza A, Svetskova O, Burger H, Racca V, Francescutti
       C, Vieta E, Kostanjsek N, Raggi A, Leonardi M, Ferrer M, for the
       MHADIE Consortium. Validation of the World Health Organization
       Disability Assessment Schedule, WHODAS-2, in patients with chronic
       disease. *Health and Quality of Life Outcomes* 2010(b); 8:51 (15
       pages). DOI:10.1186/1477-7525-8-51

       Link to the article in .HTML format:
       http://www.hqlo.com/content/8/1/51

       Link to the article in .PDF format:
       http://www.hqlo.com/content/pdf/1477-7525-8-51.pdf

       PubMed ID # 20482853   Abstract

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5)   *Call for ICF-Related Papers From a New Journal: Rehabilitation Process and Outcome*

A new peer-reviewed journal with an expansive scope has an explicit
orientation toward the ICF. Entitled *Rehabilitation Process and Outcome*,
and published by Libertas Academica, a worldwide publisher of open-
access, peer-reviewed medical and scientific journals, the new journal is
inviting manuscripts from authors that specifically utilize or cite the ICF.

The Editor-in-Chief of the new journal is probably familiar to many
readers of this NACC ICF Newsletter: Dr. Thilo Kroll, formerly at the
National Rehabilitation Hospital Center for Health and Disability Research

in Washington, D.C., and now a Reader and Program Lead for Improving Care Delivery and Well-Being at the University of Dundee, Scotland.

Professor Kroll's research interests focus on "how people with disabilities, particularly socially marginalized groups, maximize their independence in having access to primary and specialist care, employment, peer support and assistance services."

In his invitation letter soliciting ICF-related manuscripts for the journal *Rehabilitation Process and Outcome*, Thilo wrote that "The integration of the ICF into clinical rehabilitation practice and intervention planning holds significant promise but is also confronted with an array of practical challenges. One of the principal difficulties is the interaction of concepts such as body structure, function, activity and participation and the dynamic interplay of personal and environmental factors. Domain and condition-specific instruments have been developed to capture the different ICF components. ICF Core Sets have been developed among others for brain injury, musculoskeletal conditions, osteoporosis, low back pain, stroke, cancer, and children with communication disabilities. Another challenge that has emerged is coding for the different concepts in clinical assessments and the development of reliable and valid tools that capture the respective domains."

"*Rehabilitation Process and Outcome* is calling for research, systematic review and conceptual papers that place the ICF at their center. Particularly, research with focus on scale and instrument development is of interest. Further, papers that explore environmental factors, such as barriers in various community-based settings in which rehabilitation may take place or which people with disabilities have to navigate are very welcome. Manuscripts that focus on evaluations of interventions that are based on ICF concepts would be favorably considered. Conceptual discussions in how ICF constructs may be integrated with ICD-10 or DSM-IV classification systems as well as with psychosocial theories would also be of considerable value to the reader."

The publisher, Libertas Academica, presents some advantages for publishing in *Rehabilitation Process and Outcome*, including:

- "Full open access: everyone can read your article and you retain copyright in it;
- Publishing decision within 2 weeks of submission;
- Your paper will not be rejected due to lack of space and will be published immediately on acceptance;
- Prompt and fair peer review from two expert peer reviewers; and
- Frequent updates on your paper's status."

Your North American Collaborating Center encourages all readers of this ICF Newsletter to consider submitting and publishing in *Rehabilitation Process and Outcome.* You can contact Dr. Kroll by E-Mail at this address:

T.Kroll@dundee.ac.uk

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6)   *Coder's Corner*

Welcome back to "Coder's Corner," a continuing feature in our NACC ICF Newsletter designed to encourage all our Readers to become proficient in ICF coding. Coder's Corner is where we present illustrations appended with ICF coding, to demonstrate the four domains in ICF, and the basic principles of the ICF coding structure. Our goal is to enable each Reader to build and enhance his or her skills as a full-fledged ICF Coder.

Coder's Corner features color photographs or generic clip art representing people with disabilities engaged in everyday activities. Learning about ICF codes and coding rules can be easier when illustrations accompany the actual codes, in addition to text.

An important characteristic of Coder's Corner is the respectfulness with which we approach any given coding example. Even in the abstract, we acknowledge that our coding examples refer to or portray real people who have serious impairments or genuine participation restrictions. We want to see the person first, not the disability.

Our goal is not to accentuate impairments, but to demonstrate that the ICF provides standardization to the description of such cases, by adhering to the ICF coding guidelines. Therefore we approach each example in a non-stigmatizing, humanistic, respectful manner, and we encourage our Readers to do the same.

In each coding example we present a brief description of the image, one or more representative ICF codes that describe the case in the image, a justification for our selecting those ICF codes, and a short discussion.

Some of our coding examples are simple, others are complicated. Some don't even involve people *per se*, for example in an illustration describing an environmental barrier or facilitator. Some examples utilize ICF qualifiers, while others are simply expressed at the code-stem level. We acknowledge that some ICF code stems are difficult to apply in practice, too, and we discuss those as well, toward our goal of explaining those codes in a manner that makes them useful to all ICF coders.

Transportation Security Scenarios: Examples of ICF Coding

Click on the hypertext links below to review specific photographs in this set of 5 TSA images, or scroll down to review the full set.

1st) [TSA Security Examination: Hearing-Impaired Travelers](#)

2nd) [Two Forms of Mobility Assistance: Crutches and Wheelchair](#)

3rd) [TSA Security Examination Involving a Service Animal](#)

4th) [TSA Security Examination: Metal Prosthetic Leg](#)

5th) [TSA "Notification Card": A Facilitative Transportation Policy](#)

For the 5 photographic examples in this edition of Coder's Corner, we thank our colleagues at the United States Transportation Security

Administration, the TSA. The TSA is an agency within the U.S. Department of Homeland Security.

The TSA is a large agency with many activities, but we meet its personnel primarily in airport security screening activities. The mission of the TSA is to "protect the Nation's transportation systems to ensure freedom of movement for people and commerce." You can learn more about the TSA at its website, located at: http://www.tsa.gov/index.shtm .

In today's world, air travel has become more complicated. The security situation demands that every airline passenger undergo screening before boarding an aircraft, to ensure everyone's safety.

Most countries have agencies like the TSA that serve travelers moving through commercial or public transportation systems, especially airports, to ensure our safety and prevent criminal or terrorist activities. In any country, we owe gratitude to the highly-skilled professionals who help to make airline travel safe and accessible for all of us.

For many travelers, security screening is simple, non-invasive, and causes only minor inconveniences. But for persons with disabilities who want to travel by air, the security screening can become difficult, invasive, and inconvenient. It can also take a longer time or add delays to traveling.

