

The Human Development Model of Disability, Health and Wellbeing

Abstract This chapter sets the conceptual framework for the book. It introduces a new model, the human development model of disability, health and wellbeing, based on Amartya Sen's capability approach. Disability is defined as a deprivation in terms of functioning and/or capability among persons with health conditions and/or impairments. The human development model highlights in relation to wellbeing the roles of resources, conversion functions, agency, and it uses capabilities and/or functionings as metric for wellbeing. It does not consider impairments/health conditions as individual characteristics; instead, they are themselves determined by resources, structural factors, and personal characteristics, and thus the model is informed by the socioeconomic determinants of health literature. This chapter also compares the human development model to the main disability models used in the literature.

Keywords Disability model · Capability approach · Human development model · ICF · Medical model · Social model

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The notion of disability is enigmatic, even confusing. The term itself 'disability' has negative connotations, which is no surprise given the prefix 'dis' meaning 'absence' or 'negation'. Beyond the everyday semantic

muddle around the term ‘disability’, how it is conceptually defined is also challenging. Researchers have long wrestled with the definition, which is important. This chapter develops a conceptual framework for disability based on Amartya Sen’s capability approach. I call this framework the human development model of disability, health, and wellbeing.

Any discussion of disability or analysis of data on disability is based on one or more models of disability, whether explicitly or implicitly. A model is a conceptual tool that helps make sense of a complex reality and tries to offer a map of the relationships between concepts. It tries to explain and describe a complex phenomenon as part of a coherent framework. A model also clarifies terminology to promote a consistent use. How disability is modeled influences our understanding of its determinants, consequences and how it is measured, and what data is thus relevant. It also influences disability-related policies and programs, how they are designed and operationalized. It also shapes how we respond to people with disabilities, whether family or strangers, in everyday interactions. For the conceptual definition of disability, there is not a universally agreed upon model. There are many models that are currently in use and the differences among them feed lively debates. Several scholars have recently argued that available models have all been developed in, and for, the context of HICs (e.g., Anand [2016](#)).

The human development model proposed in this chapter attempts to address some of the limitations of existing models and is particularly relevant for resource-poor settings. Each model provides a particular lens on disability. In this chapter, I argue that it provides breadth and depth relative to other models: breadth through the range of factors that can affect health conditions, impairments and disabilities, and a broad range of consequences and depth through a consideration of agency, capabilities, resources and conversion factors.

This chapter starts by presenting the capability approach and its applications to disability. I then present the human development model. I later compare it to the main disability models used in the literature.

2.1 THE CAPABILITY APPROACH AND DISABILITY

Martha Nussbaum and Amartya Sen are the two original architects of the capability approach, extended and applied in the past two decades by many scholars in a variety of disciplines to deal with a wide range of issues, poverty, and justice in particular. Sen’s capability approach was

developed as a framework to analyze different concepts in welfare economics including the standard of living, wellbeing, and poverty. Taking the case of the standard of living, it is traditionally measured through the ability to buy commodities. Sen argues that the standard of living encompasses more than this. Under the capability approach, Sen focuses on the type of life that people are able to live, i.e., on their practical opportunities, called capabilities, and on their achievements, called functionings. Sen has used the example of two women starving to contrast the two terms: both women have the same functioning (not being well nourished) but very different capabilities. One has the capability to be well nourished but decided to starve for religious reasons, and the other one does not, due to the inability to purchase enough food.

There has been a rapid growth of the literature on disability and the capability approach in the past decade or so. The capability approach has been used to deal with different disability-related issues by Martha Nussbaum (2006) and Amartya Sen (2009). The capability approach has been considered in how it may respond to the justice demands that may be associated with disability (Nussbaum 2006). It has been used by other scholars on a variety of issues including the philosophical grounding of human rights in relation to disability (Venkatapuram 2014), the evaluation of disability-related policies (e.g. Díaz Ruiz et al. 2015), the challenges that need to be addressed for education to be disability-inclusive (Mutanga and Walker 2015) and comparative assessments of wellbeing across disability status (Mitra et al. 2013; Trani and Cuning 2013; Trani et al. 2015, 2016).

In fact, Sen's capability approach of justice (2009) motivates comparative assessments of wellbeing that may lead to insights on the extent and nature of deprivations experienced by persons with disabilities that have implications for policies and reforms designed to remediate them and thus could be justice enhancing. This ties in with the general message of Sen (2009): 'Justice-enhancing changes or reforms demand comparative assessments, not simply an immaculate identification of *'the just society'* (or *'the just institutions'*)' (emphasis in original) (p. 401).

