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# Integrated Disability Management: An Interdisciplinary and Holistic Approach

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## Abstract

This article sets out to increase awareness regarding the wide and universal significance of disability, as well as the important benefits of an Integrated Disability Management (IDM) approach. The scientific basis for IDM is explored in the first place through an analysis of its relationship to the *International Classification of Functioning, Disability and Health* (ICF). The conceptual paradigm of the ICF shares an ideological position with the IDM approach in that they are both underpinned by dynamic and multidimensional constructions of disability, which imply equally holistic and interdisciplinary responses. The IDM approach can be applied across a diversity of human situations to provide solutions that reflect the multifaceted and widespread nature of disability. The IDM approach is intended as a strategy capable of handling: inclusion of people with disabilities, active aging of human resources, health and safety in the workplace, prevention of disabilities and various diseases, return-to-work, absenteeism, and presenteeism.

## Keywords

integrated disability management, interdisciplinary approach, international classification of functioning, people with disabilities, workplace

## Introduction

According to the first *World Report on Disability*, produced by the World Health Organization (WHO, 2011) in partnership with the World Bank, over a billion people, or about 15% of the world's population, are estimated to be living with disability. This percentage is higher than WHO estimates from the 1970s, which suggested a global prevalence of around 10%. The most recent figures show therefore a phenomenon which is certainly not marginal, and is growing.

In the past, disability was erroneously interpreted according to strict and superficial canons, which legitimized a kind of social demarcation, to the point of identifying the “minority group” of people with disabilities as a category opposed and antithetical to the “majority” of the able-bodied. Not only public opinion but unfortunately also many in the business world continue to have a very misguided and reductive vision of disability and disability management (DM).

The WHO (2001) defines disability as “the outcome or result of a complex relationship between an individual's health condition and personal factors, and of the external factors that represent the circumstances in which the individual lives” (p. 17). In accordance with the definition provided by WHO, Article 1 of the Convention on the Rights of Persons With Disabilities (CRPD), adopted by the General Assembly of the United Nations (2006), specifies that “persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction

with various barriers may hinder their full and effective participation in society on an equal basis with others.”

Both international organizations (the WHO and the United Nations) interpret disability as a special “relationship” between a person with a “health condition” (disorder or disease) and “the environment” (in the broad sense). Undoubtedly, this notion of disability is not only more difficult to assimilate, because it is based on a concept of “relativity”, but also much more fascinating to investigate, because it promises new hope and opportunities on the systemic level. In particular, the two definitions mentioned above convey an important message: to reduce disability, it is not enough to focus on the sphere of the individual, but it is necessary to analyze the two subjects of the report, namely, “the individual” and “the environment.”

A corollary to the “relative” notion of disability is the affirmation of a much more operational model, as the room for maneuver for qualitatively and quantitatively reducing the cases of disability increases greatly. In fact, by intervening at the level of “environment”, that is, on one of the two

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terms of the relationship from which disability arises, it is possible to remove or alleviate many causes of disability itself.

Consequently, the preference for an expression such as “persons with disabilities” has not a purely denotative or formal significance, but represents an important conceptual breakthrough on the cultural plane.

Therefore, the aim of this research is to clarify the universal and interdisciplinary dimensions of disability, and consequently, to propose an Integrated Disability Management (IDM) model in the workplace. The interdisciplinary approach is a necessary path to preventing the error of considering DM as an approach with limited scope (Schultz & Gatchel, 2005). An interdisciplinary and multidimensional vision recognizes in disability the character of universality that implies responses that are equally universal as represented in the holistic approach of IDM. The contention is that IDM is not only a matter of justice but also about achieving important benefits in economic and social terms. Therefore, this article aims to disseminate a proper awareness and a responsible culture about disability within the business environment.

The investigation presented here uses a predominantly conceptual and qualitative approach. The article begins with an analysis of the conceptual paradigm of disability according to the WHO classification and proceeds to illustrate legal, philosophical and demographic perspectives. This allows the discovery of a common language and a convergence of messages. Finally, the article describes how the literature has been able to revisit the notion of DM.

## The International Classification of Functioning, Disability, and Health (ICF)

The successful result of an arduous process of interdisciplinary dialogue on disability is testified by the adoption of a universally recognized semantic expression: “people with disabilities.” After a period dominated by ungenerous and reductive terms such as “handicapped” or “impaired”, “dependent” or “non-self-sufficient”, and after a further phase characterized by the spread of terms such as “differently abled people” or “disabled people”, we have come to an era of ideological redemption, where the previous terminologies have given way to more accurate expressions, such as “people with disabilities” or “persons with disabilities.”

Although we do not deny the respectability of terms such as “differently abled people” or “disabled people”, the periphrasis “persons with disabilities” is the term that currently catalyzes the maximum consensus of experts and stakeholders, as it better reflects the most recent cultural progress. The definition of “persons with disabilities” is preferable because it better highlights how disability is not an attribute of the person, but the result of a “bad” interaction

between an individual (with a health condition) and his environment.

This most fruitful expression was adopted and promoted by the ICF, approved by the WHO in 2001. The ICF recognizes functioning and disability as arising from a dynamic interaction between health conditions and contextual factors, both environmental and personal.

The conceptual framework used by the ICF enables the WHO to be consistent with the main definition of health, provided by the WHO since the act of its establishment in 1948. According to the historical, but still current definition, “health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”. Inherent in this definition, never amended since 1948, is a multidimensional meaning of health, understood as a physical, mental, and social condition.

