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## A tool for enhancing strategic health planning: a modeled use of the International Classification of Functioning, Disability and Health

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### SUMMARY

This article describes use of the *International Classification of Functioning, Disability and Health* (ICF) as a tool for strategic planning. The ICF is the international classification system for factors that influence health, including *Body Structures, Body Functions, Activities and Participation and Environmental Factors*. An overview of strategic planning and the ICF are provided. Selected ICF concepts and nomenclature are used to demonstrate its utility in helping develop a classic planning framework, objectives, measures and actions. Some issues and resolutions for applying the ICF are described. Applying the ICF for strategic health planning is an innovative approach that fosters the inclusion of social ecological health determinants and broad populations. If employed from the onset of planning, the ICF can help public health organizations systematically conceptualize, organize and communicate a strategic health plan. This article is a US Government work and is in the public domain in the USA.

### Keywords

health determinants; *International Classification of Functioning Disability and Health* (ICF); public health; strategic planning

### INTRODUCTION

Strategic health plans often target distal health outcomes or specific populations. However, in an era of increased accountability in a constant setting of limited resources, it is important to focus on proximal health determinants, for example, healthy lifestyles and community practices that can have a positive impact across the human lifespan. In the USA, formalized strategic planning methodologies have been used since the early 1920s (Blackerby, 1994). Planning, as realistically as possible, identifies present circumstances and trends that are then used to establish a baseline and project future intended outcomes. Although there are

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many approaches to strategic planning (Bryson, 1988), a typical approach is to specify the organizational mission, vision, goals and objectives in a written outline (Olsen, 2007).

Although commonly employed as a public health activity, strategic planning is fraught with many challenges. Overall, whether the scope is local, regional, state, national or international, public health organizations are fundamentally challenged with developing a plan that addresses the competing needs of general and unique populations. Organizations are challenged with developing specific, measurable, attainable/achievable, relevant and time-bound objectives. Once developed, the greatest challenge then becomes locating sufficient resources to address emerging and sustained health issues both from the aspect of measurement and public health practice. Given these challenges, organizations can benefit from innovative tools that can potentially facilitate strategic planning and implementation such as the WHO: *International Classification of Functioning, Disability and Health* (ICF) (WHO, 2001) for adults and the *International Classification of Functioning, Disability and Health Children & Youth Version* (ICF-CY) (WHO, 2008). Both are searchable on the Web at <http://apps.who.int/classifications/icfbrowser/>. Use of the ICF for strategic health planning, however, is an uncharted area with emerging interests (Sinclair, 2009). In the context of strategic health planning, three ICF features appear to have the most promising application:

1. A systematic scheme with which to organize health concepts.
2. An index of important health determinants — human experiences that may influence health.
3. Alphanumeric codes with which to communicate aligned health concepts, terms, measurements and actions that may or may not be standardized across health fields.

The ICF began as the *International Classification of Impairment, Disability and Health* in 1975 (Pfeiffer, 1998). After many years of field testing, the ICF was released in 2001 as part of the WHO family of classification systems. The ICF is an internationally recognized “authoritative classification system” (Hendershot *et al.*, 2006) that is an extension and companion of the *International Classification of Diseases and Disorders* (ICD) (WHO, 2007). Compared with the ICD, the ICF is a relatively new classification system, and its potential public health applications are still being explored (Bruyère *et al.*, 2005; Jelsma, 2009). Whereas the ICD is a diagnostic index for human diseases and disorders, the ICF is a conceptual index for human experiences (biological, social and ecological) that can influence overall health (Figure 1). Like the ICD, the ICF nomenclature is intended to provide a common health language with which to communicate aligned health concepts (Hendershot and Crews, 2006).