More related to this chapter, several scholars in philosophy and the social sciences have argued that Amartya Sen's capability approach can be used to define disability as capability or functioning deprivation in general (Burchardt 2004; Mitra 2006; Terzi 2009; Wolff 2009), in the context of education (Terzi 2005a, b), public policy (Trani et al. 2011a), or recovery from psychiatric disorder (Hopper 2007; Wallcraft and Hopper 2015). There is not a single interpretation of the capability approach

with respect to defining disability so this brief summary simplifies some potential differences among scholars. A central idea of this literature is that with a capability approach based conceptualization, whether the individual with an impairment has a disability depends on whether his/her functionings or capabilities are restricted. An impairment is a feature of the individual that may or may not lead to a disability. Another idea is that the deprivations in terms of capabilities or functionings come from the interaction of a variety of factors (personal factors, the environment, and the impairment) and that the ability to convert resources into capabilities and functionings (conversion factors) is particularly relevant and should not be ignored.

2.2 THE HUMAN DEVELOPMENT MODEL

Out of Sen's capability approach, I carve out concepts and normative statements to form the human development model of disability, health, and wellbeing (the 'human development model' for short in what follows). The objective is to provide a conceptual framework to describe and explain health conditions, impairments, disability, their causes as well as their consequences.

This model is also informed by growing evidence on the socio-economic determinants of health from social epidemiology (Marmot 2005). It also draws from the extensive literatures on the capability approach, in general (Robeyns 2005, 2016) and in particular on disability (e.g. Burchardt 2004; Mitra 2006; Terzi 2005a, b) and health (e.g. Hopper 2007; Law and Widdows 2008; Venkatapuram 2011). Of course, it also relies on the literature on disability models (e.g. Patston 2007; Shakespeare 2014; WHO 2001; Albrecht et al. 2001; Barnartt and Altman 2001; Altman 2001). Compared to earlier works on disability, health, and the capability approach, it organizes and maps existing concepts in a new way with the objective to describe and explain health deprivations, their causes and consequences on wellbeing. Unavoidably, then, this means starting from definitions and maps of foundational building blocks.

2.2.1 *Key Concepts and Statements of the Human Development Model*

Functionings and capabilities are the main concepts of the capability approach in general and of this model in particular. Functionings refer

to achievements. ‘Capabilities’ do not have the everyday sense of ‘ability’ and instead refer to ‘practical opportunities’.

Wellbeing in the capability approach includes functionings and capabilities related to one’s own life. It also includes functionings from sympathies (i.e., from helping another person and feeling thus better off). Wellbeing is multidimensional, and the individual’s choices and values are central.

The concept of wellbeing is closely linked to that of human development. Sen considers development to be the process that expands capabilities (Sen 1999; p. 3). This view of development is people-centered. It is referred to as *human development*. It stands in contrast to a more common view focused on the growth of the gross national product. It was championed by Mahbub ul Haq at the United Nations Development Programme who led the Human Development Reports in the early 1990s.¹

Health deprivations include impairments and health conditions, which are defined using WHO’s definitions. An impairment is a ‘problem in bodily function or structure as a significant deviation or loss’ (WHO 2001). For instance, an impairment could be a significant deviation in terms of seeing. A health condition is defined broadly as per WHO (2011; p. 12)²: it may refer to a disease, disorder, symptom, or injury. Using the capability approach’s definition of functioning, health conditions and impairments can be thought about as health functioning deprivations, health deprivations for short. The *capability to be health condition- or impairment-free* is also a notion that is important here.³

Disability is defined as a deprivation in terms of functioning(s) and/or capability(s) among persons with health deprivations. Disability results from the interaction between resources, personal and structural factors, and health deprivations. Disability identifies a specific type of deprivation or disadvantage that might be the target of policies.

Resources refer to goods, services, information owned by, or available to, the individual.

Structural constraints in the environment are included here under *structural factors*. They include the physical environment (e.g., terrain, climate, architecture), the economic environment (e.g., markets), social attitudes, laws and institutions (e.g., home, school and work, services, systems and policies (e.g., transportation, health, and social services)), culture, products, and technology.

Personal factors (e.g. age and sex) may interact with health deprivations in the conversion of resources into wellbeing. For instance, in an environment where women are constrained in their movements outside their homes, a wheelchair will not translate into mobility for women with spinal cord injury.

Conversion functions refer to people's different abilities to convert resources (goods and services) into capabilities and functionings. They are particularly relevant for disability. For example, the same income may lead to very different capability sets for two persons—one without any health deprivation, the other one with—who both live in an environment where medical and rehabilitative care expenses are born by individuals. The affected individual has to spend a significant amount of her income on out-of-pocket health expenditures, while the former does not. Conversion could also be very different for two individuals with the same impairment in two very different environments. Converting a wheelchair into mobility is not going to be efficient in a town with dirt roads and no public transportation, compared to a town where sidewalks are paved and cut and buses are wheelchair accessible.

