

22 The Future: Documentation Using the International Classification of Functioning, Disability and Health (ICF) System

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Experienced rehabilitation specialists know that a person's medical diagnosis does not always provide a predictable picture of how a person functions in daily life. Imagining a person with a medical diagnosis of "stroke" or "osteoarthritis" can conjure images of different levels of function that cannot be explained by the severity of the diagnosis alone. Other factors such as the accessibility of the person's environment, the person's financial status, and the strength of his or her social support system can create significant differences in functional outcomes. The World Health Organization's (WHO) International Classification of Functioning, Disability and Health (ICF) seeks to avoid the pitfalls of disability models that describe a person's health status based on one feature, such as medical status or societal attitudes. The ICF framework uses a "biopsychosocial" model of health that acknowledges the interaction of biological, social, and personal factors to provide a more nuanced description of an individual's health experience.^{1,2}

ICF Informs Medical Documentation

Description or classification of a person's health status using ICF is based on the multi-factorial framework shown in Figure 22-1.¹

All of the factors or classifications surround the factor of "Activity," which is defined as the execution of a task or action by an individual. A person's ability to perform activities is presumably affected by all the factors that surround it. "Participation" appears as a factor distinct from activity and is defined as involvement in a life situation. However, field usage and the evolving ICF literature illustrate some tendency to treat the two factors of activity and participation as one factor: Activity and Participation. There is some concern about the practical usefulness and need to differentiate the two factors.²⁻⁶ The ICF text provides hundreds of examples of activity and participation, with several chapters providing descriptions of tasks with significant motor components.

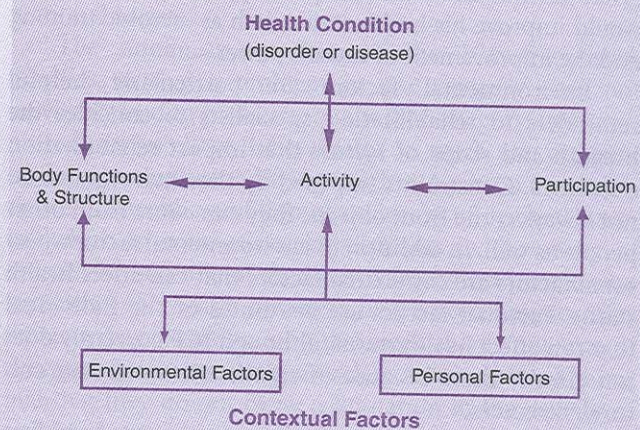


Fig. 22-1. ICF Framework

Descriptions of motor tasks vary widely, from maintaining a body position such as sitting or kneeling to more high-level tasks such as running, swimming, preparing complex meals, and the acquisition of goods.²

The factor of health conditions represents diseases or medical disorders. The factors of body functions and body structures account for the physiologic and anatomical status of the body. Body functions refer to physiologic descriptions and are inclusive of the all body systems. Again, a wide variety of descriptors are available, such as psychomotor control, visuospatial perception, the perception of pain, vestibular function, and various aspects of cardiovascular and respiratory function. Muscle and joint functions, such as mobility of particular bones, the power and endurance of particular muscles, the status of reflexes, and resting muscle tension, are a few of the many body functions that will sound familiar to rehabilitation specialists. Body structures refer to the status of anatomical features of the body in every organ system. Discrete structures of the brain, spinal cord, heart, respiratory system, integumentary system, bones, joints, and ligaments are described.²

Contextual factors include both environmental factors and personal factors. Environmental factors describe the person's physical environment, such as the availability of food, drugs, products, technology for personal use (e.g., chairs, tools, appliances); assistive products for personal use (e.g., prosthetic and orthotic devices, remote controls, wheelchairs); financial assets; and building design. Environmental factors also include the societal expectations and attitudes in which the person is immersed, which is an area that health professionals do not always formally recognize in documentation.² An example of an environmental factor relating to societal expectations that would influence the health status of a person would be the parents of a child who uses a wheelchair who do not expect people with disabilities to participate in sports. The child's ultimate health status could be impeded because his caregivers do not allow him to participate in exercise that would improve his health status such as aerobic training and the improvement of muscle power.