Within the ICF, health concepts are organized and progressively detailed in components, chapters, blocks, codes and qualifiers (Figure 2). Initially, health influences are denoted by a single letter in four large components — *Body Structures* (s), *Body Functions* (f), *Activities and Participation* (d) and *Environmental Factors* (e). Each component is then divided into chapters that are denoted by a number and title, for example, Chapter 7 — *Interpersonal interactions and relationships*. Many chapters further divide into blocks that are denoted by an alphanumeric range and title, for example, block (d730–d779) — *Particular*

*interpersonal relationships*. Blocks divide into unique codes and definitions, for example, code (d750) — *Informal social relationships* is defined as, “entering into relationships with others such as, people living in the same community or residence, co-workers, students, playmates, or others with similar background or profession.” After the code, a point and numerical qualifiers can be added, for example, xxx.0 to further indicate a person’s level of performance and capacity with respect to the specified code. Use of the numerical qualifiers in strategic planning are not discussed in this initial exploration, but they may be useful depending on the details within a strategic plan. From broad to specific, these four ICF levels of nomenclature can be used for concise referencing and are intended to have wide application in public health.

For example, the ICF is applicable worldwide in translated versions that cross the lifespan from childhood to adulthood. The four broad ICF components are useful for framing studies of structure and body function, activity and participation, and environment (Cieza and Stucki, 2005; Morita *et al.*, 2006). ICF codes, when assigned to existing health measures, are useful for the following: (1) classifying the concepts contained in those measures (Granlund *et al.*, 2004); (2) creating “core sets” of information about factors that impact health (Weigl *et al.*, 2004; McIntyre and Tempest, 2007); or (3) aligning metrics from various data sources (Swanson *et al.*, 2003; Hendershot and Crews, 2006). ICF concepts help guide various disciplines, including health surveillance (Swanson *et al.*, 2003), health services (Mayo *et al.*, 2004; Reed *et al.*, 2005) and health promotion (Howard *et al.*, 2008). Even with such demonstrated versatility, the ICF was not originally designed or intended to be a strategic planning tool. The few examples of its use in program planning (Finkelstein, 1989; Morita *et al.*, 2006; O’Donovan *et al.*, 2009) or health policy (Chamie, 1990; Nieuwenhuijsen, 1995) suggest that its application in strategic planning is a promising enhancement to public health. In a step-by-step manner, the following section illustrates how the ICF can be extended to strategic planning,

### **Modeling use of the International Classification of Functioning, Disability and Health to enhance strategic health planning**

**Developing a framework**—As part of the strategic planning process, organizations typically choose an overall planning framework. Because many experiences beyond body structure and function influence health, a broad social–ecological framework was selected for this initial demonstration (Figure 3 step 1). Social–ecological health determinants (SEHDs) are an “array of factors that influence one’s health” to include “aspects of one’s social, economical, physical, cultural, and other environments” (Georgieva and Burazeri, 2005). After a planning framework is selected, the ICF can be applied.

**Developing topic areas**—Within an overall planning framework, it is common to develop topic areas. ICF chapters that relate to the framework can facilitate creating topic areas. For example, the ICF contains eight chapters that relate to SEHDs: component (d): Chapter 7 — *Interpersonal interactions and relationships*, Chapter 8 — *Major life areas* and Chapter 9 — *Community, social, and civic life*; as well as component (e): Chapter 1 — *Products and technology*, Chapter 2 — *Natural environment and human-made changes to environment*, Chapter 3 — *Support and relationship*, Chapter 4 — *Attitudes* and Chapter 5

— *Services, systems and policies* (Figure 3 step 2). Selected ICF chapters that relate to the specified planning framework are displayed as topic areas in Figure 3 step 3.

**Developing objectives**—Within each topic area, objectives can be crafted using specific coded concepts found within the ICF chapters. For example, in Figure 3 step 4, ICF code (d750) — *Informal social relationships*, translates into an objective that might read, “Increase the proportion of people who have sufficient informal social relationships by five percent over five years.” In this example, (d750) is used to specify an objective that can be further operationalized.