Human diversity: health deprivations may lead to differences in conversion factors and differences in capability sets and are thus sources of diversity. The capability approach also does not exclude persons with health deprivations from theories (Robeyns 2016) and, in fact, here they are placed at the center of the human development model.

Agency cannot be ignored. Agency is the ability to pursue valued objectives, to act and bring about change (Sen 1999; p. 19). A person without agency is 'forced, oppressed or passive' (Deneulin and Alkire 2009; p. 37). In other words, one has to consider whether an individual is able to act on behalf of what matters to him/her or what he/she 'has reason to value' (Sen 1999). This is particularly important for disability since in some contexts, there are differences in agency experienced by persons with some health conditions or impairments (e.g., severe psychiatric condition (Hopper 2007)).

Means-ends distinction: the ultimate end of the capability approach and the human development model and its applications in particular are to describe, explain, and compare people's functionings and/or capabilities. For the human development model, the focus is on how health deprivations may relate to other dimensions of wellbeing. The end of research or policy initiatives guided by this model is thus to enhance human development, i.e., to expand the functionings/capabilities of

individuals with health deprivations or to expand functionings/capabilities by preventing health deprivations. It affirms flourishing as the end of human development. Resources or structural factors (e.g., healthcare services, assistive devices) and other means may be used to achieve this end but are not ends per se.

This is a normative framework.⁴ It is normative in at least two ways: (i) functionings and/or capabilities are the evaluative space; and (ii) one needs to specify which functionings or capabilities reflect the values of the individuals under consideration or are relevant for a particular exercise and the criteria or reasoning used in making this specification. For example, an analytical exercise to inform policies aimed at improving school access for children with impairments may focus on capabilities or functionings related to school attendance, school progression, interactions with children in the classroom. Relevant structural factors include physical accessibility of buildings, trainings of teachers, and school fees. In contrast, an exercise focused on aging, health conditions, and retirement would obviously lead to a very different set of relevant functionings or capabilities such as access to healthcare and social participation.

2.2.2 *Examples*

To illustrate how this model works, consider the case of Richard, who had polio at the age of six. In a social policy environment where having limited mobility leads to forced institutionalization, he would have to leave behind many valued functionings to go and live in an institution. He would start a life of deprivation in terms of capabilities and functionings. In contrast, think of an environment where individuals are given supports, as needed, to continue to go to the same school and live in the same community and where there are no physical, cultural, political barriers to participation in society. If he could continue to do what he wants to do and be who he wants to be, he would not have a disability, although he has an impairment. These are two extreme and opposite cases above for the same person: a case with no deprivation and a case with deprivations.

Alternatively, it could be a mixed assessment, and it was for Richard, who remained in his community with his family but at the same time faced considerable challenges with inaccessible schools, ridicule from other children, and constrained by his family's inability to raise tuition to attend a school of choice. So in terms of family connectedness, there

was no deprivation, but in terms of schooling, there was. Health deprivations may thus influence some functionings/capabilities but not others: a child could have a deprivation with respect to education but not in terms of where and with whom he can play. Disability thus encapsulates a multidimensional assessment of deprivations, and in this case, it yields a mixed assessment with deprivations in some dimensions but not in others.

Another example may help illustrate that the concept of capability is particularly relevant to disability. A given health deprivation may affect capabilities in different ways given personal and structural factors, while leading to similar functionings. For instance, two older persons with arthritis and limited mobility are not working. One has the capability to work for pay but chooses to retire so as to care for young grandchildren in a three generation household. Her children will work more and earn more after she retires. The second person, on the other hand, does not have the capability to work because based on her age and impairment, no one in her village is willing to hire her. This example illustrates situations where people with similar health deprivations attain a similar functioning (in this case, not working) from vastly different capability sets. Evaluating situations based on capability information may offer very useful insights compared to an assessment of functionings alone.

