

INSTRUCTIONAL METHODS AND TECHNIQUES

A Multidimensional View of Health

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ABSTRACT **Context:** *Emergence and burgeoning of specialized health care structures have contributed to the diversity in health services. Inadvertently, the separation and resultant independent functioning of health and rehabilitation organizations have impeded opportunities for health care workers to interact with one another. Consequently, providers may lack knowledge on available health services within communities in which they reside. Educational approaches that can assist health professionals improve awareness of services across organizational divides are needed.*

Objectives: *The new International Classification of Functioning Disability and Health (ICF), offers a multidimensional view of health, which can be used in education sessions to increase provider awareness of how health is mediated across health paradigms. This paper explores the conceptual basis of the ICF and its use in promoting a broader view of health essential for treating consumers with complex health problems and enhancing knowledge sharing amongst professionals.*

Methods: *A single case study design is used to demonstrate how the ICF's conceptual framework offers providers a means to promote mutual understanding of differences in health services and to assist them in sharing knowledge on the services provided with others.*

Conclusion: *Conceptually, the ICF can be used as a basis for structuring inter-organizational educational initiatives to increase knowledge sharing amongst organizations and health care workers. In addition, introducing health professionals to a multidimensional view of health can assist them to understand the breadth of health services in the community and to consider a more comprehensive set of health determinants and dimensions in caring for consumers.*

KEYWORDS *ICF, health dimensions, health determinants, health service delivery, health professional education, knowledge sharing.*

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A 40-year-old male fell while walking up a set of concrete stairs; he stubbed his toes, and later developed a gangrenous infection. Over a 2-year time period this healthcare consumer underwent a series of four operations, which involved incremental amputations of his two left toes. After each surgical procedure, the wound would not heal. During this time efforts to find a biological cause for this problem ensued. Several MRI's were conducted, blood work was analyzed and reanalyzed, and a rheumatologist along with an infectious disease specialist were consulted. Additionally, the consumer was offered an international medical consultation whereby a unanimous medical decision was made between Canadian and American surgeons to try casting. The foot was re-casted every 2 weeks for 6 weeks with the aim of maintaining the sterile integrity of the wounds. At the end of treatment the wounds remained open, leaving the consumer to continue to manage with pain medication and support of home care nurses for dressing changes. Out of frustration over the lack of progress and the wait-and-see approach offered by the surgeons, the consumer sought help from others. Together, the consumer and a friend uncovered information on various treatments and alternative approaches used in wound healing. Contacts with two other health services were made. First, the consumer organized a home consultation with a wound-healing specialist, who worked for the same organization as the home care nurses. Immediately, this specialist identified that the sterile gauze used to dress his wounds was proven to foster the growth of bacteria thereby contributing to the lack of closure. New cream and gauze changes were introduced to the treatment regime. Second, the consumer arranged with his family physician to attend a wound-healing clinic offered at a rehabilitation facility. Here, the assessment by a multidisciplinary team elucidated further factors prolonging healing. One of the problems was attributed to the consumer's mobility restriction, in that; he walked using a crutch under his right arm due to the above knee amputation of the right leg. Thus, weight bearing and his gait pattern were directly hindering efforts to heal his left foot. An orthotic shoe specialist designed a temporary shoe to shift weight bearing during gait, which in turn, minimized pressure on the wound. In this facility the consumer was also offered nutritional counseling. He began to take vitamins known to promote better healing. Six months later the wounds were completely healed over. Currently, the consumer uses less pain medication and enjoys improved mobility.

Introduction

Problems, evident in the above narrative regarding the coordination of health and rehabilitation services across organizational divides, are also documented within the health care sector (Scott, 1985; Shortell *et al.*, 1993; Glouberman &

