Psychological Aspects of Functioning, Disability, and Health
David B. Peterson, PhD, is a licensed Clinical Psychologist, Certified Rehabilitation Counselor, and Rehabilitation Psychologist with expertise in adjustment to the emotional and physical consequences of disability, and coping with and confronting environmental and attitudinal barriers, stress, and related social adjustment. His evaluation expertise includes comprehensive assessment of biopsychosocial functioning, activity limitations, participation restrictions, and environmental barriers, and facilitators to functioning. For two decades, he has provided various aspects of psychiatric rehabilitation services and currently serves as a medical expert for the Social Security disability adjudication and review process.

Dr. Peterson has been affiliated with several of our nation’s top graduate programs in rehabilitation counseling and psychology, and has provided significant university, national, and international service to the rehabilitation counseling and psychology communities. His research interests include the clinical implementation of the *International Classification of Functioning, Disability and Health* (ICF) and computer-based training in clinical problem solving and ethical decision-making. He has contributed to 45 scholarly products and 43 state and national presentations at professional conferences, has directed six research/training grants totaling over $1.7 million, and is currently a member of four editorial boards for peer-reviewed journals.
Psychological Aspects of Functioning, Disability, and Health

DAVID B. PETERSON, PhD
To my mother, June Peterson for her unconditional support and love; to Nancy Sanders for creating opportunities and for a lifetime of friendship and inspiration; to Maxine Pritchard Miller for love and support during the lean college years; to Peter Nathan for encouraging me to find my own voice in scholarship; to my colleagues at the University of Wisconsin-Madison, the University of Iowa, New York University, Illinois Institute of Technology, and California State University, Los Angeles, for affording me time and treasure for my work to grow; and to Oscar Ramon Villasmil for 10 years of love, support, and a most valuable friendship.
Contents

Prologue xxi
Foreword xxv
Preface xxix

Part I THE INTERNATIONAL CLASSIFICATION OF FUNCTIONING, DISABILITY, AND HEALTH (ICF)

Chapter 1 Importance of the ICF 3
Preview Questions 3
A Significant Development 3
Disability Prevalence 4
Prevalence of Mental Disorders 7
  Mood Disorders 8
  Schizophrenia 8
  Anxiety Disorders 8
  Implications of the Prevalence of Mental Disorders 9
Purpose of the ICF 10
Relevance of the ICF 11
International Use 11
The ICF Core Sets 12
  Core Sets in Germany 12
  Rehabilitation Core Sets in Italy 12
  Ongoing Core Set Development for Physical Disabilities 13
  ICF Core Sets for Depression 13
Cross Walking to Existing Assessment Tools 14
Developing New Assessment Tools 14
Informing Scope of Practice 14
Summary 15
Chapter 2  Historical Context of the ICF  17
Preview Questions  17
Models of Disability  17
  ICD-10 and -11  18
  Medical Model of Disability  19
  Social Model of Disability  21
  Biopsychosocial Model of Disability  22
Disability Policy and the ICIDH and ICF  23
  Policy Developments Prior to the ICIDH  23
  Work Begins on the ICIDH  26
  Post-ICIDH Policy Developments  26
  Developing the ICIDH-2  27
  Establishing Evidence for Validity and Reliability  29
  A Major Concession  30
ICF-Children/Youth (ICF-CY), Childhood Disability  31
Summary  31

Chapter 3  Overview of the ICF  33
Preview Questions  33
Encouragement  33
Model of Functioning and Disability  34
  Universe of Well-Being  34
  Health  35
  Functioning, Impairment, and Disability  36
  Dynamic Interaction and Intervention Targeting  36
ICF Core Structure  37
Body Functions and Body Structures  38
Qualifiers  40
Activities and Participation  41
  Activity and Participation  41
  Activity Limitation and Participation Restriction  41
Capacity and Performance Qualifiers  42
Contextual Factors  43
  Environmental Factors  43
  Qualifiers for Environmental Factors  44
  Personal Factors  44
Levels of Classification and Coding 45
  One-Level Classification 45
  Two-Level Classification 47
  Detailed Classification 47
  Hierarchical and Mutually Exclusive Codes 48
  ICF Coding Example 48
Clinical Implementation of the ICF 49
  Early Stages of the Manual's Development 50
  Current Challenges in Clinical Implementation 50
Aspects of the ICF Applicable to Mental Disorders 51
  One-Level Classification 51
  Two-Level Classification 52

Chapter 4 Collaborative Clinical Practice and Research 53
Preview Questions 53
Ethical Issues 53
Ethical Provisions of the ICF 54
  Respect and Confidentiality 55
  Clinical Use of ICF 55
  Social Use of ICF Information 55
Kitchener’s Ethical Principles 56
Mental Health Parity 56
Social Justice 58
  Advocacy 58
  Inclusion in the Classification Process 58
  Environmental Task Force 59
Future Development Efforts 59
Future Research Efforts 60
  Validity Studies 61
  Medical Informatics 61
  Future Cross-Walking Efforts 62
  Developing International Collaborations 63
  Refining Contextual and Personal Factors 63
  Civil Rights and Social Policy Development 64

Conclusion to Part I 65
Part II  THE DSM-IV-TR

Chapter 5  Introduction to the DSM-IV-TR  73
  Preview Questions  73
  The DSM and the ICD-10  73
  History of the DSM's Development  74
    DSM-I  74
    DSM-II  75
    DSM-III  75
    DSM-IV  76
    DSM-IV-TR Revision Process  77
  Overview of the DSM-IV-TR  77
    Organization of the DSM-IV-TR  78
      Descriptive Text  78
      Organization of Disorders  78
    Appendixes  81
  Multiaxial Assessment  82
    Axis I  83
    Axis II  83
    Axis III  83
    Axis IV  84
    Axis V  85
  Mental Disorder in the DSM  86
  Exclusion Criteria  87
  Severity and Course Specifiers  88
    Severity  88
    Course  89
    Recurrence  89
  Diagnostic Uncertainty  90
    Not Otherwise Specified  90
    Provisional  90
  Critiques of the DSM-IV-TR  90
    Dimensional Versus Categorical Systems  90
    Difficult to Use?  91
    ICD-11 and the DSM  92
  Summary  92
Chapter 6  

**DSM-IV-TR: First Priority of Differential Diagnoses**  
93

*Preview Questions*  
93

*Use of the DSM-IV-TR With This Section of the Text*  
93

*DSM-IV-TR Case Book*  
93

*A Guide to Treatments That Work*  
94

*Online Resource for Psychotropic Treatments*  
94

*What Makes a Diagnosis?*  
94

*Disorders Usually First Diagnosed in Infancy, Childhood, or Adolescence*  
95

*The ICF-CY*  
95

*Mental Retardation*  
95

*Learning Disorders*  
96

*Motor Skills Disorder*  
96

*Communication Disorders*  
97

*Pervasive Developmental Disorders*  
97

*Autistic Disorder*  
97

*Rett's Disorder*  
97

*Childhood Disintegrative Disorder*  
98

*Asperger's Disorder*  
98

*Attention-Deficit and Disruptive Behavior Disorders*  
98

*Attention-Deficit/Hyperactivity Disorder*  
98

*Conduct Disorder*  
99

*Oppositional Defiant Disorder*  
99

*Feeding and Eating Disorders of Infancy or Childhood*  
99

*Pica*  
99

*Rumination Disorder*  
100

*Feeding Disorder of Infancy or Early Childhood*  
100

*Tic Disorders*  
100

*Tourette's Disorder*  
100

*Chronic or Transient Tic Disorders*  
100
Elimination Disorders 101
   Encopresis 101
   Enuresis (Not Due to a General Medical Condition) 101
Other Disorders of Infancy, Childhood, or Adolescence 101
Delirium, Dementia, and Amnestic and Other Cognitive Disorders 101
   Delirium 102
   Dementia 102
   Amnestic Disorder 102
   Cognitive Disorder NOS 102
Mental Disorders Due to a General Medical Condition 102
   Related Conditions Placed in Other Sections of the DSM 103
   Catatonic Disorder Due to General Medical Condition 103
   Personality Change Due to a General Medical Condition 103
Substance-Related Disorders 104
   Types of Substances 104
   Substance Use Disorders 104
      Substance Dependence 104
      Course Specifiers in Substance Dependence 105
      Substance Abuse 105
   Substance-Induced Disorders 106

Chapter 7 Disorders With Shared Phenomenological Features: Part I 107
Preview Questions 107
Schizophrenia and Other Psychotic Disorders 107
   Schizophrenia 108
   Schizophreniform Disorder 108
   Schizoaffective Disorder 108
   Delusional Disorder 109
   Brief Psychotic Disorder 109
Shared Psychotic Disorder 109
Psychotic Disorder Due to a General Medical
Condition and Substance-Induced Psychotic
Disorder 109

Mood Disorders 109
Mood Episodes 110
 Major Depressive Episode 110
 Manic Episode 110
 Mixed Episode 111
 Hypomanic Episode 111
 Major Depressive Disorder 111
 Dysthymic Disorder 112
 Depressive Disorder NOS 112
 Bipolar I Disorder 112
 Bipolar II Disorder 113
 Cyclothymic Disorder 113
 Bipolar Disorder NOS 113
 Mood Disorder Due to a General Medical
Condition; Substance-Induced Mood
Disorder 113
 Substance-Induced Mood Disorder 114
 Mood Disorder NOS 114

Anxiety Disorders 114
Panic Attack 114
Agoraphobia 114
Panic Disorder Without or With Agoraphobia 115
Agoraphobia Without History of Panic
Disorder 115
Specific Phobia 115
Social Phobia (Social Anxiety Disorder) 115
Obsessive-Compulsive Disorder 116
Posttraumatic Stress Disorder 116
Acute Stress Disorder 116
Generalized Anxiety Disorder 116
Anxiety Disorder Due to General Medical
Condition/Substance-Induced Anxiety
Disorder 117
Somatoform Disorders 117
  Somatization Disorder 117
  Undifferentiated Somatoform Disorder 117
  Conversion Disorder 118
  Pain Disorder 118
  Hypochondriasis 119
  Body Dysmorphic Disorder 119
Factitious Disorder 119
Dissociative Disorders 119
  Dissociative Amnesia 120
  Dissociative Fugue 120
  Dissociative Identity Disorder 121
  Depersonalization Disorder 121
  Dissociative Disorder NOS 121

Chapter 8 Disorders With Shared Phenomenological Features: Part II 123
Review Questions 123
Sexual and Gender Identity Disorders 123
  Sexual Dysfunctions 123
    Sexual Desire Disorders 124
    Sexual Arousal Disorders 124
    Orgasmic Disorders 124
    Sexual Pain Disorders 124
    Sexual Dysfunction Due to General Medical Condition, Substance Induced 124
Paraphilias 125
  Exhibitionism 125
  Fetishism 125
  Frotteurism 125
  Pedophilia 126
  Sexual Masochism 126
  Sexual Sadism 126
  Transvestic Fetishism 126
  Voyeurism 126
Gender Identity Disorder 127
Sexual Disorder NOS 127
Eating Disorders 127
  Anorexia Nervosa 127
  Bulimia Nervosa 128
  Eating Disorder NOS 128
Sleep Disorders 128
  Primary Sleep Disorders 128
    Dyssomnias 129
    Parasomnias 129
  Sleep Disorder Related to Another Mental Disorder 130
  Sleep Disorder Due to a General Medical Condition 131
    Substance-Induced Sleep Disorder 131
Impulse Control Disorders Not Elsewhere Classified 131
  Intermittent Explosive Disorder 131
  Kleptomania 132
  Pyromania 132
  Pathological Gambling 132
  Trichotillomania 132
  Impulse-Control Disorder NOS 133
Adjustment Disorders 133
Personality Disorders 133
  Clusters of Personality Disorders 133
  Dimensional Models of Personality Disorders 134
  Paranoid Personality Disorder 134
  Schizoid Personality Disorder 135
  Schizotypal Personality Disorder 135
  Antisocial Personality Disorder 135
  Borderline Personality Disorder 136
  Histrionic Personality Disorder 136
  Narcissistic Personality Disorder 136
  Avoidant Personality Disorder 137
  Dependent Personality Disorder 137
  Obsessive-Compulsive Personality Disorder 137
  Personality Disorder NOS 138
Chapter 9  Other Conditions That May Be a Focus of Clinical Attention: Revision of the DSM-5  139
Preview Questions  139
Psychological Factors Affecting Medical Conditions  140
 Specificity of the Psychological Factor  140
 Differential Diagnosis  141
Medication-Induced Movement Disorders  141
Other Medication-Induced Disorders  142
Relational Problems  142
 Relational Problem Related to a Mental Disorder or General Medical Condition  143
 Parent–Child Relational Problem  143
 Partner Relational Problem  143
 Sibling Relational Problem  143
Problems Related to Abuse or Neglect  143
Additional Conditions That May Be a Focus of Clinical Attention  144
 Noncompliance With Treatment  144
 Malingering  144
 Adult Antisocial Behavior  144
 Child or Adolescent Antisocial Behavior  145
 Borderline Intellectual Functioning  145
 Age-Related Cognitive Decline  145
 Bereavement  145
 Academic Problem  145
 Occupational Problem  146
 Identity Problem  146
 Religious or Spiritual Problem  146
 Acculturation Problem  146
 Phase of Life Problem  146
Revision to the DSM-5  146
Work Group and Task Force Membership  147
Areas of Potential Development for the DSM-5  148
 Conceptual Framework  148
 Dimensional Assessments  148
CONTENTS  xvii

Overlap in Diagnoses  149
Binge Eating  149
Embitterment  149
Obesity  150
Parental Alienation  150
Temper Dysregulation Disorder With Dysphoria (TDD)  150
Addiction and Related Disorders  150
Suicide and Risk  151
Critics of the Revision Process  151
Controversy  151
Secrecy  151
Lack of Psychologist Involvement  152
APA Revision Efforts  152

Conclusion to Part II  153

Part III  CROSS-WALKING THE DSM TO ICF

Chapter 10  Conceptualizing and Classifying Psychological Functioning, Disability, and Health  159
Preview Questions  159
Diagnosis and Treatment of Psychological Disability  160
Diagnosis of Psychological Disability  160
Diagnoses Are Not Enough  161
Importance of Context  161
Contextual Factors in the ICF  162
ICF as the Missing Piece to the DSM  162
Treatment of Psychological Disability  163
Comparing DSM and ICF Conceptual Frameworks  164
Shared Biopsychosocial Perspectives  164
An Important Difference  165
ICF Model of Disability and DSM Mental Disorders  166
Body Functions and Structures  166
ICF Chapters 2 and 3  166
ICF Chapters 4 and 5  167
ICF Chapters 6, 7, and 8 167
ICF Chapter 1: Mental Functions 167
A Clear Relationship 168
Activities and Participation 168
ICF Chapter 1 168
ICF Chapter 2 168
ICF Chapter 3 169
ICF Chapters 4, 5, and 6 169
ICF Chapter 7 169
ICF Chapters 8 and 9 169
Environmental Factors 170
ICF Chapters 1 and 2 170
ICF Chapters 3 and 4 170
ICF Chapter 5 170

Chapter 11  ICF Core Sets for Mental Disorders 171
Preview Questions 171
Core Set for Depression 172
Need for Effective Assessment and Treatment 172
Method of Core Set Development 173
Results 173
Body Functions 178
Activities and Participation 179
Environmental Factors 179
Discussion of the Results 179
Body Structures 180
Issue of Suicide 180
Brief ICF Core Set for Depression 180
Critique 180
Core Set for Mood Disorders 182

Chapter 12 The Promise of the ICF-2 and the DSM-5 183
Preview Questions 183
Future Directions for the ICF 183
Immediate Utility and Activity 183
Clinical Implementation Manual for the ICF 184
I first learned about the *International Classification of Functioning, Disability and Health* (*ICF*; WHO, 2001) during the last academic year of my tenure at the University of Iowa in 1998, where I began my academic career as an assistant professor in rehabilitation education. At that time, the *ICF* was called the *International Classification System of Functioning and Disability*; Beta-2 draft (*ICIDH-2*; WHO, 1999). The *ICIDH-2* held great interest for me as I learned of its progressive conceptualization of disability within the context of health and functioning. The *ICF*’s conceptualization of disability was similar to that presented in much of the rehabilitation literature that I consumed up to that point in my reading and was consistent with my identity as a Certified Rehabilitation Counselor (credentialed in 1993), Licensed Mental Health Counselor (1997), and licensed clinical rehabilitation psychologist (1999). Because of the *ICF*’s developmental history, its concepts and assumptions reflect the holistic values and philosophies espoused in rehabilitation education: the dignity and worth of all people, and the inclusion of people with illness and disabilities in society to the fullest extent possible (Frank & Elliott, 2000; Frank, Rosenthal, & Caplan, 2009; Peterson & Rosenthal, 2005a; Riggar & Maki, 2004; Scherer et al., 2004).