Those facts also affect security screening personnel. They must adhere not only to priorities about inspecting people and devices for safety reasons, but also protocols that ensure that travelers with disabilities are treated with respect, dignity, and concern for their safety. "Keeping the lines moving" remains a priority for screening personnel, too, so they must be able and ready to conduct inspections in a speedy, efficient manner.

The TSA anticipates these situations and provides an informational website that alerts travelers with disabilities about what they can expect in the airport security screening station. That website page is entitled "Travelers with Disabilities and Medical Conditions." It is located at: http://www.tsa.gov/travelers/airtravel/specialneeds/index.shtm .

For our purposes in Coder's Corner, the images provided by the TSA on this website gives us some great ICF coding opportunities. We can learn a lot about ICF coding from these images.

Our goal in selecting these photos, though, is not to describe the TSA's procedures for screening passengers with disabilities or special equipment. Instead, our goal is to illustrate ICF coding. These photos are teaching devices that help us explain the ICF coding, rather than the TSA's enhanced screening procedures.

1st)   TSA Security Examination Among Hearing-Impaired Travelers

Activities & Participation

d320   **Communicating with --- receiving --- formal sign language messages**

d3150   **Communicating with --- receiving --- body gestures**

Description of the Image

This image shows a TSA screening employee on the left conducting an examination of a female traveler on the right. She appears to be delivering instructions about completing the screening examination. In the

middle, a young man is engaged in signing the vocalized words of the TSA screener for the benefit of the female traveler. We can't always understand all the circumstances in a two-dimensional photograph such as this one, but we can assume that the female traveler on the right has a hearing impairment. She depends on an interpreter to convey the meaning of spoken words so that she can understand them.

The young man in the middle is wearing civilian clothing, so we can assume he is not a TSA employee. He might be the female traveler's traveling companion, rather than a full-time sign language interpreter. We can't determine in the photograph if the young man might also have a hearing impairment, or if he is capable of both hearing and also signing; the latter seems most likely. It's possible that the young man and the woman on the right side of the photograph both have hearing impairments and are engaged in "team-signing," interpreting for each other as they both enter and go through the screening station.

We assume the female traveler would not be able to interpret the TSA employee's instructions without the assistance of the young man. With his help, though, they can both successfully negotiate this screening encounter. Because it is only a two-dimensional photograph, we can't determine anything about the level of the female traveler's hearing impairment, so at first we're not assigning any qualifiers to the ICF codes.

Justification for Selecting the ICF Codes

We selected Activities & Participation code d320 for "Communicating with --- receiving --- formal sign language messages," to describe this scenario. We also selected an adjacent code: d3150 for "Communicating with --- receiving --- body gestures," representing the gestures performed by the TSA employee, rather than referring to body gestures that involve actual sign language. The d3 characters inform us that the code is from the Activities & Participation domain (indicated by the letter "d"), Chapter 3 (indicated by the digit "3"), "Communication." The code description reads "Receiving and comprehending messages in formal sign language with literal and implied meaning."

A&P Chapter 3 has many useful headings that make it easy to discriminate distinct ideas about communication. The three sections are entitled "Communicating --- receiving" (d310 – d329), "Communicating --- producing" (d330 – d349), and "Communication and use of communication devices and techniques" (d350 – d369). Within the first section, ICF distinguishes between communicating with "spoken messages," and "nonverbal messages," the latter of which includes messages expressed and received through sign languages.

Nonverbal messages also include "body gestures" (d3150), "general signs and symbols" (d3151), "drawings and photographs" (d3152), and "written messages" (d325) As throughout the ICF, all these headings are assisted by the "8" and "9" codes, namely, those code stems ending in either "8" for "other specified" and "9" for unspecified." We don't use the "8" or "9" codes frequently, but they are important: they enable ICF to be both exhaustive and mutually exclusive, which are critical features of any scientific classification

For the ICF coder, discriminating between and among concepts and codes simply involves the process of elimination. In this case, we assume the TSA employee, the young man, and the female traveler are all communicating with each other. Therefore, for ICF coding purposes, we simply need to discriminate by eliminating the kinds of communication they are respectively using --- even if we cannot actually hear them or necessarily know what they are communicating about.

In this scenario, although the TSA employee probably has been communicating with spoken messages, we can additionally assume that the young man and the female traveler are not communicating with "general signs and symbols," "drawings and photographs," or "written messages," so we can eliminate those concepts and ICF codes.

Technically they are communicating with "body gestures," too. In fact the TSA employee is also communicating with body gestures, demonstrating with her hands the parts of the female traveler's body or clothing that require additional screening. Because of the employee's gesturing, we should include the "three-level" ICF code (i.e., one letter followed four digits) for "body gestures," d3150, although the primary idea conveyed by the photograph is about sign language. The description at

d3150 reads "Comprehending the meaning conveyed by facial expressions, hand movements or signs, body postures, and other forms of body language."

Therefore, we selected two codes, d320, mainly referring to the two persons on the right communicating using sign language, and d3150, referring to the TSA employee on the left. We assume that, cognitively, the female traveler is comprehending two forms of nonverbal communication: the TSA employee's body gestures, and the signed expressions by her male traveling companion, who translates the TSA employee's verbal instructions into a nonverbal language commonly understood by persons with hearing impairments.

Discussion

This image enables us to explore the exhaustiveness with which ICF treats different forms of communication.

ICF instructs us to code only "relevant, explicit, and specific" information (2001, pages 224-225). Technically we are breaking those coding rules by making so many assumptions about the abilities of the people in this photograph. ICF encourages us to code only observable phenomena, but in this photo, there are many unobservable circumstances.

But for our teaching purposes here, if we were to make more assumptions about the people in the photograph, we could add some ICF qualifiers to the two code stems we selected.

Remember, ICF codes can be assigned to anyone, whether or not they have any kind of impairment, limitation, or restriction. This means we can assign a code even to the TSA employee here, who apparently does not have any obvious impairments. ICF is a classification of health, not disability, and the code stems and qualifiers refer to levels of health, which might be affected by some related impairment, limitation, or restriction.

In that regard, for the TSA employee, we might assign d3150.00, for "Communicating with --- receiving --- body gestures." The first post-decimal digit, 0, represents the "Performance with assistance" qualifier, and

the second post-decimal digit, 0, represents the "Capacity *without* assistance" qualifier. This modified code can be interpreted to mean that that TSA employee communicates with, and presumably also receives, messages using body gestures, and that she has no activity limitations in doing so. But we can use the same ICF code stem with qualifiers for the female traveler: she, too, apparently has no limitations in performing the activities associated with visually receiving the TSA employee's body gestures and interpreting their meaning.