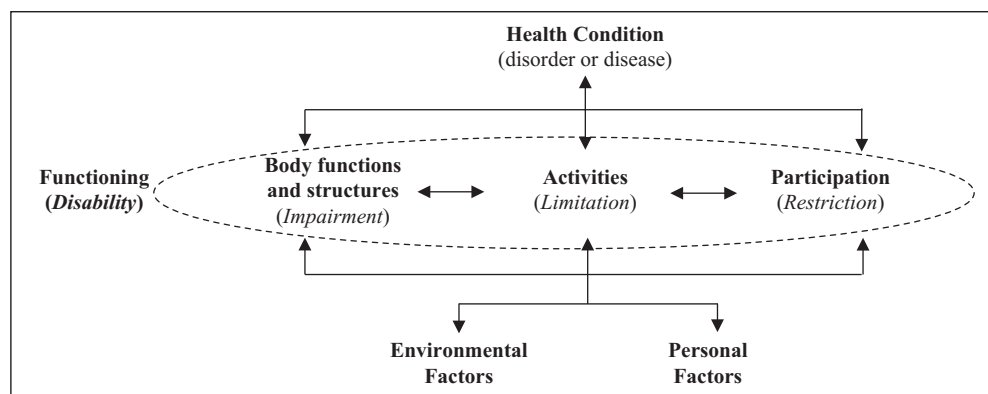
In the ICF, the WHO again makes the point that the well-being of a person depends not only on strictly medical aspects (sight, hearing, speech, memory, movement, etc.) but also on aspects “related” to the health (education, training, employment, mobility, etc.). Adhering strictly to this vision, the WHO analyzes in the ICF the domains of health and the domain “related” to health and presents a comprehensive model where the determinants of well-being are complex systems that can no longer be separated. The ICF offers a multiperspective approach, noted as a “bio-psycho-social” model, because in the cataloging of functioning and disability, the ICF considers not only the biological individual but also his psychological profile and social context.

To avoid semantic confusion, it is important to define the meaning of the main terminology used by the ICF, as the substantial reconstrual of disability is closely intertwined with lexical renewal. In the bio-psycho-social model human health is defined as the interaction of

- body functions and structures*, that is the anatomical and physiological characteristics of the body;
- activities*, that is the ability to perform tasks or actions; and
- participation*, that is the opportunity to participate in social life.

When the functions and structures of the body present problems, that is, a deviation or a significant loss, the term *impairment* is used. When an individual has difficulty in performing tasks and actions, the term *limitation* is used. When an individual experiences difficulty in involvement in life situations, the term *restriction* is used. The *body functions and structures*, *activities*, and *participation* of a person (according to the meanings stated above) are affected by the *health condition* and *contextual factors*; *contextual factors* are in turn classified into *personal factors* and *environmental factors*.

ICF’s *health condition* is an “umbrella” term that indicates the existence of *disease* (acute or chronic), *disorder*,



**Figure 1.** Interactions between the components of the ICF.

Source. Adapted from WHO (2001, p. 18).

Note. ICF = International Classification of Functioning, Disability and Health; WHO = World Health Organization.

*injury, or trauma. Health condition* “may also include other circumstances such as pregnancy, ageing, stress, congenital anomaly, or genetic predisposition” (WHO, 2001, p. 212).

*Environmental factors* “make up the physical, social and attitudinal environment in which people live and conduct their lives” (WHO, 2001, p. 16). These factors are external to the subject and can have a positive (facilitator) or negative (hindering) impact on the functions and structures of the body, on the individual’s ability to perform actions or tasks, and on his participation as a member of society.

*Personal factors* are “the particular background of an individual’s life and living, and comprise features of the individual that are not part of a health condition or health states” (WHO, 2001, p. 17). These factors may include gender, race, age, habits, social background, education, profession, lifestyle, past and current experience, overall behavior pattern and character style, individual psychological assets, and other characteristics, all or any of which may play a role in disability at any level.

In light of the above definitions, it is possible to appreciate more fully the definitions of *functioning* and *disability*, two terms used, respectively, to indicate the positive and negative aspects associated with the condition of health of a person. In particular, *functioning* is an “umbrella” term used for *body functions, body structures, activities, and participation*. According to the WHO (2001), *functioning* “denotes the positive aspects of the interaction between an individual (with a health condition) and that individual’s contextual factors (environmental and personal factors)” (p. 212). Conversely, *disability* is an “umbrella” term used for *impairment of the body functions and structures, for limitations of activity, and for restrictions to participation*. According to the WHO (2001), disability “denotes the negative aspects of the interaction between an individual (with a health condition) and that individual’s contextual factors (environmental and personal factors)” (p. 213). Therefore, *disability* arises from the interaction of *health condition* with *contextual factors (environmental and personal factors)*. In summary, the

ICF makes explicit the process through which disease combines with disability when mechanisms of social support are lacking.

In other words, it is a careless and distracted society that generates situations of disability.

Although it is usually easier from a practical standpoint to intervene at the level of individual, rather than societal environmental factors, interventions at the societal level, such as changing negative and discriminatory attitudes, are often necessary to effect long-term change. (Homa, 2007, p. 282)

The concepts outlined above are shown in Figure 1, which intends to represent dynamically *functioning* and *disability* (WHO, 2001).

The scheme illustrated by Figure 1 is characterized by circular, multidirectional, interactive relationships between the various components. The diagram shows how the *functioning* and *disability* of an individual at the biological, individual, and social level (in the middle block of the model, circled by a dotted line) are an interaction or complex relationship between the *health condition* (at the top of the model) and *environmental* and *personal factors* (at the bottom of the model).

Compared with the past, this change in perspective is radical. The ICF rejects the view that a problem of health must always correspond to a decrease in capacity and performance. In fact, the causal link between *health status* and *disability* occurs when the environmental and social conditions, not adapting to the conditions of health of the person, create obstacles and barriers to the activity and participation of the person.

The cultural shift of the ICF is apparent not only at the conceptual level but also at the terminological level, as some words are abandoned (e.g., *handicap*), while others are reinterpreted (e.g., *disability*). Even the literal composition of the abbreviated title of the international manual emphasizes the desire to go “beyond” the disability. The term “ICF” consists

of the initials of only the first three words (*International Classification of Functioning*), as the instrument aims mainly to analyze the situation of people in positive and neutral language (*functioning*). The acronym, by the way in which it is constructed, leaves no doubt about the extent of its range of application: while previous classifications placed the focus on impairment and focused on a specific population, the new instrument, taking account of health, applies to the entire population and therefore has a universal usability (Leonardi et al., 2006). The paradigm introduced in the ICF is inclusive and universal, so it concerns all people, whether they have a limitation or not.

Moving from a model focused on disease to a model based on functioning, the focus shifts from the medical to the social sphere, from the problems of the individual to features of the context in which he is inserted, from the study of minority to a general map of universal application, from a model causally linear and unidirectional to a multidirectional and interactive process, from an expectation of individual adaptation to a logic of social change.

Thanks to its approach, the ICF proves to be a flexible and versatile tool, with important implications for the medical, educational, social, and economic fields and for research in general. In addition, the variety of demographic and statistical information collected using the ICF as a framework provides political decision makers with a valuable and objective support to guide and rationalize the choices and actions of public interest (Bruyère, Van Looy, & Peterson, 2005; Peterson, 2005).