Mintzberg, 2001a,b). Frequently, professionals such as health care workers and rehabilitation providers get caught in the labyrinth of system-related issues while trying to access and coordinate the delivery of services for consumers. Cut backs in health care funding are cited primarily as the basis for problems in accessing services, often masking other issues inherent within a diverse health care system that may also contribute to service delivery problems (Shortell *et al.*, 1993; Young *et al.*, 1998; Glouberman & Mintzberg, 2001a). Some of the other problems associated with synergy issues that contribute to difficulties in knowledge sharing and communication amongst health workers are linked to *goal incompatibility* (Shortell *et al.*, 1993; Glouberman & Mintzberg, 2001a), and *lack of inter-organizational connectivity* (Pascal, 2001). Goal incompatibility essentially results in problems when organizations do not routinely share a common purpose (Walton & Dutton, 1969; McShane, 1998). In a diverse health care system, the intents of organizations and subsequent health goals for consumers vary. As such, this precludes opportunities for professionals to collaborate with each other to solve problems. This lack of connectivity is further compounded by the specialization of services into separate facilities or clinics. Individual clinics operate independently and compete with one another in the delivery of services. Consequently, Leatt *et al.* (2000) and Orridge (2001) suggest that one of the major constraints faced by clinicians in the coordination of services for consumers is the lack of regular opportunities for inter-organizational communications. Subsequently, the lack of knowledge sharing has contributed to efficiency problems in delivering timely services in response to real consumer needs (Shortell *et al.*, 1993; Leatt *et al.*, 2000).

Historically, strategies to remedy service delivery problems have emphasized the *intra-organizational* perspective focusing on the internal coordination among health care teams, clinical processes and administration (Georgopoulos, 1986; Shortell *et al.*, 1993; Gage, 1997; Young *et al.*, 1998; Glouberman & Mintzberg, 2001a). Beyond this, little is known about approaches that address *inter-organizational* problems with connectivity. Thus, this paper examines the potential of a broader view of health, as conceptualized within the International Classification of Functioning, Disability and Health (ICF) (WHO, 2001), for use in promoting knowledge sharing among health care workers on the intents and resources of other organizations across the health services sector.

International Classification of Functioning, Disability and Health (ICF)

The International Classification of Health Function and Disability, (ICF) is the recently revised version of the International Classification of Impairments, Disability and Handicap, (ICIDH-2) (WHO, 1999) approved in May (2001) by the World Health Assembly. The conceptual basis of this classification system

stems from its multidimensional view of health inclusive of the biological, psychological, social and contextual determinants in defining and measuring the health and function status of individuals. More recently, it has been lauded as a model that has conceptually broadened the view of health, disability and function from a predominant biomedical perspective to a bio-psycho-social perspective (Martelli *et al.*, 1998; Post *et al.*, 1999). The need for a bio-psycho-social approach in health care is not new. Over 25 years ago Engel (1977) first encouraged the use of the bio-psycho-social framework for use in psychiatric education and medical centres. He suggested that this model be considered by professionals to explore a wider range of health issues and determinants important to clients. Interestingly, health care organizations have not adopted a common view of health that embodies multiple dimensions and contextual determinants of health. Here, the ICF is examined for its potential in advancing, inter-organizational communications, health service providers' knowledge of the intents and services in other health organizations and the coordination of services.

The ICF is conceptually unique, because it offers a view of health that underscores the importance of various dimensions and multiple determinants that influence the health and function of an individual. In the ICF, health is considered to be *more* than the influence of biological factors. It also includes psychological, social and contextual factors. Furthermore, the ICF offers a holistic understanding of the issues that contribute to health status or health conditions. It considers dimensions of health across the body structure level, the activity level (performance of basic tasks or activities) and at the participation level (engagement in societal roles). Thus, restrictions and barriers to performance of functional activities or roles in which a person engages in the context of their life are also considered to have an influence upon health outcomes and the health recovery process (WHO, 2001). In this paper, the underlying dimensions and determinants in the ICF have been arranged in a framework to depict the spectrum of issues that potentially influence the health and functional status of an individual (see Figure 1). The determinants of health (biological, social, contextual, psychological) and health dimensions (body structures, activity and participation) are organized in two rows in this illustration. In this graphic, the determinants and dimensions are equally distributed and valued and then joined by an inclusive circle to denote the breadth of all relationships that can be considered in evaluating health problems or in mediating health outcomes.