But on the presumption that the female traveler has a hearing impairment, we can add qualifiers to our other code stem. Pertinently, we can use the qualifiers to describe the assistance she is receiving from her male traveling companion. We could use modified code d320.20 for that situation. The first post-decimal digit, 2, means she can perform activities associated with using sign language, but in this case only with the assistance of interpretation provided by her male traveling companion.

The second post-decimal digit, 0, representing "Capacity *without* assistance," means that she has no capacity limitation in performing the activities associated with communicating using sign language.

On the other hand, although she exhibits no capacity limitation performing those signing activities with other persons who understand a sign system *in her native language*, she might have "moderate capacity limitation" (alternative capacity qualifier digit "2") performing those activities without the assistance of a colleague interpreter. Under that assumption, she would have a moderate capacity limitation in performing activities associated with communicating with the TSA employee, without the assistance of someone else who can interpret between spoken messages and signed messages. Then, the code might be altered to d320.22.

Stated differently, remember that English-oriented "American Sign Language" is not universal: there are many sign systems used by people all around the world. These might be travelers whose native language is not English, whether or not they use a sign system. If by chance the TSA employee on the left could sign in English without having to rely only on spoken messages, and if for example the travelers on the right utilized *la langue des signes québécoise* (LSQ), a sign system often utilized by hearing impaired persons in Québec and other French-speaking parts of

the world, having a translator would be just as important. The intervention of a translator represents the assistance in this scenario, enabling and enhancing performance of the necessary activities.

2nd) Two Forms of Mobility Assistance: Crutches and Wheelchair

Activities & Participation

d4104.12   **Standing, mild difficulty in Performance with assistance, moderate difficulty in Capacity without assistance**

d4154.12   **Maintaining a standing position, mild difficulty in Performance with assistance, moderate difficulty in Capacity without assistance**

d465.03   **Moving around using equipment, no difficulty in Performance with assistance, severe difficulty in Capacity without assistance**

Environmental Factors

e1201+3   Assistive products and technology for personal indoor and outdoor mobility and transportation, Substantial facilitator

Description of the Image

This photograph shows three persons involved in another screening examination. On the left, there is a female traveler in a standing position, utilizing metal forearm crutches to maintain that position while undergoing the security examination. In the middle, there is a female TSA employee conducting the security examination of the female traveler, engaged in a "pat-down" of her clothing and, apparently, the forearm crutches themselves. On the right, there is a male TSA employee conducting a security examination of the female traveler's wheelchair, from which apparently she had just arisen with the assistance of her forearm crutches. The male TSA employee appears to be checking the wheelchair for any residue of chemical explosives or flammable materials.

It might be less frequent that a person with a mobility impairment travels with two kinds of mobility assistive devices, but in this case, it appears that the female traveler might have some ability to move around using her lower extremities. Apparently she can utilize either her wheelchair or the forearm crutches to move around, so she travels with both devices. The wheelchair appears to be of the variety often referred to by the "Quickie" brand name. It is collapsible, lightweight with a simple bar for the footrest, and sometimes utilized in sports activities because of its narrow turning radius, owing to the angled configuration of its main wheels.

Justification for Selecting the ICF Codes

We thank the TSA for this outstanding photograph. It enables us to illustrate qualifier-modified A&P codes associated with standing and the use of two kinds of mobility assistive devices. Moreover, it allows us the opportunity to assign an Environmental Factors code representing Complete Facilitation.

We selected three A&P codes. Remember, the qualifier digits in an A&P code have place value: there is a specific interpretation for each qualifier digit in a specific sequential position following the decimal point. The first qualifier digit represents "Performance *with* assistance." The second qualifier digit represents "Capacity *without* assistance." Performance and capacity are complicated subjects in the ICF, but in an oversimplified description, we can say that Performance represents "what a person *does* do," and Capacity represents "what a person *can* do." A qualifier-modified A&P code can have up to four post-decimal qualifier digits, but in this illustration, we've only utilized two qualifier digits.

Our first code is **d4104.12**, for "Standing, Mild difficulty in performance *with* assistance, Moderate difficulty in capacity *without* assistance." In a two-dimensional photograph, it's challenging to judge a person's degree of mobility or, in this case, the power and strength of their lower extremities. We're coding the female traveler's ability to stand, and we judged her degree of difficulty in standing to be "Moderate," although some ICF coders might judge that degree to be "Severe," in which case they would assign "**3**" instead of "**2**" in the Capacity qualifier digit position.

She is fortunate to have the ability to shift her body weight in order to move up and out of her wheelchair, apparently under her own power but only with the assistance of the specialized devices known as forearm crutches. The code stem for "Standing" is **d4104**. The first and second characters "**d4**" inform us that we are using the Activities & Participation domain, and selecting from Chapter **4**, "Mobility."

The description of this code reads "Getting into and out of a standing position or changing body position from standing to any other position, such as lying down or sitting down." The first qualifier digit "**1**" is interpreted as "Mild difficulty in performance *with* assistance," in this case relatively mild difficulty performing the activities associated with standing with the assistance of the forearm crutches. The second qualifier digit "**2**" means that she has "Moderate difficulty in capacity *without* assistance." Without the assistance of the forearm crutches, the female traveler probably has a moderate limitation in her capacity to get into and out of a standing position from her seated position in the wheelchair.

Our second code is d4154.12, for "Maintaining a standing position." This code refers to the female traveler's ability not only to get into and out of a standing position, but to maintain it for at least a short period of time. In this scenario, maintaining a standing position is essential, in order for the security examination to be completed by the female TSA employee.

In A&P Chapter 4, "Mobility," ICF very helpfully distinguishes several different categories under the heading "Changing and maintaining body position" (d410 – d429), representing an array of mobility-related functions. Pertinently, ICF distinguishes "changing basic body position" (d410) from "maintaining a body position" (d415). Hence, each concept related to body position has an assigned code under the heading of "changing," and also an assigned code for "maintaining" such positions. Examples include "lying down" (d4100), "sitting" (d4103), and the code stem used above for "standing" (d4104). The parallel "maintaining" codes for these examples include "maintaining a lying position" (d4150), "maintaining a sitting position" (d4153), and the code we selected as our second code for this scenario, "maintaining a standing position" (d4154).

Overall, this distinction within ICF is very useful. For example, in a rehabilitation setting, treatment goals would be different among patients who have the limited ability to lie down, sit, or stand, versus those patients who have somewhat more ability to maintain those body positions. ICF codes can accommodate that important functional difference. Here in our photograph, we are able to demonstrate that the female traveler has a range of mobility-related functions, including the ability to maintain her standing position independently, when assisted by her forearm crutches.