2.2.3 *Terminology*

While the concept of ‘disability’ under the human development model is important, the label ‘persons with disabilities’ or ‘disabled people’ may be problematic. It refers to persons with impairments or health conditions who are deprived in wellbeing. The dichotomous term ‘disability’ does not sit well with the continuous, multidimensional, and potentially heterogeneous notion of wellbeing and deprivation that this model uses to define disability. Should Richard be considered to have a disability with respect to education but not with respect to family life? The term is also potentially stigmatizing as persons with disability are by definition deprived, and it becomes impossible to convey a neutral or potentially empowering discourse around them. Perhaps paradoxically, then, I’m proposing a model that defines the concept of disability but notes the inadequacy of the term ‘disability’. Later in this book, when I apply this model to an analysis of wellbeing for persons with health deprivations, I will use the precise term for the particular health deprivation under

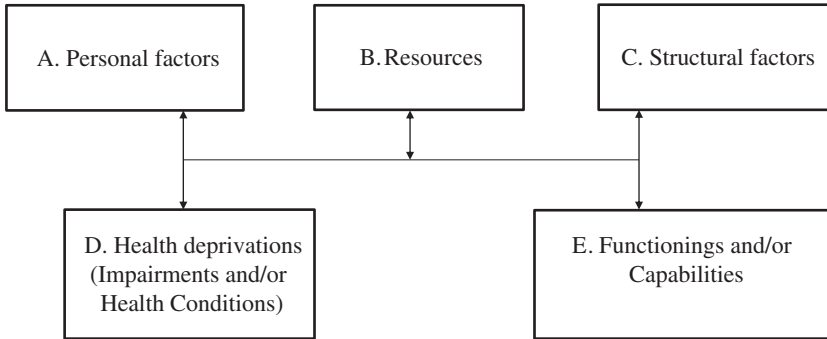


Fig. 2.1 The human development model

consideration, here functional and basic activity difficulties (functional difficulties for short). I will also refer to persons at risk of disability to refer to persons with health deprivations.

2.2.4 Mapping

The human development model emphasizes many potential factors that may influence wellbeing: the personal factors, the resources, and structural factors of the individual. These are represented in Fig. 2.1. Arrows describe possible bidirectional links between different components of the model. *Personal factors* in Box A are individual characteristics. They may include simple demographics such as sex, race/ethnicity, and age. They may also be more complex characteristics such as personality traits. Some are immutable (e.g., date of birth!), others are not (e.g., personal attitudes). *Resources* in Box B include goods, services, and information. They could be owned by the individual herself, or denote resources that she can access through family or community (public goods). *Structural factors* in Box C are broad and cover physical, social, economic, epidemiological, political (and more) aspects of the individual's context. Structural factors refer to characteristics of the environment of the individual: the immediate environment (e.g., family, home, and workplace), the meso-environment (the community), and the macro-environment (regional, national). At each of these levels, structural factors may influence capabilities and functionings.

Going back to the example of Richard, the human development model focuses in part on describing and explaining his capabilities and functionings and his agency. It also considers the conversion of resources, structural, and personal factors into capabilities and functionings. One would need to select the relevant wellbeing dimensions in his case to be able to analyze his situation downstream from his impairment, in other words how his impairment may affect his wellbeing.

The deprivation (or wellbeing) outcomes in Box E in Fig. 2.1 can have one or more dimensions (e.g., social inclusion, political participation, and employment). It could be a health dimension such as mortality, as long as it is different from the health deprivation(s) considered in D. One could even investigate the links between a health condition in D (say diabetes) and an impairment in E (e.g., missing limb).

In earlier analyses of the capability approach for the purpose of defining disability (Burchardt 2004; Mitra 2006; Terzi 2005a, b, 2009; Wolff 2009), the impairment was considered a given characteristic of the person that is part of the conversion factors and thus influences capabilities and functionings. This is different in the human development model which moves the analysis upstream and includes impairments as now separate and unpacked, in that they are influenced by (and may influence) personal factors, resources, structural factors and capabilities/functionings. In addition to the impairment, the model also includes health conditions, which are determined by (and may determine) resources, personal, and structural factors, and wellbeing. This recognizes the broad set of determinants of health conditions and impairments, now well-known in social epidemiology (Marmot 2005).

Going back again to the example of Richard, the human development model questions the determinants of his impairment and provides guidance in this upstream analysis. His impairment may have resulted from a variety of factors, including the extreme poverty setting he was growing up in as he contracted polio. Resources and structural factors are partly responsible for the impairment. For policy, this is useful to know as this could inform prevention interventions in poor communities.

2.2.5 *Characteristics of the Model*

This is an interactional model where wellbeing results from the interaction between the health deprivations, personal factors, resources, and the environment (structural factors). The health deprivation is a necessary,

but not a sufficient, ingredient for a disability. With this definition, not all persons with impairments/health conditions experience disability but all are at risk of disability.

Of course, resources and structural factors may in some cases not be salient determinants of wellbeing outcomes. Disability may be inevitable in a given environment: for instance, given a particular health condition with no cure, the experience of pain and its effects on many dimensions of wellbeing (leisure, work) may be inevitable. Sally French, as reported by Shakespeare (2014), gives the example of a blind teacher who is not able to read nonverbal clues in interactions, hence potentially having difficulties interacting with her students. Some of the deprivations experienced by persons with health deprivations may not be able to be solved by resources or changes in the environment.