Conceptually, the ICF's expanded view of health has the potential to promote an understanding of the intents and actions of diverse health service organizations across various disciplines. First, the ICF provides an inclusive view of health that brings together all health dimensions and determinants which historically have been addressed independently by organizations. In this sense, it offers a schema for each health service organization to identify the specific dimensions and determinants of health it supports within a broader

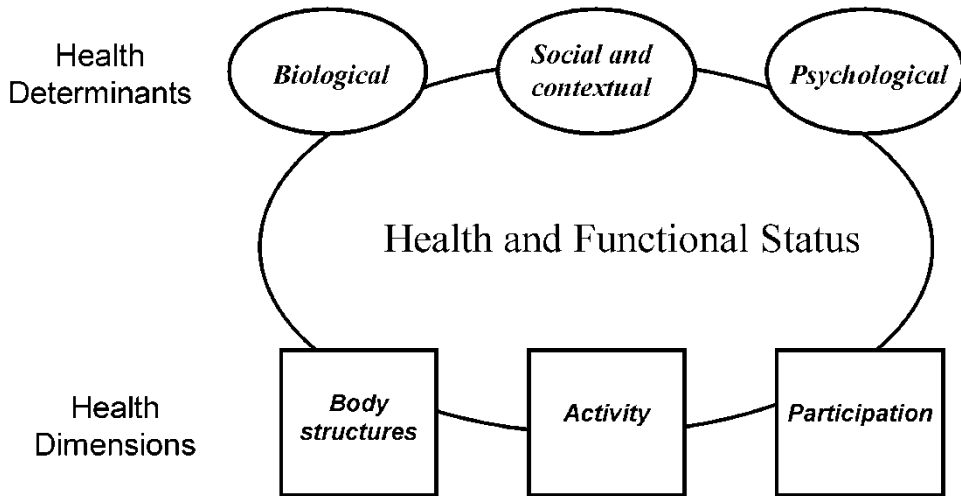


Figure 1. An inclusive view of health based upon the conceptual framework of the ICF.

health perspective. Second, the ICF provides health care providers with a framework that can serve as a heuristic to promote awareness and knowledge of the wide array of issues that can potentially constrain or mediate health outcomes for consumers in a given context. Third, the determinants of health status are value-free where one dimension is not rated as more important than another (WHO, 2001). As such, the multidimensional perspective and value-free nature of this framework both lend support for its plausibility to be universally understood and accepted by health professionals who differ in their approaches to health concerns. To demonstrate the need for and applicability of this model in promoting knowledge sharing activities in health services, the narrative offered at the beginning of this paper is examined using the ICF.

Importance of an inclusive view of health to enable better health outcomes

A consumer's account of his own experiences in getting better (Patton, 1990) were triangulated with medical documentation and participant observation notes. Observations were made and recorded by the first author who attended appointments with the consumer. The salient experiences of this consumer are portrayed in the narrative. Data were analyzed from this case to better understand the actions of health service organizations and the health processes providers used in trying to heal this consumer's wound following the amputation of two toes. Findings from this case were then overlaid onto the conceptual framework of the ICF to highlight these actions. Figure 2