Regarding the qualifier digits in our second code, d4154.12, the first digit, "1" in that qualifier position is the "Performance *with* assistance" qualifier. The second digit, "2"in that position is the "Capacity *without* assistance" qualifier. We selected the same sequence of qualifier digits for the second code as we did for the first code above. We judged that the female traveler has only mild difficulty (1) performing the activities associated with maintaining her standing position, when she has the assistance of her forearm crutches. Concurrently, without the assistance of her crutches, she has limited capacity to enter into and maintain her

standing position; in fact we judged that capacity limitation to be moderate (**2**), although other coders might judge that limitation to be severe (**3**).

Our third code can pertain either to the female traveler's forearm crutches, or her wheelchair. We selected **d465.03**, for "Moving around using equipment, No difficulty in Performance *with* assistance, Severe difficulty in Capacity *without* assistance." **d465** is a frequently-used code. Nevertheless, there are problems associated with assigning **d465**, described below in the Discussion section for this scenario.

Our fourth code is from the Environmental Factors domain. We selected **e1201+3**, for "Assistive products and technology for personal indoor and outdoor mobility and transportation, Substantial facilitator." Our assumption here is that **e1201** code stem refers to the female traveler's forearm crutches, but it could easily also refer to her wheelchair. In any case, either mobility assistive device is a substantial facilitator for her: either device diminishes barriers, thereby enhancing her ability to perform the tasks associated with mobility and transportation. In Environmental Factors, a facilitator is described by a plus sign following the code stem, then by the qualifier digit associated with the degree of facilitation. Hence, our code stem **e1201** is modified by the qualifier sequence "**+3**."

Discussion

What exactly are we describing when we apply the **d465** code stem?

Some ICF coders have observed that the code stem **d465** is too general, such that forthcoming updates to the ICF should involve breaking **d465** into several more specific descriptions of the mobility tasks being performed, perhaps by referring to different levels of ability to utilize different categories of assistive devices. This observation might be important in our coding of this photographic scenario: **d465** can apply to female traveler's moving around using either her forearm crutches, her wheelchair, or both.

Strictly speaking, in this two-dimensional photograph, the female traveler can only be depicted doing one thing at one point in time, and the ICF coding should reflect that presumption. In this case, she is utilizing her

forearm crutches to assist her entering into and maintaining her standing position, rather than walking, so we judged that d465 should pertain only to mobility tasks associated with using her crutches to engage in and then maintain that standing position, rather than mobility tasks associated with walking or transporting.

The qualifier digits help us determine the degree to which the female traveler actually can move around using equipment. Again focusing just on her forearm crutches, we selected the Performance qualifier "0" in the first qualifier digit position to indicate "No difficulty in performance *with* assistance," that is, performing the tasks associated with moving around using her forearm crutches to enter into and maintain her standing position. Apparently, she has no difficulty, with the assistance of the forearm crutches. We selected the Capacity qualifier "3" in the second qualifier digit position to indicate "Severe difficulty in capacity," that is, moderate capacity difficulty *without* the assistance of the forearm crutches.

This coding situation illustrates the observation among some ICF coders that the d465 code stem induces confusion. Specifically, these coders ask whether d465 refers to a situation in which the person whose circumstance is being coded experiences any difficulty moving around at all, or moving around when using -- and because they are using -- some assistive device.

Should we assume that having and using the assistive device in the first place enables performance of tasks associated with mobility? Or, should we assume that we are coding the person's ability to utilize the assistive device proficiently, such that the tasks the person is performing are really those associated with operating the device correctly, comfortably, and efficiently, rather than tasks associated with mobility *per se*?

The latter observation seems to presuppose that having and using an assistive device contributes a kind of "*de facto* Capacity," at least when described by this particular ICF code stem. That is, when using the d465 code stem, because the phrase "using equipment" is part of the code stem's text label, making any distinction between *with* and *without* assistance for the Performance and Capacity qualifiers becomes moot: the person already has some assistance, expressed as "using equipment."

Hence they already have inherent "Capacity," even if it is not native or somatic capacity to move around.

Extending this logic suggests that when applying `d465`, the Capacity qualifier should automatically be set to "`0`," because the person would have no difficulty moving around given they already are *with* the assistance of equipment; the text label for the code stem seems to suggest they are never *without* equipment assistance. They would have inherent Capacity to perform the tasks associated with moving around, such that the idea of "Capacity *without* assistance" is moot --- by its very nature, under this logic, if we assign the code stem `d465`, it means they have assistance.

This is a very difficult, sublime, and somewhat problematic distinction. `d465` specifically excludes "walking" (`d450`) *and* "moving around" (`d455`). The adjacent two-level code stem `d455`, "Moving around," refers to different forms of movement that exclude transferring (i.e., `d420`) and walking (i.e., `d450`), but not necessarily when having and using an assistive device. (In ICF coding, a "two-level code" involves one letter followed by three digits. A "three-level" code involves one letter followed by four digits.) For example, the three-level codes nested within `d455` refer to crawling (`d4550`), climbing (`d4551`), running (`d4552`), jumping (`d4553`) and swimming (`d4554`), all of which involve tasks that are not walking, and can be performed without assistive devices. On the other hand, the adjacent two-level code stem `d460`, "Moving around in different locations," not only specifically includes "walking," but also challenges the ICF coder to envision how a person with impairment could perform any tasks associated with "moving around in different locations" *without* concurrently having and using assistive devices. Curiously, `d460` specifically includes "crawling or climbing within the home," which are two of the five forms of moving around covered by `d455`.

One way around this coding problem would be for a coder to express his or her explicit assumption that `d465` does not pertain to moving around, but rather to their ability to operate and use proficiently their capacity-instilling equipment.

Another way around this problem, at least in this photographic scenario, would be not to assign code stem `d465` at all. Our first two

codes, **d4104.12** for "Standing, Mild difficulty in Performance *with* assistance, Moderate difficulty in Capacity *without* assistance," and **d4154.12** for "Maintaining a standing position, Mild difficulty in Performance *with* assistance, Moderate difficulty in Capacity *without* assistance," seem adequate. There might not be any need to add our third Activities & Participation code, **d465.03**, to describe the scenario fully.

We won't be able to solve this dilemma here in Coder's Corner, except to observe that if assigning the code stem **d465**, the ICF coder should be explicit in their assumptions about the characteristics of that coding situation. Here, we make our assumptions explicit: our application of **d465.03** pertains to the female traveler's performance of tasks associated with moving around in order to engage in and maintain her standing position, rather than referring to the degree of her proficiency in using her forearm crutches in order to move around. These assumptions are supported because her forearm crutches help her perform tasks associated with "moving the whole body from place to place," which are text words from the descriptive label for **d465**.