The model can be used in a static or dynamic manner. The dynamic lens is important for all components of the model, which may change over time. For instance, a particular health condition such as cancer may have subsided while leaving behind deprivations, perhaps due to the lingering consequences of treatment.

The model does not address what justice demands in terms of correction and compensation for health deprivations and other wellbeing deprivations. This model is restricted to describing and explaining links between health deprivations and wellbeing. However, results of analyses framed in the human development model can be used to demand justice. It may provide supporting materials to mobilize advocacy and policy efforts and demand justice. The model could also be used together with some of the justice claims of the capability approach in relation to disability (e.g. Terzi 2009), health (e.g. Venkatapuram 2011) or wellbeing more broadly (Sen 2009).⁵

Like the broader capability approach, the human development model is flexible and unspecified. The model is open-ended, in that not all dimensions of wellbeing may be specified. Relevant personal factors, resources, and structural factors will also vary depending on the issue under focus. For instance, if the analyst is concerned about employment as a wellbeing outcome for adults, educational attainment would be relevant as a personal factor in many settings. If on the other hand, the focus is on educational attainment, then the latter is no longer a personal factor but becomes a wellbeing outcome—an end, not a means. Unlike in the capability approach in general, this model imposes a structure by separating health deprivations, given that the goal of the model is to analyze them in relation to other aspects of wellbeing.

How does the disability phenomenon change or become any different if one moves to the human development model from another disability model? I try to answer this question below for three major disability models that have been used in social science research. I first summarize these models.

2.3 OTHER DISABILITY MODELS

2.3.1 *The Medical Model*

The medical model (or individual model) considers disability as a problem of the individual that is directly caused by a disease, an injury or other health conditions, and requires prevention interventions or medical care in the form of treatment and rehabilitation. People are disabled on the basis of being unable to function as a ‘normal’ person does. So this model is strongly normative. In the medical model, disability refers to impairment, health condition or an ability to perform an activity in a normal way. It restricts disability to an individual phenomenon. Medical rehabilitation then has an important role to play in bringing the person back or close to the norm. The major concern of the medical model at the political level is to provide healthcare and rehabilitation services. The medical model leads to ‘paternalism, pathologisation and benevolence’ (Goodley 2016). For Richard, the concern under the medical model would be about his access to physical rehabilitation and medical care and his experience would justify a prevention strategy for polio.

2.3.2 *The Social Model*

In contrast, the social model would be focused on Richard’s environment, for instance the physical environment (can he access his school?) or the social/attitudinal environment (does he get discriminated against by his teachers and classmates?). The social model sees disability as a social creation. Within this framing, disability is not the attribute of the individual, but is instead created by the social environment and thus requires social change. The terms ‘impairment’ and ‘disability’ have very different meanings with impairment referring to an individual’s condition and disability referring to social disadvantage, discrimination, and exclusion.

There are several versions of the social model. UK disability activists in the Union of the Physically Impaired Against Segregation (UPIAS)

developed the UK social model. Societal oppression is at the heart of this model (Oliver 1990). The core definition of the British social model comes in the UPIAS document, *Fundamental Principles of Disability*, reported in Oliver (1996; p. 22): ‘In our view, it is society which disables physically impaired people. Disability is something imposed on top of our impairments by the way we are unnecessarily isolated and excluded from full participation in society.’

The minority model is another version of the social model. It was developed in North America by activists and scholars. This version says that persons with disabilities face discrimination and segregation through sensory, attitudinal, cognitive, physical and economic barriers, and their experiences are therefore perceived as similar to those of an oppressed minority group. Social inequalities by disability status are considered as similar to those encountered by other minorities based on race/ethnicity such as ‘extraordinary high rates of unemployment, poverty and welfare dependency; school segregation; inadequate housing and transportation; and exclusion from many public facilities...’ (Hahn 2002; p. 171).

The social model has been very influential in policy. To some extent, it has grounded human rights advances, such as the United Nations CRPD, which has guided disability laws worldwide. The social model born in HICs has recently gained prominence in LMICs. In recent years, it has certainly dominated as a conceptual framework in research at the intersection of disability and development (Coleridge 1993; Stone 1999; Turmusani 2003). For instance, using the social model, Turmusani (2003) advocates a move away from the medical model toward the social model. Disadvantages are viewed as a result of social neglect, oppression and discrimination, and thus unsurprisingly, it considers the environment as the ‘focal point of action’ for a policy agenda on disability (p. 146). Similarly, Amerena and Barron (2007) argue that change is needed to stop ‘the exclusion of disabled people from social, economic, political and community life’ (p. 19).