**Developing operational measurements**—Measuring objectives is a critical step in planning. ICF code *definitions* can be used to identify measurements for an objective. Figure 3 step 5 models this approach. ICF code (d750) is defined as “entering into relationships with others such as, people living in the same community or residence, co-workers, students, playmates, or others with similar background or profession.” In measurement 1.1a, the definition of (d750) is matched to an *existing* set of questions in the US National Health Interview Survey — Supplement on Aging (DHHS, 1984). In measurement 1.1b, the definition of (d750) is used to phrase new survey questions. Either approach is useful in communicating or developing measures.

**Creating an action plan**—Although strategic planning identifies present circumstances and future outcomes (Blackerby, 1994), projects are needed to help achieve objectives (Jayyousi, 2007). Human experiences that are described in the ICF can be used to help formulate an action plan. Action steps for any single objective may be derived from several ICF codes, not just the code used to develop an objective. In Figure 3 step 6, an action step for objective 1.1 is expressed using ICF block (d350–d369) — *Conversation and use of communication devices and techniques*. Block (d350–d369) contains concepts that focus on starting, sustaining and ending a conversation by means of written, spoken, sign or technologic forms of communication. These concepts are translated into an action step specified as “hosting a community-based intervention or workshop aimed at identifying social opportunities and building communication skills to enhance informal and formal social relationships.” This last step helps identify pathways to implementing a strategic plan.

## DISCUSSION

The ICF offers a systematic classification and standardized nomenclature that can be used to organize, conceptualize and communicate strategic thinking. Specifically, the ICF provides an index of 356 human experiences including environmental interactions that can be used to identify new or existing mechanisms for prevention, a foundational concept and strong premise of strategic health planning. Although the ICF is not a sole source of planning content, it can help build the framework, topics, objectives, measurements and action steps of a strategic health plan.

Specifying a *framework* is an initial planning step that is largely dictated by an organization’s mission, directives or work scope, for example, health promotion (Indian Health Service, 2006), child health (New Mexico, 2003), chronic conditions (New York

State, 2005), housing (HUD, 2010) and health services (Florida Department of Health, 2010). In fact, large organizations may have separate strategic plans framed around various life stages or health conditions. Regardless of the initial framework, to fortify existing strategies aimed at reducing disparities and preventing poor health outcomes, current international and national recommendations call for the inclusion of SEHDs in health plans (Labonté and Schrecker, 2007; CSDH, 2008; Williams *et al.*, 2008). This resounding call suggests that success in preventing or promoting targeted health endpoints can depend on how well health organizations plan to address SEHDs. Because some SEHDs (e.g., transportation and housing) reside outside of health fields, they are not usually addressed in strategic health plans. The ICF however moderates this challenge. As one of its most distinctive strengths in public health, the ICF provides a coded reference tool that is crosscutting in and outside of the health fields. Irrespective of an organization's planning framework, the ICF identifies many health determinants that can be relevant to targeted health endpoints. As a tool, the ICF guides our health understanding in such a way that compliments emerging and existing health planning frameworks.

A single organization is often constrained by priorities and funding streams and cannot address the gamut of potential health determinants in a lifespan. Instead, a plan may highlight priorities in topic areas and objectives using a high-risk or broad population approach (Frohlich and Potvin, 2008). However, a full demographic risk and outcomes lifespan approach is a key aspect of *public* health and strategic planning. Use of the ICF enables planning across the lifespan that focuses on health determinants while being inclusive of all demographic populations, an opportunity that is currently rarely exercised.

Health organizations may struggle with obtaining measures for an objective using either existing or new data sources, a critical step in planning. Without baseline measures, it is impossible to establish expectations or assess improvements. The ICF can be used to code and communicate both existing and new health measures. Using the ICF to code existing health measures is more frequently demonstrated than creating new measures on the basis of the ICF (Bruyère *et al.*, 2005; Jelsma, 2009). In effect, applying ICF codes during a planning exercise would help align and communicate health concepts (e.g., activity limitations) that may have slight variations in measurement throughout a plan. As early discussions ensue about resources needed to obtain measurements, organizations can benefit by also deciding whether to align conceptually similar measurements.