We might also observe that, in future updates or revisions to the ICF, the question of whether we are coding performance of tasks purely associated with "moving around," or performance of tasks associated with proficiently operating assistive devices so that the assisted person can move around with less difficulty, should be answered. One approach might be to substitute several new, distinct codes related to different forms of moving around, both with and without the use of equipment or assistive devices, for the single code **d465**.

3rd)   TSA Security Examination Involving a Service Animal

Body Functions

b210   Seeing functions

Activities & Participation

**d310.00   Communicating with – receiving – spoken
               messages, no difficulty in Performance
               with assistance, no difficulty in Capacity
               without assistance**

**d7400.00   Relating with persons in authority, no
               difficulty in Performance with assistance,
               no difficulty in Capacity without
               assistance**

Environmental Factors

e350+4   Domesticated animals, Complete facilitator

Description of the Image

This image shows two people and one dog, who are all involved in a specialized airport security examination. The purpose of this image is to show the ICF coding associated with having and relying on a service animal for personal mobility and transportation.

On the left, there is a uniformed male representative of the U.S. Transportation Security Administration. This man is conducting the security examination. In the middle is a male airline traveler, who is sitting down in a chair in the examination area. We do not know if he is blind, but many cues in the photograph suggest that the man in the middle has a vision impairment. On the right is a beautiful dog that is in the heeling position. The dog is apparently leashed and wearing a harness that enables his human owner to maintain better control of the dog in public situations. The dog appears to be a medium-sized Retriever, and we'll call him "Good Dog" here. Good Dog is a service animal, a specially-trained dog who can assist a person with a vision impairment to move around in public settings much more easily and safely. The context of the security examination involves the TSA representative asking questions of the man with the apparent vision impairment about his service animal, before allowing the man and Good Dog to proceed through the airport security screening station.

Justification for Selecting the ICF Codes

We selected four codes from three ICF domains. We'll really focus on the Environmental Factors code for "domesticated animals," which in this photograph refers directly to Good Dog.

First, under the assumption that the man in the middle has a vision impairment, from the Body Functions domain we selected **b210**, for "Seeing functions."

Now, technically we are violating an important ICF coding rule, which we mentioned above in the Discussion section for our first photograph in

this edition of Coder's Corner. That rule calls for us to code only observable phenomena: ICF instructs us to code only "relevant, explicit, and specific" information. In this two-dimensional photograph, we really cannot observe whether the man in the middle has a vision impairment. Certainly, if he does have such an impairment, we cannot judge the degree of severity of that impairment. However, for our Coder's Corner teaching purposes, we're bending this coding rule so as to illustrate the general code for "seeing functions." Therefore, we are leaving off the Body Functions qualifier digit, which would indicate the degree of his impairment.

The two-level code **b210** for seeing functions is a "building block" code within Body Functions Chapter **2**, "Sensory Functions and Pain." By this we mean that ICF codes in that Chapter provide a highly-detailed compendium of different types of vision impairments, at the third and fourth levels of coding nested within **b210**. These are categorized as "Visual acuity functions" (**b2100** through **b21009**), "Visual field functions" (**b2101**), and "Quality of vision" (**b2102** through **b21029**), followed by the "**8**" and "**9**" codes for Other Specified and Unspecified seeing functions (**b2108** and **b2109**). The depth and breadth represented by these code sequences provides the ICF coder with opportunities for describing vision impairments in great detail or in meaningful combinations. For our purposes here, though, we'll stick with the general "building block" code at the second level of coding, namely, **b210** for seeing functions, without any qualifiers.

Our second and third codes are from the Activities & Participation domain, and here we'll add some qualifier digits. Both codes pertain to the exchange of information underway during this airport security screening examination, involving an oral conversation between the TSA representative and the male traveler. Both codes refer to the male traveler, rather than to the TSA representative.

We selected **d301.00** as our second code, for "Communicating with – receiving – spoken messages, no difficulty in Performance *with* assistance, no difficulty in Capacity *without* assistance." This modified code suggests that our male traveler apparently exhibits no difficulties carrying on the security-oriented conversation with the TSA representative.

Again, in a two-dimensional photograph, we can neither interpret anything about the depth or "quality" of their discussion, nor determine if

our male traveler might have any impairments of his speech functioning. But we'll rely on cues within the photograph to judge that the male traveler is easily and comfortably interpreting and orally answering questions posed by the TSA representative.

We selected **d7400.00** as our third code, for "Relating with persons in authority, no difficulty in Performance *with* assistance, no difficulty in Capacity *without* assistance." Actually, on the earlier presumption that our male traveler does not have any speech or communication difficulties, here it's hard to interpret any form of assistance that would enhance the traveler's ability to perform the tasks associated with "relating with persons in authority." We can judge that the traveler is relating to this person in authority easily and comfortably. Legitimately we could leave off the qualifier digits to impart the same interpretation of "no difficulties." Technically the ICF coding rules require the use of one or more qualifier digits on any code stem (2001, page 222). But those rules also stipulate that an "incomplete code" without any qualifiers indicates "the absence of a problem," which within A&P would be commensurate to post-decimal qualifier digits "**.00**" -- both approaches are legitimate in this scenario.

We moved to the Environmental Factors domain for our fourth code. We selected **e350+4**, for "Domesticated animals, Complete facilitator." Here the interpretation involves our assumption that Good Dog is actually an active service animal for our male traveler, rather than simply his canine companion. If Good Dog is acting as a service animal, we can judge that his services represent "complete facilitation" for our male traveler, yielding the qualifier sign and digit "**+4**." Good Dog enables the traveler to perform the tasks associated with airline travel.

In this scenario, then, although Good Dog is at ease and not providing any guidance *per se* at the moment, we can assume that our male traveler would not be able to negotiate the airport security screening station without Good Dog's active presence. Hence, he *must* travel with Good Dog in order to travel at all, such that Good Dog renders complete facilitation for traveling. That fact necessitates this special screening interview, in which the TSA representative is communicating with the traveler about Good Dog, for everyone's safety. Generally, the TSA does not permit a traveler to be accompanied by any domesticated animal unless it is a specially-trained service animal.

Discussion

This is a wonderful photograph, and we thank the TSA for providing it for our use. We'll focus on the Environmental Factors code here.

Let's point out that the text label for Environmental Factors code stem e350 refers to "animals for personal mobility and transportation" while also referring to "animals that provide physical, emotional, or psychological support, such as pets (dogs, cats, birds, fish, etc.)." Any person who enjoys the company of and intangible support from a domesticated animal could be assigned the e350 code stem, whether or not the person has any impairment. Among those humans with impairment, e350 would be commonly modified by the environmental facilitator sign and digit, in this case, e350+4, indicating that Good Dog serves as a "complete facilitator."