As I embarked on my career as a student of psychology in 1988, I was quite unaware that 8 years prior, the original version of the *ICF* was first published as the *International Classification of Impairments, Disabilities, and Handicaps* (*ICIDH*; WHO, 1980). It was during the late 1970s that the World Health Organization (WHO) first endeavored to create a functional classification complement to their diagnostic classification system, the *International Statistical Classification of Diseases and Related Health Problems*, currently in its Tenth Revision (*ICD-10*; WHO, 1992). The *ICIDH* and later *ICF* were designed to be used with the *ICD* to create a more complete classificatory picture of an individual’s health and functioning.

Subsequent to learning about the *ICIDH-2*, in 1999 I attended a training session for psychologists interested in participating in the field trials for the beta version of the *ICF*’s predecessor, the *ICIDH-2*. As a result, I had the good fortune of being a U.S. participant in the revision process for the *ICF*, among participants from 65 countries (WHO, 2001, p. 263). In addition to applying the *ICIDH-2* to clinical practice, participants also
contributed, through their responses to critical survey questions, to the consensus data used in addressing key conceptual issues at that point in the ICF’s development.

During my tenure as director of the Rehabilitation Education Graduate Programs at New York University, the current version of the ICF was published in 2001. In association with its release, I was invited by the Practice Directorate of the American Psychological Association to participate in the alpha drafting efforts for the Procedural Manual and Guide for a Standardized Application of the ICF, a joint effort between the American Psychological Association (APA) and the World Health Organization (WHO). It was during this effort that my familiarity with the nuances of the ICIDH-2 increased exponentially, and along with it my interest in seeing the ICF become widely adopted in international health care endeavors.

In an attempt to share my enthusiasm for what the ICF was and its prospects for improving health and health-related care for people with disabilities, during my tenure as associate professor in the Institute of Psychology within the Illinois Institute of Technology, I contributed to the publication of several conceptual overviews of the ICF for two rehabilitation-related journals (special issues referenced below). I also contributed to several chapters in seminal reference texts (also noted below). I presented some of this work at peer-reviewed and invited national and international professional meetings in counseling and psychology. Consequently, the idea of writing this text seemed a natural extension of my previous work to promote the clinical implementation of the ICF.

During my training in psychology and rehabilitation, I benefited from significant clinical experience in acute-care psychiatric hospitals in a Midwest urban center. I learned about mental illness and its treatment under the supervision of psychiatrists, psychologists, psychiatric nurses, social workers, and mental health counselors. My internship experience as a rehabilitation counselor provided experience in counseling people who were deaf. My practicum and internship experiences in psychology provided me with experience in a subacute and postacute rehabilitation hospital and care network, which provided me with a very broad exposure to physical and psychiatric rehabilitation. Finally, my residency as a psychologist resident focused on working with people with a combination of developmental, physical, and psychiatric disabilities. In the end, psychiatric rehabilitation occupied the majority of my clinical experience.

This text therefore focuses on mental disorders specifically, rather than disability in general, and the use of the ICF in working with people who have psychiatric diagnoses. The text serves as a useful overview of

I have been most fortunate in my career to have had remarkable opportunities that contributed to the prospects for my writing this text. Having been an assistant and associate professor in four nationally ranked programs in rehabilitation, I have worked with and been mentored by remarkable scholars in rehabilitation and psychologist education, and learned a great deal from the remarkable students attracted to these academies. Three of my university appointments were in the largest urban centers in the United States (New York City, Los Angeles, and Chicago), and so as a licensed clinical psychologist specializing in disability and function, I worked with remarkably diverse individuals from all walks of life and with all manner of life challenges.

Over 20 years of clinical work with people with disabilities, and 16 years of research experience as a rehabilitation counselor and psychologist educator, have afforded me the privilege of serving as a clinical psychologist medical expert for the Office of Disability Adjudication and Review (ODAR) for the Social Security Administration. Reviewing hundreds of psychological case files has given me a very unique opportunity to reflect on the work of others’ in psychology and psychiatry and to apply the conceptual framework of the ICF in formulating my opinions that inform the ODAR adjudication process. Specifically, my opinions were informed by the DSM-IV-TR and the ICF’s conceptual framework. For hundreds of cases I have reviewed to date, both diagnostic and functional data were considered within the environmental context. I believe that these data and their reciprocal relationships are critical to consider in order to understand the impact of activity limitations and participation restrictions on an individual’s functioning. My ongoing review of cases within the DSM-IV-TR and ICF framework encourages me regarding prospects for the ICF to inform our understanding of mental disorders and related functioning.

Since working with the ICIDH-2 and now the ICF, I have had the opportunity to work with very talented scholars in counseling, rehabilitation, occupational therapy, physical therapy, speech language pathology, and psychology education. These collaborations have made a great impact on my thinking about the ICF and ultimately the content of this text, and so I extend my utmost gratitude to those who worked with me on ICF-related projects (in alphabetical order): Susanne M. Bruyère, Lynn F. Bufka, Tim Elliott, Robert Glueckauf, Judy A. Hawley, Debra Homa, John W. Jacobson, John F. Kosciulek, Jayne B. Lux, Kim MacDonald-Wilson, Irmo Marini,
Randolph L. Mowry, Elias Mpofu, Peter Nathan, Patricia B. Nemec, Thomas Oakland, Geoffrey M. Reed, David A. Rosenthal, Caren L. Sax, Marcia J. Scherer, Julie Smart, Donna Fisher Smiley, Susan Stark, Mark Stebnicki, Travis T. Threats, Christine Trask, and Sara A. Van Looy. Finally, a special expression of appreciation and thanks is due to Sheri W. Sussman, Senior Vice President, Editorial, for Springer Publishing, for her remarkable assistance with the conceptualization of this text and tremendous support along the way to its completion.
Foreword

This is an important book, and it conveys a timely message. Written by David Peterson, trained both in rehabilitation psychology and clinical psychology, the book describes and evaluates two influential taxonomies, the International Classification of Functioning, Disability and Health (ICF: WHO, 2001) and the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision (DSM-IV-TR: APA, 2000). Peterson's book provides compelling support for his conviction that the ICF, heretofore of greatest interest to rehabilitation psychologists and their colleagues, and the DSM, of primary appeal to clinical psychologists, psychiatrists, and other mental health professionals, work best when used together rather than separately.

As it happens, I was involved very early in an American Psychological Association committee chaired by Stanley Berent of the University of Michigan to help develop the International Classification of Impairments, Disabilities, and Handicaps: ICIDH (WHO, 1980), ICF's forebear, as a possible alternative to the DSM, then and now owned and largely operated by psychiatrists. Although the committee consisted almost entirely of clinical psychologists, its members saw the ICIDH's potential as a means to capture the psychological, physical, and behavioral disabilities associated with mental disorder in a manner that would avoid many of the psychiatric influences and assumptions implicit in the DSM. For several reasons, unfortunately, that effort came to naught. Happily, David Peterson and a diverse group of psychologists became involved later in a more successful effort substantially to convert the ICIDH into the ICF and to develop a user's guide to the ICF.

DSM-I was published in 1952 by the American Psychiatric Association as the first truly national nomenclature of mental disorders. The instrument was designed to be a nomenclature for mental disorders on which psychiatrists could agree, thereby facilitating communication within psychiatry and among mental health professionals. Successive editions and versions of the DSM, published in 1968, 1980, 1987, 1994, and the current DSM-IV-TR (2000), have included substantially more diagnostic syndromes, greater detail in diagnostic criteria, and substantially greater empirical data supporting syndromes and criteria. Amply praised and criticized, the DSM has succeeded in creating a common language used by psychiatrists, clinical psychologists, and other mental health professionals called upon to describe patients' psychopathology, plan treatment, and undertake research on etiology, prognosis, and course.
What DSM-IV-TR was not designed to do, and cannot in fact do, is to describe the functional impairments, abilities, and activities associated with psychopathology. As a consequence, for most of the history of the DSM, clinicians were left to determine how best to characterize profound differences in functionality among patients with the same or similar DSM diagnoses. Some patients who suffer from a major depressive disorder, for example, might have little or no problem continuing to work, attend to their families, and make appropriate decisions in their lives. Other patients with the same diagnosis, however, might be so disabled by this serious mental disorder that institutionalization of some kind may be necessary because they cannot manage on their own. These sorts of real differences in function have real consequences for prognosis and treatment planning. In the absence of a reliable means of characterizing them, clinicians have not been able to undertake research on their role and influence and could not depend upon them for predictive purposes.

ICF was developed by WHO to accompany the WHO’s International Statistical Classification of Diseases and Related Health Problems (ICD-10: WHO, 1992). It is designed to provide information on the broad array of disease and health conditions categorized in ICD-10. Emphasizing the importance of functional health as well as disability, the ICF describes health and health-related states from the perspective of the body (by classifying body functions and body structures associated with health and disease states as specified in ICD-10) as well as from the perspective of the individual and society (by classifying activities and participation associated with health and disease states as specified in ICD-10). To this time, the ICF has been valued largely by rehabilitation psychologists, nursing personnel, occupational therapists, and physical therapists and their colleagues. All of these professions have historically taken a biopsychosocial view of health and disability.

What the ICF is not designed to do is to categorize and classify the mental disorders. That is the role of those chapters of the ICD-10 that detail mental disorders, as it is of the DSM-IV-TR (2000), the taxonomy of mental disorders currently used most widely in the United States.

As complementary instruments, the ICF and the DSM used together permit a level of diagnostic detail and functional description of patients previously unavailable. The use of the two instruments in tandem is an exciting prospect. Not only will using these instruments in this way help in treatment planning for individual patients, it will open up the prospect of research that will for the first time reflect differences among diagnostic syndromes in the diversity and nature of their potential to impair and, thereby, to affect prognosis and course.
Human nature being what it is, and as promising as this product of complementary use of these instruments sounds, is it reasonable to hope that busy professionals will take the time and make the effort to come up to speed on a taxonomy with which they are largely unfamiliar? Will rehabilitation psychologists and others involved in the rehabilitation domain take the time and expend the effort to learn the complexities of DSM so they can more fully describe patients with functional impairments and disabilities who also suffer from mental disorder? Will clinical psychologists and psychiatrists, busy with their practices or their teaching and research, be willing to learn how to use the ICF so they will be able to add dimension, context, and specificity to their DSM diagnoses? The chances of this expenditure of effort will be enhanced if the drafters of DSM-5 dispense with the multiaxial system, a decision rumored to be under consideration. The multiaxial system, introduced in 1980 in DSM-III, has proven disappointing because it is difficult to use, hasn’t been much used as a result and, hence, hasn’t been terribly helpful. That being so, diagnosticians may see in the ICF a more reliable and comprehensive alternative for describing the infinite variations in functionality of patients with mood disorder, personality disorder, or anxiety disorder, conditions that manifest themselves in countless and various forms. If the ICF enables differentiation among those forms, it would represent an advance for research as well as treatment.

But perhaps I have put the cart before the horse. David Peterson has given us a template for learning the ICF and the DSM and then using them together to create substantially fuller, more useful descriptions of our patients. I can only hope that rehabilitation psychology, psychiatry, and clinical psychology, as well as the other disciplines for which ICF and DSM are relevant, will take advantage of Peterson’s prescience and hard work. Then we’ll be best able to determine what comes next.

Peter E. Nathan, PhD
Distinguished Professor of Psychology and
Public Health Emeritus
University of Iowa Foundation
Iowa City, IA

REFERENCES


Preface

This text explores the psychological aspects of functioning, disability, and health as conceptualized by the World Health Organization’s International Classification of Functioning, Disability and Health (ICF; WHO, 2001) and disorders as diagnosed using the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR; APA, 2000). Diagnostic information complementary to the medical model of mental health care is reviewed within the context of a functioning and health framework as conceptualized in the ICF, which is more consistent with contemporary biopsychosocial approaches to mental health service provision (Peterson & Elliott, 2008; Peterson, 2009). The text highlights the importance of the ICF’s publication in 2001 as the latest addition to the WHO Family of Health Classifications and the utility of using a biopsychosocial, functional approach to integrate information on mental health, diagnoses, intervention targeting, treatment, and treatment outcomes. In addition to reviewing the ICF as an important development in health care, the text will also be a useful survey of psychopathology as classified in the DSM-IV-TR.

Readers will learn the utility of the ICF’s biopsychosocial approach for conceptualizing and classifying mental health functioning (body functions and structures), disability (activity limitations and participation restrictions), environmental barriers, and facilitators; collaborating with the person being assessed in determining these factors (personal factors), targeting interventions, and evaluating treatment efficacy. The text will offer an initial cross-walking effort between the ICF and the DSM-IV-TR, exploring the nexus between the conceptual frameworks of the two classification systems.

This text will be useful to any helping professional learning about mental health and illness (rehabilitation counselors, psychologists, psychiatrists, social workers, mental health counselors, marriage and family therapists, nurses, occupational therapists, physical therapists, speech language pathologists, and other rehabilitation health professionals). The text will primarily serve master’s and doctoral-level courses addressing the diagnosis and treatment of mental disorders, psychiatric rehabilitation, or the medical and psychosocial aspects of disability. It may also be appropriate for upper-division and advanced undergraduate courses in abnormal or clinical psychology.
In Part I of the text, the focus is on the ICF and its predecessors. Preview questions will help prepare the reader for each chapter's content. Clear descriptions of key terms will be provided as concepts are developed within the text. Content of chapters will be illustrated with engaging clinical examples, as well as references for further reading, including journals, textbooks, and Web-based resources. The ICF will be frequently referenced and is strongly recommended as a companion resource to Part I of the text.