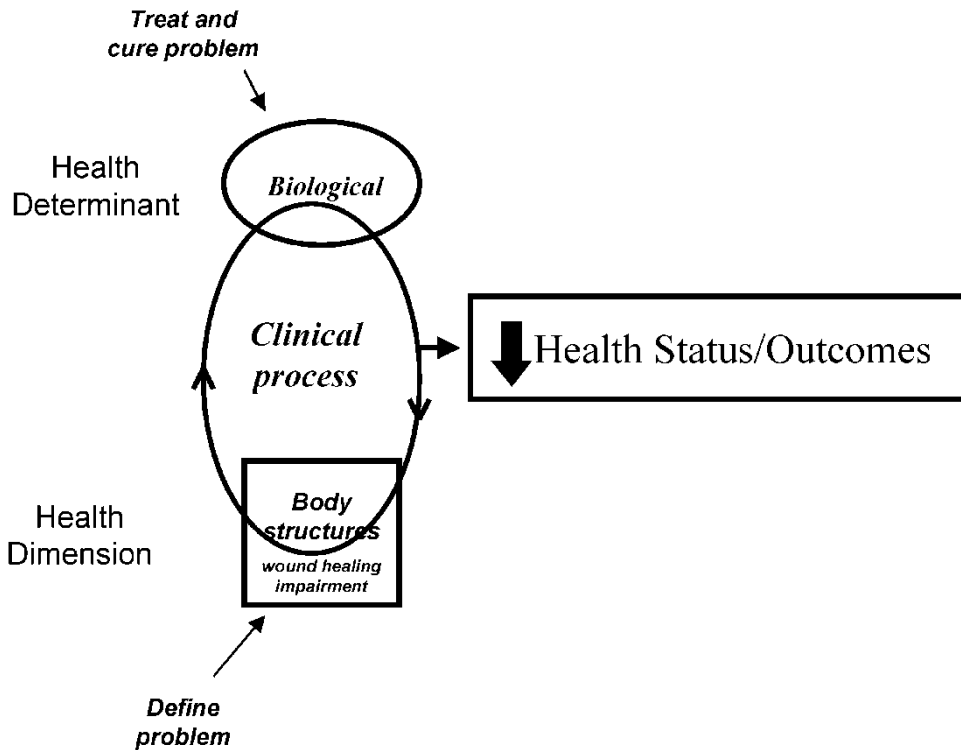


Figure 2. The traditional biomedical approach used to solve complex health problems in Case A.

demonstrates that the primary efforts of the providers (surgical team). This team focused on only one dimension and determinant of health, which led to the failure in treating the wound. For instance, providers sought a biological cause at the cellular or vascular level restricting the healing of the dermis and tissue. The eclipse used in Figure 2 denotes the scope of the health issues considered in defining and treating the consumer's health problems using a biomedical perspective.

This consumer's health problem was perpetuated, not by a biological impairment or cause alone, but by other influencing factors such as functional mobility restrictions (excessive pressure on a wound) and nutritional factors (lack of intake of vitamins that optimize healing). Other factors constraining wound healing were identified when providers from different healthcare organizations considered other health dimensions and determinants. For instance, when the activities the person was performing in the context of his life, such as walking and eating, were found to restrict the healing process. The amelioration of these factors, such as the construction of a specialized shoe, a change in nutritional intake and supplemented with evidenced-based knowledge in the treatment and dressing of wounds, was essential to the client getting better. Figure 3 depicts the important interaction of factors that collectively

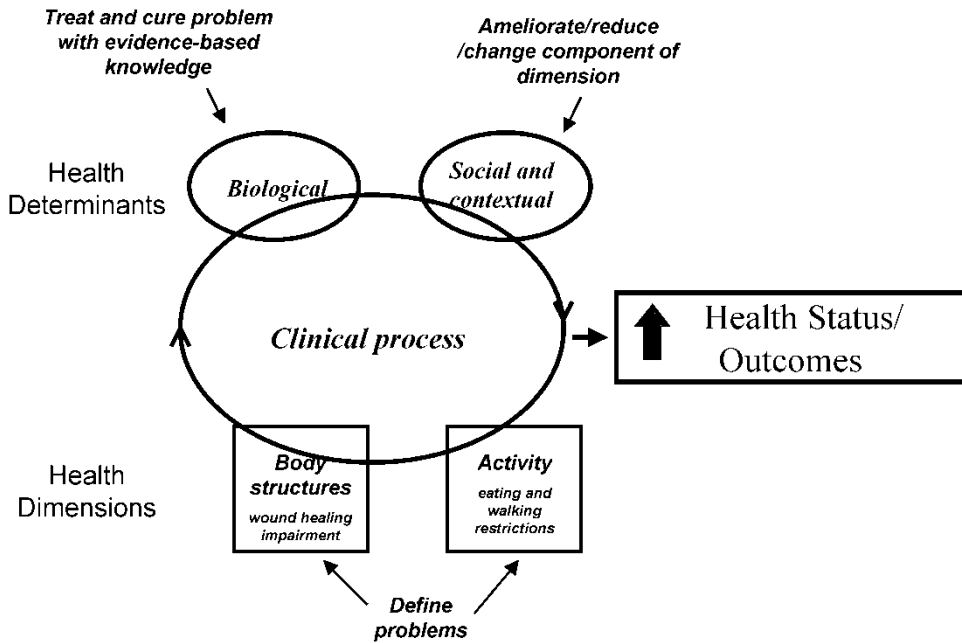


Figure 3. The broader view of health used to solve complex health problems in Case A.

contributed to improve the health outcomes for this consumer. Ultimately, a more inclusive view of health, one that considered the interaction of the performance of daily activities (activity) that were restricting the healing process at the level of the body tissues (body structures), was needed to target strategies to achieve better health outcomes for this consumer.