Moreover, ICF does not utilize the terms "service animal," "guide dog," "assistance dog," "seeing-eye dog," or "signal dog." Pertinently, at least one certification organization distinguishes between a "guide animal" who assists persons with blindness, a "hearing animal" who assists persons with hearing impairment, and a "service animal" who does work for persons with disabilities other than blindness or deafness.

Many ICF codes refer to animals. In Activities & Participation, the text labels for at least 10 code stems involve animals, for example d4451 for "Pushing," d4503 for "Walking around obstacles," d4752 for "Driving animal-powered vehicles," d480 for "Riding animals for transportation," and d6506 for "Caring for animals." In Environmental Factors, there are at least 4 code stems referring to animals, in Chapter 1, "Products and Technology," Chapter 2, "Natural Environment and Human-Made Changes to Environment," and Chapter 3, "Support and Relationships."

The explanatory text at the heading for Environmental Factors Chapter 3 helpfully describes the reasons why animals would be associated with "Support and Relationships":

> "This chapter is about people or animals that provide practical physical or emotional support, nurturing, protection, assistance and relationships to other persons, in their home, place of work, school or at play or in other aspects of their daily activities. The chapter does not encompass the attitudes of the person or people that are providing the support. The environmental factor being described *is not the person or animal, but the amount of physical and emotional support the person or animal provides"* (2001, page 187, italics added).

This means that, in the environmental contexts presented within ICF, animals perform intangible functions for humans -- using the ICF term, facilitation -- not associated with their more familiar tangible functions, such as with transportation or work in agricultural settings. In fact, animals can be involved in support and relationships, which in some situations can be as facilitative as the support and relationships provided by other humans. ICF also helpfully distinguishes between grooming, feeding, and caring for animals (e.g., d6506, "Taking care of animals") and the supportive relationships in which animals and humans participate. The general rule is that "a service animal is *not* a pet."

Some ICF coders have observed that future updates or revisions to ICF should provide a separate, specific code for "service animal," to make clearer the distinction between an emotionally-supportive domesticated animal or pet and a "working" animal whose services facilitate and actually enhance a person's Performance of individual or societal tasks. (Remember, an environmental facilitator diminishes the effects of barriers and enhances a person's ability to perform tasks, manifesting the interaction between the Environmental Factors and Activities & Participation domains.) Moreover, because the text label at e350 includes the term "pets" juxtaposed with "animals for personal mobility and transportation," these ICF coders observe that e350 does not sufficiently distinguish between the different roles of a pet and a service animal.

It might be important to fully explicate the roles of service animals in future updates to ICF, because those roles are expanding.

For example, although in this photographic scenario we are assuming that the male traveler has a vision impairment, and that Good Dog is available to enhance the traveler's interpretation of visual stimuli, other service animals are trained to work with persons who have hearing impairments, mobility difficulties, or balance and gait problems. Monkeys and horses are among other types of animals involved in service with persons with disabilities. A so-called "signal dog" can alert its human companion with a hearing impairment to sounds in their environment. Other large dogs can be trained to pull a human's wheelchair, or carry or pick up objects for a person with mobility impairment. Pulling a human in his or her wheelchair represents a specialized relationship between human and animal that might be different from that involving sound recognition and alerting.

Some humans who experience psychiatric difficulties such as panic disorders, post-traumatic stress disorder (PTSD), or depression can be assisted by animals, too, whether or not hearing or seeing impairments are concurrently involved and without mentioning emotional support in their relationships. Humans who have full mobility can also form relationships with service dogs, such as war veterans with upper extremity amputations or who experience PTSD. In Animal-Assisted Therapy and Recreational Therapy settings, animals can be involved in therapeutic relationships without necessarily performing any active service with and for humans.

Hence, the text label at **e350** that partially reads "animals for personal mobility and transportation" might be insufficient to cover the range of supportive roles and relationships that are increasingly common between animals and humans who live with disability.

4th)   TSA Security Examination: Metal Prosthetic Leg

Environmental Factors

**e1151+4   Assistive products and technology for
            personal use in daily living, Complete
            facilitator**

Description of the Image

This image presents a person's prosthetic lower extremity device. There are actually two people involved in the scenario, but we can only see their hands and fingers. We can't tell if the first person, who has the prosthetic limb, is a man or a woman, because other than their hands, he or she is mainly out of the photograph; we'll call him or her the Traveler.

But by the Traveler's seated position and the orientation of his or her hands, it appears that this prosthesis is utilized to extend the power and functioning of their left leg. It also appears that the Traveler might have sustained an amputation of his or her left leg from the knee down, although we cannot see the Traveler's left foot or the full prosthetic assembly. (We also acknowledge that sometimes prosthetic devices are fitted for and used by persons born without limbs, and therefore would not have sustained any amputation at all.) The Traveler is engaged in rolling up their left clothing-pants leg to enable the second person in the photograph to inspect their metallic prosthesis, as part of the TSA security examination.

The second person would logically be a representative of the TSA, and he or she is conducting a specialized security examination of the Traveler's prosthetic limb. We can only see one gloved finger of the TSA representative's right hand, holding and manipulating a special wand designed to help detect residues of explosive chemicals. It is the same type of wand utilized by the TSA representative in <u>our second Coder's Corner photograph above</u>, in which that TSA representative had been moving the chemical wand over that female traveler's "Quickie" wheelchair.

Hence, in this Coder's Corner photograph, the prosthetic device itself is our target for ICF coding. We really can't tell anything about the Traveler's degree of mobility, or whether they might have any other impairments than that associated with needing this prosthetic left leg.

Although ICF coding is about persons and their degree of health, this photographic scenario enables us to focus on the prosthetic device itself, for our purposes of demonstrating the ICF coding for a facilitator.

Justification for Selecting the ICF Codes

We selected only one code for this scenario, and it is from the Environmental Factors domain. We assigned **e1151+4**, for "Assistive products and technology for personal use in daily living, Complete facilitator." The prosthetic left leg itself is a device that provides complete facilitation for the Traveler: it helps him or her walk again.

The first two characters in this ICF code stem, **e1**, represent Environmental Factors domain Chapter **1**, entitled "Products and Technology." This is a very robust and intellectually stimulating chapter. Generally, we find the ICF codes most appropriately associated with assistive devices in Chapter **1**. It is in Chapter **1** that we find the greatest degree of conceptual overlap between ICF and another important international standard referred to as ISO 9999, related to assistive devices, which we'll address below in our Discussion section.