In Part II of the text, the DSM-IV-TR is presented, with some discussion of its relation to the ICF. Features similar to Part I will be employed, and within each diagnostic group reviewed the text will directly reference the relevant sections of the DSM-IV-TR. Heuristics of the diagnostic groups will be presented without replicating the detail of the DSM itself. Part II is designed to be read in tandem with the DSM itself.

In Part III of the text, the nexus of the ICF and DSM-IV-TR are explored. The conceptual frameworks of each system will be compared and contrasted, diagnostic heuristics will be associated with first and second levels of the ICF coding system, including relevant body structures (locales in the brain, related endocrine functioning and their ICF correlates) and body functions, activity limitations and participation restrictions, and contextual factors (environmental and personal factors).

**GOALS OF THE TEXT**

1. Develop knowledge and understanding of mental health functioning and impairment based on the emerging international model of health and functioning, the ICF, and the diagnostic classification, the DSM-IV-TR.
2. Apply the ICF conceptual framework to planning mental health assessment and related interventions.
3. Analyze the effect of mental illness and related interventions on activity limitations and participation restrictions and the role of environmental and personal factors in this complex interaction.
4. Review an initial cross-walking effort linking diagnostic information from the DSM-IV-TR with the ICF's classification of functioning, disability, and health, with the goal of linking diagnostic information with relevant functional classifications within the ICF.

In a text that introduces the ICF, it is difficult to avoid being redundant with other similar publications. A variety of reviews have discussed
and critiqued the ICF (see volume 50 of Rehabilitation Psychology, 2005; volume 19 of Rehabilitation Education, 2005; and volume 25 of Disability & Rehabilitation, 2003). Several book chapters have been written for seminal handbooks in the counseling and psychology professions (Peterson, Mpofu, & Oakland, 2010; Peterson, 2009; Peterson & Elliott, 2008). These publications notwithstanding, any explanation of the ICF can and should be referenced back to the ICF itself (WHO, 2001).

In order to avoid awkward, frequent, and redundant references, and to improve clarity and style of this text, the descriptions of the ICF are presented in a narrative format, within this referenced context and without endless repetitive citations. It is also important to note that the brief overview presented here does not substitute for studying the ICF in its entirety, including related literature, and attending training provided by those who are expert in its use (Reed et al., 2005, 2008).

In a text that provides an overview of a system as large and complex as the DSM-IV-TR (nearly 1,000 pages in length), opportunity for error is ample; responsibility for error is mine, and corrections or feedback are enthusiastically welcomed. As with the approach to writing about the ICF, the same holds true for the overview of the DSM-IV-TR presented here. Endless quotes and citations are avoided for the sake of clarity and style, and all mention of the DSM-IV-TR is referenced directly to the text itself (APA, 2000). Page number intervals are indicated for each section of the DSM-IV-TR reviewed. It is important to note that the overview presented here is no substitute for thorough training and review of the DSM-IV-TR under the supervision of a qualified professional.
PART I

The *International Classification of Functioning, Disability, and Health (ICF)*
CHAPTER 1

Importance of the ICF

PREVIEW QUESTIONS

1. How prevalent is disability?
2. Who developed the ICF, and what is its purpose?
3. What is the relevance of the ICF?

A SIGNIFICANT DEVELOPMENT

The International Classification of Functioning, Disability, and Health (ICF, World Health Organization, 2001a) was published in 2001 as the latest addition to the World Health Organization (WHO) Family of Classifications, as a new taxonomy of health and functioning that promotes the use of universal classifications of function that are complementary to the use of diagnostic information in health care service provision. The ICF was developed as a complement to its companion classification, the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10; World Health Organization, 1992). The ICD provides an etiological classification of health conditions (e.g., diseases, disorders, and injuries), whereas the ICF provides information on functioning associated with a broad array of health conditions.

The ICF was created through an international effort as a means to document the importance of functional health as well as disability. The ICF “provides a framework and standard language for the description of health and health related states from different perspectives: The perspective of the body (classification of body functions and of body structures) and the perspective of the individual and the society (classification of activities and participation)” (De Kleijn-De Vrankrijker, 2003, p. 561).

Planning treatments and documenting outcomes of interventions from the body, individual, and societal perspectives can improve the quality of
health care service provision and consequently the quality of life of people with disabilities as well as increase the participation of individuals with disabilities in society (Peterson & Threats, 2005). The ICF has the potential to improve health care in the broadest sense, while providing specific benefit to people with disabilities, including mental disorders, by using a universal, culturally sensitive, integrative, and interactive model of health and disability that is sensitive to social and environmental aspects of functioning.

The ICF is a significant development in health care, as it can be used as a standard for defining concepts, building constructs, hypothesizing relationships, and proposing new theories that will further research and practice in psychology (Bruyère & Peterson, 2005; Bruyère, Van Looy, & Peterson, 2005; Peterson, 2005; Peterson & Paul, 2009; WHO, 2001a). Since the trial version was published in 1980, the ICF (at that time called the International Classification of Impairments, Disabilities, and Handicaps, or ICIDH) has been used as a statistical tool for population studies and in systems of information management; a research tool to measure outcomes, environmental factors, and quality of life; a clinical tool in treatment planning, vocational assessment, and rehabilitation outcome evaluation; a social policy tool for social security planning, compensation systems development, and policy design and implementation; and, lastly, as an educational tool in curriculum design and to raise awareness and take social action (WHO, 2001a, p. 5). As we begin our review of the ICF and its importance in health care, we first consider the prevalence of disability and the associated purpose and relevance of the ICF.

**DISABILITY PREVALENCE**

People with disabilities comprise one of the largest collective minority groups in the United States. The U.S. Census Bureau’s American Community Survey (ACS) of 2008 suggested that the prevalence of disability, for people age 5 and older in the United States, was over 36.1 million people, roughly 12.1% of the then estimated civilian, noninstitutionalized population (or CNIP; Brault, 2009). Of this number, 13.4 million (37% of those surveyed indicating disability) lived with some cognitive difficulty (associated with a mental or emotional condition), 19.2 million (53.5% of those surveyed) lived with ambulatory difficulty, and 7.2 million (20% of those surveyed) lived with self-care difficulty.

Further, 10.4 million individuals participating in the ACS or 3.5% of the CNIP experienced difficulty hearing, whereas 6.8 million people or
2.3% of the CNIP experienced difficulty seeing; 19.2 million people surveyed or 6.9% of the CNIP reported ambulatory difficulty (i.e., serious difficulty walking or climbing stairs). Participants were also queried regarding difficulty with basic activities around the home associated with caring for oneself, such as difficulty dressing or bathing. An estimated 7.2 million or 2.6% of the CNIP endorsed such self-care difficulty.

More specific to the content of this text, the ACS surveyed for cognitive difficulty because of a physical, mental, or emotional condition (implying psychological or neurological bases) that resulted in serious difficulty concentrating, remembering, or making decisions. About 13.4 million people or 4.8% of the CNIP reported cognitive difficulty as defined by the ACS. More specifically, participants were asked whether they experienced any difficulty doing errands alone, such as visiting a doctor’s office or shopping, due to a physical, mental, or emotional condition. About 13.2 million respondents or 5.5% of the CNIP reported difficulty with independent living for these reasons (Brault, 2009).

A different survey, the Survey for Income and Program Participation (SIPP), an established source for disability data since the 1980s (Brault, 2009), in its 2005 iteration used a much larger number of survey items than the ACS, querying activity limitations as well as level of severity of certain limitations (i.e., some difficulty performing an activity vs. cannot perform the activity at all). This more detailed survey resulted in a prevalence estimate of 54.4 million people with disabilities, which was over 18% of the U.S. census estimates for July 2005 (Brault, 2005). The SIPP estimate was nearly 50% higher than the subsequent and more recent ACS survey estimate. The SIPP definition of disability was fundamentally different from the definition used within the ACS, making meaningful comparison of these two surveys difficult.

The 2007 version of the ACS used a different question set from the 2008 iteration and suggested a U.S. prevalence of 41.2 million people living with disability, about 13.5% of the 2007 U.S. population estimate, and over 14% higher than the 2008 ACS estimate. Looking back to 2003, the U.S. Census Bureau estimated that 49.7 million people in the United States lived with some type of long-term health condition or disability (2003). Given these data, during the past 7 years we have a reported range of 36–54 million people, or 12%–18% of the U.S. population, indicating that they have some type of disability. All of these data are based on reports from only those persons who responded to the particular surveys conducted and, thus, may significantly underrepresent persons living with chronic disabilities in the United States. It is also important to consider
that all surveys are vulnerable to both sampling (the degree to which the true population was accurately sampled) and nonsampling (survey design, respondent response styles, accurate coding of survey data) errors (Brault, 2009).

Using the highest estimated number of people with disabilities from recent survey data (the 2005 SIPP), 18% is a significant portion of the U.S. population; it is clear that people with disabilities are an important collective minority in the United States. It stands to reason that within the United States we need to work effectively with health care information dealing with functioning, disability, and health. Beyond the bounds of the United States, it has been projected that within the next 8 years, chronic disabling conditions and mental disorders will account for 78% of the global disease burden in developing countries (World Health Organization, 2002, p. 13).

Our health care system will continue to need to adjust to a population of people who are living longer and manage resources around health care interventions that are increasingly more effective and yet remarkably more expensive (Peterson & Aguiar, 2004; Peterson & Elliott, 2008; Tarvydas, Peterson, & Michaelson, 2005). Health care supporting people with disabilities presents serious economic consequences, and costs associated with disability are expected to escalate with the increasing number of persons who will live with a disability over the next several decades (U.S. Department of Health and Human Services, 2000; WHO, 2002).

Historically, people with disabilities have spent over four times as much on medical care, services, and equipment as their nondisabled counterparts (Max, Rice, & Trupin, 1995). A December 2009 press release of the Research Triangle Institute, in collaboration with the U.S. Centers for Disease Control & Prevention, stated that 27% of the U.S. adult health care spending, or 397.8 billion dollars, was associated with disability during the year 2006. The related study was published in the January–February 2010 Public Health Reports.

There are personal consequences associated with disability and potential loss of function, such as decreased employment productivity, impaired quality of life, and difficulty with psychosocial functioning (Hansen, Fink, Frydenberg, & Oxhoj, 2002; Kessler, Greenberg, Mickelson, Meneades, & Wang, 2001). The related economic impact is felt throughout the fabric of society. The current discourse in the United States on health care attests to the fact that our health care system is overwhelmed by the costs incurred in responding to current health care needs, including the acute and long-term needs of people with chronic health conditions (Peterson & Elliott, 2008).
PREVALENCE OF MENTAL DISORDERS

According to the 2004 World Health Report of the World Health Organization, mental disorders were the leading cause of disability in the United States and Canada for ages 15–44 during the year 2002 (World Health Organization, 2004). Historically, the Global Burden of Disease Study found that neuropsychiatric disorders were collectively the third leading cause of loss of healthy years of life and the leading cause of disability (Murray & Lopez, 1996). Four of the ten leading causes of disability worldwide were mental disorders, the foremost of which was major depression (Üstün et al., 2004).

According to the National Comorbidity Survey Replication (NCS-R) conducted by Kessler and his associates, which surveyed the prevalence, severity, and comorbidity of 12-month duration DSM-IV disorders, prevalence rates for psychiatric diagnoses alone are much higher than either the ACS or SIPP estimates for a much broader presentation of types of disability (Kessler, Chiu, Demler, & Walters, 2005b). According to this survey, an estimated 26.2% of Americans age 18 and older (not including children from age 5–17 as with the ACS and SIPP) have a diagnosable mental disorder within a given year. Using 2004 U.S. Census residential population estimates for this age range, 57.7 million adults had a psychiatric diagnosis.

As mentioned earlier, the degree to which a diagnosis is associated with serious activity limitations or participation restrictions is impossible to tell from diagnostic information alone, which may account for the difference between the NCS-R and the ACS and SIPP estimates. The existence of a diagnosis may not be associated with the report of experiencing a disabling condition (these phenomena will be explored in greater detail when describing the conceptual framework of the ICF). In fact, the NCS-R survey data queried for severity of impairment associated with diagnoses, and these findings suggested that the main burden of psychiatric difficulties, those who suffer from a serious mental illness, is concentrated to about 6% of the then estimated population, much closer to the numbers extracted from the ACS data in 2008 (4.8% of the CNIP reported cognitive difficulty, 5.5% had difficulty doing errands alone, such as visiting a doctor’s office or shopping due to a physical, mental, or emotional condition).

It is important to note when considering these numbers that nearly half (45%) of those with any mental disorder met criteria for two or more disorders, with severity of mental illness strongly associated with
comorbidity (Kessler et al., 2005b). Next, we explore the specific types of mental disorders identified in recent survey research and their prevalence. Details of specific DSM-IV-TR diagnoses will be presented in Part II of this text.

**Mood Disorders**

According to NCS-R, about 20.9 million American adults or 9.5% of the U.S. population, age 18 and older in a given year have a mood disorder, which may include major depressive disorder (the leading cause of disability in the United States for ages 15–44; WHO, 2004), dysthymic disorder (affecting 1.5% of the U.S. population age 18 and older in a given year; Kessler et al., 2005b), and bipolar disorder (affecting 2.6% or 5.7 million adults age 18 and older; Kessler et al., 2005b). Depressive disorders often occur comorbidly with anxiety and substance-related disorders (Kessler et al., 2005b).

**Schizophrenia**

A fairly dated estimate suggests that about 1.1% of the population age 18 and older in the United States during a given year have the diagnosis of schizophrenia, which equates to about 2.4 million adults (Regier et al., 1993). The current version of the DSM suggests that the prevalence rate is about 1%. However, Bhugra (2005) provides more recent estimates of prevalence and an opportunity to review sources of prevalence data in the psychiatric literature and their impact on prevalence rates (see Saha, Chant, Welham, & McGrath, 2005).

As it turns out, international prevalence rates for schizophrenia are much lower than 1%. However, making the distinction between data collected at a given point in time, or over a specific period of time, versus an estimated lifetime prevalence of schizophrenia, the estimates based on a review of 132 core studies were 4.6, 3.3, and 4.0 per 1,000, respectively. These numbers are significantly lower than 1%. It will be interesting to see how the next edition of the DSM responds to these more recent data.

**Anxiety Disorders**

About 40 million American adults age 18 and older or about 18.1% of people in this age group in a given year, have one of the following anxiety disorders: panic disorder, obsessive-compulsive disorder, posttraumatic stress
disorder, generalized anxiety disorder, or a type of phobia (social, specific, or agoraphobia). As with mood disorders, anxiety disorder typically occurs with other disorders, specifically, depressive disorders or substance-related disorders (Kessler et al., 2005b). Further, most people with one anxiety disorder will also have another anxiety disorder (Kessler, Bergland, Demler, Jin, & Walters, 2005a).

About 6 million American adults age 18 and older, about 2.7% in a given year, have a panic disorder (Kessler et al., 2005b). Historically, about one in three people with this disorder develop agoraphobia (Robins & Regier, 1991); about 2.2 million or 1% of the same population, have obsessive-compulsive disorder; nearly 7.7 million American adults age 18 and older, about 3.5% of this age group, in a given year have posttraumatic stress disorder (PTSD). There is likely a precipitous rise in PTSD with the ongoing Iraq and Afghanistan conflicts; historically, 19% of Vietnam veterans experienced this diagnosis at some point after their war experience (Dohrenwend et al., 2006; Kessler et al., 2005b).