The examination of this case underscores the importance of using a broader view of health in the identification of problems, interventions and services needed to improve the health and functional outcomes for persons with complex chronic health problems. However, it also points to the lack of provider knowledge and awareness of other types of health services available in a community, which subsequently led to inefficiencies in connecting the consumer to more appropriate services. For instance, the treating surgeons and the community care nurses, when asked, indicated they were not aware of the existence of a wound-healing clinic in a health service institution, located in the same city, that used a more inclusive view of health and offered a comprehensive approach to wound-healing. Gaps in connecting this consumer to the right service can also be attributed, in part, to the predominance of a narrow view of health used in some health care organizations. For instance, had the clinicians involved in this case used a broader view of health in solving the consumer's complex health problems (as depicted in Figure 1) and considered other issues, rather than solely the biological factors, clinicians may have sought knowledge and information to help the consumer sooner. Findings from this study confirm

and support Engel's (1977, 1997) long-term position on the need for primary health care providers to be educated on the merits of enacting a more inclusive view of health when solving patient health concerns. This case also highlights the need to adopt strategies to keep health care providers and organizations apprised of other health services available within specialized health care environments. Education is one approach that can be used to improve health service providers' awareness of the goals and intents of other organizations. The multidimensional view of health, evident in the ICF, offers organizations a universal framework for communicating information on the range of services and strategies used within the healthcare sector to enable better health outcomes.

Implications for knowledge sharing and educational initiatives for health care workers

Challenges, such as a lack of awareness of other health services and the lack of a shared view of health, can be overcome by introducing health care providers to the conceptual framework of the ICF. Applying this framework in education sessions can assist health professionals to gain a deeper appreciation of the array of health factors and the breadth of services that can be considered to help consumers recover. The inclusive view of health, in the ICF, can help organizations understand how they differ from one another by the nature of their focus on body functions or structures, yet, also how they compliment other services needed to achieve the best possible health outcomes for consumers. In addition, the provision of universal terminology offered in the ICF can facilitate communication on health matters across the biomedical, holistic and social domains in which health care professionals work. Incorporating this inclusive view of health and the framework into educational forums at the student and organizational levels to assist health professionals are discussed.

At the student level, incorporating the conceptual framework of the ICF into the undergraduate and graduate curricula for health professionals is needed. By introducing this framework early in the undergraduate level and then integrating the model in health professional training level in solving clinical cases it can prepare students to apply it in practice. In effect, academics can teach students about the conceptual framework of this model of health, and it follows that clinical professors can emphasize the benefits of considering other health determinants by applying it to resolve clinical cases. This multidimensional view of health builds upon the bio-psycho-social model used in medical education (Engel, 1997), in that it offers a more comprehensive understanding of the contextual nature of health concerns and expands the breadth of issues that contribute to health problems. For instance, it opens the door for health professionals to consider how the interplay of personal and contextual factors, such as the lack of involvement in a societal role or lack of

access to basic resources for living may impede the potential of improving health outcomes for clients if issues remain unaddressed. Ultimately for emerging health professionals, this view of health will enable them to identify a broader range of issues for consideration in evaluating the health concerns of the consumers they will serve.

At the organizational level, the multidimensional framework offered in the ICF can be used as a guide in developing information sessions to share knowledge and to enhance awareness amongst health professionals of the various determinants and dimensions targeted in different approaches to health. This schema can be used to identify gaps in provider knowledge of other available health services and specify continuing education needs to fill this void. It is also important for health service organizations to manage efficiencies while achieving highest quality of care in a timely manner. As such, this multidimensional perspective of health can be used as a guide to foster a better understanding of the various services and interventions across organizations. It offers providers a basis for improving inter-organizational communications and to optimize efficiencies in terms of time, by mapping out potential service delivery pathways for consumers with complex health needs. Improvements in coordination of services can lend not only to improved efficiencies but also to reducing the interruption in daily activities of health care consumers experience when waiting to be connected to services.

Conclusion

In summary, this paper has posited the ICF as a potentially viable framework for use in promoting a broader view of health in health services. A multidimensional view used in health care can help professionals consider other determinants to promote better health outcomes and avoid delays that transpired for the consumer in this case study. This ICF framework can also be used in educational programs to enhance health care provider knowledge of the breadth of services and intervention strategies available in the community. Opportunities for using this inclusive view of health in the health care system can be introduced in continuing education forums amongst health service providers and organizations, but it is also needed in health education programs for future health professionals.

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