North American Collaborating Center

ICF Newsletter

June, 2009

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1) **Save The Dates! June 9 – 12 and December 1 – 3, 2009 Announcing the 2009 NACC "ICF Web Seminar Series"**

   In lieu of a NACC ICF Conference in 2009, we will present a Web Seminar Series about the ICF during June and December.

2) **ICF in the UMLS**

   Announcing the entry of ICF into the Unified Medical Language System, a resource of the U.S. National Library of Medicine. We present a brief tutorial on accessing the UMLS in this section.

3) **Report from the 2008 NACC ICF Conference in Québéc City**

   NACC and Rehabilitation International collaborated on a joint meeting in August, 2008. Read the summary report here.

4) **Introducing "Coder's Corner"**

   In this issue of the ICF Newsletter, NACC introduces a new educational feature: Simple examples of basic ICF coding.

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1) <u>**Save The Dates! June 9 – 12, and December 1 – 3, 2009**</u>

<u>**Announcing the 2009 NACC "ICF Web Seminar Series"**</u>

The North American Collaborating Center (NACC) has proudly sponsored a series of ICF Conferences in recent years. Typically the NACC ICF Conference alternates between venues in Canada and the U.S. In recent years, NACC has conducted the ICF Conferences in Halifax, Minneapolis, Vancouver, Niagara Falls, and Québéc City.

Given today's economic conditions, however, during 2009 our Collaborating Center's resources are too constrained for conducting a full-scale, face-to-face NACC ICF Conference. We regret these facts, but we thank our constituents in the North American ICF community for their ongoing support of the series of NACC ICF Conferences.

We anticipate that NACC will conduct a regular, full-scale ICF Conference during 2010, most likely in the Washington, D.C. area.

As a substitute, this summer and fall the NACC will host two series of "ICF Web Seminars," designed to let you, our Readers and members of the North American ICF Community, learn more and have the opportunity to ask questions about the ICF. These will be informal seminars available through a password-protected Internet site, and using a conventional simultaneous audio telephone conference call.

(We must announce that the ICF Web Seminar Series events will be available only for callers in North America and the Caribbean.)

Each rendering of the ICF Web Seminar Series will feature three 90-minute lectures and discussion periods about the ICF, on nearly consecutive days.

The first ICF Web Seminar Series is coming up soon:

Part 1: Tuesday, June 9, 2009
1:30 – 3:00 p.m. Eastern Daylight Time
"An Introduction to the ICF"

Part 2:   Thursday, June 11, 2009
            1:30 – 3:00 p.m. Eastern Daylight Time
            "ICF Coding"

Part 3:   Friday, June 12, 2009
            1:30 – 3:00 p.m. Eastern Daylight Time
            "Frequently Asked and Answered Questions About
            the ICF"

On Wednesday, June 10, 2009, the ICF Web Seminar Series will feature a Guest Lecturer: Lisa Iezzoni, M.D., Professor of Medicine at the Harvard University School of Medicine. Her proposed lecture topic will be "Measuring and Reporting Functional Status." This lecture will be delivered to the U.S. National Committee on Vital and Health Statistics (NCVHS), meeting on that date in Hyattsville, MD. Professor Iezzoni's lecture will be available as a Net Conference using the same software and procedures utilized for the regular ICF Web Seminar Series events. However, this special lecture will not be repeated during the December 1 – 3, 2009 ICF Web Seminar Series.

For the June 10 lecture, you can participate either through the regular Net Conferencing ICF Web Seminar interface, or listen to an audio broadcast of the lecture. Through a separate Internet resource, all NCVHS meetings are available as audio broadcasts over the Internet through the courtesy of the VA Virtual Conference system, a service of the Department of Veterans Affairs. You can choose to listen to the lecture on this date either through the Net Conference or the VA Virtual Conference. To listen to the VA Virtual Conference, on June 10 visit this home page: http://www.va.gov/audiohhs.htm .

(We must announce there will be no questions taken orally from Net Conference or VA Virtual Conference participants during this June 10 lecture. You can submit your questions to the Moderator in writing electronically via the regular Net Conference "question box" during the meeting.)

NACC will repeat the same ICF Web Seminar Series in the same format again during the first week in December:

Part 1:   Tuesday, December 1, 2009
            1:30 – 3:00 p.m. Eastern Standard Time
Part 2:   Wednesday, December 2, 2009
            1:30 – 3:00 p.m. Eastern Standard Time
Part 3:   Thursday, December 3, 2009
            1:30 – 3:00 p.m. Eastern Standard Time

It is not necessary to attend all three Web Seminars. There is no charge to participate, and no registration fee to submit, although upon entering the Web Seminar website each participant will be asked to provide his or her name and E-Mail address. Your name will appear on a list of Attendees in the meeting environment, in real-time. Each seminar is free-standing but obviously builds on fundamental material. You can benefit from attending either one, two or all three seminars in either June or December.

The log-in instructions, telephone dialing instructions, and passcodes for all the events in the June 9 – 12 and December 1 -2 Web Seminar Series are presented at the bottom of this entry.

Please also note that there is a "software plug-in download" option for potential participants who want to enjoy full functionality on the websites for the ICF Web Seminar Series. If you have ever used the software product called "Microsoft Office Live Meeting," you probably will not need to download the additional software plug-in; you should still "check your system" following the instructions at the bottom of this entry, though.

If you have never used the software product called "Microsoft Office Live Meeting" on the computer you'd want to use during the ICF Web Seminar Series, you should download the software plug-in advance. Follow the instructions at the bottom of this entry. It is a free download, and it installs safely and very quickly and easily. The plug-in is a Microsoft product and it installs into your existing Microsoft Office suite of applications.

Please note that there will be a maximum capacity of 50 simultaneous participants capable of logging-on during any single Web Seminar. NACC will provide archived versions of the Web Seminars, in case you miss a Web Seminar you would have wanted to attend. As part of our Collaborating Center's educational objectives, if the Web Seminar Series is successful and depending on continuing interest, NACC would offer the Web Seminar Series on an ongoing basis in the future. Please let us know your comments.

<u>ICF Web Seminar Series</u>
<u>Internet Log-on Sites, Dial-in Passcodes, and Meeting Information</u>

Tuesday, June 9, 2009   1:30 – 3:00 p.m. EDT
https://www.livemeeting.com/cc/cdc/join?id=HW6Z56&role=attend&pw=ICF

Toll-free telephone number:	(866) 600-3750
Participant Passcode:	5217668 #
Participant Entry Code:	ICF
Meeting ID:	HW6Z56

Wednesday, June 10, 2009   1:30 – 3:00 p.m. EDT
https://www.livemeeting.com/cc/cdc/join?id=JF96ZH&role=attend&pw=ICF

Toll-free telephone number:	(866) 600-3750
Participant Passcode:	5217668 #
Participant Entry Code:	ICF
Meeting ID:	JF96ZH

Thursday, June 11, 2009   1:30 – 3:00 p.m. EDT
https://www.livemeeting.com/cc/cdc/join?id=K2PRNS&role=attend&pw=ICF

Toll-free telephone number:	(866) 600-3750
Participant Passcode:	5217668 #
Participant Entry Code:	ICF
Meeting ID:	K2PRNS

Friday, June 12, 2009   1:30 – 3:00 p.m. EDT
https://www.livemeeting.com/cc/cdc/join?id=FJ4T8C&role=attend&pw=ICF

Toll-free telephone number:	(866) 600-3750
Participant Passcode:	5217668 #
Participant Entry Code:	ICF
Meeting ID:	FJ4T8C

Tuesday, December 1, 2009   1:30 – 3:00 p.m. EST
https://www.livemeeting.com/cc/cdc/join?id=GFS8JG&role=attend&pw=ICF

Toll-free telephone number:	(866) 600-3750
Participant Passcode:	5217668 #
Participant Entry Code:	ICF
Meeting ID:	GFS8JG

Wednesday, December 2, 2009   1:30 – 3:00 p.m. EST
https://www.livemeeting.com/cc/cdc/join?id=SNDPP7&role=attend&pw=ICF
Toll-free telephone number: (866) 600-3750
Participant Passcode: 5217668 #
Participant Entry Code: ICF
Meeting ID: SNDPP7

Thursday, December 3, 2009   1:30 – 3:00 p.m. EST
https://www.livemeeting.com/cc/cdc/join?id=N6F3CT&role=attend&pw=ICF
Toll-free telephone number: (866) 600-3750
Participant Passcode: 5217668 #
Participant Entry Code: ICF
Meeting ID: N6F3CT

Information About the "Plug-In" for Microsoft Office Live Meeting

If you would like to participate in the ICF Web Seminar Series from any location in the United States, Canada, or the Caribbean, please join us by using Net Conferencing.

You would only need to:

1.   Dial in via telephone for the audio portion of the Net Conference, using our toll-free number, and
2.   Access the Internet, for a real-time visual presentation of the speakers' slides and other meeting documents.

The ICF Web Seminar Series will utilize "Net Conferencing" resources, enabling any participant in North America or the Caribbean to watch a speaker's PowerPoint slide images, ask questions on their own computer, and listen and contribute to the oral commentary about the slide images, in real-time, at your workstation or other computer. All you need is a telephone connection to the ICF Web Seminar Series audio conference call, and a working Internet connection.

You can participate by submitting questions or comments either orally by telephone or in writing over the Internet within the Net Conferencing user's interface. You can also submit questions or comments in advance, by providing them in an E-Mail message to **jph7@cdc.gov**

We want to alert all participants that the complete discussion during the Seminar is audio-taped.

FIRST TIME USERS:

To save time before the meeting, **check your system by clicking here** to make sure it is compatible with Microsoft Office Live Meeting.

Some configuration of your PC is required to attend a Microsoft Office Live Meeting Net Conference. Ideally, users should try to test their system prior to attending a Net Conference to avoid any last minute technical issues. Use the link above to test your system now.

Persons who utilize screen magnification software like "ZoomText," screen readers, speech synthesizers, or other vision assistive devices on computer monitors have reported that the Net Conferencing software is compatible with their assistive devices. MacIntosh users have also

reported both the downloading and user interface operate successfully on the Mac Operating System.