## The Legal Perspective

The underlying philosophy of the ICF, 5 years after its publication, was happily followed through in the UN CRPD, but with an extension of content. The Convention extends the implications of the ICF, because it deals with disability in the language of “human rights” that is absent in the model of the WHO.

If the ICF adopts a positive-descriptive method, the CRPD takes on a normative-prescriptive approach, listing the “enforceable rights.” The “enforceable rights” are nothing more than human rights, namely, the rights as human beings on the basis of a principle of equality (the right to health, work, school, family, mobility, etc.). In fact, the CRPD does not introduce “new” rights but, as stated in Article 1, is intended “to promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all persons with disabilities, and to promote respect for their inherent dignity.”

To restore this equality, the CRPD, compared with the ICF document, emphasizes three basic concepts: empowerment, diversity, and inclusion.

“Empowerment” is an individual, social, and political process targeted to ensure the full involvement of people with disabilities in decisions and evaluations, avoiding hetero-directed interventions.

“Diversity” is an essential reference for ensuring equal opportunities for all human beings. Only by recognizing diversity, is it possible to understand why people with disabilities require different solutions to perform the normal activities of daily living. Thus, the rights of persons with disabilities are equal to the rights of all others, what is different is the way in which the rights can be effectively exercised.

Finally, “inclusion” is the method that guarantees the full enjoyment of all rights of persons with disabilities, as it presumes that society, respecting human diversity, changes its environmental rules, adapting the organization and the production of goods and services to diversity (Allman, 2013). It is essential that the environment where an individual lives and works is inclusive. Ensuring full accessibility is an essential aspect of the quality of life of all citizens, because only a fully enabling environment can provide all people with equal opportunities to participate in all aspects of life in society. A holistic approach is necessary to satisfy all special needs and to contribute to an inclusive society. Environment is inclusive when all that is designed (the surroundings, the everyday life, culture, and information) is developed considering the concept of Design for All (Martins, Queirós, Cerqueira, Rocha, & Teixeira, 2012). According to the United Nations (2006), “universal design” means

the design of products, environments, programs and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. Universal design shall not exclude assistive devices for particular groups of persons with disabilities where this is needed.

## The Philosophical and Demographic Perspectives

Although it may seem like an uncomfortable truth, disability is part of the human condition and is an ordinary part of the whole human species. Disability is something that touches not just a minority, but can affect anyone, as illness, injury, or simply aging can occur across all human life. Physical and mental vulnerability are conditions that every person, sooner or later, experiences in the course of own existence. As argued by Reynolds (2008), “there is, in the end, no hard-and-fast dualism between ability and disability, but rather a nexus of reciprocity that is based in our vulnerable humanity” (p. 14).

Probably, if more notice had been taken of the Universal Declaration of Human Rights, the UN CRPD would not have been necessary, because the respect of the first could have prevented the need for the second.

This statement is supported by theories of philosophical order, which revisit disability through the canons of justice and “anthropological equality.” Disability, in fact, is an anthropological aspect, a condition of existence that concerns every human being. So, rather than talking about

justice for persons with disabilities, it would be more correct to speak of justice for humans, as disability is one of the aspects of existence.

The conceptual paradigm of the ICF has been anticipated and shared by philosophical thought, particularly by Amartya Sen, founding father of the “capabilities approach”, and continued and elaborated by Martha Nussbaum and Eva Kittay. The “capability approach” is a theory of an interdisciplinary nature, which combines philosophical, economic, social, ethical and political aspects.

With the formulation of the “approach to capability”, Sen intended to build a theory of justice capable of solving the problems of inequality, poverty, and hunger, identifying the criteria for making decisions in the public interest. Although the “capability approach” is a social theory, Sen examined the individual, observed in his capabilities (what he “can” do) and his functioning (what he “is” or “does”). The concept of “capability” is understood as the ability, opportunity, or freedom to do and choose, while the “functioning” represents the option and choice actually made (Sen, 1999). Functioning “is an achievement of a person: what he or she manages to do or be. It reflects, as it were, a part of the ‘state’ of that person” (Sen, 1985, p. 10). Achieving functioning (e.g., being adequately nourished) with a given bundle of commodities (e.g., bread or rice) depends on a range of personal and social factors. Capability reflects a person’s *ability* to achieve a given functioning (“doing” or “being”). Capabilities represent the set of attainable functioning a person can achieve. Particularly, the capability of a person “reflects the alternative combinations of functionings the person can achieve, from which he or she can choose one collection” (Sen, 1993, p. 31).

The approach of Sen is consistent with the configuration of the ICF, as the model envisages two qualifiers for the *activities* and *participation* component: the *performance* qualifier and the *capacity* qualifier. The qualifiers are numeric codes that specify the extent or the magnitude of the functioning or disability, or the extent to which an environmental factor is a facilitator or barrier. The *performance* qualifier describes what an individual does in his or her typical and current environment. The *capacity* qualifier describes the individual’s ability to carry out a task or action in a standardized environment to neutralize the impact of different environments on the abilities of the individual. The difference between *performance* and *capacity* qualifiers enables the identification of environmental support needs.

The “capability approach” allows Mitra (2006) to differentiate between *potential disability*, intended as a “capability deprivation” (i.e., a reduction in the range of practical opportunities) and *actual disability*, intended as “a functioning deprivation” (i.e., a reduction in the valuable doings and beings of the person). Thus, an individual suffering from a motor problem, if he is not helped by other people, does not have the ability to leave his home, but a person with the same problem, if he is supported by others, has the ability and the

freedom to leave the house whenever he wants. In other words, people are not devoid of potential, but rather deprived of potential.

Further comments are not necessary to understand how the thought of Sen is respectful, not to say anticipatory, of the approach embraced by the ICF. In the effort to identify criteria of judgment and action in public policy, Sen considers the need of a set of public actions as the basis for the construction of a more just and less disabled society. Again, even from a philosophical perspective, we arrive at the same conclusion, which has been well transposed into the legal language of the CRPD: the aim of society and institutions is the removal of the obstacles preventing the full realization of each person.

An individual can get a potentially disabling impairment or chronic condition at any point in life. Disability is part of human experience, and an impairment or condition does not define individuals, their health, or their talents and abilities. Over their life spans, the majority of people will experience impairment or will have family members who do so.