About 6.8 million American adults or about 3.1% of the same age group have generalized anxiety disorder in a given year, and approximately 15 million of the same population or 6.8% have social phobia. Finally, about 19.2 million of the same population or 8.7% have some type of specific phobia (Kessler et al., 2005b).

Implications of the Prevalence of Mental Disorders

“Mental disorders contribute more to global disability and disease burden than any other category of noncommunicable disease” said Geoffrey Reed, PhD, a WHO psychologist involved in the update to the ICD classification system (Martin, 2009, p. 62). Given the prevalence of psychiatric illness and related disability for severe presentations of these illnesses, it stands to reason that the ICF, a classification of functioning, disability, and health that can assist with the identification of disability (activity limitations and participation restrictions), as well as assets in functioning, can inform assessment efforts, intervention targeting, the evaluation of the efficacy of such interventions, and related research. Having established the prevalence of disability, and in particular, those of a psychological nature, as well as the significance of the development of the ICF, we turn to a discussion of the purpose and relevance of the ICF.
The purpose of the *ICF* is to “provide a unified and standard language and framework for the description of health and health-related states” (WHO, 2001a, p. 3). The aims of the *ICF* as indicated in the document include to

(1) provide a scientific basis for understanding and studying health and health-related states, outcomes, and determinants; (2) establish a common language for describing health and health-related states in order to improve communication between different users, such as healthcare workers, researchers, policy makers, and the public, including people with disabilities; (3) permit comparison of data across counties, health care disciplines, services and times; and (4) provide a systematic coding scheme for health information systems. (WHO, 2001a, p. 5)

Using the *ICF* in combination with diagnostic information provided by systems like the *DSM-IV-TR* or the *ICD-10* allows the two together to provide more specific and complete conceptualizations of health and human functioning (Bruyère & Peterson, 2005). The *ICD-10*’s primary purpose is to generate diagnoses of diseases, while the *ICF* provides information on functioning and disability associated with various health conditions. Together, the *ICD* and the *ICF* are intended to provide a complementary and meaningful picture of the health of people or populations. One critical reason that these two perspectives are essential to conceptualizing health care is that disease or impairment may be experienced very differently by two individuals; similar health conditions do not imply similar functioning (the related literature is reviewed below in the discussion of models of disability).

The *ICF* represents a new way for the world to conceptualize health and enhance communications regarding health. Research and clinical implementation efforts suggest that the *ICF* is a useful public health tool for classification of health conditions and functional status, and it can be applied to a number of clinical arenas (WHO, 2001a). For example, the *ICF* provides the basis for a systematic coding scheme for global health information systems. Data from these information systems can be used to identify facilitators and barriers that affect the full participation of people with disabilities in society.

Subsequent research may permit comparison of data across countries, health care disciplines, services, and time, contributing to an international database of scientific knowledge of health and health-related states, and
thus stimulate research on the consequences of health conditions. The ICF and its conceptual framework may assist in preparing the current and next generation of health care and health-related professionals for our increasingly complex health care systems (Peterson & Elliott, 2008).

The ICF has the potential to increase communication efficiency among health care providers, clearly target necessary interventions, provide a conceptual framework to analyze the success of interventions, all of which are critical in maintaining quality health care while controlling costs. The ICF is useful for a broad spectrum of applications within sectors of health-related settings including insurance or managed care, social security, labor, economics, population surveys, and social policy, including prevention and health promotion (Howard, Nieuwenhuijsen, & Saleeby, 2008), general legislation development, and sectors associated with environmental modification (WHO, 2001a, p. 5).

RELEVANCE OF THE ICF

The ICF was first drafted in 1980 as the International Classification of Impairments, Disabilities, and Handicaps (ICIDH) by the World Health Organization (WHO). The ICF developed through years of international participation and systematic revision, including longitudinal consensus building efforts and extensive field testing, and it is a significant development in psychology and general health care. On May 22, 2001, the ICF was endorsed by the 54th World Health Assembly for international use and was subsequently accepted by 191 countries as the international standard for classification of health and health-related states. Member states of WHO are charged with implementing the ICF in sectors related to health, education, insurance, labor, and legislation (Stucki, Üstün, & Melvin, 2005). The ICF is clearly an important international development in health classification that impacts psychology, psychiatry, and all of health care. The ICF has been used in a variety of settings for a wide range of applications (Stone, 2008).

International Use

The ICF and its conceptual framework have influenced a variety of health care entities abroad with increasing frequency. It has been employed in varying capacities internationally including the United States, Australia, Canada, Germany (Stucki et al., 2005), Italy (Maini, Nocentini, Prevedini, Giardini, & Muscolo, 2008), The Netherlands (Bickenbach, 2003; Holloway, 2004), and Cambodia (Vanleit, 2008). Work on the World
Health Survey, built on the ICF conceptual framework, has been implemented in 74 countries (Üstün, Chatterji, Bickenbach, Kostanjsek, & Schneider, 2003).

Specific examples of the ICF in international health care enterprises include Europe, Japan, Canada, and Australia. Canada adopted the ICF through the Canadian Institute for Health Information, and the Australian Institute of Health and Welfare has applied the ICF to its national data dictionaries (Madden, Choi, & Sykes, 2003). Several European countries and Japan are involved in evaluating health outcomes in health resort programs using the ICF (Morita, Weigl, Schuh, & Stucki, 2006).

**The ICF Core Sets**

One major ICF-related initiative is the construction of the ICF Core Sets or subsets of the ICF codes used to describe patient functioning, in particular, clinical, research, and health-related settings. In clinical practice, these code subsets can be used in clinical assessment, intervention targeting, and evaluation of treatment outcomes (Grill, Ewert, Chatterji, Kostanjsek, & Stucki, 2005; Stucki et al., 2005).

**Core Sets in Germany**

Launched in 2001, during the ICF’s inaugural year, the ICF Core Sets is a joint project of the ICF Research Branch of the WHO Collaboration Center of the Family of International Classifications at the Ludwig-Maximilians-University in Munich, Germany, and the Classification, Assessment, and Surveys Team at WHO. Their work began with 12 core sets selected as “most burdensome chronic conditions” in acute hospital and post-acute rehabilitation facilities (Stucki et al., 2005, p. 350). These conditions included neurological conditions (Ewert et al., 2005), cardiopulmonary conditions (Boldt et al., 2005), musculoskeletal conditions (Stoll et al., 2005; Weigl et al., 2006), conditions generally associated with advanced age (Grill et al., 2005b), and relevant to this text, the second largest of the ICF Core Sets developed was for that of depression (see Cieza et al., 2004). This core set will be reviewed in some detail in Part III of this text.

**Rehabilitation Core Sets in Italy**

Researchers in Italy recently evaluated the use of ICF cores sets for implementation in rehabilitation settings. Like the work begun in Germany,
Italian researchers surmised that the complexity and size of the ICF are difficult to implement in its entirety within a clinical rehabilitation setting. ICF Core Sets or simplified instruments derived from the ICF show promise for more targeted classification efforts. The researchers surveyed health professionals regarding difficulties they encountered in using the ICF Core Sets. Feedback suggested the need for greater clarity in defining ICF constructs within the code and more guidance in the use of qualifiers that determine levels of functioning for a given code (Maini et al., 2008).

**Ongoing Core Set Development for Physical Disabilities**

International research in the development of core sets is ongoing, addressing a wide variety of disabling conditions (Maini et al., 2008). Physical disorders that have or will have code sets include amputations (Kohler et al., 2009), ankylosing spondylitis (Boonen et al., 2010), cardiopulmonary conditions (Wildner et al., 2005), musculoskeletal conditions in general (Scheuringer et al., 2005), and neurological conditions in general (Stier-Jarmer et al., 2005). The WHO Web site for ICF-related research projects indicates ongoing work to generate core sets for other physical disorders including breast cancer, cerebral palsy, dementia, diabetes mellitus, heart disease, multiple sclerosis, obesity, obstructive pulmonary disease, osteoarthritis, osteoporosis, pain management, psoriasis, rheumatoid arthritis, spinal cord injury, traumatic brain injury, and stroke (http://www.icf-research-branch.org).

**ICF Core Sets for Depression**

Disability and ICF Core Sets are also underway for mental disorders. Given that mood disorders can be associated with significant loss of functioning and associated quality of life, using ICF Core Sets to assist with assessment, intervention targeting, and evaluation of treatment outcomes is desirable.

ICF Core Sets have been constructed for depression (Cieza et al., 2004), both a comprehensive version and a brief version. The depression core set is the second largest code set of the original 12 comprehensive ICF Core Sets for chronic disorders (Ayuso-Mateos, 2009; Stucki et al., 2005). A code set is being developed at the Universidad Autónoma de Madrid, Spain, for bipolar disorder (Ayuso-Mateos, 2009). Data available from the depression code set will be considered in Part III of this text.
Cross Walking to Existing Assessment Tools

Shortly after its publication, Cieza et al. (2002), in order to provide some structure for future cross-walking efforts of existing health status measures to the *ICF*, created a set of 10 rules to inform the linking of items from health status measures to the *ICF*. The 10 linking rules proved useful and were associated with a high degree of agreement between health professionals using the rules. Although the *ICF* itself does not dictate what aspects of functioning are classified nor what assessment tools are most relevant for a given situation, a variety of assessment methods are compatible with the *ICF* conceptual framework (Reed et al., 2008).

Within the area of mental health, the *DSM-IV-TR* is currently linked with the *ICD-9* and -10 codes. As the *DSM-5* is linked to the *ICD-10* and -11 system updates, linking the *ICF* to the *DSM-5* would provide classification of functioning within a mental health context that moves beyond multiaxial diagnoses alone to descriptions of health and health-related states. These prospects will be explored in greater depth in Part II of this text.

Developing New Assessment Tools

In addition to cross-walking efforts to link existing measures with the *ICF*, new instruments are being developed based on the *ICF* itself (e.g., Jones & Sinclair, 2008; Seekins, Ipsen, & Arnold, 2007). Velozo (2005), who was awarded a NIDRR field-initiated grant to develop a computerized adaptive measurement system for the Activity Dimension of the *ICF*, suggested that Item Response Theory can be used to convert the *ICF* into measurement systems that individualize the assessment process, reduce respondent burden, and increase measurement precision.

Professionals from the disciplines of rehabilitation psychology (DiCowden, 2005), nursing (Coenen, 2005; Harris, 2005), occupational therapy (Velozo, 2005), and physical therapy (Brandt, 2005; Mayo & McGill, 2005) have developed instruments and protocols based on the *ICF* model. Such efforts are essential for the ongoing development of the *ICF*, so that it can reliably be applied in clinical settings. The related literature is expansive and emerging and impossible to review comprehensively in this text.

Informing Scope of Practice

In the United States, the *ICF* framework had a direct impact on the scope of practice statement for the speech language pathology profession (American Speech-Language-Hearing Association [ASHA], 2004;
Threats, 2003) and has influenced activities related to data collection, framing assessment interventions, measuring clinical research outcomes (Threats, 2002), and investigating the role of communication in the quality of life (Threats & Worrall, 2004). The ICF has attracted support from other U.S. professional associations as well, including occupational therapy, physical therapy, psychology, recreational therapy, and social work (Reed et al., 2005, 2008).

SUMMARY

Our text began with a prologue and preface that provided a clear context for the author’s perspective in writing about the ICF and the DSM-IV-TR. Our first chapter established the ICF as a significant development in health care, within the context of the prevalence of disability in our society. The purpose and relevance of the ICF are highlighted, including efforts to date in wide and varied implementation activities on an international scale.

The ICF is a relevant development in health care because of its potential to provide health care systems with a common language to enhance diagnostic information with standard descriptions of health and health-related states. Proper implementation of the ICF promises to (1) revolutionize the way stakeholders in health care delivery systems think about and classify health, (2) improve the quality of health care for individuals across the world, (3) generate innovative outcome-based research, and (4) influence culturally sensitive global health policy (Stucki, Ewert, & Cieza, 2003).
CHAPTER 2

Historical Context of the ICF

PREVIEW QUESTIONS

1. Given the ICF’s historical context, what models of disability influenced its development?
2. How did disability policy development in the United States impact the development of the ICF?
3. What is the ICF-CY?

Having established the importance of the development of the ICF in the classification of functioning, disability, and health, we now turn to the ICF’s historical development and associated philosophical underpinnings. Over the last 40 years, rehabilitation-related professions have become synonymous with studies of disability (Peterson & Elliott, 2008). As a multidisciplinary field, rehabilitation professionals embrace an activist philosophy that advocates for the improvement of life conditions for persons with disabilities (Frank & Elliott, 2000; Frank, Rosenthal, & Caplan, 2009; Riggar & Maki, 2004; Scherer et al., 2004). The ICF and its predecessors, the International Classification of Impairments, Disabilities and Handicaps (ICIDH and ICIDH-2; World Health Organization [WHO], 1980, 1999) reflect important historical developments in disability conceptualization and related policy development and the values espoused in the rehabilitation-related professions.

MODELS OF DISABILITY

Several recent publications have compared and contrasted various models of disability. The Handbook of Counseling Psychology (Brown & Lent, 2008) includes a chapter discussing advancements in conceptualizing disability (Peterson & Elliott, 2008) and informs the following brief review. The text Psychological and Social Impact of Illness and Disability (Dell Orto &
Power, 2007) provides a detailed review of how disability is defined and conceptualized in the literature (Lutz & Bowers, 2007). An interesting two-part series was published on the evolution of disability models as they applied to psychological injury and law (Schultz, 2008; Schultz & Stewart, 2008). Here, we turn to a discussion of how the dominant models of disability influenced thinking in recent times and how the medical, social, and biopsychosocial models of disability relate to the development of the ICF.

ICD-10 and -11

International classification of population health began with a focus on the prevalence of medical diagnoses and causes of death with the International Statistical Classification of Diseases and Related Health Problems (ICD, now in its 10th revision, WHO, 1992). The ICD was first formalized in 1893 as the Bertillon Classification or the International List of Causes of Death (the ICD acronym persists to this day). The ICD provides an etiological classification of health conditions (e.g., diseases, disorders, and injuries) related to mortality (death) and morbidity (illness). The ICD is a good example of the medical model’s influence on the diagnostic classification of illness or injury.

Currently, the United States is using the clinical modification of the ICD-9, even though the ICD-10 was approved by the World Health Assembly in 1992, and neighboring Canada has been using the ICD-10 for some time now. The United States is scheduled to begin using the ICD-10 in 2013 (Martin, 2009). Meanwhile, the World Health Organization is in the process of updating the ICD-10 in order to make it a better tool to diagnose and treat disease.

The ICD-11 is due for publication in 2015. It promises to be a global, multilingual, multidisciplinary system of classification, and its development transparent and free from commercial input. The system’s context will allow for interactive information sharing using modern technology and integrated into health informatics systems worldwide. The new system is intended for daily clinical use with simpler diagnostic criteria (Martin, 2009).