PLUG-IN:

To attend a Microsoft Live Meeting Net Conference, you will need to install a Microsoft user Plug-In, unless you have already installed "Microsoft Office Live Meeting" from a previously-conducted Web Conference. A "Plug-In" is a small software patch that adds new functions to existing applications on your computer. This installation is quick and easy. Users who are unable or choose not to download the Plug-In can still participate using a "Web Console" interface which enables attendance, but it lacks full functionality. Try to install the Plug-In prior to the meeting.

You only need to complete this process once. The Plug-In will be stored in your web browser for use on future Live Meeting Net Conferences, including future ICF Web Seminars. If you had installed the Plug-In in order to attend a previous Net Conference meeting, you do not need to install it again. It will automatically launch the next time you join a Live Meeting Net Conference.

Please note that the ICF Web Seminar Series uses the specific software product called Microsoft Office Live Meeting. Other web-conferencing software products exist, and might also have been installed on your computer for previous web conferences, but would not be useful for operating Microsoft Office Live Meeting. Examples of other product names include WebEx, Adobe Acrobat Connect Professional, Citrix GoToMeeting, Macromedia Breeze, and Raindance Meeting. To participate in the ICF Web Seminar Series, you will need to utilize Microsoft Office Live Meeting.

Please also note this important advice: If you are in a "locked-down" or networked PC environment with firewalls or other security protections, or need administrative rights to download software such as this Plug-In, please contact your local administrator to complete this process in advance. This will be the case for many ICF Web Seminar Series participants in government agencies or universities.

To install the Plug-In prior to the Net Conference:

1.	Click on this link:	https://e-meetings.mci.com/emeet/join/src/plugins_em.php
2.	Under Microsoft Office Live Meeting Plug-Ins, click on "Check your browser." This will launch an automatic system test and download of the Plug-In. The other option is to select "Live Meeting Standalone Installer for Windows." Follow steps 3 through 5 below.
3.	Choose the button reading "Run this program from its current location" (on some systems, you will instead click "open").
4.	Click "Yes" to install and run.
5.	Accept all default settings, and click "Finish."

Alternative:	If you are not able to download the Plug-In successfully, or prevented from doing so by the policies governing your computer, you will still be able to join the meeting through an alternative route (a Java-enabled "Web Console" platform) the day of the session. In this scenario, follow the log-in instructions below.

When a box appears asking "Do you want to install Microsoft Live Meeting," click "No." Another screen will appear; click on the link reading "Click Here for Java Meeting Console" or "Use browser console to join meeting right away." The Web Console will then open.

If you join the meeting using the Java Meeting Console, you will be able to "watch" the presentation, but your interaction with the Host and other Attendees will be limited.

Questions?

If you have any questions regarding the download, please feel free to contact the Verizon Business Net Help Desk at (866) 449-0701, or visit this Verizon Business web site: http://e-meetings.verizonbusiness.com/global/en/netconferencing/index.php

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2)   **ICF in the UMLS**

Announcing the entry of ICF into the Unified Medical Language System, a resource of the U.S. National Library of Medicine. We present a brief tutorial on accessing the UMLS in this section.

Through the support of the World Health Organization, the U.S. National Library of Medicine (NLM), and several partnering agencies in the American federal government including the CDC National Center for Health Statistics, NACC announces the availability of the ICF as one of the electronic source vocabularies included in the Unified Medical Language System (UMLS).

This represents an enormous leap forward for the ICF, both in the U.S. and around the world. Specifically, including the ICF in the UMLS enables registered users around the world to investigate and engage in "mapping" or "electronic matching" of terms between the ICF and more than 100 other classifications, vocabularies, and terminologies currently included in the UMLS.

The UMLS provides the electronic structure and environment to pursue this kind of mapping, which in turn enables and promotes the "translation" of concepts from one vocabulary source to others.

The UMLS is a huge resource. It takes a lot of time to gain familiarity with it as a user. Even learning about the available vocabularies and how they are added systematically takes time. There is no way your ICF Newsletter Editors can enable you to learn everything about the UMLS that ICF users might want to know, but in

this section we present a brief tutorial designed to get you started working in the UMLS environment at your own pace, if you choose.

The quickest way for Readers to learn about the UMLS is by consulting the 2-page UMLS Fact Sheet. The UMLS is a licensed product of the National Library of Medicine, but it is available for use around the world among its registered users.

From the Fact Sheet, we discern the Purpose of the UMLS:

"The purpose of NLM's Unified Medical Language System (UMLS®) is to facilitate the development of computer systems that behave as if they 'understand' the meaning of the language of biomedicine and health. To that end, NLM produces and distributes the UMLS Knowledge Sources (databases) and associated software tools (programs) for use by system developers in building or enhancing electronic information systems that create, process, retrieve, integrate, and/or aggregate biomedical and health data and information, as well as in informatics research."

There are 3 major components of the UMLS:

a)   The *Metathesaurus* is the core database within UMLS; it is the compilation of concepts, terms, and relationships derived from the various source vocabularies.

b)   The *Semantic Network* represents the compilation of rules, categories and relationships that link the entries in the Metathesaurus.

c)   The *SPECIALIST Lexicon* is a database that can be used in natural language processing, because it combines an English-language lexicon with many biomedical terms in a manner that reduces variability in the interpretation of very similar words or terms.

Potential users of UMLS will want to consider not only registering as users, but also then downloading these main components. Careful! Beware! These downloads represent enormous files. The full set of downloads can take many hours even at broadband speeds, and on networked computers you might need administrative rights to finish the download. Nevertheless, the process is easy and is handled by the UMLS downloading "wizard" called MetamorphSys. For users outside the U.S., MetamorphoSys will work satisfactorily, but by design it will utilize your Internet Protocol address to determine the licensure rights to the Metathesaurus source vocabularies available in your country.

Remember that the UMLS is an evolving resource. That evolution involves growing and expanding, but also updating, among source vocabularies. Not only are new vocabularies, like the ICF and ICF-CY, added occasionally as NLM enters into appropriate licensure agreements with their copyright holders, but also new updates of existing vocabularies, like the ICD (including several country-specific Clinical Modifications), are added frequently within the UMLS.

Our colleagues at the National Library of Medicine have developed many different tutorials and other learning tools for your use in becoming proficient users of the UMLS. You can review previous Webcasts on UMLS topics, and sign up to participate in forthcoming free UMLS Webcasts, too, to expand your learning. Subscribing to the UMLS List Serve is an outstanding method for learning about all UMLS topics, particularly outside the ICF and other WHO-FIC Classifications commonly discussed in this ICF Newsletter. NACC encourages all Readers of this Newsletter to take a test drive within the UMLS!

Discussion: Two-dimensional vs. Multi-dimensional ICF Mapping

With this new UMLS development, our capabilities for mapping the ICF have expanded beyond the rudimentary two-dimensional mapping strategies that many ICF users have already pursued, now to enable more complex multi-dimensional mapping strategies.

Although useful and instructive, two-dimensional ICF mapping is essentially "paper-and-pencil mapping." An ICF user can perform this kind of simple mapping using their eye and brain, along with a method for recording and compiling their matches, such as paper and pencil or a word processor.

In the two-dimensional approach, it is easy and straightforward to link one or a set of unmodified ICF codes with exactly-matching, closely-matching, or "satisfactorily-matching" terms or concepts in an alternate source, such as another classification or an existing functional assessment instrument. However, this approach negates the Coder's abilities to discern matches between and among ICF coded terms and the corresponding terms within more than one alternate source. This approach also mitigates utilizing the full range of ICF codes that incorporate qualifier digits. Qualifiers appear to the right of the decimal point in an ICF code stem; the place value and numeric values among these digits yield additional information about the severity or extent of an impairment, or the influence of an Environmental Factor. Qualifiers are meaningful parts of any ICF code, and they should be utilized whenever possible.

To take advantage of all the opportunities afforded by mapping, ICF Coders need multi-dimensional mapping strategies, which in turn generally require computerized representations of alternate vocabularies on many levels. Even multi-dimensional maps can be simple or only contain a small set of matched terms among several source vocabularies. Generally though, we want multi-dimensional strategies to enable the development of complex, robust maps among many or all ICF terms and one or several other relevant UMLS sources.

Mapping strategies "are in the eye of the beholder." There is no one method or formula for conducting ICF mapping. "Form follows function": the Investigator conducts ICF mapping according to the necessary purpose and the available time. Nevertheless, before now, conducting multi-dimensional mapping had been extremely difficult and time-consuming, if not also computer intensive. With this UMLS development, both two-dimensional and multi-dimensional ICF mapping are tools within the ICF toolbox available for your use.

On behalf of NACC, your ICF Newsletter Editors encourage as many NACC participants as possible to become familiar with the UMLS. We know many NACC participants will want to "dive right in" and begin postulating or discerning relationships between and among many ICF coded terms and similar ideas in other UMLS sources: please feel encouraged to do so! This is an important technological and intellectual milestone in the overall implementation of ICF.

<u>Getting Started in the UMLS</u>

NACC wants to assist its participants to take advantage of these new opportunities. To that end, your ICF Newsletter Editors have prepared the following short Tutorial to assist interested Readers in "getting started in the UMLS." The content of this Tutorial only represents the initial steps to follow, rather than a full-fledged course on maximizing the UMLS resources for particular tasks. Readers wanting or needing a full-scale immersion in the UMLS should take advantage of the many NLM instructional resources available to any UMLS user. For example, in addition to their website resources, NLM has prepared a step-by-step DVD, available on request by E-Mail, for new users on how to access the Metathesaurus and other UMLS components.

a)   The essential first step is for you to REGISTER as a user of the UMLS. Registration is required, easy and free on the Internet.

Potential users should remember that registration as a UMLS Metathesaurus and Knowledge Source Server user constitutes entry into a licensure agreement that includes legal restrictions on certain uses. For example, agreeing with the licensure conditions requires the user to adhere to annual reporting requirements back to NLM (these procedures are easy and quick, but mandatory), and to refrain from distributing all or portions of the electronic resources within the UMLS for commercial purposes.