People may not realize it, but the support that they give today for policies that affect future funding for disability-related programs is a statement about the level of support that they can expect at later stages in their own lives. (Yee & Breslin, 2010, pp. 256-257)

According to the Communication of European Commission (2010), one in six people in the European Union (EU) has a disability that ranges from mild to severe, amounting to around 80 million people who are often prevented from taking part fully in society and the economy because of environmental and attitudinal barriers. According to estimates by the U.S. Census Bureau, in the United States approximately 56.7 million people (18.7%) of the 303.9 million in the civilian noninstitutionalized population had a disability in 2010 (Brault, 2012).

But disability, as never before, is a phenomenon that deserves attention for demographic reasons, as can be inferred from the statistics on the elderly and youth. With reference to the elderly population, especially in Europe, a gradual increase in life expectancy is well known, but there is therefore also a progressive increase in persons who grow old with impairments. With reference to young people, according to Stengård and Appelqvist-Schmidlechner (2010), worldwide up to 20% of children and adolescents suffer from disabling mental health problems.

The picture of disability is significantly influenced by data on workers suffering from stress conditions. Stress at work is common throughout Europe. In surveys carried out every 5 years by the European Foundation for the Improvement of Living and Working Conditions (2007), respondents name stress as the second most common threat posed by the working environment. Only musculoskeletal problems are seen as more likely to damage workers’ health.

According to this survey, carried out in 2005 in all Member States, work-related stress was experienced by an average 22% of working Europeans, and managing stress, according to the ICF, is a “function” that can result in disability.

Therefore, as specified in the bio-psycho-social model of the ICF, the psychological condition is another crucial factor not only to understand, but also to overcome, disability. In fact, there are not only challenges to be met regarding physical and functional limitations but also, importantly, problems to be faced in a person’s participation within his or her physical and psychosocial environment (Murphy & Young, 2005; Murphy, Young, Brown, & King, 2003).

In addition, we should never forget that behind a person with a disability there is almost always a family, and that is a core of people who directly or indirectly, actually or psychologically, suffer or share the hardships of their relative with a disability.

The above considerations should make us reflect on the not-at-all marginal character of disability, traditionally underestimated through misinformation or opportunism. To argue that disability is a phenomenon that touches a modest percentage of the population is a statement not only intellectually dishonest and scientifically wrong but also economically and socially dangerous, because it prevents and postpones the development of policies and responsible interventions.

## IDM in the Workplace

Akabas, Gates, and Galvin (1992) defined “disability management” as

a workplace prevention and remediation strategy that seeks to prevent disability from occurring or, lacking that, to intervene early following the onset of disability, using coordinated, cost-conscious, quality rehabilitation service that reflects an organizational commitment to continued employment of those experiencing functional work limitations. (p. 1)

According to Rieth, Ahrens, and Cummings (1995), IDM rests on three levels of prevention: *primary prevention* of disabilities, intended to prevent on the job and off the job disabilities; *secondary prevention*, intended to minimize the impact and cost of disabilities; and *tertiary prevention*, intended to encourage rehabilitation and return-to-work. The IDM is a model that integrates protection from work hazards and efforts to promote improvement in personal health behaviors.

Although notions of IDM are not always identical, the most advanced definitions “address the wide range of benefit plans that are offered to employees. These benefits generally include group health, workers’ compensation (WC), short-term disability (STD), long-term disability (LTD), employee assistance programs (EAP), and other wage replacement programs” (Calkins, Lui, & Wood, 2000, p. 33). Therefore, the

IDM approach implies that health care and return-to-work services are provided in a consistent and coordinated manner, regardless of the etiology or time of occurrence of the health problem (i.e., home or worksite, weekend or workday).

The advantages of the IDM model result from increased efficiency, reduced duplication of services, and improved communication among service providers. Indeed, as noted by Calkins et al. (2000), cost savings are much greater when IDM program elements are fully integrated.

The IDM approach suggests a single management system for occupational (workers’ compensation) and nonoccupational (sick leave, short-term disability [STD], long-term disability [LTD]) disability (Douglas, 2000; Scott, 2003). Within this framework and approach, any number of specific health risks (e.g., physical inactivity, poor nutrition, tobacco use, stress, depression), conditions (e.g., obesity, musculoskeletal disorders, mental health), and diseases (e.g., heart disease and stroke, high blood pressure, diabetes, high cholesterol, cancer, arthritis) can be addressed.

According to Disability Management Employer Coalition (DMEC; 2012b), IDM combines various components of DM to achieve administrative efficiencies for the employer and a better customer experience for the employee. IDM includes typical programs such as STD, LTD, workers’ compensation, and family medical leave (FML). Companies with integrated programs have been especially successful in cutting costs and effectively returning their employees to full productivity.

On the contrary, by using the management of disability plans in a “non-integrated” manner, “sick leave, worker compensation, STD, and LTD plans are managed separately and in an uncoordinated manner. The result is ‘siloes’ plan management and short-sighted cost management” (McMahon et al., 2002, p. 14). Unfortunately, in most cases, services are still provided specifically for subgroups of people with disabilities rather than being integrated into programs meant for a more diverse population. Furthermore, some programs serve a relatively small number of people with disabilities, thereby raising the question of how the program or elements of the program can be expanded or replicated effectively to provide services to more people across organizations.

DM in the workplaces is an expanding field of investigation. DM has evolved over the years, with increased attention to issues such as safety, prevention, health, wellness, disease management, presenteeism, and absenteeism (Rosenthal, Hursh, Lui, Isom, & Sasson, 2007; Shrey, Hursh, Gallina, Slinn, & White, 2006).

Integration affords greater oversight into employee patterns, major causes for lost time, durations of absences, and the overall costs of absences. It is not by chance that, in the United States, a multifaceted approach is required by the Certification of Disability Management Specialists Commission (CDMS Commission). To obtain the certification, candidates have to demonstrate skills that encompass

prevention, early intervention and return-to-work, safety, disease management, and employee wellness. According to the CDMS Commission (2012), candidates for certification must demonstrate knowledge of the following four areas: disability and work interruption case management; workplace intervention for disability prevention; program development, management, and evaluation; and employment leaves and benefits administration (see [www.dmec.org](http://www.dmec.org)). Similar contents characterize the course of study required to obtain the designation of Certified Professional in Disability Management (CPDM), jointly offered by IEA (Insurance Educational Association) and DMEC (see [www.ieatraining.com](http://www.ieatraining.com)).