Although it continues to be influential, limitations of the medical model and the focus on the civil rights-related and disability activism helped to develop the opposing social model of disability. Although consensus has not been easy to achieve, it is important to define disability so that those who are disadvantaged by their experience of disability can be identified, their life experiences compared with those who are not disabled, and disparities in life experiences can be noted so that inequalities can be observed, measured, and ultimately remedied (Leonardi, Bickenbach, Üstün, Kostanjsek, & Chatterji, 2006).
Although the ICF is a useful tool for describing functioning associated with a broad range of disabilities, it was not designed to classify disability exclusively; it also classifies health and health-related states (Bickenbach, Chatterji, Badley, & Üstün, 1999). This represents a fundamental shift away from disease-focused, medical models of health care toward the biopsychosocial model of disability. As the sister classification to the ICD and throughout its development, the ICF was greatly influenced by the paradigm shift away from medically focused models to consider the influence of psychosocial and environmental factors on disability.

**Medical Model of Disability**

For many years, the medical model drove assessment practices in health care service provision, focusing on the diagnosis of a disease, disorder, or injury (Wright, 1980). The medical model most commonly relates to an acute treatment process that first identifies a pathogen or cause of injury or other disease process (often classified by the ICD-10) and then selects an appropriate treatment protocol for the condition identified (Reed et al., 2008). Within the United States, a classification of procedures associated with treatment of illness or injury employed in this treatment process is the Current Procedural Terminology or CPT codes (American Medical Association, 2010).

Within the medical model, less attention was given to contextual factors (e.g., social and environmental factors) and to the subjective experiences of individuals with disabilities. Disability tended to be conceptualized as a personal problem that required treatment by medical professionals (WHO, 2001a). Contemporary scholarship suggests that behavioral and social factors affect the course of chronic disease and disability over the life span; the medical model and related diagnostic information have been shown to have a limited capacity for assessing and making changes in these areas (Peterson & Elliott, 2008).

It is important to note that the medical model is not without utility. It contributed to advances in science that helped researchers to better describe disease processes and related etiology, allowing more rapid and effective response to the acute needs of persons with physical disabilities and other chronic health conditions. The medical model also informed early initiatives to address issues of improved care, survival, and quality of life (Peterson & Elliott, 2008). In the United States, medical definitions of disability provide the cornerstone for determining disability for legal and occupational purposes and for determining eligibility for financial assistance (Chan & Leahy, 1999, 2005; Tarvydas et al., 2005).
However, the medical model was challenged by the civil rights era and related disability advocacy efforts, encouraging a movement away from the medical model of disability and functioning toward a social model that considered the role of environmental barriers in health and functioning (Peterson & Elliott, 2008; Rusk, 1977; Smart, 2005; Wright, 1980; Wright, 1983). The medical model relies heavily on measures and tests of the disease process; the model places a limited value on subjective reports of quality of life and well-being. More recent assessment paradigms focused less on temporary states measured under these circumstances and more on enduring characteristics of people, such as personal traits, habits, and enduring personality characteristics (e.g., Ong, Peterson, Chronister, Chui, & Chan, 2009; Peterson, 2000; Wiggins, 1996).

Historical evidence suggests that diagnostic information alone, without functional data, may not adequately reflect an individual’s health condition (see Peterson, 2005; Reed et al., 2005). Disease or impairment may manifest differently across individuals; similar functioning does not imply similar health conditions. Diagnoses alone have not sufficiently predicted length (McCrone & Phelan, 1994) or outcome of hospitalization (Rabinowitz, Modai, & Inbar-Saban, 1994), level of necessary care (Burns, 1991), service needs (National Advisory Mental Health Council, 1993), work performance (Gatchel, Polatin, Mayer, & Garay, 1994), receipt of disability benefits (Bassett, Chase, Folsom, & Regier, 1998; Massel, Liberman, Mintz, & Jacobs, 1990; Segal & Choi, 1991), or social integration (Ormel, Oldehinkel, Brilman, & van den Brink, 1993).

For example, consider someone with a disabling condition secondary to a traumatic accident, one of the results of which is a co-occurring diagnosis of Major Depressive Disorder. According to the DSM-IV-TR, the person who is experiencing a major depressive episode must experience at least five of nine possible characteristic symptoms. These symptoms can range from an inability to concentrate to weight gain or loss. The functional implications of any of the nine symptoms may be quite disparate, and the possible combinations of five symptoms required for the diagnosis will have varying clinical presentations. The combinations and presentations possible highlight the fact that diagnostic information alone is limited without clear descriptions of function that informed the diagnosis.

Beyond the variety of presentations of diagnoses and potential functional limitations that may or may not present in an individual, Leonardi et al. (2006, p. 1220) highlight the importance of considering the quality of life experience of a person dealing with health issues. They noted that it is important to distinguish between objective descriptions of the “disability experience” and an individual’s satisfaction with that experience: “... data
about quality of life, well-being, and personal satisfaction with life are useful for health and policy planning; but these data are not necessarily predicted by the presence or extent of disability." In contrast with the medical model, the social model of disability highlights the importance of a person’s subjective experience as it relates to facilitators and barriers that the environment may present, their impact on health and functioning, and ultimately an individual’s quality of life (Elliott, Kurylo, & Rivera, 2002; Hurst, 2003; Smart, 2005; Ueda & Okawa, 2003).

**Social Model of Disability**

In the Social model of disability, disability is no longer a simple personal attribute but a complex social construct reflecting the interaction between the individual and his or her environment (WHO, 2001a, p. 20). The social paradigm focuses on the barriers and facilitators to functioning, such as daily activities, life skills, social relations, life satisfaction, and participation in society. This model suggests that any problem related to disability is influenced by, if not due in large part to, societal attitudes and barriers in the environment.

Variations of the social model have appeared within the disability studies literature (Olkin, 1999; Olkin & Pledger, 2003). Within this paradigm, the individual is seen as the organizing core, but impairments are defined by the environment. The environment is typically construed as the “... major determinant of individual functioning” (Pledger, 2003; p. 281). The social model highlights the need for increased access and opportunities for people with disabilities and has historically been favored by advocates for the civil rights of persons with disability, who historically have disapproved of the medical model in general.

Hurst (2003) challenged the ICIDH development efforts by saying that it perpetuated the medical model, countered the social model of disability, and presented barriers to the understanding of issues related to social justice and disability among health care providers. In response to this criticism, WHO made a concerted effort to involve people with disabilities and disability rights advocates in the ICIDH revision process that produced the ICF.

Problems associated with exploring the value of the social model of disability include that historically it has neither clearly distinguished who qualifies as a person with a disability nor how disability is measured or determined. Further, researchers in this area have not established a distinct body of scholarship that systematically posits empirically testable and potentially falsifiable hypotheses (Peterson & Elliott, 2008). This may be due in part
to the reality that some supporters of the social model of disability regard psychological theory and scholarship as a continuation of the medical model where disability is equated with person-based pathology, largely independent of environmental and social factors (see Olkin & Pledger, 2003).

**Biopsychosocial Model of Disability**

The *ICF* integrates the medical and social models of disability, addressing biological, individual, and societal perspectives on health in a biopsychosocial approach (Peterson, 2005). The origins of the biopsychosocial framework can be traced back to an article from the 70s arguing for a new medical model for biomedicine (see Engel, 1977). Ultimately, the biopsychosocial model integrates all that is useful in both the medical and social models of disability.

From a disability-rights activist perspective, the interactive model informing the *ICF*’s conceptual framework is complementary to the social model of disability (disability being an interaction between impairment, functioning, and environment). The social model of disability is very helpful in describing how environmental factors are key to understanding disability and how advocacy occurs through social change (Hurst, 2003).

The name of WHO’s latest classification system was changed from the *ICIDH* to the *ICF* to reflect the paradigm shift away from a focus on consequences of disease as found in the 1980 version toward a focus on the components of health found in the current version (WHO, 2001a). Rather than an emphasis on “impairment, disability, and handicap” exclusively, the revised classification incorporated the terms *activity* and *participation* to denote positive experiences related to function and health. In the current version of the classification, the term *impairment* is defined as a problem with a body function or structure and the term *handicap* has been replaced with the term *participation restriction*, meaning a problem an individual may experience in life situations.

The evolution of the *ICIDH* to the current iteration of the *ICF* reflects the international zeitgeist to embrace a biopsychosocial model of disability rather than a medical or social model exclusively. We now have at our disposal an etiologically neutral framework and classification that was created through global consensus building, to identify all aspects of a person’s health experience at the individual and contextual levels (Stucki et al., 2005). It may be useful to explore the shift from the medical model to the biopsychosocial model of health care as it occurred in the United States through the lens of disability policy development during the 20th century. Reviewed next are disability policy developments leading up to the creation of the *ICIDH*. 
Disability policy developments in the United States reflect the efforts of people with disabilities and their advocates, who saw the utility of using government structures to address inequities for individuals who have fewer resources (Peterson & Aguiar, 2004). Federal and state funding agencies assumed leadership to resolve the health, vocational, and social inequities faced by persons with disabilities (Peterson & Elliott, 2008). First reviewed are developments in disability policy during the period prior to the creation of the ICIDH, largely influenced by world wars, followed by advances in medicine and social awareness that drove more sophisticated policy development throughout the remaining century and into the 21st century. The following review is informed by previously published reviews by Peterson and Aguiar (2004) and Peterson and Rosenthal (2005a).

Policy Developments Prior to the ICIDH

Within the United States, there has long existed an historical disparity between resources provided for physical versus mental health services. For example, early rehabilitation services were limited to provision to individuals with physical disabilities (Rubin & Roessler, 2008). Current social discourse identifies this issue as the need for mental health parity. It was not until the Vocational Rehabilitation Act Amendments of 1943 (Barden-Lafollette Act) that rehabilitation services were extended to people with mental health diagnoses (mental retardation and mental illness), as well as people who were blind (Peterson & Aguiar, 2004).

Although recent legislation has begun to address this disparity, there remains a lack of parity between the two health care domains. One of the great values of the ICIDH and now the ICF is that it was developed to be etiologically neutral; it does not matter whether functional limitations are a result of physical or psychological reasons, as the focus is on functioning, activity limitations, participation restrictions, and contextual factors.

One of the three task forces associated with the ICIDH revision process was the International Mental Health Task Force, which from the outset clarified “the distinctions between mental disorders and the disability associated with them while simultaneously aligning these domains of functioning and disability with those associated with physical disorders. The resulting ICF is now poised for utilization that will continue this dual trajectory” (Kennedy, 2003, p. 611). Hopefully, an etiologically neutral focus in health care classification can help remedy the disparities that have historically existed between mental and physical health care.
PART I THE ICF

The 1950s ushered in what has been called the Golden Era of Rehabilitation (Rusaled, 1976), when federal legislation mandated funds to expand health, vocational, and educational services to persons with disabilities; train professionals to provide these services; and increase architectural accessibility (see Elliott & Leung, 2005). For example, the Vocational Rehabilitation Act (VR Act) Amendments of 1954 (Public Law 565) provided individuals who were blind, poor, aged, or otherwise disabled an income allowance (Supplemental Security Income, [SSI]) as well as major funding for research and demonstration grants. The increase in resources for disability-related research, no doubt, had an impact on scholars’ ability to invest time, think creatively, and consider the benefits of movement away from the medical model toward the social model and ultimately the biopsychosocial model of disability conceptualization that currently informs the ICF.

The ICIDH grew out of the Civil Rights Movement, during which the VR Act Amendments of 1965 expanded funding for services to people with behavior disorders, substance use problems, public offense records, and people from socially disadvantaged backgrounds. The momentum of the 1960s brought the Social Security Act Amendments, establishing Social Security Disability Insurance (SSDI) to pay benefits to people with disabilities who have paid into the federal insurance program. The Vocational Rehabilitation Amendments of 1967 established the National Center for Deaf-Blind Youths and Adults as well as federal funding for pilot projects to serve migrant workers and their families.

The National Commission on Architectural Barriers was authorized by the 1965 Amendments, when the Commission began the process of reviewing the accessibility of public places for individuals with disabilities, leading to the formation of the Architectural Barriers Act (ABA) in 1968. The ABA required accessibility to buildings that were built, leased, or altered with federal funding. The most recent development within the ICF’s conceptual framework is its contextual part, including the component of environment. Careful attention to the role of environment in health and functioning is a beneficial manifestation of these civil rights-based initiatives and subsequent government policies.

A review of disability policy from the 1940s through the 1960s demonstrates a shift away from the traditional medical model and the disparity between physical and mental health, toward a more inclusive approach to resourcing both physical and mental health initiatives, and addressing the contextual issues in our environment that present barriers to full participation in society for people with physical disabilities. Although the first iteration of the ICIDH did not fully address the role of the environment...
in human functioning, these policy developments influenced subsequent developments in addressing context within the ICF.

During the decade preceding the publication of the ICIDH in 1980, the 1970s were characterized as dark times for disability-related policy and services (Rubin & Roessler, 2008). Despite the challenging times, disability policy momentum continued into the early 1970s with the establishment of the Architectural and Transportation Barriers Compliance Board (later renamed the Access Board) in 1973 to ensure that federal agencies complied with the ABA (later considerably expanded in Titles II and III of the Americans with Disabilities Act). The Urban Mass Transit Act began the plan and design of transportation for people with mobility impairments.

Most notable in 1973 was the passing of the policy associated with what came to be known as the billion dollar program, the Rehabilitation Act of 1973, which emphasized increased services to persons with the most severe disabilities and greater consumer involvement in the rehabilitation planning process (Rubin & Roessler, 2008). The mid-70s brought policies that mandated free, appropriate, public education to children with disabilities and emphasized education in the most fully integrated and barrier-free environment possible. The Education for All Handicapped Children's Act, which was retitled the Individuals with Disabilities Education Act (IDEA) in its 1990 iteration, sought to influence the achievement of better educational outcomes for children with disabilities. The movement toward considering the role of context or environment continued to manifest in these policy developments.

In 1978, a disability policy was enacted to support independent living services or those services for people with disabilities that were not necessarily tied to a vocational outcome. Centers for independent living partnered with the state-federal vocational rehabilitation system in providing comprehensive support services to people with disabilities. The social perspective on disability was having an impact on U.S. disability policy.

The 1970s disability policy developments reflected emphases on consumerism, informed choice, and full participation of consumers and patients in rehabilitation, vocational rehabilitation, and health-related services. There was also a greater recognition of detrimental effects of societal and individual discrimination against persons with disabilities. It was during the early 70s when work began on the ICIDH. Although the construction of the ICIDH was an international effort, our review of disability policy development in the United States suggests that these policies had an influence on U.S. participants' contributions to the ICIDH, ICIDH-2, and ultimately the ICF.
26  PART I  THE ICF

Work Begins on the ICIDH

Work leading to the development of the ICIDH began in 1972, when the WHO laid the groundwork for a classification scheme that addressed the consequences of disease (De Kleijn-De Vrankrijker, 2003). The ICIDH was intended to provide a classification of function that complemented the diagnostic and mortality information historically classified by the ICD. As the community of rehabilitation practitioners and disability advocates became aware of the ICIDH endeavor, in the spirit of the era, great interest developed around the development of a classification system that would take into account the functional impact of impairment and related social consequences.

In 1974, two separate classifications were developed, the first addressing impairments related to changes in health and the second handicaps that considered the role of the environment in disability and functioning. Discussions generated from work since 1972 were formally submitted for consideration at the October 1975 International Conference for the Ninth Revision of the International Classification of Diseases. In May 1976, the 29th World Health Assembly adopted a resolution that approved the trial publication of the supplementary classification of impairments and handicaps as a complement to the ICD. The first edition of the ICIDH was published in 1980 for trial purposes. This trial edition of the ICIDH presented the origins of a more holistic model of disability, stressing the role of environmental determinants in the performance of day-to-day activities and fulfillment of social roles by persons with disabilities (Brandsma, Lakerveld-Heyl, & Van Ravensberg, 1995; De Kleijn-De Vrankrijker, 2003).