The Licensure Agreement protects everyone's interests. It clarifies that there are different requirements for users in countries around the world ("Category 3 restrictions"), too, versus the requirements for users in the United States ("Category 4 restrictions"). There are additional terms and conditions of use associated with the UMLS Semantic Network and Lexical Tools, which interact with but are separate from the Metathesaurus. When you register, please take full account of all conditions within the UMLS License Agreement.

b)   After becoming a Registered User, either point your browser to the UMLS home page and click on "Knowledge Source Server," or go directly to the UMLS Login page.

c)   After logging in, click on the "Metathesaurus" tab on the upper left, and in the Search Box, enter any ICF-oriented term of your choosing. In this screenshot example, we entered **"seeing"**:
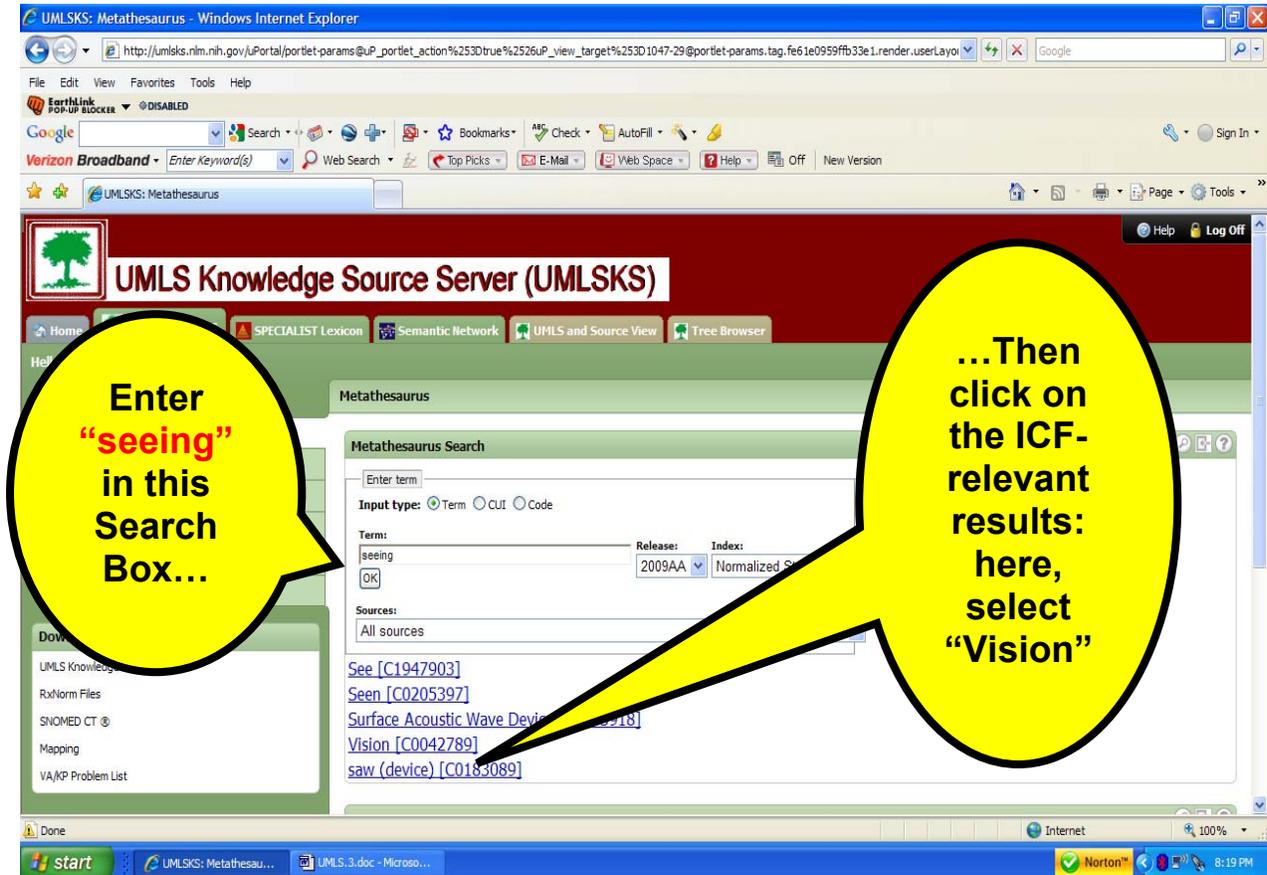
d) While still in the Metathesaurus component, a portion of your "Basic Concept" results for "seeing" matches among other UMLS vocabularies will look like this screenshot:
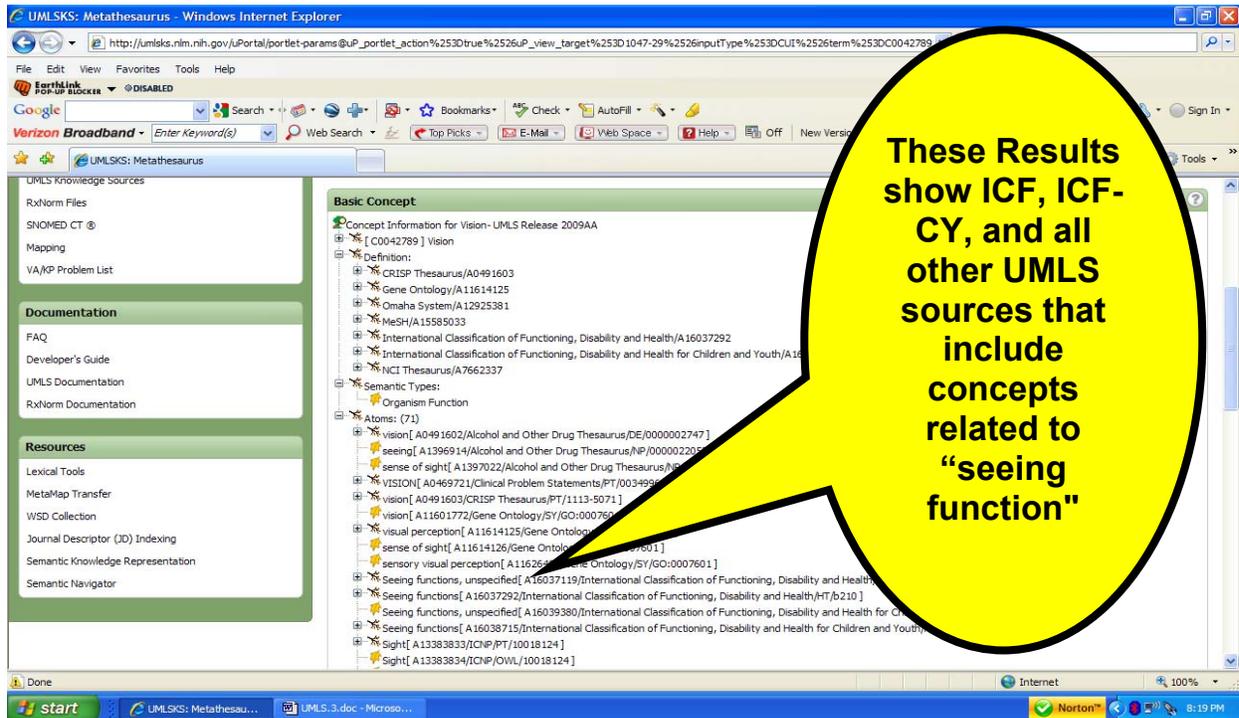
e)   Next, click on the tab for "UMLS and Source View," and enter the term **"taste"** in the new Search Box:
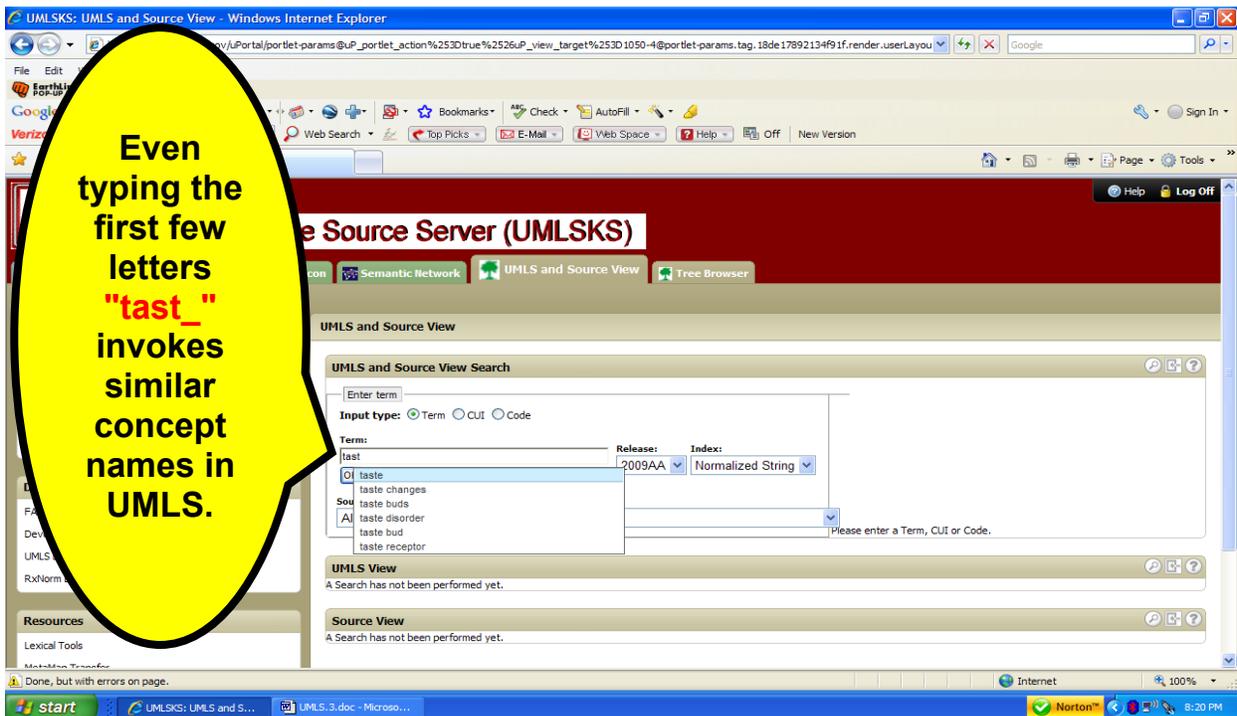
f)   The results show 2 UMLS "Views" and multiple Source Views
      containing "taste" or "taste function" or related terms:

g)   Click on "Taste Perception [C0039336]" under "UMLS View," to
      view a summary of the sources, their codes, and definitions.