A similar requirement is also contained in the occupational standards upon which the designation of Certified Disability Management Professional (CDMP) is based. The CDMP designation is an internationally recognized certification accredited by the International Disability Management Standards Council (IDMSC) within 13 countries, namely, Australia, Austria, Belgium, France, Luxembourg, the Netherlands, Canada, Germany, Hong Kong, Ireland, New Zealand, Switzerland, and United Kingdom (see [www.idmsc.org](http://www.idmsc.org)).

Shrey et al. (2006) identified the following common practices among most successful DM programs:

joint labor-management commitment and involvement; early intervention and early return-to-work philosophy; multidisciplinary interventions (e.g., medical, vocational, psychological, ergonomics, engineering); case management/case coordination; effective disability prevention strategies; employee education and involvement; utilization of employer-based and community resources; supportive policies and procedures to facilitate accommodations and jobsite modifications; system that ensures accountability of all parties; management information system for program evaluation. (p. 58)

According to La Torre et al. (2009), the universal key success factors for DM are injury prevention and safety programs, health promotion and wellness programs, early intervention and return to work plans, benefit programs design, internal and external communication system, education, worksite accommodations, transition work options, and identification of key worksite personnel. All these factors need to be put into practice together to achieve good DM.

This more comprehensive “lifestyle” approach, that considers different interventions as a group, clearly reflects the philosophical viewpoint of the ICF according to which persons with disabilities are fully capable of experiencing a good quality of life. In this regard, the literature provides supportive evidence of the positive impact of health promotion/wellness interventions for people with chronic and disabling conditions (Stuifbergen, Morris, Jung, Pierini, & Morgan, 2010).

The usefulness of this integration has been well documented also by Marinescu (2007), who described the benefits of the so-called “health and productivity management”

(HPM) model. The HPM model applies an integrated approach to manage health risks. It includes delivery of multiple services, such as health promotion initiatives, health care benefits, STD and LTD, workers’ compensation, employee assistance, paid sick leave, occupational safety programs, as well as other activities aimed at improving workers’ morale, reducing turnover, and increasing productivity at work. As supported by evidence, corporations using integrated programs have achieved better health outcomes for their employees with consequent positive outcomes in terms of increased productivity and decreased absenteeism (Marinescu, 2007).

Furthermore, Ozminkowski et al. (2002), analyzing the wide health and wellness program adopted by Johnson & Johnson’s company, concluded that a large-scale and comprehensive health promotion program has the ability to positively impact the health and well-being of workers and leads to decreased LTD.

The success of IDM programs has consistently been measured in terms of cost containment, administrative efficiency, lower administrative costs/premiums, and reduced complexity of benefit systems for the employer. Moreover, other significant advantages are associated with improved employee health and safety and, therefore, improved morale and satisfaction of workers (Calkins et al., 2000; Harder, McHugh, Wagner, & Harder, 2006).

Therefore, companies that operate worksite DM programs benefit not only from savings in direct costs but also from indirect costs, including the potential to reduce disability insurance premiums thanks to a reduction in overall employee disability claims or in the average length of those claims (Hargrave, Hiatt, Alexander, & Shaffer, 2008; Kuhnen, Burch, Shenolikar, & Joy, 2009).

Further, as employee absences are reduced, there is less need for overtime hours from other workers, which not only decreases those wage-related costs but could also prevent injuries among employees who are fatigued or face physical stress because of increased work hours. Additional indirect costs may include any lost productivity, costs associated with hiring and training new workers, overtime pay, and potential long-term increases in disability or health care benefit premiums. (Hursh & Lui, 2003, p. 48)

Only IDM, with a broader view than the traditional model, provides stability of the workforce and, therefore, better performance for the company. In addition, the policy of IDM can be used at the level of communication and marketing to win new customers, new suppliers, and new partners. In fact, the growing public attention to the issues of health accentuates the level of ethical maturity of all stakeholders, increasingly willing to reward by responsible choices those organizations that invest in health and safety.

The premise of IDM, based on scientific research and practical experience in the field, is that comprehensive policies taking into account the work environment (physical and



organizational), while also addressing the personal health risks of individuals, are more effective in preventing disease and promoting health and safety than each approach taken separately.

Obviously, the effectiveness of an IDM approach depends on the ability of organizations to execute a carefully designed and managed program. The program should promptly and continually analyze the status and trends of claims to reduce their duration and frequency. Organizations should also encourage open communication among the medical providers, employer, employee, and insurance company to facilitate returning of employees to work (Balsley & Dell, 2004).

“To maximize their physical and mental health, functioning, and wellness, persons with disabilities need ready access to appropriate preventive, diagnostic, therapeutic, rehabilitative, and supportive health care services and assistive technologies” (Iezzoni & Long-Bellil, 2012, p. 136). Undoubtedly, comprehensive care for many persons with disabilities can require interdisciplinary coordination and an integrated team of diverse health professionals. But the personal, vocational, and societal fulfillment of people with disabilities requires not only an appropriate medical or clinical care system but also effective nonhealth care services, such as vocational, housing, transportation, technological, educational, cultural, and social services, and these services must be delivered in an acceptable, effective, and timely manner (Lawthers, Pransky, Peterson, & Himmelstein, 2003).

An optimal approach to workplace health management requires the concerted action of various professional and social partners at work. In Europe, workplace health services use the skills of many professionals such as physicians, safety engineers, occupational health physicians, industrial hygienists, occupational health nurses, ergonomists, physiotherapists, counselors, occupational therapists, middle-grade safety experts, laboratory technicians, work organization specialists, psychologists, health economists, academic researchers, and other specialists (Whitaker & Baranski, 2001). In addition, Sloan, Winkler, and Callaway (2004) underline the important role of integration within the community to reduce disability.

### **Prevention**

Moreover, IDM requires a climate of collaboration, consensus, and interactions within a diverse group (employers, employee/employee’s representatives, insurers, service providers) to prevent diseases, promote healthy workplaces, and to obtain satisfaction with return-to-work (Murphy & Young, 2006; Young et al., 2005). This collaboration is crucial for disability prevention, return-to-work, and job accommodations required by the characteristics (including age) of workers (Harder, Hawley, & Stewart, 2010; Shaw & Feuerstein, 2004).