2.3.3 *The ICF Model*

There are many other models of disability, including several interactional models. One of the most influential interactional models is the International Classification of Functioning, Disability and Health (ICF) developed by the World Health Organization (WHO) and presented below.

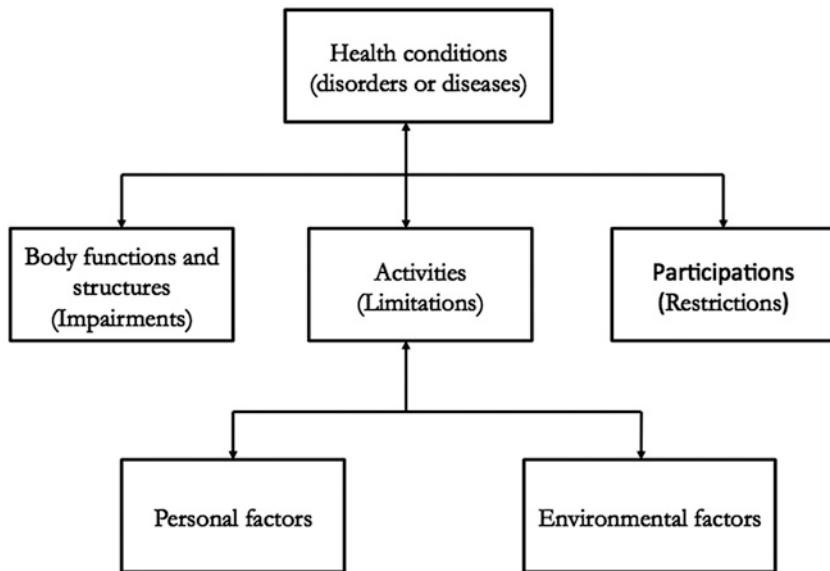


Fig. 2.2 The ICF.

Source: WHO (2001)

The ICF model was developed as a synthesis of the medical and social models to model and classify the consequences of health conditions (WHO 2001). It is a revision of the International Classification of Impairments, Disabilities and Handicaps (ICIDH) (WHO 1980). It was developed by WHO as part of its mandate to collect information about the health of populations worldwide.

Briefly, under the ICF, disability is the result of the interaction of the environment and the person with a health condition. The different components of the ICF and their interactions are shown in Fig. 2.2. This model starts with a health condition (disorder or disease) that within contextual factors gives rise to impairments, activity limitations and/or participation restrictions.

An impairment, using WHO's (2001) definition, is defined as a 'problem in bodily function or structure as a significant deviation or loss.' An activity is the execution of a task or action by an individual. Participation is understood in terms of an involvement in a life situation. Activity and participation domains include among others, learning and applying knowledge, mobility, Selfcare, education, remunerative employment, and economic self-sufficiency.

Functioning and disability are umbrella terms, one the mirror image of the other. Functioning⁶ covers body functions and structures, activities, and participation, while disability refers to impairments, activity limitations, and participation restrictions. Contextual factors refer to the entire background of an individual's life. It includes personal factors: gender, age, coping styles, social background, education, profession, and behavioral patterns character. Contextual factors also include structural factors. They make up the 'physical, social and attitudinal environment in which people live and conduct their lives' (WHO 2001). They include the physical environment (terrain, climate, and architecture), social attitudes, laws and institutions (e.g., home, school and work, services, systems, and policies (e.g., transportation, health, social services)), products and technology. Structural factors may be barriers or facilitators when it comes to the individual's functioning. Disability refers to impairments, activity limitations and participation restrictions. Under the ICF, Richard had a health condition (polio), has a functional limitation (walking) and faced as a child restrictions to participation in school due to the interaction of his impairment and barriers in the environment.

The ICF has gained considerable influence globally. It is used for a variety of objectives, in descriptive as well as analytical studies and for policy (e.g., Cerniauskait et al. 2011; Resnik and Allen 2007; Okawa and Ueda 2008). The World Report on Disability advocated an adoption of the ICF (WHO-World Bank 2011). It is sometimes adopted in public health curricula and endorsed by clinical associations as a conceptual framework (e.g., APTA 2008). In medicine, it is most often used in rehabilitation settings (Nixon et al. 2011), but has also been used in other fields such as oncology (e.g. Bornbaum et al. 2013).

2.4 COMPARISON OF THE HUMAN DEVELOPMENT MODEL TO OTHER MODELS

The human development model enlarges an understanding of the deprivation process (called 'disablement' in some models) by highlighting the role of resources and conversion functions, by incorporating agency, by including the determinants of health conditions/impairments and using functionings and/or capabilities as metric of wellbeing.