Post-ICIDH Policy Developments

There was little progress on the ICIDH in the decade following its publication for trial purposes in 1980. In the United States, the 1980s was a decade marked by decreased government involvement in education, health, vocational rehabilitation, and disabilities (Peterson & Aguiar, 2004). Notwithstanding this arguably dubious shift in policy, President Bush Sr. brought renewed focus on the status and needs of people with disabilities through his support of the Americans with Disabilities Act (ADA) of 1990. The ADA was established to bring people with disabilities into the economic and social mainstream of American life and to provide enforceable policy that discouraged discrimination against individuals with disabilities.

In the spirit of the ICIDH, the ADA established terms that were very functional in nature and addressed environmental contexts in a meaningful way. More specifically, the ADA was developed using two
critical terms, *impairments* and *disability*, with definitions parallel to those employed in the *ICIDH*. Brown (1993) argued for advantages of linking the *ICIDH* with the ADA such as the creation of a uniform framework for discussion and a standardized measurement tool for data collection. He also provided examples of how ADA goals can be linked directly to *ICIDH* language. For example, *independent living* can be linked with three *ICIDH* handicap domains: *orientation*, *physical independence*, and *mobility*; the *ICIDH* goals relating to *occupation* could be linked to equal *opportunity* under the ADA, while the goal of *social integration* (*ICIDH* terminology) could be linked to *full participation* (ADA terminology). Last, the term *economic self-sufficiency* as used in the ADA was taken directly from the *ICIDH*. For a succinct overview of contributions of the *ICIDH* in the development of the ADA definitions and implementation, see Nieuwenhuijsen (1995).

The 1992 amendments to the Rehabilitation Act assured increased emphasis on independent living services and highlighted the importance of employment outcomes for persons with disabilities. Specific to the *ICIDH* development efforts, the 1992 amendments empowered people with disabilities by requiring increased participation in the planning and implementation of rehabilitation services. In this same spirit, disability advocates reviewing the *ICIDH* in its 1980 iteration emphasized the need for people with disabilities to be part of the actual classification process not just the health care provider alone. Also, they encouraged ongoing involvement of people with disabilities in the *ICIDH* development efforts. Coordinators of the WHO revision efforts for the *ICIDH* (1980) included people with disabilities and disability advocates in the revision process, which led to important changes in the content and structure of the *ICF* (WHO, 2001a).

**Developing the *ICIDH*-2**

The revision of the *ICIDH* began with its reprinting in 1993, which ultimately led to the provisionally titled *ICIDH*-2. It was referred to in and incorporated the *Standard Rules on the Equalization of Opportunities for Persons with Disabilities* (United Nations Department of Public Information [UNDPI], 1993), which was adopted by the United Nations General Assembly at its 48th session in December 1993. The *ICIDH*-2 was accepted as one of the United Nations’ social classifications, subsequently affecting international human rights mandates as well as national legislation. The *ICIDH*-2 arguably affected health-related policy development on an international scale.
WHO and its French, Dutch, and North American collaborating centers in 1993 generated the desiderata for continued revision of the *ICIDH* or the *ICIDH-2*. The desiderata suggested that the *ICIDH-2* should:

- Serve the multiple purposes required by different countries, sectors, and health care disciplines
- Be simple enough to be seen by practitioners as a meaningful description of the consequences of health conditions
- Be useful for practice, identifying health care needs and tailoring intervention programs (e.g., prevention, rehabilitation, and social actions)
- Give a coherent view of the consequences of health conditions such that the disablement process, and not just the dimensions of diseases or disorders, can be objectively assessed, recorded, and responded to
- Be sensitive to cultural variations, that is, be translatable and applicable in different cultures and health care systems
- Be usable in a complementary way with the WHO family of classifications (WHO, 2001a, pp. 246–247)

As a member of the WHO’s Mental Health Task Force, previously mentioned in the discussion of disability policy and mental health parity, the American Psychological Association (APA) became involved in the revision of the *ICIDH-2* in 1995. The APAs Practice Directorate has worked closely with the WHO since that time. At a 1996 meeting in Geneva, work from various collaborating centers was collated and an alpha draft produced, which was pilot tested from May 1996 through February 1997. Comments and suggestions were compiled at WHO headquarters, and primary issues were identified and circulated to contribute to the ongoing revision process.

In summary, in order to enhance the universal appeal of the *ICIDH-2*, the WHO continued to follow guiding principles in the spirit of the desiderata generated in 1993 during the final revisions. The primary principle held that the classification should contain a culturally meaningful order of categories relying on consensus from potential stakeholders, including professionals in health care service provision, insurance, social security, and other entitlement programs; labor; education; economics; social policy development; and allied corporate entities. Another guiding principle for the *ICIDH-2* revisions was respect for the different languages represented in the international community. They maintained that the *ICF* should be attractive to its users and should appeal to managers and policy makers.
who would support its use and that it needed to have continuity with previous classification systems in order to complement systems already in place (WHO, 2001a).

**Establishing Evidence for Validity and Reliability**

Feedback obtained during testing of the Alpha draft of the *ICIDH-2* was used to develop a Beta-1 draft that was tested from June 1997 through December 1998. These results were used to inform development of a Beta-2 draft, which underwent testing from July 1999 through September 2000, which is when the writer became involved with the *ICIDH-2* development efforts.

Feasibility and reliability studies of case evaluations were conducted during the Beta-2 field trials that involved 24 countries, 1,884 case evaluations, and 3,216 evaluations of case summaries. Focus groups and various other studies contributed to the Beta-1 and -2 revision processes. The revisions formulated for the Beta-2 draft of the *ICIDH-2* signified the shift from a focus on impairment and disorder to a focus on health. These revisions were designed to reflect changes in disability policy development and reforms of health care systems internationally and certainly echo our previous discussions regarding models of disability and the evolution of disability policy development in the United States.

International field testing occurred in over 50 countries (WHO, 2001a) at various centers and nongovernmental and intergovernmental organizations affiliated with the United Nations through the efforts of more than 1,800 scientists, clinicians, persons with disabilities, and other experts. Results of the studies led to several conclusions including that the *ICIDH-2* was a useful and meaningful public health tool. It was agreed that training was needed in the implementation of the system, particularly in the application of its conceptual framework.

After preliminary review of the systematic Beta-2 field trial data, the prefinal draft was completed in October 2000 and presented at a revision meeting the following month. Suggestions from the meeting were incorporated into the version submitted to the WHO Executive Board in January 2001. The final draft was presented at the 54th World Health Assembly in May 2001. The Assembly voted for the adoption of the *ICIDH-2* and elected to rename the system from the second edition of the *International Classification of Impairments, Disabilities and Handicaps (ICIDH-2)* to the *International Classification of Functioning, Disability and Health*, or the *ICF* (WHO, 2001a). A summary of the *ICIDH/ICF* revision process can be found in the seventh Annex of the *ICF* (WHO, 2001a).
A Major Concession

The final stages of the ICF’s development were marked by a coordinated international effort to build consensus, based on field trial data and expert opinion, as to how the ICF would be presented for final approval to the World Health Assembly in 2001 (De Kleijn-De Vrankrijker, 2003). One major concession was negotiated regarding the Activities and Participation constructs.

Originally, the Activities and Participation component of the ICIDH-2 was conceptualized as separate components, Activities was separate from Participation in separate chapters (as they are still depicted in Figure 3.1). Disability advocates within the United States were particularly invested in keeping these constructs separate and parallel, as it necessitated not only the classification of whether someone could do something (Activity) but also whether societal barriers precluded actual Participation in his or her context despite ability. Ideally, separate classifications for these two constructs would have allowed the international tracking of data related to what people can do (Capacity) versus what the environment allows them to do (Performance).

However, in order for this distinction to be made, international consensus was required as to which items represented Activities and which reflected the construct of Participation. After years of debate, this consensus could not be adequately achieved, resulting in the collapse of the two chapters into a combined chapter (known as the d codes, elaborated on shortly). The ICF suggests several different approaches using qualifiers that help to capture what the parallel constructs once captured; in the case of a totally overlapping list of d codes, the only way to address the concept of Participation as once defined is to use the d code Performance qualifier (also defined below; Reed et al., 2005; Threats & Worrall, 2004).

Unfortunately, in normative data collection efforts, the data available using separate, nonoverlapping constructs will be lost, particularly for data collection efforts employing the short version of the ICF (see Peterson, 2005). This disappointment is qualified, however, because with the use of the Capacity and Performance qualifiers (defined in the next section), it is possible to capture the essence of participation restrictions as they were formerly classified. Therefore, although an international database capturing these data may be lost, application of the Capacity and Performance qualifiers allows clinicians to use the ICF to emphasize what a person can do versus what they actually do in their environment. All of these concepts are more thoroughly described in the ICF overview that follows.
During the ICIDH revision processes of the 90s, a task force was created to specifically address using the ICIDH with children. Simeonsson et al. (2003) attempted to incorporate the sensibilities needed when classifying youth who are in constant developmental transition, resulting in the ICF-Children/Youth (ICF-CY). This text does not focus on the ICF-CY, but it is clear that a text that focuses on the ICF-CY and psychiatric diagnoses of childhood would be a useful reference resource.

The ICF has proven useful in working with children. Recent research suggests that the ICF itself and the ICD can be used together as a common language to document disability characteristics of children in early interventions and in child service systems (Simeonsson, Scarborough, & Hebbeler, 2006).

**SUMMARY**

We have explored the evolution of the ICF within the context of disability policy developments in the United States and the prevailing models of disability to date. It should be clear that the ICF is the product of considerable international consensus building efforts and that evidence for validity and reliability have been and will continue to be established by its stakeholders.

We ended this historical discussion with a reference to the children’s version of the ICF, the ICF-Children/Youth (ICF-CY), which is not a focus for this volume. We continue our focus on the ICF with a review of its conceptual framework, defining its parts and components, its coding system, and future efforts for research and clinical implementation.
CHAPTER 3

Overview of the ICF

PREVIEW QUESTIONS

1. Describe the ICF conceptual framework. What are Body Functions, Body Structures, Activities, Participation, Activity Limitations, Participation Restrictions, Environmental Factors, and Personal Factors?
2. How does the ICF define health, functioning, impairment, and disability?
3. Describe the nature of levels of classification and coding within the ICF.
4. How are qualifiers used with Body Functions and Body Structures?
5. How are the Capacity and Performance qualifiers used with Activities and Participation?
6. Describe the Contextual Factors and how they are qualified?
7. Describe the Ethical Tenets of the ICF, and how do they influence its use?

ENCOURAGEMENT

The size and scope of the ICF, with just under 1,500 categories of classification, may make it appear difficult to use at first. However, one could compare its use to that of any comprehensive reference; it is not necessary or practical to read most reference material cover to cover, rather, one searches for specific information according to a specific need. The reader can take comfort in knowing that once familiar with the basic structure of the ICF, the user can search purposefully for information related to health and functioning with some facility. To allow quick and easy classification, the WHO has created an electronic version of the ICF that is searchable through the ICF Browser or CD-ROM (WHO, 2001a). An alphabetical index is also available in the hardcopy version of the ICF.
MODEL OF FUNCTIONING AND DISABILITY

The ICF is a classification system that uses a universal, culturally sensitive, integrative, and interactive model of health and functioning that provides sensitivity to psychosocial and environmental aspects of health and disability (Simeonsson et al., 2003; Üstün et al., 2003). The model proposed to describe the process of functioning and disability in the ICF suggests dynamic and reciprocal relationships between the various health-related conditions within the context of environmental and personal factors.

The ICF does not classify people; it describes the situation of the person being evaluated within an array of health or health-related domains, which are practical and meaningful sets of related physiological functions, anatomical structures, actions, tasks, or areas of life, within a given context. The ICF was designed to classify not only limitations in functioning but also positive experiences with respect to bodily functions, activities, and participation in the environment. Examples of positive experiences include communicating, tending to personal hygiene, working, and studying.

Due to the complexity of interactions in a multidimensional model such as the ICF’s model of functioning and disability, the ICF text notes that the proposed model is likely incomplete and prone to misrepresentation. This warning notwithstanding, Figure 3.1 provides an illustration of the components and interactions that can be used to describe the relationship between disability and functioning (WHO, 2001a, p. 18). As noted earlier, the Activities and Participation components are now joined as one Activities and Participation component, not separate as Figure 3.1 suggests. WHO created the model to describe the process as an example of the building blocks for users to create their own models and study different aspects of the process of functioning and disability. Figure 3.1 provides a representation of processes associated with disability and function in context.

Universe of Well-Being

The ICF conceptual framework portrays health as a dynamic interaction between a person’s functioning and disability within a given context. The ICF classifies all aspects of human health and some health-related components of well-being. It does not classify circumstances brought about by socioeconomic factors such as race, gender, religion, or culture that may restrict full participation in society for reasons not related to health. However, the Personal Factors component within the conceptual framework highlights the need to consider complex social circumstances that
may influence the information that is currently classified. Note that the terms used in the ICF are capitalized to distinguish them from their lay uses (Threats & Worrall, 2004).

The ICF defines well-being as “encompassing the total universe of human life domains, including physical, mental, and social aspects, that make up what can be called a ‘good life’” (WHO, 2001a, p. 211). The ICF defines health in terms of the Universe of well-being comprised both of Health domains of well-being—or those areas of functioning that are a focus of health care professionals—and Other domains of well-being that are not typically a focus of health care systems but have a strong relationship to health conditions.

Health

Health refers to components of health, such as seeing, hearing, speaking, remembering, and walking. Health-related components of well-being include employment, education, environment, and transportation. Health condition is an umbrella term for an acute or chronic disease, disorder, injury, or trauma (coded using the ICD-10). The ICF does not draw a rigid line between Health and Health-related domains; rather, it encourages flexibility to accommodate different conceptualizations of health and health-related states.
Functioning, Impairment, and Disability

Functioning within the ICF includes all body functions, structures, activities, and participation in society. It denotes the positive aspects of health and functioning.

Impairments are defined as the manifestations of dysfunction in the body structures or functions rather than as the underlying pathology itself. Etiology of dysfunction is not the focus of the ICF but rather is the focus of its sister classification, the ICD-10. Impairments do not necessarily imply the presence of a disorder or disease but “represent a deviation from certain generally accepted population standards” of functioning (WHO, 2001a, p. 12). Determination of impairment is made by “those qualified to judge physical and mental functioning according to these standards” (p. 12).

Disability refers to any impairments, activity limitations, or participation restrictions, or “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” (WHO, 2001a, p. 17). In contrast with Functioning, it relates the negative aspects of the interaction between the individual with a health condition and his or her context (Environment and Personal Factors).

Dynamic Interaction and Intervention Targeting

Both functioning and disability are conceptualized within the dynamic interaction between health conditions and contextual factors. The proposed model helps us to understand that difficulty in one aspect of the process does not necessarily imply difficulty in other areas. For example, one may have an impairment such as anxiety but no associated capacity limitation (the person copes well with the anxiety or is treated effectively with medication). On the other hand, one may experience performance problems and capacity limitations without evident impairment (memory difficulties associate with an unidentified case of early onset of Alzheimer’s disease). Finally, performance problems may exist without impairments or capacity limitations (a person with Bipolar Disorder is not hired for a job because of stigma associated with the disease, even though the person is compliant with medications, has a stable mood, and can perform the essential functions of the job).