The focus on prevention stems directly from evidence that many of the leading causes of disability and premature death are potentially avoidable or controllable, including most

injuries, many serious acute and chronic conditions, many forms of heart disease, and some cancers. As suggested by an important U.S. federal agency, namely, the National Institute for Occupational Safety and Health (NIOSH; 2012), accident and illness prevention programs are based on protective equipment, proper lighting, ergonomic efficiency, and safety training.

### **Active Aging**

Age is another determinant that changes the individual physically and mentally throughout life (Crawford, Graveling, Cowie, & Dixon, 2010). Population aging is one of the major global challenges of the 21st century. Lower fertility and a reduction in adult mortality, above all in industrial nations, are driving the demographic shift toward an increase in population age, because fewer people are being born and people are living longer. Moreover, to ensure the balance of public accounts in terms of sustainable pension plans, people are obliged to work longer (Organisation for Economic Co-Operation and Development [OECD], 2006). But the ability to fully recover from an injury becomes increasingly difficult with increasing age. The prevention of work-related diseases and the promotion of health and workability are important challenges also for the increasing aging workforce (Marshall & Altpeter, 2005; McDermott, Kazi, Munir, & Haslam, 2010; Ney, 2005; Walker, 2002). Therefore, employers must take action to ensure older people are retained in suitable occupations. This goal requires improved understanding of capabilities, abilities, and needs of older workers (Ross, 2010). Moreover, the promotion of work ability enables older workers to remain employed and injury free (Schwatka, Butler, & Rosecrance, 2012).

### **Presenteeism**

Illness and injury-related absences do not stand alone in the workplace. Presenteeism is also one of the most frequent reasons for reduced productivity and could be counteracted by an IDM approach (DMEC, 2008; La Torre et al., 2009). Presenteeism is defined as “the problem of workers being on the job, but, because of illness or other medical conditions, not fully functioning” (Hemp, 2004, p. 49). Research on the impact of presenteeism is mainly focused on productivity loss due to chronic conditions such as allergies, arthritis, depression, diabetes, and infectious illnesses (McGraw, 2000; Schultz & Edington, 2007; Widera, Chang, & Chen, 2010). For example, employees suffering from seasonal allergies are often obliged to take sedating antihistamines to be able to go to work; as a consequence, they may experience side effects such as drowsiness that can have a negative impact on productivity or, even worse, a workplace injury.

Companies can take the initiative of informing employees as allergy season approaches about the various prescription drugs

that can be prescribed by a physician, which do not cause drowsiness. The return on this investment in prevention is a safer and healthier workplace. (Hursh & Lui, 2003, p. 52)

Goetzel et al. (2004), through an analysis of economic burden associated with 10 health conditions that commonly affect employees, showed that presenteeism costs are higher than medical costs and represented 18% to 60% of all costs for the 10 conditions. Moreover, Stewart, Ricci, and Leotta (2004) reported that more lost productivity costs can be attributed to people still at work, rather than to those absent from work.

### *Mental/Behavioral Health*

Mental conditions, for example, depression, can also potentially affect the employee's physical safety. In the United States, major depression is the leading cause of disability and instigates more than two thirds of suicides each year (Chikotas, Parks, & Olszewski, 2007). Employees, who are worried, stressed, or depressed, may neglect an act of safety that may lead to an injury (DMEC, 2012a). Indeed, working conditions can damage health not only through obvious physical hazards but also through stressful situations. Stressful experiences (linked to working conditions) can damage immune defenses and vital organs (McEwen, 2006). Stressful situations and daily hassles "can include constant challenges posed by work environments in which a person may feel disrespected, intimidated or under constant strain trying to balance the demands of work and family responsibilities with inadequate resources" (Robert Wood Johnson Foundation, 2008). It is known that in the current period of economic turmoil and uncertainty, employers are looking for ways to cut costs and improve returns without large capital outlays. Job insecurity, fear of unemployment, pressures for flexibility in organizations and people, lack of a regular salary, and the potential loss of work ability are all additional sources of stress, even for those in employment (Whitaker & Baranski, 2001). Of increasing concern in Europe is the growing awareness of occupational stress. Recently some worrying figures have been published by the European Agency for Safety and Health at Work (2013). According to a recent report, half of workers in Europe (51%) believe that cases of work-related stress are common in their workplace, and stress, as explained by the WHO (ICF), is conducive to disability.

### *Absenteeism/Return-to-work/Engagement*

Much of disability management rests on one principle: the employee must want to return to work. If employees do not like their job or co-workers and feel little personal satisfaction in the work they do, they have little reason to return to work. Disability management is based on cooperation and not coercion. (Rieth et al., 1995, p. 273)

Therefore, a high level of employee participation is another essential element for success of IDM programs. The

active participation of those who are absent from work is critical to the success of any DM program.

No return-to-work program will succeed with employees who wish to extend disability. No EAP program or behavioral intervention will counter an employee's stress, depression, or substance abuse without engagement on the part of the employee. No amount of ergonomic good intentions will make an employee lift smarter or avoid repetitive stress injury unless he or she is motivated to do so. (DMEC, 2008, p. 22)

To obtain the active cooperation of employees, benefit payments should be linked to the willingness of the beneficiary to cooperate with the responsible authority and to engage in employability-enhancing and, where appropriate, job-search activities. Moreover, some companies encourage employees to play an active role in their health, giving them firsthand access to educational materials and seminars, ergonomic evaluations, nutrition counseling, fitness clubs, health screenings, and vaccinations to battle current health care issues and future risks.

To achieve the goal of employee involvement, Levy and Wegman (2000) suggested the empowerment of employees or learning techniques in educating workers about health and safety issues. In fact, barriers are often best overcome through involving the participants in coming up with solutions. It is important to ensure that employees are not just recipients of services but are engaged actively in identifying relevant health and safety issues and contributing to program design and implementation. Participation in the development, implementation, and evaluation of IDM is usually the most effective strategy for changing culture, behavior, and systems.

Actively involving workers in IDM programs is essential because they have the most intimate knowledge about work processes and potential hazards in the workplace. Involving them in all steps of program development increases the likelihood of success in preventing occupational injuries and diseases (Levy & Wegman, 2000).