Environmental factors are particularly helpful reminders to rehabilitation specialists to consider the breadth and scope of factors that impact rehabilitation outcomes. Constraints imposed by the environment do not always come from objects; they can come from other people as well. In addition to environmental factors, personal factors are contextual factors that can affect health status. Personal factors are attributes of the individual that can affect health status, although ICF currently does not classify these because of significant social and cultural variances.²

A few important terms and premises that do not appear in the ICF framework itself need to be understood within its context. "Impairments" are problems with body functions or structures. Problems with activities are "activity limitations," and problems with participation are "participation restrictions." Things that promote a positive health status in environmental factors are "facilitators" and things that impede health status are "barriers." In ICF, "disability" takes on a broad meaning to include impairments in body function or structure, as well as activity limitations and/or participation restrictions. Problems with body functions and body structures and/or activities and participation are based on deviations from generally accepted population standards of people without health conditions. Remember that in ICF, a disability does not necessarily provide a predictable decline in health status. Things such as environmental factors, personal factors, and the severity of the disability or health disorder will influence the ultimate outcome of a person's health status.²

Why is ICF Important for Medical Documentation?

ICF obviously gives clinicians a more realistic, integrative model for thinking about all the factors that converge to

create a particular person's health status. It is the first health model to have significant input into its formation by representatives of people with disabilities as well as people related to the provision of health care.^{2,7} Accordingly, ICF emphasizes that information gathered in a person's health record about environmental factors is just as relevant for understanding a person's health status as a medical diagnosis. This reason alone would justify its use.

In addition to the advantages for describing health status, ICF is becoming an integral part of medical documentation and research. The National Committee on Vital and Health Statistics (NCVHS) has recommended ICF's terminology, classification systems, and conceptual framework as a "common language" for electronic information exchange across federal agencies as part of the Consolidated Health Informatics (CHI) Initiative.^{8,9} This recommendation has received the support of the Department of Health and Human Services (DHHS), which means that ICF language will be incorporated into the U.S. National Library of Medicine's Unified Medical Language System.^{10,11} The DHHS is associated with significant federal agencies as diverse as the Social Security Administration (SSA), the Veteran's Administration (VA), the Centers for Disease Control and Prevention (CDC), the National Center for Health Statistics (NCHS), the National Institutes of Health (NIH), the National Center for Medical Rehabilitation Research (NCMRR), and the Centers for Medicare and Medicaid Services (CMS).

While ICF is becoming an integral part of communication within federal health agencies, it is also becoming embedded in exchanges of health information throughout the world. An important example is WHO's plans to link ICF to its classification system for medical diagnostics, the International Classification of Disease (ICD). ICD is the international standard diagnostic classification used for epidemiological and other health management purposes. Plans for creating the latest iteration of ICD, the ICD-11, include aligning ICD-11 with the ICF classification system. ICF's "health conditions" factor offers a natural connection to ICD-11. Such a connection encourages components of health status found in ICF to be included in the description of ICD diagnostic categories, and will facilitate information processing about a broader range of health status issues related to the diagnostic category. Explicit relationships between ICF and ICD will encourage the exchange of health-related information, particularly within electronic applications for public health purposes and other forms of health-related research.^{12,13}

ICF Does Not Replace Diagnostic Labels Specific to a Profession

Because many of the categories under body functions, body structures, and activities and participation contain

terms that are familiar to rehabilitation specialists, it is easy to confuse ICF's classification system with a diagnostic labeling system that is particular to a profession such as physical therapy. Remember that the purpose of ICF is to provide a universally understood description of health status. The language of ICF is intentionally "profession neutral," so that all professions may use the ICF system to describe health status. For example: the category of walking found under activities and participation can be used to help describe the effects of interventions from a wide variety of professions. Orthopedists can use the walking classification to describe the success of particular kinds of surgical interventions. Neurologists can use the same classification to describe the success of pharmacological intervention. Physical therapists can use the classification to describe the effects of rehabilitation or changes in a person's environment. This profession-neutral approach encourages multi-professional and inter-professional approaches to the resolution of disability.

Because ICF is profession neutral, there may be useful descriptors of health status that an evaluator would like to provide, but are not included in the current list of categories available in ICF. This is why all categories in the three classifications of body functions, body structures, activities and participation, and environmental factors include options for categorization called "other, specified." The other, specified categories allow an evaluator to provide further description about health status by assigning a label to a new category. The other, specified categories may evolve into a description used only by certain groups of evaluators for particular purposes, or have such universal utility that it could become its own category in the next edition of ICF. For example, the current category of walking does not include a category that describes velocity; a feature of walking that can have a significant impact on disability.² Interested parties could agree on standards for categorizing walking velocity and use the d4508 other, specified category. If the successful utility of the other, specified category is shared with other users of ICF, the options for useful descriptors of health status will grow. This potential for organic growth is why particular groups who use ICF but do not find a category that represents a potentially useful descriptor, should make a concerted effort to use the other, specified category rather than ignore the deficit.