Intervention at any point in the model has the potential to modify one or more entities portrayed in the model. For example, in the second example above, psychological testing may reveal the early dementing process associated with memory loss, identifying the impairment and helping an individual and his or her family cope with and prepare for the disease progression (e.g., requesting pharmacological treatment that has been shown
to slow the dementing process). In the last example, disability awareness training or advocacy efforts with the employer may eliminate the prejudice that causes performance difficulty in obtaining gainful employment.

**ICF CORE STRUCTURE**

The structure of the ICF consists of two parts, each with two components. Within the first part, *Functioning and Disability*, the *Body* component consists of two parallel classifications, *Body Functions* and *Body Structures*. Chapters within these classifications are parallel and organized according to body systems. The second component, *Activities and Participation*, covers domains of functioning from both an individual and societal perspective. Components of functioning can be expressed either as nonproblematic functioning or as disabilities (i.e., impairment, activity limitation, or participation restriction). The first part of the ICF is interpreted through four separate but related constructs. *Body Functions and Structures* are interpreted through changes in physiological systems or anatomical structures, and *Activities and Participation* are interpreted through *Capacity* and *Performance*. These constructs are defined through the use of qualifiers that are described later.

The second part of the ICF classification addresses *Contextual Factors* through two components. The first is *Environmental Factors* or factors in the physical, social, or attitudinal world ranging from the immediate to more general environment. Environmental factors are qualified as either facilitating or hindering functioning. The second component of *Contextual Factors* is *Personal Factors*, which are not currently classified in the ICF due to the complex nature of social and cultural variation across the world, but this factor exists in the conceptual framework to call attention to the need to consider unique factors like gender, race, age, fitness, religion, lifestyle, habits, upbringing, coping styles, social background, education, profession, past and current experience, overall behavior pattern and character, individual psychological assets, and other health conditions. A summary of the ICF core structure is illustrated in Figure 3.2.

<table>
<thead>
<tr>
<th>Part 1: Function and Disability</th>
<th>Part 2: Contextual Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Functions and Structures</td>
<td>Activities and Participation</td>
</tr>
</tbody>
</table>

**FIGURE 3.2 ICF core structure**

Source: *International Classification of Functioning, Disability and Health* (ICF) by the World Health Organization, 2001, Geneva, Author. ( Adapted with permission.)
The Body Functions and Structures component of the ICF comprises two classifications: physiological functions of body systems or Body Functions (including psychological functions) and anatomical parts of the body or Body Structures (e.g., organs, limbs, and their components, including the brain and nervous system). Body Functions and Body Structures are classified in separate but parallel chapters (see Figure 3.3).

<table>
<thead>
<tr>
<th>Components:</th>
<th>Body Functions</th>
<th>Body Structures</th>
<th>Activities and Participation</th>
<th>Environmental Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code Letter:</td>
<td>$b$</td>
<td>$s$</td>
<td>$d$</td>
<td>$e$</td>
</tr>
<tr>
<td>8 Parallel Chapters</td>
<td>9 Chapters</td>
<td>5 Chapters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chapter 1</td>
<td>Mental functions</td>
<td>Structures of the nervous system</td>
<td>Learning and applying knowledge</td>
<td>Products and technology</td>
</tr>
<tr>
<td>Chapter 2</td>
<td>Sensory functions and pain</td>
<td>The eye, ear and related structures</td>
<td>General tasks and demands</td>
<td>Natural environment and human-made changes to environment</td>
</tr>
<tr>
<td>Chapter 3</td>
<td>Voice and speech functions</td>
<td>Structures involved in voice and speech</td>
<td>Communication</td>
<td>Support and relationships</td>
</tr>
<tr>
<td>Chapter 4</td>
<td>Functions of the cardiovascular, haematological, immunological and respiratory systems</td>
<td>Structures of the cardiovascular, immunological and respiratory systems</td>
<td>Mobility</td>
<td>Attitudes</td>
</tr>
<tr>
<td>Chapter 5</td>
<td>Functions of the digestive, metabolic and endocrine systems</td>
<td>Structures related to the digestive, metabolic and endocrine systems</td>
<td>Self-care</td>
<td>Services, systems, and policies</td>
</tr>
</tbody>
</table>

Continued
For example, within Body Functions, “hearing functions” has a corollary within Body Structures of “ear and related structures.” Both classifications are arranged according to the same body system taxonomy and can be interpreted in terms of changes in physiological systems or in anatomical structures. The criteria for impairment are the same for body functions and structures and are classified according to (a) loss or lack, (b) reduction, (c) addition or excess, and (d) deviation. Once present, an impairment is further qualified in terms of severity, which is described next.

Now that we have defined Body Functions and Structures within the context of the ICF, it may be useful to discuss how the ICF overlaps with the ICD-10 system in this regard. Both classifications address impairments to body structures and related functions but for two different reasons. The ICF addresses them to identify problems in related functioning for a given health condition, which may then inform treatment needs, intervention targeting, or even prevention efforts. The ICD does so to identify signs and symptoms associated with a disease process or diagnosis and perhaps as a reason for contact with health services (WHO, 2001a, p. 4).
QUALIFIERS

The classification codes are given meaning through the use of various qualifiers, depending upon the component. Codes have no meaning without them. Qualifiers are one or more numbers indicated after a decimal point (or separator) that follows a multilevel code, denoting a magnitude or level of health for that code.

The generic qualifiers noted in Figure 3.4 apply in some fashion across all of the codes. The generic qualifiers describe the extent of problems for a given ICF code using the generic scale with some slight modification depending upon the component being qualified. For example, for all instances the scores range from 0 through 4 indicating, respectively, “No,” “Mild,” “Moderate,” “Severe,” and “Complete” levels of difficulty, which can be described as impairment, limitation, barrier, facilitator, or difficulty depending upon with which ICF construct it is used.

For example, the Body Function and Body Structure components use a qualifier that addresses severity through values ranging from 0 through 4 indicating, respectively, “No,” “Mild,” “Moderate,” “Severe,” and “Complete impairment” (WHO, 2001a, p. 47). In contrast, qualifiers for Activities and Participation use the same numbers and severity levels but exchange “impairment” for “difficulty.” Qualifiers for Environmental Factors also use the same number and related severity

<table>
<thead>
<tr>
<th>Code</th>
<th>Level of Problem, Impairment, Difficulty, or Barrier</th>
<th>Qualitative Descriptors for Problem, Impairment, Difficulty, or Barrier</th>
<th>Percentages*</th>
</tr>
</thead>
<tbody>
<tr>
<td>xxxx.0</td>
<td>No</td>
<td>none, absent, negligible . . .</td>
<td>0%–4%</td>
</tr>
<tr>
<td>xxxx.1</td>
<td>Mild</td>
<td>slight, low . .</td>
<td>5%–24%</td>
</tr>
<tr>
<td>xxxx.2</td>
<td>Moderate</td>
<td>medium, fair . .</td>
<td>25%–49%</td>
</tr>
<tr>
<td>xxxx.3</td>
<td>Severe</td>
<td>high, extreme . .</td>
<td>50%–95%</td>
</tr>
<tr>
<td>xxxx.4</td>
<td>Complete</td>
<td>total . .</td>
<td>96%–100%</td>
</tr>
<tr>
<td>xxxx.8</td>
<td>not specified</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xxxx.9</td>
<td>not applicable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FIGURE 3.4  Generic qualifiers

* Percentages are to be calibrated in different domains with reference to relevant population standards as percentiles. “xxxx” stands for a given ICF classification code that precedes the qualifier.

Source: International Classification of Functioning, Disability and Health (ICF) by the World Health Organization, 2001, Geneva, Author. (Reprinted with permission.)
system but exchange the term *impairment* for *barrier* or *facilitator* as appropriate.

The *Body Structure* component uses the generic qualifier as the first qualifier as well as two additional qualifiers. The second qualifier indicates the nature of the change in a body structure as follows: 0 = no change in structure; 1 = total absence; 2 = partial absence; 3 = additional part; 4 = aberrant dimensions; 5 = discontinuity; 6 = deviating position; 7 = qualitative changes in structure, including accumulation of fluid (p. 105). The third qualifier indicates the location of impairment as follows: 0 = more than one region; 1 = right; 2 = left; 3 = both sides; 4 = front; 5 = back; 6 = proximal; 7 = distal. All three qualifiers have a “not specified” (8) and a “not applicable” (9) qualifier as appropriate.

**ACTIVITIES AND PARTICIPATION**

The second component under *Functioning and Disability*, *Activities and Participation*, presents a single list of domains that covers a wide range of different aspects of functioning from both individual and societal perspectives. Figure 3.3 lists the nine domains within this component of the *ICF*. The *Body Functions and Structures* component is intended to be complemented by the *Activities and Participation* component. We briefly discussed this component within our historical overview of the *ICF*’s development, but the discussion will be more detailed and complete here.

**Activity and Participation**

An *Activity* is defined as the execution of a task or action by an individual, such as sitting, copying, calculating, or driving. It represents the individual perspective of functioning. *Participation* is involvement in a life situation or the societal perspective of functioning. The domains in this component can be used to describe either or both concepts.

**Activity Limitation and Participation Restriction**

*Activity Limitations* are difficulties an individual may have in executing activities, from slight to severe deviation in comparison with someone without a given health condition. *Participation Restrictions* are problems an individual may experience in involvement in life situations, determined by comparing an individual's participation to an individual without disability in that culture or society. Both constructs “are assessed against a generally accepted population standard” (WHO, 2001a, p. 15) for someone without a similar health condition.
The ICF proposes four possible conceptualizations of the relationship between Activities and Participation. The user can code each category as either an activity or participation issue, resulting in two mutually exclusive lists. Australia has adopted this method in their clinical implementation manual. Alternatively, one can use the domains for both activity and participation simultaneously or as an overlapping list, which is how the U.S. version of a clinical implementation manual in progress is proceeding (Reed et al., 2005, 2008; Threats & Worrall, 2004). Two other variations between separate and overlapping lists are referred to in Annex 3 of the ICF. Domains within this component are qualified through the constructs of Capacity and Performance.

**CAPACITY AND PERFORMANCE QUALIFIERS**

The domains of the Activities and Participation component are operationalized through the use of the qualifiers Capacity and Performance. The Capacity qualifier “describes an individual’s ability to execute a task or an action,” or more specifically, “the highest probable level of functioning that a person may reach in a given domain at a given moment” (WHO, 2001a, p. 15). One must apply the Capacity qualifier in the context of a “‘uniform’ or ‘standard’ environment, [that thus] reflects the environmentally adjusted ability of the individual” (p. 15). In order to make international comparisons, such environments have to be defined similarly across countries. This situation presents unique standardization challenges that are being addressed in the development of the clinical implementation manual (Reed et al., 2005, 2008; Threats & Worrall, 2004).

The Performance qualifier describes “what a person does in his or her current environment” (p. 15). Another way to describe this qualifier is as “involvement in a life situation” or “the lived experience” of a person in the environment (p. 15). Current environment is important to note using the Environmental Factors component for this qualifier. One can consider the difference between Capacity and Performance functioning in order to suggest what could be done to an individual's environment in order to maximize his or her ability and function and to increase opportunity for full participation in society. An example of this may be applications of assistive technologies for persons with disabilities that enable individuals to access vocational, recreational, and community domains, previously unavailable to certain individuals (or groups of individuals) without such support.
Consider another example, a person dealing with schizophrenia as a diagnosis. With proper treatment, a person with schizophrenia may be quite capable of a wide range of activities. However, if due to the stigma associated with mental illness a potential employer is not willing to hire a person so diagnosed, society becomes the barrier to participation in society.

In summary then, Capacity relates most closely with what a person can optimally do given his or her Body Function and Structure, whereas Performance is what a person actually does given his or her context. This presents a “can-do” (Capacity) versus “does-do” (Performance) paradigm that informs intervention targeting to ameliorate barriers and maximize facilitators within a person's context; more on this in the Contextual Factors section.

The Performance and Capacity qualifiers are rated on the same 0–4 scale as the first qualifier of Body Functions and Structures, substituting the term difficulty for impairment. Performance and Capacity can be considered both with and without assistive devices or personal assistance, forming four possible qualifiers (Performance with and without assistance and Capacity with and without assistance).

**CONTEXTUAL FACTORS**

*Contextual Factors* “represent the complete background of an individual’s life and living” (WHO, 2001a, p. 16). They include two components, Environmental and Personal Factors. Disability is defined 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” (WHO, 2001a, p. 17). These contextual factors can present as either barriers to or facilitators of health and functioning in society.

**Environmental Factors**

*Environmental Factors* (the physical, social, and attitudinal worlds) are considered as they facilitate or hinder all components of functioning and disability at the Body Functions and Structures levels as well as the Activities and Participation levels. Environmental Factors are organized to focus on two different levels, the individual and societal levels.

The individual level has the most immediate environmental influence, for example, one's home, workplace, or school. Within these contexts, one is
influenced by family, peers, acquaintances, and strangers. The physical and material features of the immediate environment are also considered here.

The societal level addresses both formal and informal social structures, services, and overarching approaches or systems in the community or society. Related organization services may include work environment, community activities, government agencies, communication and transportation services, informal social networks, laws, regulations, formal and informal rules, attitudes, and ideologies (WHO, 2001a, p. 17). Figure 3.3 lists the five chapters that comprise Environmental Factors. Evaluation of these factors provides opportunity for exploration into determinants and risk factors of health conditions as they exist in the environment.

Qualifiers for Environmental Factors

The Environmental Factors are qualified on a scale similar to the generic scale used for Body Functions, ranging from 0 to 4—No to Complete—substituting Barrier or Facilitator for Impairment. Facilitators according to the ICF are factors in a person's environment that, through their absence or presence, improve functioning and reduce disability. Barriers are factors that through their absence or presence limit functioning and create disability. Facilitators, indicating positive environmental support, are noted with a plus sign; Barriers simply follow the decimal point.

There are three suggested coding conventions within the ICF for the Environmental Factors. They can be coded independently of other components in the ICF, coded for every component, or coded for each of the Performance and Capacity qualifiers under Activities and Participation. An example of Environmental Factors coding may be the evaluation of an individual's mobility within the community and whether they are able to use public transit effectively to access desired domains (facilitator) or are reliant on others for transportation (barrier). Another example could be the assessment of prevailing attitudes toward disability that create barriers or facilitate inclusion for persons with disabilities.

Personal Factors

Personal Factors may include gender, race, age, fitness, religion, lifestyle, habits, upbringing, coping styles, social background, education, profession, past and current experience, overall behavior pattern and character, individual psychological assets, and other health conditions, all of which can affect health and functioning. As noted earlier, although Personal Factors are a
consideration within the *Contextual Factors*, they are not described or coded specifically in the *ICF* because they are not considered part of a health condition or health state.

However, *Personal Factors* are considered within the overall model because they may play a role in the manifestation of functioning, disability, or health at any level and also affect the outcome of a given intervention. It is important to note here that disability advocates are encouraging classificatory precision in this important domain, or that code sets are developed to capture this important area (Duggan, Albright, & LeQuerica, 2008; Hurst, 2003) so the *Personal Factors* will likely be a focus of future development within the *ICF* (Duggan et al., 2008).