Resources and conversion factors are particularly important in the context of LMICs. To my knowledge, other models do not explicitly model resources.⁷ Resources are not ignored in the ICF where they are

considered as part of environmental factors. However, they are not as centrally placed as in the human development model where they are a stand-alone set of factors, and the diversity that may result from their conversion into wellbeing is acknowledged. In the case of Richard, growing up in poverty was a key factor shaping his life. This is explicitly considered under the human development model.

Unlike the ICF, this model incorporates determinants of health conditions and impairments: it includes them as being influenced by, and influencing, personal factors, resources, structural factors. This recognizes that health conditions and impairments may be influenced by structural factors and thus are socially created to some extent.

If this model is adopted, say to frame an intervention providing physical rehabilitation services to Richard and other persons who had polio, then the outcomes of interest will be capabilities/functionings that Richard values or 'has reason to value' (Sen 1999). Service provision is a mean toward human development, i.e., to expand relevant capabilities/functionings. The human development model thus makes the selection of relevant capabilities/functionings explicit and human flourishing as the objective of rehabilitation services. Other models, including the ICF, fall short of recognizing the importance and the challenge of selecting relevant dimensions of wellbeing.

Among the three models reviewed earlier, the ICF is the closest to the human development model. Both are interactional models with disability arising through the interaction of the individual and the environment. Both offer normative metrics. The ICF offers a metric of body functions/structures, activity and participation; it has been used and can be used for prescription, and thus offers implicitly a normative metric.

Unlike the social and medical models but like other interactional models such as the ICF, the human development model provides a comprehensive account of the variety of factors that might lead to deprivations. For instance, if a person's impairment causes constant pain, due to which the person is unable to have practical opportunities (e.g., go out of the house, work, and leisure), it is the intrinsic nature of the impairment that deprives the person of capabilities and makes her disabled. The human development model recognizes that the impairment/health condition alone can lead to a deprivation, but unlike the medical model, it does not focus on the impairment/health condition as *the* disabling factor. With the human development model, the environment alone can be disabling, but

unlike the social model, it is not centered on the environment as *the* disabling factor.

2.4.1 *The Human Development Model and the ICF*

The ICF and the capability approach have been analyzed head-to-head in the literature (e.g., Bickenback 2014; Mitra 2014). It is thus worth comparing the human development model and the ICF. The human development and the ICF models have a number of commonalities. Starting from the obvious, the description and explanation of the disability phenomenon is central to both the ICF and the human development model; it is their common aim. There are both interactional models. Disability arises at the interaction of the individual and the environment. They both offer normative metrics.

The ICF offers a metric of body functions/structures, activity and participation, and it has been used and can be used for prescription, and thus offers implicitly a normative metric. The capability approach in general and the human development model in particular are explicitly normative in that human lives should be assessed in terms of functionings and/or capabilities.

Compared to the human development model, the ICF falls short of recognizing the importance and challenge of selecting relevant dimensions of wellbeing and that health conditions may be determined by structural factors. The ICF also falls short of incorporating several concepts such as resources and agency. The lack of an explicit and central consideration of resources can be considered a shortcoming of the ICF, especially if used for economically deprived countries, communities, groups, or individuals.

The ICF could benefit from becoming open-ended, with the recognition that not all dimensions of life may be specified and classified, and thus the classification does not, and cannot be expected to provide an exhaustive account of the lived experience of health deprivations.

Having said that, the synergies between the ICF and the human development models need to be explored further. The human development model might be useful for potential revisions of the ICF model and classification. Unlike the ICF, the human development model does not offer a classification for operationalization.

2.4.2 *Disability and Poverty Linkages*

Because of the broad set of potential factors influencing wellbeing in the human development model, policy responses to improve wellbeing may have several entry points: health deprivations (preventing health conditions and impairments, improving health in general), resources (enhancing access to goods and services), and structural factors (e.g., change of attitude or physical environment). This comes in contrast to the individual and social models, which is illustrated with the example of policy responses to the disability poverty association.

In the disability and poverty discourse, where disability typically refers to impairment and poverty refers to low income or consumption, it is often noted that disability and poverty go hand in hand and their relationship is very often portrayed as a vicious circle, especially in the LMIC context. It has become part of the reasoned wisdom. ‘It is a two-way relationship—disability adds to the risk of poverty and conditions of poverty increase the risk of disability’ (Elwan 1999, p. i). ‘The result of the cycle of poverty and disability is that people with disabilities are usually among the poorest of the poor’ (DFID 2000, p. 2). This vicious circle has been proposed and is widely accepted as the explanation for why persons with impairments are more likely to be materially poorer than the rest of the population. In the context of Fig. 2.1, this vicious circle focuses on the reinforcing links between impairments (Box D) and one functioning (low income or consumption) (Box E). The policy prescription is to break the cycle for poverty to be reduced among persons with impairments.