h)   All UMLS components feature excellent Help functions. This screenshot illustrates the Knowledge Source Server Help page.
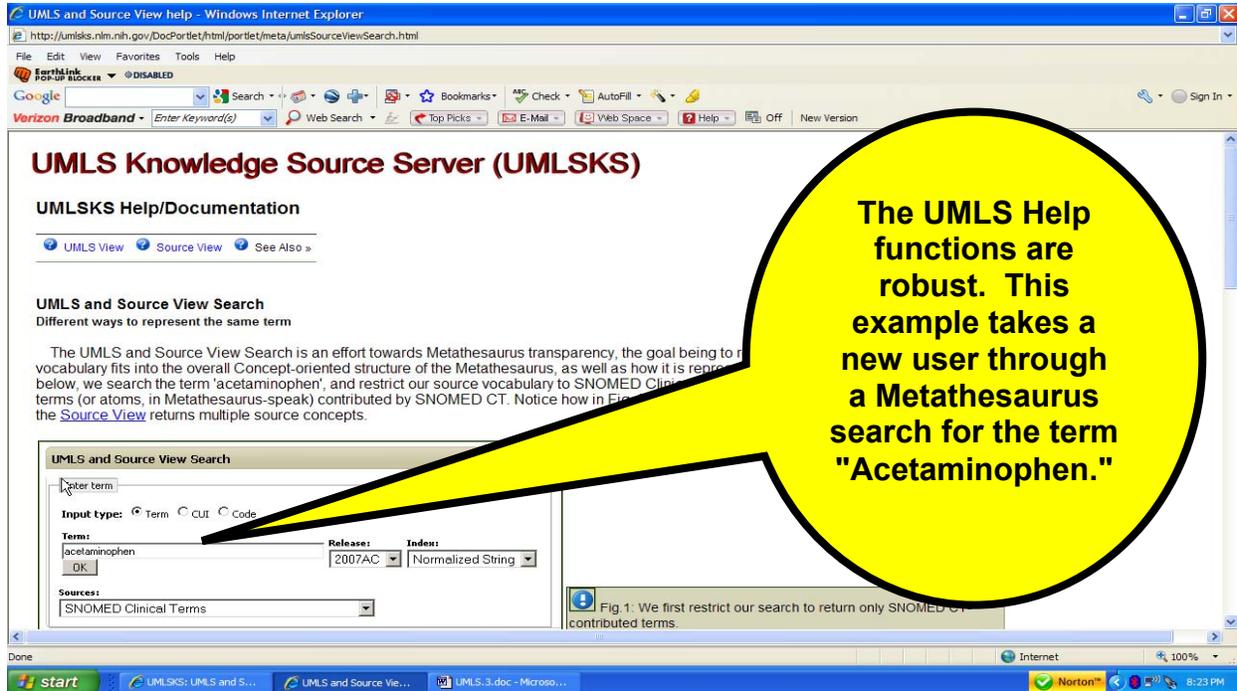
NACC and your ICF Newsletter Editors invite your questions and comments about the new UMLS resource, and we encourage all Readers to "look under the hood" and "take a test drive" in the UMLS.

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3)   **Report from the 2008 NACC ICF Conference in Québéc City**

The North American Collaborating Center (NACC) conducted its fourteenth conference on the International Classification of Functioning, Disability and Health (ICF) with a two-day event in August, 2008. The 2008 ICF Conference was distinguished by the high degree of professionalism and preparation exhibited by our colleagues from the Canadian Institute for Health Information (CIHI),

our innovative partnership with Rehabilitation International, and the splendor of our host city, Québec City, in summer.

Partnership with Rehabilitation International

The planning for the 2008 ICF Conference began in early 2007, during initial meetings in which Professor Patrick Fougeyrollas from Université Laval and representatives of CIHI discussed the invitation from Rehabilitation International (RI) to share conference space in Québec City during RI's 21st World Congress, planned for August, 2008. RI is a large, non-governmental advocacy organization concerned about the rights of persons with disabilities around the world; its World Congress delegates are drawn from its national chapter organizations. In 2005, RI published its official position supporting broader implementation of the ICF.[1] The World Congress is an important quadrennial conference: in 2004 it had been conducted in Oslo, Norway, and the 2012 World Congress will be conducted in Seoul, South Korea.

Professor Fougeyrollas, an esteemed medical sociologist and prolific contributor to the academic literature about the nature of disablement, served as a representative of the RI host committee in Québec City, and by that time had already been very active in planning the 2008 World Congress. Professor Fougeyrollas also has been an abundant contributor to our series of NACC ICF Conferences, having served as a plenary or concurrent session speaker on many recent occasions. Both parties recognized that conducting the NACC ICF Conference at the same time and place as the RI World Congress would yield important synergies among the respective groups of potential registrants, thereby contributing to the success of both events.

Even with constrained resources, the members of NACC worked hard to find ways to support this proposed event, which became known as "a conference within a conference." We wanted to

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[1] Rehabilitation International. RI Policy Statement on the International Classification of Functioning, Disability and Health. *International Rehabilitation Review* 2005 (December); 55(2):12-14. Available on the World Wide Web at the following website: http://www.riglobal.org/publications/IRR_Dec2005%201-17-06.pdf , accessed 5/29/2009.

take advantage of this unique opportunity to meet and learn from many more disability advocates from around the world than could ordinarily attend an ICF Conference in North America. Concurrently, the members of NACC wanted to provide for our friends in RI a "window on the ICF" as a component of the World Congress. The goal had been to capitalize on the still-fresh introductory zeal for using the ICF, the 2005 RI Policy Statement supporting the ICF, the excitement about the United Nations Convention on the Rights of Persons with Disabilities, and especially on the latest results from ICF researchers from around the world.

Thematically, we realized the prospective overlap between the two conferences could not have been more suitably aligned. The theme for the RI World Congress would be "Disability Rights and Social Participation: Ensuring A Society For All," and the theme for the NACC ICF Conference would be "Evaluating Social Participation: Applications of the ICF and ICF-CY." The fortuitous timing of the adoption in 2006 of the UN Convention on the Rights of Persons with Disabilities and its Optional Protocol, which explicitly features Social Participation as both a means and an end in itself within inclusive societies, would provide an important political and cultural backdrop for our deliberations.

Synopsis of Events

The "Program at a Glance" for the ICF Conference can be viewed at this CIHI website:
http://www.cihiconferences.ca/icfconference/ataglance.html

The overall program for the full RI World Congress can be viewed at this RI website:
http://www.riquebec2008.org/

Joint Plenary Session with Rehabilitation International

The first morning of the NACC ICF Conference, also the second morning of the RI World Congress, began with Marjorie Greenberg, Head of the Collaborating Center, welcoming the delegates again to Québec City and informing them about the

scheduled events during the ICF Conference. She explained how beneficial this "conference within a conference" could be for participants in both events, and, figuratively, she encouraged the RI delegates and NACC attendees to try and be in two places at one time to take advantage of as much as possible of the impressive content both conferences would offer. Ms. Greenberg also introduced Professor Gray from Washington University in St. Louis. She explained not only his contributions to his own academic disciplines of Neurology and Occupational Therapy, but also to the ICF revision and development processes and, by extension of his and colleagues' applied ICF research results, to enhanced Social Participation opportunities for persons with disabilities everywhere.

The title of Professor Gray's plenary lecture was "Community Receptivity for People with Disabilities: Measures for Use in Assessing and Implementing Change." It was based on several recent publications authored by Professor Gray and his co-investigators, focusing on new ICF-oriented methods for measuring the influence of environmental barriers among persons with mobility impairments, and for measuring the degrees of social participation in and the "receptivity" of environments for persons with disabilities.[2] [3] [4]

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[2] Gray DB, Hollingsworth HH, Stark S, Morgan KA. A subjective measure of environmental facilitators and barriers to participation for people with mobility limitations. *Disability and Rehabilitation* 2008; 30(6):434-457. Abstract available at the following website: http://www.ncbi.nlm.nih.gov/pubmed/17943511?ordinalpos=2&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum , accessed 5/29/2009.

[3] Stark S, Hollingsworth HH, Morgan KA, Gray DB. Development of a measure of receptivity of the physical environment. *Disability and Rehabilitation* 2007; 29(2):123-137. Abstract available on the World Wide Web at the following website: http://www.ncbi.nlm.nih.gov/pubmed/17364763?ordinalpos=3&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum , accessed 5/29/2009.

[4] Gray DB, Hollingsworth HH, Stark S, Morgan KA. Participation survey/mobility: Psychometric properties of a measure of participation for people with mobility impairments and limitations. *Archives of Physical Medicine and Rehabilitation* 2006 (February); 87(2):189-197. Abstract available on the World Wide Web at the following website: http://www.ncbi.nlm.nih.gov/pubmed/16442971?ordinalpos=6&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum , accessed 5/29/2009.

Concurrent Sessions

The 2008 ICF Conference featured Concurrent Sessions on topics that had not been fully addressed during previous ICF Conferences, such as ICF Core Set development, critiquing current perspectives on Activities and Participation, and Patient-Reported Outcomes measurement methods.

We developed full-scale panels on ICF Personal Factors, the overlap between ICF and contemporary Occupational Therapy practice, and the U.S.-funded initiative known as the Patient-Reported Outcomes Measurement Information System (PROMIS). The new results from the ICF-oriented 2006 Canadian Participation and Activity Limitation Survey provided enough fodder for a full panel and an enriching audience discussion. We judged the scientific caliber of the abstracts, and the visual caliber and degree of accessibility of the oral presentations, to be consistently improving from year to year. More importantly, the breadth of the 2008 Concurrent Sessions revealed that contemporary ICF researchers are utilizing a high degree of methodological rigor to implement, or constructively disaggregate, components of the ICF.

Poster Sessions

The ICF Conference Poster Sessions are always popular and enriching. The 2008 format encouraged maximal opportunities for "mixing" with delegates to the RI World Congress, because the ICF posters were positioned near the larger set of RI World Congress posters in the same large room in which registrants could enjoy breaks and coffee. About two dozen commercial enterprises and international non-profit disability organizations hosted full-scale exhibit booths in the same room. The RI "disability video film festival" operated non-stop in one corner of this large ballroom. These "environmental factors" facilitated a successful degree of "networking" and community-building among registrants. Many ICF Conference posters reflected the Social Participation themes, while others presented applications, new data, or new approaches to ICF instructional methods.