ICF Framework and Prognosis: A Model That Illustrates Paths to Disability, Prevention, and Wellness

Recall that the ICF framework (see Figure 22-1) contains multiple categories that describe all of the factors that join together to affect a person's health status. Because each factor is joined to the others with arrows, it is easy

to see how a health condition such as rheumatoid arthritis can cause impairments in body functions and body structures such as impairments in the structure of the hand and mobility of several joints. These impairments will lead to limitations in preparing simple meals, a category in activities and participation. Without successful intervention at the level of the environment, such as assistive products and technology, or resolution of impairments in body structure and function, the person will experience disability. In this manner, the ICF framework describes a frequent prognosis—that those with health disorders often experience some level of disability via impairments in body structure or function and/or through activity limitation/participation restriction. However, two visual features of the ICF framework remind us of more complex relationships among ICF categories: ICF's nonlinear structure and its use of bidirectional arrows.

The nonlinear structure of the ICF framework reminds us that a problem in one category does not inevitably lead to problems in another category. Interconnected arrows allow the evaluator to reach one category while bypassing or modifying another. A person may experience the health condition of occlusion of cerebral arteries, which in turn causes impairments in the power of muscles of one side of the body. While most people who experience this health condition have a poor prognosis for the activity of walking long distances, this is not true of everyone. Impairments in muscle power may be so minimal that they do not cause a limitation in the activity of walking long distances. Environmental factors such as assistive products or technology for personal indoor and outdoor mobility can also change the person's prognosis for activity to a more positive one. The nonlinear structure is a visual reminder that not all health conditions result in disability and that, in some cases, a particular prognosis is not inevitable.

Secondly, ICF's use of bidirectional arrows joining each component serves as a visual reminder that we can also describe how impairments in body functions and body structures can lead to limitations in activities and participation, and in turn exacerbate a health condition. For example, a person with impairments in the power of muscles in all limbs may be unable to perform activities under the category of changing and maintaining body position. In turn, this person may suffer impairments in skin structure due to lack of mobility, resulting in loss of the protective function of the skin and exacerbation of the health conditions of decubitus ulcers and infection. However, if the person lives in an environment with supportive relationships with immediate family who are willing to assist the person in turning and positioning methods to prevent impairments in skin structure, the ICF framework can illustrate a positive prognosis resulting from the interventions that promote the person's wellness.

The visual features of the ICF framework are a tremendous boon to professions who want to illustrate how their interventions can not only improve disability, but prevent further exacerbation of disability and worsening of health conditions through services aimed at prevention and wellness. The ICF framework reminds us that a person's prognosis could be a description of increasing disability, or in the best of scenarios, the decreasing of disability and severity of health conditions and the promotion of well-being.

ICF Coding: Classification and Description of a Person's Health Status

For ease of communication, ICF describes the state of a person's health status in its various classifications or domains by using a coding system made up of groups of letters and numbers. The four domains classified by ICF are represented by letters:

- Body Functions (b)
- Body Structures (s)
- Activities and Participation (d)
- Environmental Factors (e)

In turn, each domain has numerous descriptors called categories, which are represented as a number following the domain's letter representation. For example: coding a person's range of motion of her scapula would be coded as "b7200," where "b" represents the domain of body functions and "7200" the particular category of mobility of the scapula. The present status of a category is always described through the use of qualifiers that are represented by numbers that appear after a decimal point in the code. In the case of the person with limited range of motion in her scapula, we can use a generic scale for the qualifier to describe the extent of the impairment. A generic scale for severity may be as simple as the numbers 0-4, with 0 representing no impairment, 1 representing the mildest impairment (5-24% loss of range of motion), and 4 representing a complete loss of range of motion (96-100% loss of range of motion). If the person in our example has completely lost all range of motion of her scapula, the information would be conveyed by the ICF code of "b7200.4." The number of qualifiers that appear after the decimal point, as well as the scales chosen, can be tailored to fit the purposes of the coding. While members of the ICF community are creating standard sets of qualifiers, new groups of qualifiers can be created to meet future demands for health-related information.²

When coding, all domains and categories must have qualifiers that appear after the decimal point. It is the qualifiers that describe the actual status of the category. Not to include qualifiers in a code would be the same as stating that a person can run, but not describing how fast or how far; stating that a person has broken his or her tibia, but not indicating how severely or what kind of fracture; or stating

that a person lives in a dwelling, but not indicating whether it is a shelter made of sticks or a penthouse apartment. In this sense, coding has a clinical relationship with the examination and evaluation of a person.