Having reviewed the major components of the *ICF* and their definitions, Figure 3.5 provides a useful summary table of these terms in their contexts.

**LEVELS OF CLASSIFICATION AND CODING**

As mentioned previously, *domains* within the *ICF* are practical and meaningful sets of related physiological functions (including psychological functions) and anatomical structures, as well as actions, tasks, and areas of life described from bodily, individual, and societal perspectives that make up the different chapters within each component of the *ICF*. Essential attributes of the domains (e.g., qualities, properties, and relationships) are defined by both inclusions and exclusions; each *ICF* code is designed to be mutually exclusive. The classes and subclasses reflect the various levels that make up the hierarchical order of the *ICF*, with more basic levels comprising all aspects of more detailed levels.

**One-Level Classification**

The categories of function for a given domain begin at a general level of detail and expand to levels of greater detail. The *One-Level Classification* of the *ICF* expands on the core structure: (1) the *Body Functions* component contains eight chapters that address “physiological functions of body systems (including psychological functions)” (WHO, 2001a, p. 12); (2) the *Body Structures* component contains eight chapters that parallel the *Body Functions* component and deal with “anatomical parts of the body such as organs, limbs, and their components” (p. 12); (3) the *Activities and Participation* component contains nine chapters, with *Activities* addressing “the execution of a task or action by an individual”
Two Parts: (A dynamic interaction)

<table>
<thead>
<tr>
<th>Each Part Has Two Components:</th>
<th>Part 1: Functioning and Disability</th>
<th>Part 2: Contextual Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domains (Contain the categories or units of classification of the ICF)</td>
<td>Body Functions and Structures</td>
<td>Activities and Participation</td>
</tr>
<tr>
<td></td>
<td>1. Body Functions (including Psychological Functioning)</td>
<td>Life areas (tasks, actions)</td>
</tr>
<tr>
<td></td>
<td>2. Body Structures</td>
<td></td>
</tr>
<tr>
<td>Constructs (Defined through use of qualifiers that modify the extent or magnitude of function or disability)</td>
<td>Change in body function (physiological)</td>
<td>Capacity: Executing tasks in a standard environment (“can do”)</td>
</tr>
<tr>
<td></td>
<td>Change in body structure (anatomical)</td>
<td>Performance: Executing tasks in the current environment (“does do”)</td>
</tr>
<tr>
<td>Positive Aspect</td>
<td>Functioning Functional and structural integrity</td>
<td>Activities Participation</td>
</tr>
<tr>
<td>Negative Aspect</td>
<td>Disability Impairment</td>
<td>Activity limitation Participation restriction</td>
</tr>
</tbody>
</table>

**FIGURE 3.5** Overview of the *ICF*

Note: Units of classification are situations, not people

Source: *International Classification of Functioning, Disability and Health (ICF)* by the World Health Organization, 2001, Geneva, Author. (Adapted with permission.)
and Participation addressing “involvement in a life situation” (p. 14); and (4) the Environmental Factors component contains five chapters focusing on “the physical, social, and attitudinal environment in which people live and conduct their lives” (p. 171), organized from the immediate to more general environment. The maximum number of codes available at the one-digit level of classification is 34. The one-level classification is illustrated in Figure 3.3.

Two-Level Classification

The Two-Level Classification is the first branching level of the ICF, comprising specific chapter headings. Alphanumeric codes begin with a letter (b for Body Functions, s for Body Structures, d for Activities and Participation, and e for Environmental Factors) and a three-digit numeric classification indicating chapter and specific categories within each chapter. For example, the classification associated with the psychological function of emotion is found in the first chapter of Body Functions (its code begins with “b”) under the Specific Mental Function section, called Emotional Functions, or alphanumeric code b152. The two-level items total 362 distinct, three-digit codes.

Detailed Classification

The Detailed Classification With Definitions lists all categories within the ICF along with their definitions, inclusions, and exclusions, providing greater levels of detail using four- and five-digit numeric codes. The level of classification used depends upon the clinical context. Examining emotional functions once again, examples of level of detail include Appropriateness of Emotion (b1520), Regulation of Emotion (b1521), and Range of emotion (b1522). Code groups also offer an Other Specified (e.g., b1528) and Unspecified (e.g., b1529) codes for functions not detailed in the current classification.

Codes at the detailed level of classification number up to 1,424 items. However, the ICF suggests that typical use of the system in a health or health-related setting for surveys and clinical outcome evaluation will generate a set of 3–18 codes to describe a case with two-level (three-digit) precision. The more precise four-level codes would be used for more specialized services (rehabilitation outcomes, geriatrics, and mental health) and research.

There are two versions of the ICF: the full version that provides all four levels of classification detail and the short version that provides two levels of classification. In either case, units of classification are qualified with numeric codes that specify the magnitude or extent of disability or function in a given category as well as the extent to which an environmental factor is a facilitator or a barrier.
Hierarchical and Mutually Exclusive Codes

Within components, as units of classification become more detailed, there is the assumption that more detailed units share the attributes of the broader units in the hierarchy order in which they fall. For example, Range of Emotion b1522 shares the attributes of the higher level of classification Emotional Functions b152. It is worth mentioning again that categories within the same level are designed to be mutually exclusive. More than one category may be used to accurately classify specific functioning as warranted.

ICF Coding Example

By way of review, the ICF has two parts, each with two components. Part 1 of the ICF comprises Body Functions and Structures and Activities and Participation. Body Functions have codes beginning with the letter “b,” and Body Structures codes begin with the letter “s.” Activities and Participation codes begin with the letter “d.” The ICF also allows for the use of “a” or “p” replacements for “d” if attempting to code Activity or Participation separately. Part 2 of the ICF is composed of Environmental and Personal Factors, but Personal Factors are not yet classified in the ICF. Environmental Factors codes begin with the letter “e.”

The codes themselves begin with the associated chapter number. Looking ahead to our discussion of Figure 3.6, the codes included in the figure all begin with the number 1, because they belong to Chapter 1, Mental Functions. For an example of codes that expand to the fourth level of detail (five digits), the reader is referred to the ICF, p. 49, the Orientation Functions (b114) section of Global Mental Functions (b110–b139), which are second-level codes. Orientation functions can be classified more precisely to address Orientation to person (b1142, a third-level code) and even more precisely as Orientation to others (b11421), a fourth-level or five-digit code. This represents the pathway from a two-level code in Mental Functions to a detailed classification as a fourth-level code.

Qualifiers provide inherent meaning to the ICF codes, reflect the magnitude of the issue classified, and appear as one, two, or three digits after the decimal point that follows the ICF code. Students of the ICF will benefit from a review of the second Annex of the ICF (pp. 219–233) that provides coding guidelines, including an overview of the ICF organization and structure and general and specific coding rules. Annex 4 of the ICF (pp. 238–241) provides specific case examples for applying the ICF. However, there is work to be done with respect to the consistent clinical implementation of the ICF, which we turn to next.
CLINICAL IMPLEMENTATION OF THE ICF

Although the ICF was adopted as the complement to the ICD-10, the 191 member states that are encouraged to use it must generate their own resources necessary to guide its clinical implementation; these efforts have

<table>
<thead>
<tr>
<th>Branch</th>
<th>ICF Code</th>
<th>Two-Level Descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Mental Functions (b110–b139)</td>
<td>b110</td>
<td>Consciousness functions</td>
</tr>
<tr>
<td></td>
<td>b114</td>
<td>Orientation functions</td>
</tr>
<tr>
<td></td>
<td>b117</td>
<td>Intellectual functions</td>
</tr>
<tr>
<td></td>
<td>b122</td>
<td>Global psychosocial functions</td>
</tr>
<tr>
<td></td>
<td>b126</td>
<td>Temperament and personality functions</td>
</tr>
<tr>
<td></td>
<td>b130</td>
<td>Energy and drive functions</td>
</tr>
<tr>
<td></td>
<td>b134</td>
<td>Sleep functions</td>
</tr>
<tr>
<td></td>
<td>b139</td>
<td>Global mental functions, other specified and unspecified</td>
</tr>
<tr>
<td>Specific mental functions (b140–b189)</td>
<td>b140</td>
<td>Attention functions</td>
</tr>
<tr>
<td></td>
<td>b144</td>
<td>Memory functions</td>
</tr>
<tr>
<td></td>
<td>b147</td>
<td>Psychomotor functions</td>
</tr>
<tr>
<td></td>
<td>b152</td>
<td>Emotional functions</td>
</tr>
<tr>
<td></td>
<td>b156</td>
<td>Perceptual functions</td>
</tr>
<tr>
<td></td>
<td>b160</td>
<td>Thoughts functions</td>
</tr>
<tr>
<td></td>
<td>b164</td>
<td>Higher-level cognitive functions</td>
</tr>
<tr>
<td></td>
<td>b167</td>
<td>Mental functions of language</td>
</tr>
<tr>
<td></td>
<td>b172</td>
<td>Calculation functions</td>
</tr>
<tr>
<td></td>
<td>b176</td>
<td>Mental functions of sequencing and complex movements</td>
</tr>
<tr>
<td></td>
<td>b180</td>
<td>Experience of self and time functions</td>
</tr>
<tr>
<td></td>
<td>b189</td>
<td>Specific mental functions, other specified and unspecified</td>
</tr>
<tr>
<td></td>
<td>b198</td>
<td>Mental functions, other specified</td>
</tr>
<tr>
<td></td>
<td>b199</td>
<td>Mental functions, unspecified</td>
</tr>
</tbody>
</table>

FIGURE 3.6  Body Functions, Chapter 1, Mental Functions, Two-Level Classification of the ICF
Source: International Classification of Functioning, Disability and Health (ICF) by the World Health Organization, 2001, Geneva, Author. (Reprinted with permission.)
not been consistent or well coordinated across the member states. In order
to facilitate implementation of the ICF in clinical settings in the United
States, the APA and WHO formed a series of interdisciplinary teams of
experts to develop The Procedural Manual and Guide for the Standardized
Application of the ICF: A Manual for Health Professionals (Reed et al., 2005).

**Early Stages of the Manual’s Development**

Reed and associates (2005), some of whom were members of the alpha
drafting team for the joint-manual effort, including this author, detailed
the initial template development that led to work completed thus far on
the implementation manual. Eventually, clinicians provided with a clinical
applications manual that associates the ICF with contemporary assessment
practices will assist novice classification users to orient to the ICF effec-
tively and to apply the ICF consistently to research and practice.

**Current Challenges in Clinical Implementation**

The manual development effort proved challenging and is still ongoing. The
projected publication date of the manual has been delayed as various com-
licated issues arise along the way, such as questions regarding interpretation
of the codes themselves and the implementation of the Capacity and Perform-
ance qualifiers (Reed et al., 2005, 2008; Threats & Worrall, 2004). The size
of the manual has grown over time and generated discussion regarding the
utility of a paper manual versus an electronic computerized matching system
approach to implementing the ICF. The manual is currently undergoing a
multidisciplinary, final editing process, so it may be published by the time
this text is published.

All of the research on the development of the ICIDH will not
necessarily generalize to the ICF as it is currently constructed, given the
significant changes to the classification system (see Peterson & Rosenthal,
2005a,b). The creation of The Manual adds another layer of complexity to
ICF implementation. Once the manual is published, studies will need to be
conducted that evaluate the clarity of the manual, the utility of the manual
in clinical practice, and ultimately the application of the ICF given the new
implementation guidelines. Complementary training will be developed to
promote consistent coding of guidelines from the WHO and its collaborat-
ing centers (Reed et al., 2008).

Clinical judgment, assessment biases, and interactional dynamics
between rater and participants are further areas of complexity to address in
standard use of the ICF, so much work lies ahead. A thorough review of the American Psychological Association’s (APA) collaboration with the World Health Organization (WHO) in the development of a clinical implementation manual can be found in Reed and associates (2005, 2008).

ASPECTS OF THE ICF APPLICABLE TO MENTAL DISORDERS

Since the focus of this text is the nexus between the ICF and the DSM-IV-TR, we conclude this overview of the ICF by highlighting aspects of the ICF most relevant to mental health functioning and mental disorders. Research and practice inform us that the relationship between psychological health and physical health is complex, reciprocal in some instances, and almost always mutually influential (APA, 2000). It is artificial in most instances to try to separate psychological factors from physical impairment. As we describe aspects of the ICF that would most typically be associated with mental disorders, it is important to acknowledge that nearly every aspect of the ICF could be impacted by psychological factors.

One-Level Classification

The obvious chapter within the Body Structures component of the ICF that relates to mental disorders is Structures of the Nervous System, Chapter 1. The functional parallel chapter under Body Functions is Mental Functions, Chapter 1. There are other chapters in this component of the ICF that relate to very specific aspects of health and functioning in DSM-IV-TR-diagnosed mental disorders, which are explored in Part III of this text.

The chapters most relevant to mental disorders in the Activities and Participation component of the ICF include Chapter 1, Learning and Applying Knowledge; Chapter 2, General Tasks and Demands; and Chapter 3, Communication; Chapter 7, Interpersonal Interactions and Relationships; Chapter 8, Major Life Areas; and Chapter 9, Community, Social, and Civic Life, relate closely to the psychosocial sequelae of mental disorders.

Finally, the chapters most relevant to mental disorders in the Environmental Factors section of the ICF include Chapter 3, Support and Relationships; and Chapter 4, Attitudes; Chapter 5, Services, Systems, and Policies, could certainly be a relevant domain to classify when planning mental health service provision.
Two-Level Classification

The Two-Level Classification contains the ICF chapters and the first branching level in the classification. The short version of the ICF contains only two levels of classification, and it is likely that most international initiatives involving data sharing will occur at this level of detail. The detailed classification may have as many as five levels of classificatory precision and will likely be reserved for special applications in research, assessment, and practice. Here, we discuss one instance of where Two-Level classification codes will relate to mental disorders.

Whether the diagnostic system is the ICD or the DSM-IV-TR, Chapter 1, Mental Functions, will be one of the most frequently used chapter of codes in the ICF for mental disorders. Chapter 1 with its first level of branching is presented in Figure 3.6.

Because the ICF is a recommended companion text to Part 1 of this text, including all 1,424 ICF codes in this text is not necessary, but Figure 3.6 is included as a point of focus for discussion. It is not difficult to imagine that disturbances in mood, anxiety, and perception (i.e., psychotic symptoms) would impact the detailed global and specific mental functions listed in Figure 3.6. The reader is referred to the ICF Detailed Classification with definitions to review the 14 pages that expand these branches to the fourth and fifth level of detail.

The challenge for the manual in development for the ICF is to provide guidance on how each of these constructs is operationalized. For example, b144 memory functions; what model of memory is proposed as the standard? What assessment instruments and what metrics will inform its qualification? Similarly, consider code b126, Temperament and personality functions. By what theory and/or factor analysis will temperament and personality be defined? What instruments will best capture these complex constructs?

In Part III of this text, we present results from the study that established two ICF Core Sets for depression. The specific Core Sets are presented in their entirety to provide an example of the comprehensive application of the ICF in describing the functional aspects of a given mental disorder. The results and discussion portions of the publication are reviewed in light of future Core Set development.

Having provided an overview of the ICF, its conceptual framework, and its component parts, we now turn our focus to the ethical clinical implementation of the ICF in clinical practice and research.