We selected this three-level code stem nested within the two-level heading at **e151** for "Products and technology for personal use in daily living." The text description for this code stem is very useful. It reads:

> "Adapted or specially designed equipment, products and technologies that assist people in daily living, such as *prosthetic* or orthotic devices, neural prostheses (e.g., functional stimulation devices that control bowels, bladder, breathing and heart rate), and environmental control units aimed at facilitating individuals' control over their indoor setting (scanners, remote control systems, voice-controlled systems, timer switches)" (2001, page 174, italics added).

e1151 is one of only four ICF code stems that refers to prosthetic devices of any type. The other three code stems are **d5201**, "Caring for teeth," referring to dental prostheses; **d6504**, "Maintaining assistive devices," referring to repairing and taking care of prostheses; and **e1251**, "Assistive products and technology for communication," referring to voice prostheses. So if we are referring to any kind of prosthetic device, it is relatively easy to select the correct ICF code stem, by process of elimination. On the other hand, this means **e1151** is rather broad in its inclusion of not only prosthetic devices, but many types of control devices.

We added the Environmental Factors qualifier sign and digit "**+4**" to indicate Complete facilitation associated with the Traveler's use of this prosthetic left limb. This is a judgment on our part: from a two-dimensional photograph, we really can't tell much about the degree of facilitation afforded by this prosthetic limb for the Traveler, but we think it is safe to assume that degree is complete: it helps the Traveler walk again.

Remember, ICF calls on us to assign Environmental Factors code stems and qualifiers "from the perspective of the person whose situation is being described" (2001, page. 232). This coding rule pertains even in a static situation in which we cannot actually ask the person whose situation we are considering about their perspective, such as in the two-dimensional photograph we've used here for our instructional purposes.

Adhering to this coding rule sometimes requires coder's judgment, as in this case, where we judge the degree of facilitation for this Traveler to be complete. ICF coders should be prepared to justify their judgments and make them explicit. Here, we should alternatively acknowledge that, perhaps for some other persons with the same type of prosthetic limb as this Traveler, their degree of facilitation might be considered only "Substantial," or that concurrently they might perceive their prosthetic limb to contribute barriers to their daily living as well as facilitation.

The important point is that the Environmental Factors code assignment should be made from the perspective of the person whose situation is being described. ICF allows for an "8" qualifier, too, such that with insufficient information we could also have legitimately assigned the qualifier-modified code e1151+8, for "Assistive products and technology for personal use in daily living, *Facilitator, not specified*." That particular code would impart the idea that the assistive device provides *some degree* of facilitation, without having to determine, through coder's judgment, any specific degree. If some degree of facilitation is apparent or assumed, it is better to assign the "+8" qualifier sign and digit than to leave the code stem unqualified, because ICF stipulates that a code stem without any qualifier presumptively means "no impairment," or implicitly in an Environmental Factors situation, "no facilitation" or "no barrier."

Discussion

Environmental Factors Chapter 1 "is about the natural or human-made products or systems of products, equipment and technology in an individual's immediate environment that are gathered, created, produced or manufactured" (2001, page 173).

Chapter **1** presents a broad discrimination between types of products and technologies: "general products and technology," representing non-adapted or not-specially-designed products, and "assistive products and technology," representing adapted and specially-designed products often unique to a particular person or situation. This is a helpful discrimination for the coder. It enables us to assign codes to all situations in which products or technologies can be assistive, in turn enabling ICF to be as exhaustive as possible.

For example, "speech recognition software" is available as a mass-market product for any computer user. In ICF terms, it is a "general product," rather than an "assistive product." Such a product enables a person with a broken hand who cannot typewrite for a few weeks or months to continue with their word processing tasks, until their hand heals. But for a person without hands, or with a permanent impairment of the muscle or skeletal functions in their hands or arms, speech recognition software enables them to continue their word processing tasks, too. The product genuinely assists both users, but strictly speaking in ICF terms, the speech recognition software is a "general product," rather than an "assistive product."

This discrimination concurs with the ISO 9999 standard that "any product or technology can be assistive" (2001, page 173). But it also helpfully accentuates the idea that some assistive products or interventions are basic, mass-produced, or assistive for every person regardless of impairment, while other products or interventions are specially-designed and might require more skill in their manufacture or utilization.

At the second level of coding (i.e., one letter and three digits in the code stem), the headings in Chapter **1** also helpfully discriminate between general and assistive products and technologies "for personal use in daily living" (**e115**), "for personal indoor and outdoor mobility and transportation" (**e120**), "for communication" (**e125**), "for education" (**e130**), "for employment" (**e135**), "for culture, recreation and sport" (**e140**), and "for the practice of religion and spirituality" (**e145**).

As an adjunct, Chapter **1** also helpfully discriminates between this body of "general" and "assistive" products and technologies and a broader set of products and technologies associated with the so-called "built

environment." The latter set is represented by what ICF calls "design, construction, and building products and technology of buildings." The built environment can present both barriers and facilitators. Two second-level headings in Chapter 1 represent the range of "built environmental" characteristics, and ICF helpfully discriminates them as being associated with "buildings for public use" (e150) and "buildings for private use" (e155).

Drilling down even further, at the third-level of coding (i.e., one letter and four digits in the code stem) within both categories of buildings, ICF distinguishes between specific characteristics "for entering and exiting buildings" (e1500 and e1550), "for gaining access to facilities inside buildings" (e1501 and e1551), and "for way-finding, path routing, and designation of locations within buildings" (e1502 and e1552). Each of these third-level code stems are additionally clarified by relatively detailed text descriptions and Inclusions. Moreover, exhaustiveness is enhanced by the presence of "8" and "9" code stem suffixes, to be used when "other specified" or "unspecified" building characteristics are involved in the coding situation.

There is an intimate relationship between the ICF Environmental Factors domain and the ISO 9999 international standard. ISO 9999 (fourth edition, 2007) "establishes a classification of assistive products especially produced, or generally available, for persons with disability." Moreover, "assistive products used by a person with disability, but which require the assistance of another person for their operation, are included in the classification" known as ISO 9999.

ISO is the generic acronym for the International Organization for Standardization, a non-governmental organization that "enables consensus to be reached on solutions that meet both the requirements of business and the broader needs of society." Based in Geneva, the ISO engages in a rigorous, market- and consensus-driven process for developing standards that affect businesses, governments, and consumers of many types of products and physical designs. ISO has generated and published more than 18,000 different standards in diverse fields and categories including mathematics, engineering, environmental safety, analytic chemistry, meteorology, electronics, telecommunications, agriculture, packaging, and quality control. ISO publishes more than 1,100 new or updated standards annually. All standards are catalogued according to the hierarchical

International Classification of Standards (ICS). ISO 9999 is included within the ICS topic labeled "Health Care Technology."