To help learn coding practices, the ICF community is assembling clinical companion manuals to supplement the ICF text. These manuals, both for the standard ICF text and the pediatric version, are titled: *Procedural Manual and Guide for Standardized Application of the ICF: A Manual for Health Professionals*.¹⁴ Ease of use is also promoted by breaking ICF categories into user-friendly subsets of codes designed for particular professions or for describing people with particular health conditions. "Core sets" are subsets of codes created to describe people with particular health conditions. There are core sets in development for a wide variety of health conditions, including stroke, rheumatoid arthritis, low back pain, and breast cancer to name but a few.¹⁵ Other "code sets" can be created to provide the codes most germane to a profession, such as a set of codes that a physical therapist is most likely to use in daily practice.

ICF and Expected Outcomes

The *Guide to Physical Therapist Practice* recommends that expected outcomes be written in functional terms.¹⁶ ICF categories listed under the classifications of activity and participation contain resources upon which the therapist can draw for ideas about functional outcomes related to motor performance. These chapters include activities that frequently appear as expected outcomes in rehabilitation, such as transfers, maintaining sitting and standing, ambulation, wheelchair use, carrying objects, preparing meals, and performing various kinds of self-care and household tasks. There are other activities that are less commonly thought of as outcomes, such as pushing or pulling objects, climbing, using transportation such as bicycles, driving a car, the acquisition of goods and services, and caring for household objects (e.g., cars, plants, animals). There are even categories for people who need to perform activities to be caretakers for others in the household. Other major areas include activities for educational and employment settings, participation in religion and spirituality, and recreational and leisure activities.² The activities and participation classification provides a rich resource for therapists to expand their ideas about what constitutes a functional outcome. Conversely, therapists who establish an outcome for an activity that is not included in the current list of ICF categories should write the outcome using one of the other, specified categories. In this manner, outcomes that are specific to a group of interested parties can gather data on the outcome, and new ideas with potential for high utility can be introduced in later versions of the ICF.

Outcomes have another relationship with ICF through the coding system used for activities and participation, and in particular, through the use of qualifiers. Figure 22-2 shows a model of a code for the category of walking short distances in the domain of activity and participation.

The first four qualifiers for activity and participation are used to describe a person's current abilities under different conditions. Qualifiers that use the term "performance" are descriptions of how well the person walks in daily life situations in their typical environments, such as their home or neighborhood. Qualifiers that use the term "capacity" are meant to convey the person's highest probable level of ability in a standardized environment such as a clinical setting. Describing the person's abilities in standardized environments is an attempt to remove the varying environmental factors that are impeding the person's best possible performance.

In this case, the first qualifier "performance" is a rating of how well the person performs walking in his or her usual environment. The second qualifier "capacity without assistance" is a rating of how well the person performs the same task of walking in a standardized environment, such as a clinic, but without direct assistance from a person or device. The third qualifier "capacity with assistance" rates how well the person performs walking in the same standardized environment with the assistance of a person or devices. The fourth qualifier "performance without assistance" rates the person's ability to walk in his or her usual environment, but without the assistance of people or devices.²

If we consider a person who is having difficulty walking short distances, the evaluator can illustrate differences in performance of this activity under different conditions through the use of performance and capacity qualifiers. Below is an abbreviated scale of the qualifiers used for the activity of walking short distances (less than a kilometer).

d4500 Walking Short Distances

- 0 No limitation (0% to 4%, none)
- 1 Mild limitation (5% to 24% slight)
- 2 Moderate limitation (25% to 49%, medium)
- 3 Severe limitation (50% to 95%, high)
- 4 Complete limitation (95% to 100%, total)²

