



Encyclopedia of Health & Aging

Disability and the Disablement Process

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Book Title: Encyclopedia of Health & Aging

Chapter Title: "Disability and the Disablement Process"

Pub. Date: 2007

Access Date: December 14, 2015

Publishing Company: SAGE Publications, Inc.

City: Thousand Oaks

Print ISBN: 9781412909495

Online ISBN: 9781412956208

DOI: <http://dx.doi.org/10.4135/9781412956208.n64>

Print pages: 157-159

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The disablement model, a continuum leading from active pathology to impairments, to functional limitations, and ultimately to disability, is a sociomedical model designed by a sociologist for use in epidemiological and clinical research. Saad Nagi's disablement model describes how chronic and acute conditions affect functioning in specific body systems, generic physical and mental actions, and activities of daily life. The disablement model can help inform research (epidemiology of disability) and public health (prevention of disability) activities.

In the disablement model, active pathology involves the interruption of normal cellular processes and the simultaneous homeostatic efforts of the organism to regain a normal state. Active pathology can result from infection, trauma, metabolic imbalance, degenerative disease processes, or another etiology. Examples of active pathology are the cellular disturbances consistent with the onset of disease processes such as osteoarthritis, cardiomyopathy, and cerebrovascular accidents.

Impairment refers to a loss or abnormality at the tissue, organ, and body system level. Active pathology usually results in some type of impairment, but not all impairments are associated with active pathology (e.g., congenital loss or residual impairments resulting from trauma). Impairments can occur in the primary locale of the underlying pathology (e.g., muscle weakness around an osteoarthritic knee joint), but they may also occur in secondary locales (e.g., cardiopulmonary deconditioning secondary to inactivity).

Functional limitations, the distinct consequences of pathology at the level of the individual, represent restrictions in the basic performance of specific tasks and actions (e.g., walking, transfers).

Disability is defined as difficulty or limitation in performing activities in one or more domains of daily life (from personal care to hobbies) due to a health or physical problem. Disability is not a personal characteristic; instead, it is the expression of a physical or mental limitation in a social context.

Not all impairments or functional limitations precipitate disability, and similar patterns of disability may result from different types of impairments and limitations in function. Furthermore, identical types of impairments and similar functional limitations may result in different patterns of disability.

The disablement model can be illustrated with a clinical example. Two patients with rheumatoid arthritis may present with a very similar clinical profiles with moderately severe impairments such as restricted range of motion and muscle weakness. Their patterns of function may also be similar with a slow painful gait and difficulty in grasping objects. Their disability profiles, however, may be radically different. One individual may restrict or eliminate his or her outside activities, require help with all self-care activities, spend most of the time indoors watching television, and be unemployed and depressed. The other individual may fully engage in his or her social life, receive some assistance from a spouse in performing daily activities when needed, be driven to work, and be able to maintain full-time employment through workplace modification.

The Disablement Process

In their work on the disablement process, Lois M. Verbrugge and Alan M. Jette maintained Nagi's original concepts but extended his model by specifying specific

dimensions of disability and included in the model relationships among sociocultural factors (e.g., physical and social environments) and personal factors (e.g., lifestyle behaviors and attitudes) with the core disablement concepts.

Verbrugge and Jette defined disability as a broad range of role behaviors that are relevant in most people's daily lives. Five commonly applied dimensions of disability evolved from this line of scientific inquiry:

- *Basic activities of daily living (ADLs)*: including behaviors such as basic personal care
- *Instrumental activities of daily living (IADLs)*: including activities such as preparing meals, doing housework, managing finances, using the telephone, and shopping
- *Paid and unpaid role activities*: including occupation, parenting, grandparenting, and student roles
- *Social activities*: including attending church and other group activities and socializing with friends and relatives
- *Leisure activities*: including sport and physical recreation, reading, and distinct trips

The subdomains of disability behavior highlight the varied nature of role task behavior, from fairly basic self-care activities to advanced and complex social, work, and leisure activities.