You can read a summary of the development of ISO 9999, and its relationships to the ICF and the multilingual clinical health care terminology known as SNOMED-CT, in an article from the International Encyclopedia of Rehabilitation, hosted by our North American Collaborating Center colleagues at the Center for International Rehabilitation Research Information and Exchange at the University of Buffalo in New York. A 2010 summary paper prepared by the World Health Organization entitled "Building Bridges Between Diseases, Disabilities and Assistive Devices: Linking the GBD, ICF, and ISO 9999" is also available.

For our instructional purposes here in Coder's Corner, the important point is that ISO 9999 makes use of the terminology and definitions of disability and assistive products and technologies generally within the ICF, and specifically within its Environmental Factors domain.

5th)   TSA "Notification Card": A Facilitative Transportation Policy

Environmental Factors

e5402+1   Transportation policies, Mild facilitator

Description of the Image

Among the less-frequently assigned Environmental Factors codes are those from Chapter 5, pertaining to "Services, Systems and Policies." This image from the TSA enables us to describe an environmental policy that can be facilitative for some travelers with disabilities.

This image does not involve any persons. Instead, it is a picture of a wallet-sized card distributed without charge by the TSA on its Internet website, or by mail, for use by anyone who would like to make their passage through an airport screening station easier and less invasive.

This "Notification Card" includes text on one side enabling a traveler with a disability to record the nature of their "health condition, disability, or medical device" that could affect the context of their security screening. The Notification Card is designed to be prepared in advance, rather than at the screening station, but presented to a TSA officer only at such stations. It represents a simple method for informing TSA representatives about any special circumstance that might arise during a security examination.

The intended effect is to reduce the time that a traveler with a disability would have to spend at the airport screening station. The goal would be to add more privacy during any security examination, when that would be desired or beneficial for a traveler.

But a subtle, positive corollary effect might be to diminish any reluctance a traveler might have to describe their disability vocally, for fear of drawing undue attention, while still enabling TSA representatives to perform their work efficiently. The Notification Card might induce a bit more respectfulness and dignity into any screening examination, although we fully acknowledge that TSA professionals are consistently respectful and courteous in all their dealings with and among travelers.

The text on the second side of the Notification Card explains that "TSA respects the privacy concerns of all members of the traveling public. This card allows you to describe your health condition, disability or medical device to the TSA officer in a discreet manner. Alternate procedures which provide an equivalent level of security screening are available and can be done in private." The Notification Card explicitly does not exempt anyone who uses it from a complete security screening. There is no penalty for not using the Notification Card; its use is purely voluntary and at the traveler's choosing.

Justification for Selecting the ICF Codes

We assigned a code from Environmental Factors Chapter 5, e5402+1, for "Transportation policies, Mild facilitator."

Specifically, we assign that code to the transportation policy that supports the shared use of the Notification Card, rather than to the Card itself. The degree of facilitation is probably "mild" at most; the transportation policy is useful and important, but not essential. It might be legitimate to use the "+0" qualifier character and digit, if the ICF coder determines that this transportation policy does not provide any facilitation in a given situation. The policy assists most travelers only minimally, if at all, but for some travelers, the added degree of privacy that could be obtained

might be very important, so overall we judged the policy to be mildly facilitative.

Remember, ICF stipulates that we should assign Environmental Factors code stems and qualifiers "from the perspective of the person whose situation is being described." When the Notification Card is utilized, neither the Card nor the policy supporting its use provide any benefit or facilitation for the TSA representatives in their work. Instead, the transportation policy is designed to be beneficial for travelers with disabilities or with special equipment. Therefore it makes sense to code an unseen transportation policy from the perspective of travelers with disabilities, and in this case, the policy is a facilitator rather than a barrier.

Discussion

This Notification Card scenario and our assigning this code from Chapter 5 provides a good opportunity to describe how ICF distinguishes between "Services," "Systems," and "Policies." It is a subtle but important distinction, explicitly supported by the details in the hierarchical coding. Any level of government or other authority can establish either services, systems, policies, or any of those in combination.

ICF describes *services* as "benefits [or] structured programs and operations," as well as the "goods" provided by these services (2001, page 192). *Systems* are "administrative control and organizational mechanisms . . . designed to organize, control and monitor services." *Policies* involve "rules, regulations, conventions and standards" that "govern and regulate the systems that organize . . . services, structured programs and operations in various sectors of society."

Hence, *policies* are in place to regulate *systems*. And *systems* are the organizational mechanisms for the delivery of *services*, among the members of a society who need or desire them.

Chapter 5 offers specific two-level heading codes (i.e., one letter followed by three digits) for various "services, systems and policies." Nested within these headings are detailed three-level codes (i.e., one letter followed by four digits) that distinguish services from systems and from

policies. Each heading also incorporates the typical "8" and "9" suffix codes for "other specified" and "unspecified" situations.

The range of two-level headings is apparently exhaustive, too. Chapter 5 refers to services, systems and policies affecting consumer goods (e510), architecture and construction (e515), open space planning (e520), housing (e525), utilities (e530), communication (e535), transportation (e540), civil protection (e545), the law or legislation (e550), associations and organizations (e555), media (e560), the economy or the overall system of consumer goods (e565), social security or income support (e570), general social support (e575), health (e580), education and training (e585), labor and employment (e590), and political situation such as in voting and elections (e595). The exhaustiveness of Chapter 5 is accentuated by "8" and "9" suffix codes at the second-level, too: e598 and e599 for "services, systems and policies, other specified and unspecified," respectively. Hence, Chapter 5 provides coding opportunities for nearly any situation that involves human-organized systems.

Perhaps the most valuable conceptual aspect of Chapter 5 is that it provides coding opportunities to describe services, systems and policies as environmental barriers or environmental facilitators. All our human-organized services, systems, or policies can be *either* barriers *or* facilitators --- and sometimes they can be both at the same time, or even fluctuate back and forth in dynamic ways.

Remember, facilitators, or the lack of barriers, enhance a person's performance of an activity, even if they have limited capacity. This manifests the intimate relationship between a person's environments, their levels of Performance and Capacity, and their ability to engage in activities or participate in society. Services, systems and policies are typically designed to be facilitative; we want our human-organized systems to be beneficial. But we can just as easily identify policies that "get in the way" of positive functioning, despite our society's best intentions, hence becoming barriers.

In this simple scenario, an American federal transportation policy --- the ability to fill out a Notification Card before arriving at an airport security screening station --- is a "good" policy that can diminish some barriers

associated with a person's desire for privacy in a public setting. Although only mildly facilitative, this policy can be judged to enhance some travelers' performance of the tasks associated with airline travel today.