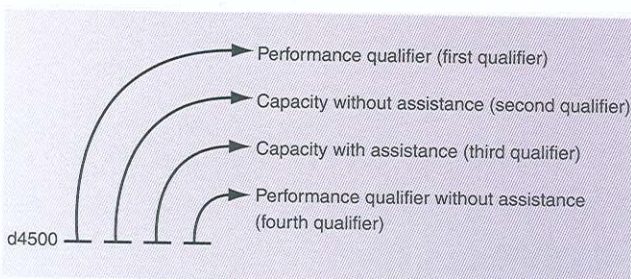


Fig. 22-2. Model of an activity and participation code identifying qualifiers

For example, if a person lives alone in a house with carpeting on the floor and no assistive device, she might score a "4" on the first "performance" qualifier because she cannot walk at all in her home environment. If she could walk in your clinic on an uncarpeted surface that would not impede her walking, but requires physical assistance of another to walk to any distance without a device, she would score a "4" on the second "capacity without assistance" qualifier. However, if given a quad cane and asked to walk on uncarpeted surfaces in the clinic, she can walk 10 feet independently. This would give her a score of a "3" for the "capacity with assistance" qualifier. To illustrate the vital importance of assistive devices for this woman to improve her ability to walk, she would receive a "4" on the qualifier "performance without assistance" because she would again be unable to walk at all in her home environment without the quad cane. All of this information about her activity status for walking in all four of these scenarios would be summarized by the following ICF code: d4500.4434.

Differences in ratings among these four qualifiers can help clinicians demonstrate that by adding the assistance of a person or equipment or by changing environmental barriers, the patient's ability to walk short distances can improve. Information that shows improvement in the patient's status by coding the qualifiers in the activity and participation categories reinforces the positive achievement of outcomes in the patient's usual environment if appropriate assistance, equipment, and environmental changes are provided. Demonstrating such changes in health status through ICF coding is a way to reinforce the need for intervention to improve outcomes and to enhance patient advocacy.

ICF and Anticipated Goals

The *Guide to Physical Therapists Practice* describes anticipated goals as including function and/or impairments.¹⁶ Goals that are functional and serve as steps along the way to achieving a functional outcome can use the same resources in the activity and participation chapters of the ICF that were mentioned for outcomes. Goals that are impairment based can be referenced to the chapters associated with body functions and body structures. Body functions categories listed under the chapters dealing with sensory function and pain, cardiovascular and respiratory systems, neuromusculoskeletal and movement-related functions, and functions of skin and related structures are categories with common and obvious uses for rehabilitation specialists, although most categories in body functions can be associated directly or indirectly with various aspects of motor performance.

While the status of body structures will obviously affect the prognosis for successful goals in rehabilitation, categories that describe impairments of body structures

will probably be less frequently associated with clinically measurable goals in rehabilitation. Some body structures that may be helpful for goals are the categories for particular muscles and other soft tissues, particular joints (depending on how standards for description are developed), and parts of the integumentary system such as skin. Therapists who establish a goal for a body functions or body structures that is not included in the current list of ICF categories should write the goal using one of the other, specified categories. In this manner, goals that are specific to a group of interested parties have a way to be included in data analysis, and new ideas with potential for high utility can be introduced in later versions of the ICF.

Similar to outcomes, goals that address the resolution of impairments of body functions or body structures can be reinforced by documentation provided by ICF coding. The example below shows the use of a body function code “b7302” describing “power of muscles on one side of the body” and a scale for the first qualifier that denotes the severity of the impairment:

b7302.1 = mild impairment of power of muscles of one side of the body (5% to 24%)

b7302.2 = moderate impairment of power of muscles of one side of the body (25% to 49%)

b7302.3 = severe impairment of power of muscles of one side of the body (50% to 95%)

b7302.4 = complete impairment of power of muscles of one side of the body (96% to 100%)²

An absence of impairment below the criteria for “mild impairment” would be denoted as a “0” in the first qualifier.²

Documenting this ICF code for muscle power on different dates can show a progression in the person’s ability to produce muscle power through changes in the first qualifier, and further support the documentation of goal achievement. For example, a person whose muscle power on the left side of the body is improving over time with rehabilitation might be coded b7302.3 (severe impairment) at the time of the initial evaluation; 3 weeks later, the person might receive a code of b7302.1 (mild impairment). Coding for impairments in body structures may also be used to provide reinforcing documentation for the achievement of goals.

Summary and Objective

ICF provides rehabilitation specialists the opportunity to describe multiple factors that influence the health status of the people they serve in an integrated fashion. ICF provides a context and a language for data concerning the services rehabilitation specialists provide for incorporation into various local, state, federal, and international health provision systems. ICF provides methods of

describing the benefits of rehabilitation services for inclusion in the public health domain and various forms of research. Rehabilitation specialists need to become familiar with ICF, and participate in its ongoing development, if they are to participate effectively in all of these aspects of health and wellness services.

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