Which disability model is adopted to think about these disability–poverty linkages largely predetermines the course of action to break the circle. The medical model predisposes the analyst to identify ways out of the circle through preventive care and the provision of assistive technology, medical care, and rehabilitation services to persons with impairments. The social model is set to point toward changes in the environment as ways out of the circle though the removal of barriers to economic participation in the environment, for instance by changing attitudes toward disability in the community, so that persons with impairments can find jobs. Interactional models such as the ICF or the human development model may point toward a mix of medical and social interventions and go beyond the false dichotomy of having to invest in prevention or inclusion interventions.

The human development model can offer further insights. The conversion function explained above is of course very relevant here. It points toward the insufficiency of using income or assets to assess poverty.

The human development model also goes upstream by considering health conditions and impairments as themselves potentially the results of resources, personal, and structural factors. For instance, it allows for potential joint determinants of health conditions or impairments, on the one hand, and wellbeing deprivations, on the other. Low quality and expensive healthcare services may lead to impairments through a lack of adequate care. It may also lead to poverty through high out-of-pocket health expenditures pushing an individual to sell assets and leaving her/him with little for nonhealth expenditures. In this case, there is not a 'vicious circle' per se, yet some dynamic relations linking impairment and poverty on the one hand, and health services, on the other. Education may offer a way out of the poverty–disability association without again breaking a vicious circle: education may lead to socioeconomic mobility by providing a way out of income poverty while simultaneously enhancing behaviors that contribute to preventing health conditions and impairments. The human development model thus seems useful in understanding links between impairments, health conditions, and wellbeing outcomes such as material poverty that go beyond the disability–poverty vicious circle. It considers the role of other factors that may also separately be linked to impairments and income/consumption poverty (personal and structural factors, resources) and may confound the relation between disability and poverty.

2.5 CONCLUSION

The human development model provides a conceptual framework for organizing the links between health conditions, impairments, and wellbeing. Failure to use an interactional model such as the human development model may generate an unnecessary focus on prevention/rehabilitation through the medical model or social oppression through the social model.

The human development model highlights in relation to wellbeing the roles of resources, conversion functions, agency, and it uses capabilities and/or functionings as metric for wellbeing. It does not consider impairments/health conditions as individual attributes; instead, they are themselves determined by resources, structural factors, and personal factors and thus the model is informed by the socioeconomic determinants of health literature.

The human development model is limited to defining, and explaining links between disability, health deprivations, and wellbeing. It can be combined with justice claims from the capability approach such as

the right to the capability to be healthy (Venkatapuram 2011). I use the human development model because I think it can generate useful insights for this book and research and policy on wellbeing, disability, and health deprivations. It is applied in the rest of this book using data for Ethiopia, Malawi, Tanzania, and Uganda.

NOTES

1. See Qizilbash (2009) for more details on the history of the human development concept and also on the very scant literature at the intersection of human development and disability.
2. A disease is a set of dysfunction(s) in any of the body systems defined by symptomology, etiology, course and outcome, treatment response, linkage to genetic factors, and linkage to interacting environmental factors. A disorder/syndrome 'refers to common patterns seen in clinical practice which represent similar manifestations such as a typical constellation of symptoms'. A symptom/sign is the 'manifestation of a dysfunction either identifiable by the affected person or the health worker.' Injuries are 'physical damages that results when a human body is suddenly or briefly subjected to intolerable levels of energy.' WHO (2011, p. 12).
3. Some research has used the capability approach to frame the capability to be healthy in a social justice context, which is beyond the scope of this model. This literature is useful nonetheless in how it frames determinants of the capability to be healthy (Venkatapuram 2011) or health capability (Ruger 2010).
4. See Sect. 2.2 above.
5. This is consistent with a cartwheel view of the capability approach as presented by Robeyns (2016).
6. As noted in Mitra (2006), the term 'functioning' has different meanings in the ICF model and in the capability approach. In the ICF, it includes functionings that are directly related to health (body functions and structures) as well as activities and participation in a wide range of life domains (e.g., education, Selfcare, and work). Sen's concept of functionings is broader in that it includes activities and participation as well as desirable states of persons (e.g., being fit), and it can be general (e.g., being free of thirst), or specific (e.g., drinking wine).
7. Bill et al. (2004) offer a version of the social model that does account for poverty.

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