Post-Conference WHO-FIC FDRG Mid-Year Meeting

One prominent "next step" that had already been facilitated by the "critical mass" achieved among ICF researchers attending the Québec City ICF Conference was the mid-year meeting of the WHO-FIC Functioning and Disability Reference Group (FDRG). We want to thank our partners at Statistics Canada and the Canadian Institute for Health Information for sponsoring and hosting our FDRG meeting during the two days following the ICF Conference. Many of the methodological and clinical considerations that are both helping and precluding broader implementation of the ICF are also topics of great interest to both researchers and members of the FDRG.

Special Acknowledgments

The members of our Collaborating Center would like to acknowledge the fundamental contributions to the success of the 2008 ICF Conference made by Professor Fougeyrollas. We learned only on-site in Québec City how impressive Patrick's contributions to the RI World Congress had been during the preparations for that international event, and we witnessed his graciousness and professional courtesy as the main Moderator for nearly all the RI plenary session activities. More subjectively, we also witnessed some emergence of rising new professionals whose contemporary training has been influenced by the theories advanced and research conducted by Professor Fougeyrollas, particularly among Canadian students and young professionals.

The members of NACC also acknowledge the outgoing and incoming Presidents of RI, Michael Fox of Australia and Anne Hawker of New Zealand, for their graciousness and hospitality extended on behalf of RI to NACC and our ICF Conference registrants.

The NACC 2008 ICF Conference Planning Committee also benefited from the contributions of Professor John Stone, who served as our local host for the 13th Annual ICF Conference conducted in Niagara Falls, New York in June, 2007. Professor Stone serves as the Director of the Center for International Rehabilitation Research

Information and Exchange at the University of Buffalo, and CIRRIE's on-line resources provide a rich array of tools for both ICF researchers and people just learning about the ICF.

In conclusion, the 2008 NACC ICF Conference represented another advancement in our mutual efforts to elevate awareness about the ICF and advocate for its appropriate implementation in North American health systems. We benefited enormously from our partnership with Rehabilitation International, and we look forward to opportunities to build on that foundation of friendship.

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4)   Introducing "Coder's Corner"

In this issue of the NACC ICF Newsletter, your Editors are introducing a new educational feature, called "ICF Coder's Corner."

The goals are to demonstrate the principles of ICF coding, and to stimulate dialogue, for the benefit of everyone's learning.

During the years since its publication in 2001, the level of general familiarity with the ICF has expanded, thanks to the efforts of the World Health Organization, the WHO Family of International Classifications Network, and many talented scientific investigators and dedicated journal editors around the world.

Within NACC, we perceive that the level of familiarity with the "ICF conceptual framework" is both broad and deep. Participants in NACC also want to contribute to the fullest possible understanding of what the ICF is and is not, why ICF coding is important, and about how the ICF can be applied for more efficient case-counting.

Concurrently, your Editors have also perceived a desire among Readers of this NACC ICF Newsletter to learn more about ICF coding, particularly through visual examples rather than merely text

descriptions. Some Readers have reported they find ICF coding confusing, difficult, or not clearly explained within the published ICF Coding Guidelines (2001; Annexes 2 & 3), such that receiving reinforcing "tips" and instruction from additional sources on coding both ordinary and extraordinary cases might be helpful.

Other Readers have vocalized their desire to contribute to building a "community of practice" among ICF coders, in order to share common problems and seek concurrent solutions to ICF coding challenges. We hope "Coder's Corner" can become a building block in such a community of coders. We encourage dialogue among Readers prompted by these coding examples. We'd follow through by summarizing the most interesting or important exchanges about ICF coding shared by Readers in future issues of this Newsletter.

We'll utilize a flexible format, but the most important characteristic of "Coder's Corner" will be the respectfulness with which we approach any given coding example. Even in the abstract, we acknowledge that our coding examples will refer to or portray real people with serious impairments or participation restrictions. It's important that Editors and Readers alike see the person first, not the disability. Our goal is not to accentuate impairments, but rather to demonstrate that the ICF provides standardization to the description of such cases, adhering to certain coding rules. Therefore we must approach each example in a non-stigmatizing, humanistic, respectful manner, and we encourage our Readers to do the same.

In each coding example we'll try to incorporate a brief description of the presented image, one or more representative ICF codes that describe the case in the image, a justification for selecting that or those ICF codes, and a short discussion acknowledging the coding challenges associated with a particular image. Some of our coding examples will be simple; others will be complex, requiring and also enabling the demonstration of the application of ICF qualifiers.

We invite Readers to submit images as candidates for inclusion in "Coder's Corner." The images your Editors select will come from a mix of photographs, line drawings or "clip art," representational abstractions, or other graphic media depicting disability and functional

impairments as ordinary components of the human experience. Generally we select images available in the "public domain" to avoid copyright difficulties. For our instructional purposes in ICF coding, truly, the more generic the image the better. Readers can submit respectful photographs or images for exemplary ICF coding, too. We especially solicit images that are in the .GIF or .JPG file formats, that are relatively small in kilobyte-size, in either color or black and white.

In cases involving photographs of living humans, we will select only public domain images that intentionally do not identify the person or people within; we will acknowledge the source of the image whenever possible. Among identifiable or even "famous" humans with observable disabilities, we will select images representing only deceased individuals, and only for the sake of demonstrating ICF coding, rather than commenting broadly on their lives or work. For example, historians tell us that Ludwig von Beethoven (1770 – 1827) experienced hearing impairments including tinnitus, and apparently avoided conversations as an adaptation. We would be only interested in coding those functional impairments and activity limitations, as a method for learning about those particular ICF codes, not judging their effect on Beethoven's compositions. Even though --- indeed, because --- the person is deceased, we will approach the didactic ICF coding of their case in respectful, reverent ways.

Observations that generate ICF coding can vary according to both the observer and also the circumstances surrounding those observations. For example, changing circumstances even a few minutes before or after these photographs might alter their ICF coding. Rather than discriminating "right or wrong" ICF codes, we can say that "clearer," "more interpretable," or "more consistently descriptive" coding are the standards to achieve. "Consistently descriptive coding" represents excellence in ICF coding.

Readers who want to follow along with the code descriptions can use the free WHO ICF Internet Browser version, available at:
http://apps.who.int/classifications/icfbrowser/

Welcome to ICF Coder's Corner!

Activities & Participation
d465   Moving around using equipment

Body Structures
s730   Structure of upper extremity

Description of the Image

This public domain photograph shows the signing into law of the Americans with Disabilities Act (ADA) of 1990. This event took place on July 26, 1990, on the South Lawn of the White House in Washington, D.C.

It represents a very proud day for all Americans, when statutory protections went into effect governing the legal rights of Americans with disabilities in areas such as employment, housing, transportation, education, and meaningful accommodations. Today, the U.S. Department of Justice (DOJ) enforces the provisions of the ADA. The effects of the law have been strengthened by the subsequent enactment of the Americans with Disabilities Amendment Act of 2008.

The people in this photograph are or had been pioneers in the movement toward enabling all Americans to enjoy the full protection of the law, regardless of their physical or cognitive abilities, and in the enactment of the ADA. In the first row, seated from the Reader's left to right were:

a)   Mr. Evan J. Kemp, Jr. (1937 – 1997), an attorney who served as a Commissioner on the U.S. Equal Employment Opportunity Commission between 1987-1993, and as its Chairman between 1990-1993, periods that coincided with the drafting of and congressional deliberations on the ADA. During his life, Evan lived with spinal muscular atrophy.[5]

b)   President George H. W. Bush, who in his remarks analogized the pen with which he was about to sign the new law as a "sledgehammer," and through the ADA, that sledgehammer would "Let the shameful walls of exclusion finally come tumbling down."

c)   Mr. Justin Dart (1930 – 2002), seen wearing his iconic ranger's hat, was a successful businessman, former director of the U.S. Rehabilitation Services Administration, and a 1998 recipient of the Presidential Medal of Freedom, which is America's highest civilian award. During his life, Justin lived with post-polio syndrome, [6] having been exposed to the polio virus at age 18.

Standing in the rear behind the President were:

d)   Rev. Dr. Harold H. Wilke (1914 – 2003), a United Church of Christ (UCC) pastor, founder of the UCC Disabilities Ministries, and a

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[5]   ICD-9-CM: 335.0 – 335.1; ICD-10: G12; MeSH: D009134
[6]   ICD-9-CM: 138; ICD-10: B91; MeSH: D016262

founding board member of the National Council on Disability. Reverend Wilke had been born without arms.[7] Upon his passing, one obituarian wrote, "I learned from Dr. Wilke that wholeness has little to do with the body." At the ADA bill signing ceremony, a few minutes before this photograph was snapped, Reverend Wilke delivered an inclusive, poignant Invocation for the event. A minute after this photograph was taken, President Bush handed the customary commemorative signing pens to the other participants: Reverend Wilke graciously accepted his pen using his left foot.

e)   Mrs. Sandra Swift Parrino, the mother of a disabled son, and an appointee by Presidents Reagan and Bush to the National Council on Disability (NCD). At the time of the bill signing ceremony, Sandy served as the Chairperson of the NCD. In 1986, during her first term as an NCD member, Sandy coordinated the publication of *Toward Independence*, the first formal explication of a civil rights agenda for disabled Americans, which in turn formed the foundation for the ADA.

You can view an open-captioned, 22-minute streaming video clip of this event by downloading it at one of these DOJ websites:

QuickTime Player: http://www.ada.gov/videogallery.htm#ADAsigningDSLcaptioned
RealPlayer: http://streaming.simworld.com/ada/adacapreal256k/adaceremonyweb.ram

Justification for Selecting the ICF Codes

In this introductory example, we assigned simple "two-level" (1 letter, 3 digits: chapter heading and first branching level) ICF codes for the cases represented by Kemp, Dart, and Wilke, with due respect to each of them.

For Kemp and Dart, who both used wheelchairs that are slightly visible in the photograph, we assigned the same Activities and Participation code: **d465, "Moving around using equipment."**

The definition text for **d465** is useful here for our code selection:

"Moving the whole body from place to place, on any surface or space, by using specific devices designed to facilitate

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[7]   ICD-9-CM: 755.21; ICD-10: Q71.0; MeSH: D038062

moving or create other ways of moving around, such as with skates, skis or scuba equipment, or moving down the street in a wheelchair or a walker" (2001, pg. 146).