In fact, the workplace influences individual health, not only by exposing individual to physical conditions that have health effects but also by providing a setting where healthy activities and behaviors can be promoted. Environmental factors have an obvious role in the development of personal factors. Individuals cannot change behavior when environmental barriers prevent them from making modifications. They are also less likely to change behavior when environmental contexts make change difficult (Ravesloot et al., 2011). These statements suggest that open and accessible environments play an important role in facilitating positive health behavior change among people with disabilities, because with appropriate environmental supports (e.g., support person, appropriate written materials) self-efficacy may be increased. In addition to features of worksites, the nature of the work and how it is organized can also affect the physical and mental health of an individual.

Work is a major source of physical and psychological well-being and there is much evidence that links work absence with increased risk of psychological dysfunction. Chapman (2012) demonstrated that workplace health promotion results in significant reductions in sick leave, health plan costs, and disability costs. The evidence also indicated that corporate cultures that are responsive to the needs of all employees are especially beneficial for employees with disabilities (Schur, Kruse, Blasi, & Blanck, 2009). Work is often therapeutic and can help to promote recovery and rehabilitation (Waddel & Burton, 2006). In addition, work can provide a sense of identity, social status and purpose in life, as well as social support. It is not simply that work affects health but also that health affects work. Good health is often essential for employment. Lack of employment among those who have health problems can cause further economic and social disadvantage because of fewer resources and opportunities to improve health, perpetuating a vicious cycle (Robert Wood Johnson Foundation, 2008).

### *Accommodations*

Proactive efforts on the part of employers toward people with disabilities include compliance with “reasonable accommodation” requirements. According to the United Nations (2006), reasonable accommodation means

necessary and appropriate modification and adjustments not imposing a disproportionate or undue burden, where needed in a particular case, to ensure to persons with disabilities the enjoyment or exercise on an equal basis with others of all human rights and fundamental freedoms.

Techniques that would constitute reasonable accommodations include: physical or structural changes to make a workplace accessible, modification or acquisition of equipment to enable individual with a disability to perform a job, and restructuring a job (Rieth et al., 1995). Evidence shows that employers may benefit from implementing accommodations to retain current employees, rather than hiring new workers. About half of all implemented accommodations have either very little or no cost, and show a high cost-effectiveness when indirect benefits (e.g., not having to hire and retrain workers) are calculated (Schreuer, Myhill, Aratan-Bergman, Samant, & Blanck, 2009). Reasonable disability accommodation includes acquisition and modification of equipment and devices, as well as any necessary training. These devices and equipment are collectively known as “assistive technologies” (AT), intended as services or products that enable independence (Stead, 2002). AT includes, for example, special keyboards, screen-readers, voice-synthesis equipment, as well as vibrating cellular phones and speakerphones (Butterfield & Ramseur, 2004; Inge, Strobel, Wehman, Todd, & Targett, 2000; Inge, Wehman, Strobel, Powell, & Todd, 1998; Jakovljevic & Buckley, 2011; Schneider, 1999).

Accommodations are not only valuable for their role in improving employment participation rates for people with disabilities (and the subsequent benefits to personal well-being) but also for their potential relationship with job satisfaction (Hogan, Mon Kyaw-Myint, Harris, & Denronden, 2012). An organization’s ability to adapt workstations or implement measures or programs to facilitate the integration of persons with disabilities may be limited by financial factors or even by its corporate philosophy, which usually reflects the organization’s values (Barrette, Garcia, & Laroche, 2002).

### *Employer Incentives and Strategy*

Successful programs reflect an understanding that the interrelationships between work and health are complex. Programs should have sufficient flexibility to assure responsiveness to changing workforce and market conditions. Organizations should provide a range of return to work options (e.g., adapted work, part-time work, redeployment, retraining) for individuals who contract chronic illness (European Foundation for the Improvement of Living and Working Conditions, 2004).

The goal of job retention raises the issue of whether policy should focus on keeping workers in work, building on the existing employer–employee relationship, or bringing inactive job seekers into the labor force. Particularly, policy makers face a key challenge: implementing measures that promote job retention among people with reduced work capacity, without simultaneously discouraging the hiring of new workers with reduced work capacity, a chronic health problem, or a disability (OECD, 2010). In fact, there is an inherent dilemma: strengthened retention requirements and financial incentives for employers can quickly turn into an obstacle against hiring job seekers. There is no straightforward solution to this problem and governments need to be aware of the risks, trying to provide a balanced set of supports to stimulate labor demand through job retention and new hiring. To stimulate more hiring of people with disabilities, and to avoid strengthened job-retention obligations and incentives leading to falling recruitment of people health problems, employers need compensation. In this regard, subsidies for employers can play a crucial role. For example, to mitigate the hiring disincentive, the Netherlands introduced additional mechanisms to stimulate labor demand, such as a “no-risk policy” and a “premium discount.” These two tools effectively absolve employers of a significant part or all of the obligations that arise when taking on a person at higher risk of sickness. The no-risk policy, introduced in 2003, removes the usual obligation of employers in the Netherlands for paying sickness benefits for up to 2 years of illness for employees with disabilities who are absent from work. Instead, the employee insurance covers these costs. Disability premium discounts are also available when employers hire these types of workers. In addition, by hiring a person aged

at least 50 years or keeping an employee older than 54.5 (i.e., older persons at high risk of entering disability schemes as a form of early retirement), employers earn an additional financial advantage, because they do not pay the basic disability premium for these workers (OECD, 2010).

From a more general point of view, the scope of IDM should not be underestimated. DM is not solely about preventing the exit of employees due to health conditions, aging, and other factors associated with disability. Particularly, the IDM approach can also encourage the hiring of new employees with disabilities, as shown by the findings from a survey designed to assess the practices that were conducted with employer members of the DMEC. According to this survey, DM professionals “do believe that helping employers build their infrastructure to successfully manage their own employees who develop health issues or become disabled may make employers less fearful and more willing to hire people with known disability” (Habeck, Rachel, Campbell, & Kregel, 2008, p. 12).

IDM is a strategy for achieving equality for persons with disabilities, while improving productivity and reducing the financial costs of disabilities. Based on this evidence, and returning to the theoretical framework of the ICF, it is possible to deduce the benefits and synergies arising from an integrated approach to DM, capable of handling: inclusion of people with disabilities in the strict sense, active aging of human resources, health and safety in the workplace, prevention of disabilities and various diseases, absenteeism, and presenteeism.