Although, "projects are a means of achieving strategic plans" (Jayyousi, 2007), they are rarely detailed in a written plan. Projects and actions tend to evolve to accommodate the intrinsic dynamics of public health; and different organizations may formulate unique and loosely collective actions targeting a common objective. As a result, actions are more often described in companion documents or action plans (D.C., 2010) that specify process measures, which, when and how actions will be accomplished and who is responsible for specific actions. For each objective within a strategic plan, it is important to identify potential action steps. Using the ICF to code or formulate public health actions is a particularly unusual use of the ICF with few, if any, examples identified in the literature (Bruyère *et al.*, 2005; Jelsma, 2009). Although some existing interventions may code to the ICF, some proposed ICF-based actions may not have evidence of impact and effectiveness.

In that likelihood, an ICF-based action would represent a potentially new health intervention to explore, which should not deter from its overall utility. Although using the ICF to identify potential public health actions is a new concept, it is worth considering given the ICF's index of human experiences and societal influences that can be targeted for an intervention.

### **International Classification of Functioning, Disability and Health planning considerations**

There are several considerations to using the ICF as a planning tool. The ICF does not specify health concepts for any particular demographic population other than children (Ståhl *et al.*, 2010). The ICF cannot help determine if a concept is a major public health issue that merits having an objective. Phrasing a specific, measurable, attainable/achievable, relevant and time-bound objective requires contextual information that is not identified in the ICF; it cannot be used to determine if an objective is realistic (R) nor specify the time frame (T). Although the ICF offers concepts that are applicable to discussions about human experiences that affect health, there are many such experiences that are not expressed in the ICF such as personal will, values, behavioral choices and opportunities, locus of control, expectations or perceptions (Nordenfelt, 2006). The ICF cannot help involve stakeholders or determine if an objective is consistent with programs, regulations, policies or laws. The ICF nomenclature is not necessarily precise, and there are no WHO guidelines for interpreting or aligning the ICF to existing health concepts, especially for the broader ICF concepts such as looking after one's health (d570), human-caused events (e235) and health services, systems and policies (e580). To remediate, there is considerable interest in the development of ICF usage guidelines (AIHW, 2003; Cieza *et al.*, 2005; Reed *et al.*, 2005), and many groups are using a *Delphi* exercise (Weigl *et al.*, 2004; Morita *et al.*, 2006) or other similar independent analyses to reach a consensus to help interpret some of the ICF nomenclature. Such an approach may be borrowed when using the ICF for strategic health planning.

The ICF is designed as a tool to enhance our thinking and communicating in health. It covers a broad range of human experiences across the lifespan that influence health outcomes. Those experiences are codified in the ICF and readily translate into topic areas, objectives, measurements and actions within a strategic health plan. Using the ICF to help encourage strategic thinking and planning is a novel and logical extension of current ICF applications.