Kemp used a motorized wheelchair, and Dart used a manual wheelchair. In the Activities & Participation domain, ICF purposefully does not distinguish codes according to type of wheelchair or type of other assistive equipment. The Coder assigns an A&P code based on the factual observation that a person is "moving around using equipment," without judging (and, in turn, assigning a code based on that judgment) the differential capabilities of that equipment. If one type of equipment might be more facilitative than another, that observation could be captured within a separate Environmental Factors code.

Other A&P codes also could be legitimately assigned, particularly within the branch "Walking and Moving **(d450 – d469)**." One salient ICF code is enough, though. In this case **d465** is sufficiently descriptive.

For Wilke, because of his pastoral garb, it is not particularly clear in this photograph that his arms were absent. In fond remembrance, your Editors remember Wilke as a convivial gentleman not at all shy or reticent about revealing his lack of upper extremities --- or then demonstrating his different abilities using his feet. For our purposes here, we willfully suspend the ICF rule-of-thumb of "coding only the observables," and assume that Wilke's arms are genuinely absent, despite his clothing which obscures that fact. Although relying on this photograph we cannot make ICF-oriented judgments about Wilke's functional impairments, activity limitations, or participation restrictions, if there had been any, we can cite easily his structural impairment using a code from the Body Structures domain: **s730, "Structure of upper extremity."**

In fact, the ICF Body Structures domain provides us with the great advantage of being able to use qualifier digits to describe the extent, nature, and location of a structural impairment. For Wilke, the extent of his structural impairment was "Complete," yielding **4** as the first post-decimal qualifier digit following the ICF code stem. The nature of his structural impairment was "total absence," yielding **1** as the second qualifier. And the location of his structural impairment had been on "both sides," yielding **3** as the third qualifier. Therefore, a fuller, more consistently descriptive ICF

code for the individual case represented by Wilke's structural impairment would be: **s730.413** , a complete impairment involving total absence of upper extremities on both sides of the person's body.

Discussion

This example provides interesting ICF coding challenges because it requires the Coder to think about the four ICF General Coding Rules:

a)   "Select an array of codes to form an individual's profile;
b)   Code relevant information;
c)   Code explicit information; and
d)   Code specific information" (2001; Annex 2, pp. 224-225).

In this example, your Editors have purposefully minimized the raw number of codes introduced, but literally, a case might be more consistently described by an array of ICF codes. Does one code describe a case better than several codes, or vice versa? It depends. A "profile" can incorporate only one code and still be very descriptive. The discriminating factor for the Coder would be to select "salient" or the most consistently descriptive code or set of codes, rather than focusing on the overall number of codes in a profile. In fact, the ICF Coding Guidelines stipulate that:

> "ICF classifies health and health-related states and therefore requires the assigning of series of codes that best describe the profile of the person's functioning. ICF is not an 'event classification' like ICD-10 in which a particular health condition is classified with a single code. . . . Though it is impractical to expect that all the possible codes will be used for every encounter, depending on the setting of the encounter users will select the most salient codes for their purpose to describe a given health experience" (2001; Annex 2, pg. 224).

ICF provides scant advice on the definition of or how to construct a "profile" of a case, or a set of cases in a population. What constitutes a profile is usually the Coder's Choice. Using ICF, it is always important to "fit form to function," such that some profiles might be necessarily complex,

for example in clinical settings. Other profiles might be simple, depending on the intended purpose. A "frequently observed quip" (FOQ) about ICF coding is that "too many codes spoil the broth," meaning that delivering more or more detailed ICF codes within a profile does not always yield greater clarity or interpretability for the Coder. Despite this apparent paradox, the ICF Coding Guidelines helpfully explain that:

> "In real-life applications of ICF, a set of 3 to 18 codes may be adequate to describe a case with two-level (three-digit) precision. Generally, the more detailed four-level version is intended for specialist services (e.g., rehabilitation outcomes, geriatrics, or mental health), whereas the two-level classification can be used for surveys and health outcome evaluation" (2001; Annex 2, pg. 220).

Because this example is intentionally simple and literally taken from a snapshot, we can refrain from having to adopt a "time-frame" to our ICF coding, namely, coding on more than one occasion or observation of the same set of impairments. The ICF Coding Guidelines assert that:

> "The domains should be coded as applicable to a given moment (i.e., as a snapshot description of an encounter), which is the default position. Use over time, however, is also possible in order to describe a trajectory over time or a process. Users should then identify their coding style and the time-frame that they use" (2001: Annex 2, pg. 220).

Certainly, this example also illustrates the inherent flexibility in ICF coding, even though adhering to the basic coding rules is essential for the sake of standardization. The ICF Coding Guidelines allow for the development of a "coding style," as mentioned above, which probably has more to do with "fitting form to function" than any stylistic approach a Coder or Investigator might select for themselves. It's important to observe that what might appear to be complexity in ICF coding really can be considered its inherent --- and advantageous --- flexibility. Simple coding for simple applications is just as suitable as complex coding for complex applications.

Activities & Participation
d465 Moving around using equipment

d6200 Shopping

<u>Description of the Image</u>

  This "clip art" image shows a middle-aged or elderly gentleman using a 3-wheeled motorized scooter for moving around. The context appears to

be him engaged in shopping, given that the gentleman is apparently using his left hand and arm to move a product box up or down. But it could just as easily represent activity within the gentleman's own home or kitchen pantry, as though he might be getting ready to prepare a meal. He might also be engaged in simple housework, storing food for example, or reaching for a box of laundry detergent. For the sake of didactic simplicity, though, here we'll assume he is shopping in a grocery store.

The Editors would like to acknowledge the talented young school newspaper and yearbook journalists, and their teacher-advisors, at North Myrtle Beach High School in Horry County, South Carolina, who provided this free image from their large compendium of Internet clip art. Bravo!

Justification for Selecting the ICF Codes

Selecting the first ICF code in the Activities & Participation domain is easy, because we can rely on the similar use of mobility assistive devices by Evan Kemp and Justin Dart in our first Coder's Corner example.

We'll simply select   **d465, "Moving around using equipment,"** which is familiar by now.

Selecting our second representative Activities & Participation code is easy. If we assume our gentleman is shopping, we can select   **d6200, "Shopping,"** within the A&P Chapter 6, entitled "Domestic life." Using 1 letter and 4 digits represents a so-called "third-level" code, which adheres to a hierarchical logic of the "nesting" of concepts in the A&P domain according to their relative complexity or specifity.

For example, here **d6200, Shopping**, is one additional ICF level above its so-called two-level parent-code (1 letter and 3 digits), **d620, "Acquisition of goods and services."** Speaking categorically, "shopping" is considered a more specific, nested subset among other forms of acquisition of goods and services, therefore it deserves a fourth digit in the code stem, suggesting a greater degree of specificity in the activity. A different, but similarly specific, type of acquisition is represented by **d6201**, "Gathering daily necessities."

Discussion

It's always useful to check the "Inclusions" and "Exclusions" within an ICF code definition. This ensures that the Coder's selections refer correctly to one and only one ICF concept. Interaction among multivariate factors contributing to overall disablement is manifested by a profile or set of salient ICF codes, not by filling additional digit-places. Qualifier digits that modify the code stem merely contribute additional information, rather than describing interaction. So a single code must represent a single ICF concept. The Inclusions and Exclusions are the ICF Coder's friend!

The Exclusions at **d465** are very helpful to the Coder in this case:

"Exclusions: transferring oneself **(d420)**; walking **(d450)**; moving around **(d455)**; using transportation **(d470)**; driving **(d475)**" (2001; pg .146).

These Exclusions enable the Coder to make two important discriminations about our gentleman using the motorized scooter, represented in a "nested" manner in the hierarchical ICF coding structure. Essentially, the Coder focuses on the image's depiction of moving around. ICF helpfully nests "Moving around" within the Chapter entitled "Mobility," which itself covers a broad range of nested movement-related activities, from "changing basic body position" **(d410)** to "driving" **(d475)** and "riding animals for transportation" **(d480)**.

ICF helps the Coder by nesting concepts according to a logical ordering or sequencing of time or the complexity of tasks. Here, the ICF "heading," namely the broad category below the Chapter level, helps the Coder by nesting a series of "Mobility" tasks according to their fundamental complexity. These are ordered from basic to complex in the following way:

a)   Changing and maintaining body position **(d410-d429)**;
b)   Carrying, moving and handling objects **(d430-d449)**;
c)   Walking and moving **(d450-d469)**; and
d)   Moving around using transportation **(d470-d489)**.

The Coder's challenge is similar to proceeding through a series of decision trees, until reaching a suitable "terminus." Here, his or her decision distills down to whether our gentleman's use of a motorized scooter represents "using transportation," rather than a less complex form of mobility, represented here by the heading "Walking and moving."

Relying on the ICF definitions, particularly the Inclusions and Exclusions, enables that distillation to reveal that, in ICF terms, using a motorized scooter or wheelchair is a distinct set of activities from using transportation. Therefore, the Coder selects from the heading "Walking and moving" rather than "Moving around using transportation," which renders the selection of **d465, "Moving around using equipment,"** both logical and easy, because it is nested within the heading "Walking and moving."

Environmental Factors

e1551+3   Design, construction and building products and technology for gaining access to facilities in buildings for private use: Substantial facilitator

Description of the Image

This photograph shows a gentleman who uses a wheelchair easily obtaining a glass of water from a kitchen faucet. It depicts an important set of home adaptations, namely, modification of a conventional kitchen sink and its related plumbing and cabinetry, so that a wheelchair user can utilize available space conveniently for his everyday tasks.

Pardon the pun, but this is another way of suggesting that the ICF addresses nearly everything, including the kitchen sink!

On behalf of the NACC, your Editors sincerely thank the CDC Coordinating Center for Health Information and Service, particularly the National Center for Health Marketing, and the CDC Coordinating Center for Infectious Diseases, for their sponsorship of the CDC Public Health Image Library (PHIL), which is the source of this photograph. The PHIL is an impressive Internet resource available for anyone's use. It provides a compendium of free-of-charge downloadable photographs and other images related to Public Health, medicine, infectious diseases, and socioeconomic factors affecting population health. Many of the images are already in the Public Domain, and therefore free for secondary use without copyright permissions or licensure. Anyone's next PowerPoint presentation on nearly any health subject can benefit from one or many PHIL images!