It is not difficult to imagine how all these issues share the same basic concern: to prevent the lack of bio-psycho-social well-being of individuals contributing to the workplace phenomena of inefficiency and low productivity and to factors harmful to the health of the company itself. Therefore, all situations in which people who, regardless of etiology, are most vulnerable from a working and social point of view come together under the aegis of IDM. This holistic approach aims to stem the extent of disability, regardless of the underlying cause, promoting health and well-being of workers, personal support, ergonomic solutions, reorganization of processes or structures of businesses, and full accessibility.

Particularly, IDM is useful for managing not only cases of LTD (linked, for example, to a chronic disease) but also cases of STD (linked, for example, to a state of temporary depression or to a pregnancy); cases of pathological disabilities (caused by accidents or illnesses) and cases of physiological disability (related to aging); cases of disability attributable to the (ir)responsibility of enterprises (whose bad ecological awareness determines hazardous weather conditions) or (ir)responsibility of individuals (whose health is damaged by conscious forms of dependence such as smoking); cases of full-blown disease (which results in absenteeism) and cases of undeclared disease (which causes the phenomena of presenteeism); cases of congenital disability (caused by a genetic disease) or cases of disability occurred

(caused by an accident); and cases of actual disability and cases of potential disability (Angeloni, 2011).

These are issues intrinsically linked to each other because, as can be inferred from the ICF framework, they have a common denominator: they can be mitigated, and their effects avoided, through proactive responses including the policies of IDM focused on the environment. Such a holistic approach provides, therefore, a comprehensive framework for dealing with similar cases, avoiding the dispersion of economic resources and the underutilization of human potential. This integration affords greater oversight of employee behavior, the removal of major causes of lost time, the reduction in duration, and the overall costs of absences.

DM strategies can benefit all employees who are at risk of long-term absences and, consequently, social exclusion (European Foundation for the Improvement of Living and Working Conditions, 2004).

The ambition of DM, in its modern sense, is to engage in the workplace in a broad culture of health that goes beyond disability in the strict sense and pursues the “well-being” of all human resources in the workplace. IDM is a valuable tool to deter or change behavior that increases the risk of diseases, to reduce health-related absenteeism, to minimize productivity losses due to presenteeism, to provide preventive and remedial measures for improving workers’ health, to reduce injuries and disability impacts on work ability, to promote early return-to-work, to enhance active aging interventions for older workers, to guarantee to workers a high quality of care, to improve morale of employees, to promote feelings of positivity and loyalty to the management, and to design flexible working processes.

## Conclusion

This article set out to increase awareness regarding the broad and universal significance of disability, as well as the important benefits of IDM, and to describe the ways in which different approaches developed in the medical, legal, and philosophical fields converge in the same direction, to support the application of IDM programs in the workplace.

To explore the scientific basis for IDM, the research began with an analysis of the ICF. The merit of the ICF is to clarify the meaning of disability, defined as the result of a negative “relationship” between an individual with a certain health condition and his environment. The “relative” concept of disability has powerful implications for the scientific community and society: if the disability is caused also by the environment, logic dictates that disability can be eliminated or reduced by working also on the environment. Similar conclusions were drawn by philosophical, legal, and demographic reasoning.

The influence of the environment in increasing or reducing disability evokes a widespread social responsibility, because all (researchers and citizens) can have benefits from, and a role in, ensuring for everyone the highest possible level

of well-being. The collective involvement, however, requires a common and correct language enabling dialogue and understanding between different scholars and the many players in the system.

The ICF has “the potential to provide more systematic assessment of assistive technology and other work accommodations solutions, as well as to specifically identify barriers and facilitators of successful employment for individuals with disabilities” (Homa, 2007, p. 282). By using the approach of the ICF, IDM can be interpreted as a “facilitator” factor aimed at reducing every kind of disability in the workplace.

A rich literature shows that the various “barriers” to the employment and consequent accommodation of people with disabilities arise from a persistent confusion about the definitions, as well as from stereotyping and misconceptions regarding their work abilities. Employers exhibit feelings of discomfort about workers with disabilities, and are reluctant to employ or work with them. Similar feelings of discomfort are also experienced by coworkers not affected by disability (Vezzali & Capozza, 2011). This article attempted to demystify compliance issues, because the literature and the practice demonstrate the sustainability and affordability of an IDM approach, and provided a conceptual and human reference point for employers and employees.

This research underlined the systemic and unitary meaning of disability, which requires answers equally holistic and interdisciplinary. Building an inclusive environment is consistent with a holistic approach and represents an ethical challenge for all planners, administrators, engineers, entrepreneurs, and political leaders (Martins et al., 2012).

Companies that take an integrated approach to DM reap the benefits of paying attention to all disabilities equally, regardless of the cause, and will be rewarded with reduced human and financial costs. The IDM approach has many advantages: it increases cost-efficiency and reduces the duplication of services; it improves communication and increases the ability to measure the health and productivity impact by developing uniform metrics and an integrated database; it minimizes lost time due to illness or injury; it reduces total occupational and nonoccupational health-related costs and increases productivity; it improves health and safety outcomes by providing services that are employee centered; it favors participation of employees in health promotion and safety programs; it improves sustainable development; it reduces employee turnover; and it improves profitability and employee satisfaction. Indeed, management commitment to health and safety might foster a climate of trust and lead to changing health risk behavior.

A comprehensive approach tackles multiple risk factors and health conditions concurrently and recognizes that the interventions and strategies chosen may influence multiple organization levels including individual employee behavior change, organizational culture, and the workplace environment.

“Positive corporate cultures (i.e., the attitudes, policies, and practices of a business and its employees) are important to embrace open communications, goal exploration and sharing, and the employee’s active involvement in the accommodation selection and decision-making process” (Schreuer et al., 2009, p. 158).

Empirical evidence substantiates the idea that occupational contact can change attitudes toward individuals with discernible disabilities. Contact increases tolerance and positive attitudes toward workers with disabilities. Indeed, various studies have shown that educational interventions, sensitivity training, and mentoring programs can be effective in changing beliefs and attitudes about disability (Waterstone & Stein, 2008).

Changing attitudes is an indispensable effort to make the workplace, and through it society at large, more inclusive of individuals with disabilities. This last consideration suggests new directions of research worthy of further investigation: the need to rethink the content of educational programs offered by the university system, providing an opportunity for younger generations to understand and be able to manage disability more effectively.

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