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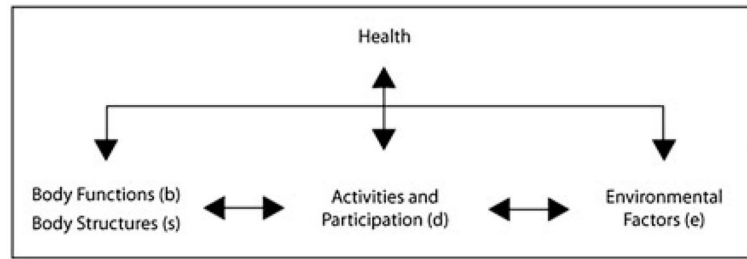
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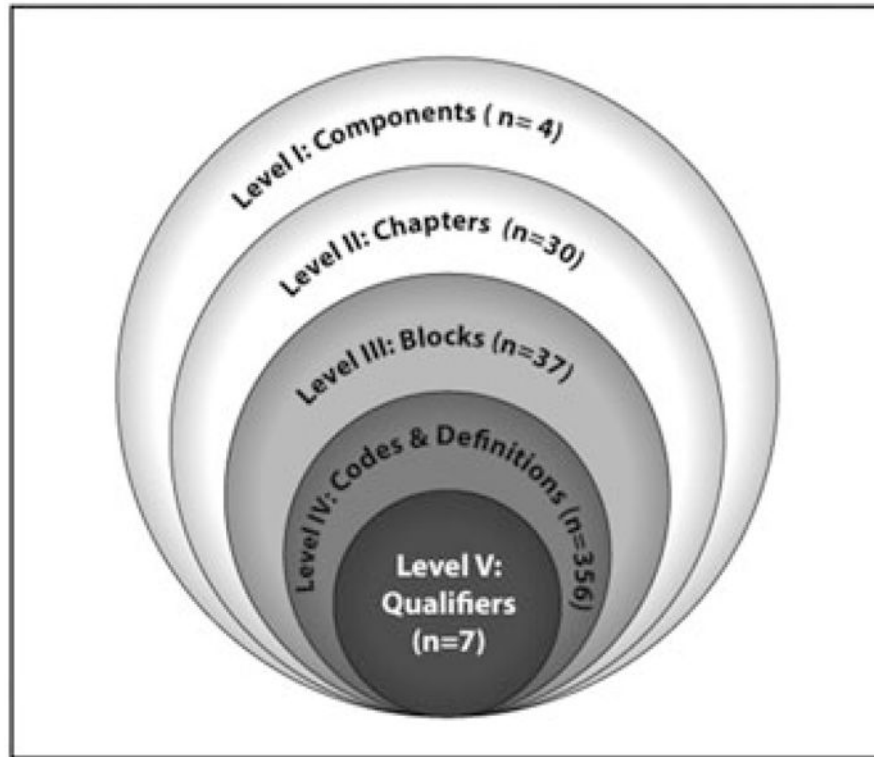
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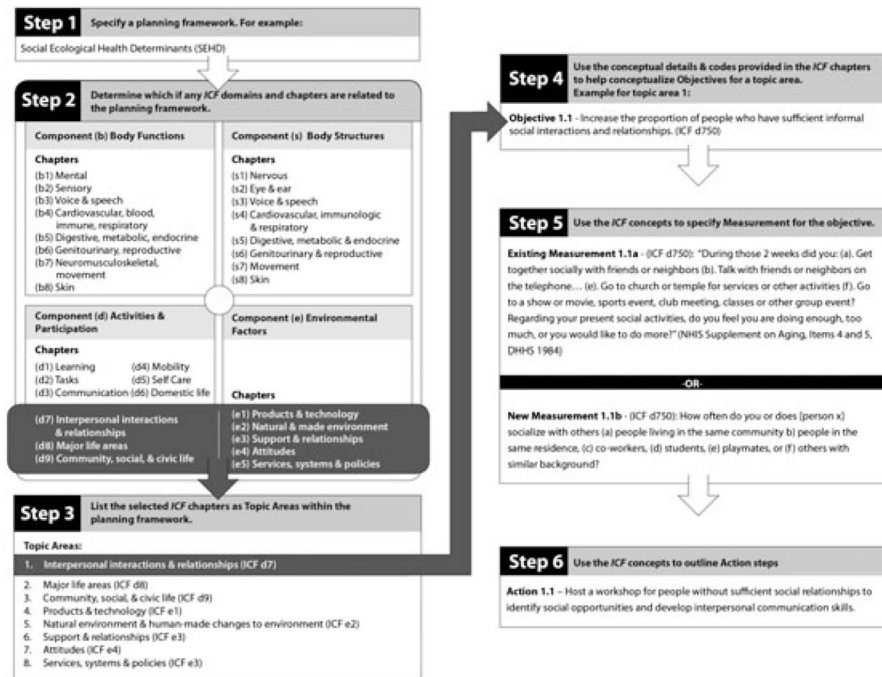




**Figure 1.** International Classification of Functioning, Disability and Health components as health determinants (adapted from the ICF, WHO, 2001)



**Figure 2.** International Classification of Functioning, Disability and Health, a five-level classification system (adapted from the ICF, WHO, 2001)



**Figure 3.** International Classification of Functioning, Disability and Health planning flow chart