Verbrugge and Jette's work was an attempt to attain a full sociomedical framework of disablement that they defined as the impact that chronic and acute conditions have on functioning of specific body systems and on people's abilities to act in necessary, usual, expected, and personally desired ways in their society. They coined the term *disablement process* and defined it as the dynamics of disablement; that is, the trajectory of functional consequences over time and the factors that affect their direction, pace, and pattern of change. Feedback effects are included in the disablement process to cover dysfunction spirals and secondary conditions; that is, new conditions launched by a given disablement process.

Verbrugge and Jette argued that one might analyze and explain disablement relative to three sets of variables: predisposing risk factors, intra-individual factors, and extra-individual factors. These categories of variables, which are external to the main disablement pathway, are defined as follows:

- *Risk factors* are predisposing phenomena that are present prior to the onset of the disabling event and that can affect the presence and/or severity of the disablement process. Examples include sociodemographic background, lifestyle, and biological factors.
- *Intra-individual factors* include lifestyle and behavioral changes, psychosocial attributes and coping skills, and activity accommodations made by the individual following the onset of a disabling condition.
- *Extra-individual factors* pertain to the physical context, as well as the social context, in which the disablement process occurs. Environmental factors relate to the social factors, as well as the physical environmental factors, that bear on the disablement process. These can include medical and rehabilitation services, medications and other therapeutic regimens such as exercise and physical

activity, external supports available in the person's social network, and the physical environment.

The ICF Model of Disability

One of the more recent developments related to models of disability is the development of the International Classification of Functioning, Disability, and Health (ICF) by the World Health Organization in 2001. The ICF is meant to codify a classification of functioning, disability, and health to provide a unified standard international language and framework for the description of health and health-related state. In contrast to the disablement process, the ICF views the concept of disability as an umbrella term and does not provide a single way to determine disability status.

As in the disablement process, the ICF identifies three levels of human function: functioning at the level of body or body parts, the whole person, and the whole person in his or her complete environment. These levels, in turn, contain three aspects of human function: body functions and structures, activities, and participation. The term *disability* is used to denote a decrement at each level (i.e., impairment), an activity limitation, and a participation restriction.

The first component of the ICF model is *body functions and structures*, which are defined as the body's physiological functions. Body structures are organs, limbs, and their components. Impairments are body function or structure difficulties that cause significant deviation or loss.

The ICF defines the *activities* and *participation* concepts as follows: In the context of health experience, activity is an individual executing a task or an action, and activity limitations are difficulties an individual has in executing activities. Participation is participating in a life situation, and participation restrictions are difficulties an individual experiences with life situations.

The ICF framework includes two contextual factors: environmental and personal. *Environmental factors* are defined as a person's physical, social, and attitudinal environment, including subdomains of products and technology, natural environment/human-made environmental changes, support and relationships, attitudes, services, systems, and policies. *Personal factors* are the specific background of an individual's life and are composed of the individual's features that are not a part of a health condition or a health state. Personal factors include gender, race, age, other health conditions, fitness, lifestyle, habits, upbringing, coping styles, social background, past and current experience, character style, and other psychological assets.

Epidemiological Evidence

Much research has been done to identify risk factors for the onset of disability by applying the disablement model. In systematic literature reviews, the greatest strength of evidence for an increased risk of disability or functional limitation has been reported for cognitive impairment, depression, disease burden, increased or decreased body mass index, lower extremity functional limitation, low frequency of social contacts, low level of physical activity, no alcohol use compared with moderate use, poor self-perceived health, smoking, and vision impairment.

Other risk factors, usually related to different chronic diseases, include hypertension,

elevated blood lipids and glucose, low bone density, and alcohol and drug misuse. Research has also shown that certain psychological and psychosocial characteristics, such as poor self-efficacy, coping strategies, depression, and social integration, predict the development of disability.

- impairment
- disability
- pathology
- risk factors
- activities of daily living
- environmental factors
- personal care

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<http://dx.doi.org/10.4135/9781412956208.n64>

See also

- [Activities of Daily Living and Instrumental Activities of Daily Living](#)
- [Assistive Devices](#)
- [Balance](#)
- [Mobility](#)
- [Mobility Assessment](#)

Further Readings and References

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