For our purposes, the CDC PHIL has courteously provided a set of photographs derived from presentations about "universal design" in Public Health. That topic pertains to standardizing household and public environments to improve the ability of all community members, but especially persons with mobility and sensory impairments, to negotiate physical spaces more easily and efficiently.

Your Editors also want to acknowledge the original source of this PHIL image (# 9308), which had been The Center for Universal Design, part of the College of Design at North Carolina State University in Raleigh, North Carolina. They wrote, "The mission of the Center for Universal Design (CUD) is to improve environments and products through design innovation, research, education and design assistance."

We also want to thank the unidentified gentleman who in 1996 served as the model in this photograph. He posed in several other very useful CUD PHIL photographs, too, which we might see augmented with ICF coding in future editions of "Coder's Corner." The credited photographer in this case was the CUD itself. We thank the Center's staff members for all their work, especially their contributions of these valuable photographs to the PHIL and the Public Domain.

Justification for Selecting the ICF Codes

In this example, your Editors have selected **e1551+3, "Design, construction and building products and technology for gaining access to facilities in buildings for private use: Substantial facilitator."** In this case, the combined qualifier symbol and digit "**+3**" represents the enhancement of the person's environment by the particular Product or Technology, namely that it is a Substantial Facilitator.

In Environmental Factors codes, the presence of a decimal point followed by a modifying digit leads to the interpretation that the coded Factor represents a barrier. The method for describing a Factor as a facilitator involves replacing that decimal point with the plus (+) sign, followed by a modifying digit. There are no minus (-) signs involved in Environmental Factors codes.

The gentleman in the photograph is depicted in his customized kitchen, where the cabinetry had been adapted in ways that allowed him to pull his chair close to and even underneath the sink, to utilize the faucet. The gentleman could pull or push his knees up beneath the sink, so as to be more comfortable during this kitchen activity.

Adaptable features such as this sink arrangement can facilitate activities, or mitigate or remove barriers to the performance of activities. Adaptations should also flexibly provide for the needs of different users, in either a household or in public. For example, in this gentleman's household there might also be folks who do not have mobility impairments, who would also use this sink frequently; this particular adaptation enables all household members to do so.

Discussion

Using a conventional kitchen without adaptations is very difficult for persons who also use wheelchairs. Some adaptations can be generic and inexpensive. But others need to be specific to an individual, household, or public kitchen space; these tend to be manifested as expensive retrofitting of existing plumbing, cabinetry, countertops, and flooring. Universal design strategies adopt a fundamental set of principles emphasizing building-in universality from the ground up, in design, construction, and furnishing.

The set of Seven Universal Design Principles help to shape and guide research and intervention strategies within the broad topic of universal design. Fortuitously here for our purposes in Coder's Corner, universal design topics and photographs immediately invoke familiar ICF concepts, especially within the Activities & Participation and Environmental Factors domains. Within Environmental Factors, universal design principles and interventions can be quickly associated with various environmental barriers and facilitators in private or public spaces, which lend themselves easily to illustrative ICF coding.

Another way of looking at it is that the environmental factor of a (literal) barrier against utilizing the faucet in this gentleman's kitchen has been mitigated by the substantial facilitation of the adapted kitchen sink. From this photograph, we can't really tell what the adaptation had been, but a good guess is that cabinetmakers installed an interior-sliding panel in place of what had been a conventional hinged door. Nice work! That panel appears in its partially-concealed position near the gentleman's left hip.

We observe that the definition for this code stem, **e1551**, represents a relatively broad range of things or ideas that could influence a person's environment. It's a useful code, but its breadth makes it hard to interpret.

Here, the "nesting" characteristics of the ICF hierarchical coding structure become helpful to the Coder. **e1551** is a "three-level code" (1 letter, 4 digits); its two-level parent-code at **e155** provides this definition:

> "Products and technology that constitute an individual's indoor and outdoor human-made environment that is

planned, designed and constructed for private use, including those adapted or specially designed.

Inclusions: design, construction and building products and technology of entrances and exits, facilities and routing" (2001, pg. 179).

The primary idea represented by the parent-code, **e155**, is Products and Technology. "Design," though important, is a secondary idea. Most of the so-called branching levels in Environmental Factors Chapter 1 deal with Products and Technology, which is the title of the chapter, too. Aspects of design are manifested in both the definition for **e155**, and also more importantly in the adjacent Inclusions text. Essentially, "design" is kind of a conceptual subset of Products and Technology. Similarly, "construction and building" is a subset of Products and Technology. In sum, **e155** and one of its children-codes, **e1551**, legitimately should incorporate this breadth of concepts, although it can be challenging for the Coder.

Within Environmental Factors Chapter 1, the adjacent branching levels at **e150** and **e155** present the helpful dichotomy between Products and Technology for public use, and for private use, respectively. In both branching levels, "design" and "construction and building" are incorporated as secondary ideas. The presence or absence of adaptations in either public or private spaces can be ICF-coded. Moreover, whether the presence or absence of adaptations generally or specifically generate a barrier or provide facilitation can also be ICF-coded. The degree to which a barrier impedes or a facilitator assists can also be ICF-coded. These facts only accentuate the flexibility and breadth of ICF coding.

In the sub-hierarchy of codes within Environmental Factors Chapter 1, ICF provides an interesting, useful set of distinguishing characteristics generally associated with accessing public and private spaces:

a) "entering and exiting of buildings";
b) "gaining access to facilities in buildings", and
c) "way finding, path routing, and designation of locations in buildings."

All three sets of characteristics are used in the "public spaces" branching level (**e1500**, **e1501**, and **e1502**) and in the "private spaces" branching level (**e1550**, **e1551**, which is the code stem selected for this photograph, and **e1552**). Counting the additional "other specified" and "unspecified" codes (**e1508** and **e1509**; **e1558** and **e1559**), in complex but nevertheless clear and straightforward ways, in just two branching levels in only one ICF Chapter, we have 10 separate three-level code stems that can robustly describe the degree of accessibility in almost every kind of public or private space.

Activities and Participation
d4702   **Using public motorized transportation**

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**

Description of the Image

Your ICF Newsletter Editors have selected another PHIL image (# 9074) that pertains to the universal design topic, simply to reinforce the coding strategies involved with the Environmental Factors domain.

This is another great image contributed to the PHIL by The Center for Universal Design, whom we thank again. Your Editors also thank the unidentified gentleman who posed as the model in this 1995 photograph. The name of the credited photographer is Kelly Houk, whom we also thank.

The photograph depicts a young gentleman with apparently full mobility preparing to board a subway or railway car, from the train platform. Your Editors can identify the train car and train station as parts of the Bay Area Rapid Transit (BART) system, which is the subway system in the San Francisco Bay Area of California in the U.S.

The gentleman is carrying and apparently utilizing the kind of walking stick commonly used by persons with visual impairments, so we'll assume this gentleman has some sort of visual impairment. We will not be coding that visual impairment here, because we have too little information about it available from the photograph. We'd use a Body Functions domain code if we were to do so. But we can add an Activities & Participation code for this example, related to the gentleman's observed use of the subway.

For our instructional purposes, the salient feature of the photograph is the yellow covering on the portion of the train platform nearest to the entrance of the open subway car. A small portion of the floor covering is intentionally black in color. The yellow floor covering marks the edge of the platform, distinguishing it from the rail area. In some transit systems, it is called the "warning strip." The yellow material is a "high-contrast, enhanced tactile" floor covering made of durable plastic or rubber. It features patterns of multiple raised "bumps" that help every passenger discriminate the safer part of the train platform from the edge of the platform, to prevent hazardous situations. The flooring provides both tactile and visual cues for passengers. When the train is in the station, the yellow flooring distinguishes the platform from the train door openings. In the

photograph, the area of color contrast between black and yellow flooring represents the area where railcar doors would open for passengers.

<u>Justification for Selecting the ICF Codes</u>

Chapter 4 of the Activities & Participation domain is entitled "Mobility," and the branching level at **d470-d489** is subtitled "Moving around using transportation." We'll select our A&P code from that branching level.

Your Editors assigned **d4702, "Using public motorized transportation,"** as the representative A&P code describing the general scene. Within this branching level among the three-level codes (1 letter, 4 digits), ICF helpfully distinguishes between "human-powered," "private motorized," and "public motorized" transportation. The type of motor doesn't matter *per se*; in this case the subway train is powered by electricity. What matters is the dichotomy between human-powered transportation, "such as riding in a rickshaw or rowboat" (**d4700**, 2001, pg. 147), and motorized transportation, which can include private automobiles or other vehicles on land, sea or in air, and passenger vehicles such as buses, trains, subways or aircraft.

Your Editors also assigned a code with qualifiers from the Environmental Factors domain. We selected **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."** The definition for the code stem **e1502** is very illustrative:

> "Indoor and outdoor products and technology in design, building and construction for public use to assist people to find their way inside and immediately outside buildings and locate the places they want to go, such as signage, in Braille or writing, size of corridors, floor surfaces, accessible kiosks and other forms of directories" (2001, pg. 179).

In this case, the definition itself is very inclusive, so there is no additional text for Inclusions. For our gentleman in the photograph, the yellow flooring with tactilely-distinguishable "bumps" is the Substantial

Facilitator. It can also be said that the gentleman's immediate physical environment has been substantially facilitated by the specialized flooring material. He can obtain tactile cues about the changing surface areas both through his shoes and feet, as well as through the use of his walking stick. Beneficially, too, the tactile characteristics of the bumps can yield a distinctly different sound when tapped by the walking stick, too, providing auditory cues in addition to the pressure, positioning, and texture cues.

Discussion

This image provides some rich "fodder" for the ICF Coder. But pertinently, the fact that this photograph also illustrates some very useful universal design intervention strategies unearths another discussion point based on the ICF: the premise that the functional status or environmental characteristics of even persons without any impairments can be ICF-coded.

Stated another way, through the lens of the universal design principles, all Readers can judge that the yellow flooring in this photograph benefits all passengers on the subway system, presuming the flooring is installed in every station. A passenger does not need to have a mobility or sensory impairment to benefit from the yellow "warning strip." The warning strip is a facilitator for everybody. For a passenger with a mobility or sensory impairment, though, the environmental relevance of the warning strip is plainly more important. In fact, given the hazards near a train platform, the warning strip might be a life preserver for such persons.

We can legitimately say that for a passenger without any sensory impairments, the same Environmental Factors code stem, **e1502**, could be utilized to describe the presence or absence --- in this case the presence --- of products or technology that assist with way finding and path routing. This code describes the environmental situation, rather than the person; Body Functions, Body Structures, and Activities & Participation codes would provide additional descriptions, as warranted. Leaving the code "as is" at the code stem level would be satisfactory, but the interpreter would be left wondering whether the Factor were present or absent, and if present, whether it had been facilitative, or generated one or more barriers. This means the qualifier symbol (decimal point or plus sign) and subsequent digit are extremely important in an Environmental Factors code, because

without the qualifiers, there is no way to interpret the net effect on persons living in that environmental scene.

Therefore, for the passenger without sensory impairments, we might characterize the degree of facilitation, though important, with a qualifier that imparts a lower level of facilitation. We could judge that degree of facilitation to be **"Mild,"** and assign **e1502+1**, in contrast to **e1502+3**, **substantial facilitation**, for the passenger who has sensory impairments.

Coders should adhere to the ICF injunction to "code only the observables." Even though we can assert from the evidence in this photograph that the yellow flooring on the train platform is a Substantial Facilitator for persons with sensory impairments, a Coder might wonder about the "way finding" and "path routing" characteristics of other parts of this subway station, or on the inside of the railcar itself. We presume the gentleman had successfully negotiated his way from the station entrance to the train platform. This is simply to observe that the idea of "accessibility" is comprehensive, not particularized.

Even if the platform's particular environment had been substantially facilitated, environments can change suddenly for persons with sensory impairments. Sometimes well-intentioned and well-designed interventions have unintended consequences. For example, this photograph was taken on a sunny, dry day. What if it rains? If this outdoor train station were part of a transit system in a colder climate, what if it snows or is icy? Would the yellow flooring provide the same safe footing, or become slippery and hazardous? If hazardous, the facilitation provided by the yellow flooring on only dry days would be scant, with only incrementally improved efficiency.

ICF coding can and should reflect such relatively small-scale changes in a person's varying environments. But realistically, ICF coding cannot change rapidly enough, and often must be particularized to an event, situation, or specific Factor. Therefore it is often very challenging for an ICF Coder to develop a so-called environmental profile, covering all aspects of a person living in many environments. Instead, the Coder must focus on the most salient or most observable characteristics in a coding situation, for the sake of parsimony and better overall interpretability.

Activities & Participation

d4601   **Moving around within buildings other than home**

Environmental Factors

e1500.4   **Design, construction and building products and technology for entering and exiting buildings for public use: Complete Barrier.**

Description of the Image

This is another great image provided to the PHIL (# 9043) by The Center for Universal Design, and again we thank the staff at the CUD for their contributions. We also thank the unidentified gentleman who posed as the model for this 1995 photograph. The name of the credited photographer is Leslie C. Young, whom we also thank.

The photograph depicts a situation that is still very common in cities not only in the U.S. but also around the world: the Major Barrier caused by Minor Steps. In this case, the gentleman is a wheelchair user, positioned on a plaza or courtyard. The net elevation gain represented by the three steps in the photograph appears to be only about half a meter, but in this situation, that elevation could be like Mount Everest to the wheelchair user.

The setting is a public place, rather than the gentleman's home. It might be a university campus, or a place with museums, memorials or other large public buildings, given the appearance of the marble-like sidewalk. Other people without apparent mobility limitations are in the photograph. It's possible that the photograph doesn't include other relevant Environmental Factors, too. For example, a stationary ramp might exist but not be in an adjacent part of the marble sidewalk. That sidewalk might also have a slope to it, too, such that a wheelchair user would have to compensate for descending a sloped surface if that were the only way to reach a stationary ramp. Everyone's clothing suggests a fairly clement springtime or summer temperature on this particular day, but if it were a very hot day, any wheelchair user would have to expend a lot of aerobic energy simply getting around, which might influence accessibility choices.

Nevertheless, the ICF Coder's task is to code only the observable evidence. So we simply have a handsome gentleman who is precluded from ascending to the sidewalk level on which his next destination lies.

Justification for Selecting the ICF Codes

This is actually a very challenging photographic scene to code, because the Coder might focus on several aspects of the situation best

described by codes drawn from both the Activities & Participation and Environmental Factors domains. The temptation would be to "over-code." A better strategy would be to select the most salient ICF code from each domain. More ICF codes do not always impart easier interpretability.

Here, your Editors assigned **d4601, "Moving around within buildings other than home,"** as the representative A&P code. It would be equally suitable simply to focus on the straightforward fact that the gentleman is a wheelchair user. In that case, we might mimic the coding from our first example in this edition of "Coder's Corner," in which we assigned **d465, "Moving around using equipment"** to the cases represented by Evan Kemp and Justin Dart at the ADA Signing Ceremony. The question arises: what is more salient, the fact of using a wheelchair in the first place, or moving around (whether or not in a wheelchair) within or between buildings? It is a "judgment call," or we might say it is "Coder's Choice." We selected **d4601**, focusing on the aspects of moving around, rather than the observable fact that our gentleman is a wheelchair user.

In the Environmental Factors domain, this photograph enables us to see the effect of a genuine environmental barrier, represented here by the steps. As small as they are, as Environmental Factors for our purposes, the steps are Complete Barriers. We selected **e1500.4, "Design, construction and building products and technology for entering and exiting buildings for public use."** The decimal point means barrier rather than facilitator, and on the qualifier scale of 0 to 4 (not counting 8 for "not specified" and 9 for "not applicable"), **4** represents a **Complete Barrier**.

Discussion

Another challenge the Coder faces in this photograph is determining whether the gentleman is moving around "within buildings other than home" (**d4601**, the code the Editors have selected), or "outside the home and other buildings" (the sibling code at **d4602**). ICF distinguishes between these types of moving around, but the definitions for these respective codes tend to blend together. Moreover, for once the Inclusions don't provide much discriminative help, because our photograph is a bit "silent" on the characteristics addressed by the respective sets of Inclusions. For example, the definition and Inclusions at **d4601** read as follows:

"Moving around within buildings other than home
Walking and moving around within buildings other than one's residence, such as moving around other people's homes, other private buildings, community and private or public buildings and enclosed areas.

Inclusions: moving throughout all parts of buildings and enclosed areas, between floors, inside, outside and around buildings, both public and private" (2001, pg. 146).

For our purposes, the definition and Inclusions at **d4602** raise some viable alternate characteristics that the ICF Coder should consider:

"Moving around outside the home and other buildings
Walking and moving around close to or far from one's home and other buildings, without the use of transportation, public or private, such as walking for short or long distances around a town or village.

Inclusions: walking or moving down streets in the neighborhood, town, village or city; moving between cities and further distances, without using transportation" (*ibid.*).

From just these two code stems and their definitions and Inclusions, the Coder must consider whether our gentleman is involved in:

a)   "moving . . . outside and around buildings" (**d4601**), or
b)   "moving down streets in the . . . town . . . or city" (**d4602**).

Essentially, the Coder's Choice distills down to deciding whether the context of the photograph involves proximity to buildings, or covering street-length distances, both of which could characterize many episodes of moving around plazas or courtyards. Your Editors selected **d4601** mainly because we judged our gentleman to be covering only a short distance, possibly between buildings, rather than "around a town or village" as, say, a shopper or tourist who might be trying to cover more ground. In our judgment, the sibling code **d4602** appears to represent a broader form of moving around, although **d4602** explicitly does not involve transportation.

Above we addressed "the temptation to over-code," by adding on extra ICF codes on the presumption they would add clarity or more information. Your Editors from the U.S. faced this temptation, too. We wanted to add an Environmental Factors code addressing the *absence* of a stationary ramp in this public place. Our gentleman would not have had any role in determining that presence or absence, though. More likely, it would be the product of one or more laws or regulations governing this public place. That would make the absence of the ramp a local or regional policy consideration. That policy consideration or its ramifications can be ICF-coded, but not in a smooth, immediately tractable manner.

Had we elected to include policy-oriented Environmental Factors coding, we would have had to discriminate more about the type of public place depicted in the photograph; we have already exhausted our available information, though. Nevertheless, two branches in Environmental Factors Chapter 5, "Services, Systems and Policies," might be relevant. They refer to Architecture, and Open Space Planning, respectively. We might have selected **e5152, "Architecture and construction policies,"** referring to:

> "Legislation, regulations and standards that govern the planning, design construction and maintenance of residential, commercial, industrial and public buildings, such as policies on building codes, construction standards, and fire and life safety standards" (2001; pg. 193).

In slight contrast, we might have selected its sibling, **e5202, "Open space planning policies,"** referring to:

> "Legislation, regulations and standards that govern the planning, design, development and maintenance of open space, including rural land, suburban land, urban land, parks, conservation areas and wildlife reserves, such as local, regional or national planning acts, design codes, heritage or conservation policies, and environmental planning policies" (2001; pg. 194).

Setting the Architecture and Open Space Planning codes side by side, the relevant Coder's Choice would have to involve more information

about the type of plaza or courtyard our gentleman is traversing. Is it a plaza between industrial or commercial buildings governed by building codes that, in some western countries at least, now include accessibility provisions that would make this photographic scene obsolete? Or is it a plaza between historic buildings at a museum site, where some "heritage or conservation policies" provide for legal exemptions from ordinary accessibility requirements, often due to the age or condition of museum or heritage sites. It would be very difficult to assign barrier or facilitator qualifiers to either of these code stems. This is a Coder's Choice no one can make, given the information in our otherwise very useful photograph.

Therefore, your Editors jettisoned this public policy-oriented coding endeavor. Nevertheless, it raises another important instructional point. In the Environmental Factors domain, ICF carefully distinguishes "services," "systems," and "policies" (2001; pg. 192). Essentially,

a) *Services* are structured programs or operations providing benefits designed to meet the needs of individuals, whether through general goods or specially-designed, adapted goods;

b) *Systems* are administrative control and organizational mechanisms, which generally monitor the delivery of *Services* through structured programs or operations; and

c) *Policies* are rules, regulations and standards established by governments at local and regional levels, but also at national and international levels; Policies govern and regulate *Systems*.

In the end, your Editors selected the two codes presented in the Justification: Activities & Participation code **d4601, "Moving around within buildings other than home,"** and Environmental Factors code with qualifier **e1500.4, "Design, construction and building products and technology for entering and exiting buildings for public use: Complete Barrier."**

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