Psychiatric News | March 04, 2011
Volume 46 Number 5 page 7-29

From the President

Meta-Structure in *DSM-5* Process

Carol A. Bernstein, M.D.

As we move forward with the continuing development of *DSM-5*, I thought it might be helpful to review some of the history behind *DSM* with a specific focus on what is referred to as the "meta-structure." I am grateful to Dr. Steven Hyman for his thoughtful explication of these issues at the Board of Trustees meeting in December on which this column is based.

DSM-III (APA, 1980) was a pioneering scientific achievement. By creating a system of explicit, operationalized diagnostic criteria, *DSM-III* addressed the pressing problem of interrater reliability in psychiatric diagnosis. It became necessary in the 1970s to facilitate diagnostic agreement among clinicians, scientists, and regulatory authorities given the need to match patients with newly emerging pharmacologic treatments and the associated need to conduct replicable clinical trials so that additional treatments could be approved. While it is true that no system based entirely on clinical description can match the levels of diagnostic agreement made possible by objective medical tests, there were no good alternatives for psychiatry when *DSM-III* was published in 1980. Indeed, even today objective tests and biomarkers for mental disorders remain research goals rather than clinical tools.

Despite substantial progress in producing interrater reliability, it was widely recognized that it was premature to consider *DSM-III* diagnoses as representing etiologically determined diagnoses. This contrasts to the situation in scientifically more mature (some would say less difficult) areas of medicine where diseases are identified by more "objectively" ascertainable abnormalities of anatomy, physiology, or biochemistry and where genetic and environmental etiologies are increasingly certain. The intellectual underpinnings of the *DSM-III* approach dated from the work of Robins, Guze, and colleagues in the late 1960s and 1970s, a time when the science of mental illness was in an early, formative stage. It would be more than a decade, for example, before the first functional magnetic resonance imaging (fMRI) study would be published and more than two decades before the initial sequencing of the human genome, which initiated the modern era of genetics. The *DSM-III-R* and *DSM-IV* revisions remained close to the *DSM-III* approach, in part because of the dearth of new scientific information. As a result, diagnoses in the *DSM-III*, *DSM-III-R*, and *DSM-IV* are best understood as useful placeholders, based on careful description, but not on deeper understandings.

Since 1980, the *DSM* system has gained widespread acceptance and contributed significantly to improved diagnostic agreement. That very success, however, has given rise to a serious unintended consequence: *DSM* diagnoses have come, over the last four decades, to be treated as "real entities" in the world, that is, they have been reified. Just as clinicians need *DSM-IV* diagnoses to select treatments, to communicate with each other and with patients, and to be reimbursed, scientists must generally use *DSM-IV* criteria to obtain a research grant or to have a paper accepted by a journal. Industry must use *DSM-IV* criteria in the design of clinical trials if they are to gain approval from the Food and Drug Administration for a new treatment. As a result, clinical and translational researchers have largely based their work on *DSM-IV* disorders. While initially a great aid to the study of mental illness by ensuring the comparability of research results, the *DSM* system has, paradoxically, also become a constraint. *DSM* diagnostic entities continue to dominate research from epidemiology to clinical trials to the production of transgenic mouse models despite a large and growing body of data, derived both from clinical sources and from the laboratory, signaling profound problems in the way that *DSM-IV* divides up and classifies the complex world of psychopathology. Given that the intellectual roots of *DSM-IV* are more than four decades old, this development is neither surprising nor does it diminish the historical importance of *DSM-III.*

What are some of the problems that have emerged? As every practitioner knows, a large number of patients receiving any *DSM-IV* diagnosis also meet criteria for multiple diagnoses. Some studies have identified clusters of disorders that co-occur at very high frequencies. For example, many of the *DSM-IV*

anxiety disorders co-occur, often with a mood disorder (often described as an "internalizing cluster"); antisocial personality disorder, attention-deficit/hyperactivity disorder, multiple substance use disorders, and other disruptive disorders co-occur with each other at high frequency (often described as an "externalizing cluster"); and patients with personality disorders (PDs) rarely receive a single PD diagnosis. Would our ability to study and treat psychopathology be enhanced if we began to recognize at least some broader disorder spectra (as many clinicians who treat autism already do)? Might some significant aspects of psychopathology be better conceptualized in terms of quantitative dimensions (in analogy with blood pressure or measures of blood lipids) instead of solely as discontinuous categories? With few exceptions, approaches to conceptualizing psychopathology in terms of spectra or dimensions are in early stages and not yet ready to supplement or replace categories in the first edition of *DSM-5*. However, *DSM-5* is expected to be a living document and thus will be updated as scientific evidence is validated. It is likely that some diagnostic experiments with spectra and dimensions will be considered by the psychiatric community in the years after *DSM-5* makes its first appearance.

A second problem for practitioners is the widespread need to employ "not otherwise specified" (NOS) criteria; in some areas of practice, such as eating disorders, personality disorders, or autism spectrum disorders, NOS may be more prevalent than specific *DSM-IV* diagnoses. The approaches taken in the 1970s to improve interrater reliability, produced such narrowly specified criteria that a large number of patients are excluded. As an example of operationalization, in the diagnosis of schizophrenia, the vague, if appropriate term "chronic," was rejected in favor of the precise, but somewhat arbitrary, "6 months" of illness. The "NOS problem," like the "comorbidity problem," suggests that the large number of narrowly defined categories in *DSM-IV*, while possibly helpful for reliability, create a failure to capture the rather messier reality faced by clinicians and researchers alike.

One more example pointing to limitations in the current approach is shown by the many patients with symptoms that straddle diagnoses. "Schizoaffective disorder," an unsatisfactory category that has bedeviled researchers for years as they search for validators, captures some of the patients with symptoms of psychosis and mood disorder, but by no means all. At the present, *DSM-IV* categories do not map well onto the genome, just as they fail to map onto clinical populations, and genetics research suggests that the problem will not be fixed by tweaking the boundaries of existing categories. Instead, the weight of findings from genetics fits more comfortably with broader disease spectra or the representation of psychopathology as interacting symptom dimensions.

What is to be done? How can *DSM-5* be structured in a way that facilitates research across the current restrictive diagnostic silos without disrupting clinical practice and the administrative uses of the manual? This may be similar to repairing a plane while keeping it flying. A promising approach is emerging from discussions both within the *DSM-5* Task Force and, in parallel, within the International Advisory Group for the revision of *ICD-10*. The idea is to assemble existing disorders into larger clusters suggested by the scientific evidence and then to encourage researchers, granting agencies, and journal editors to facilitate research within and across clusters. This clustering (which has come to be called a "meta-structure") would be reflected in the *DSM-5* as a new table of contents, but would leave revisions of criteria for individual disorders to the existing *DSM-5* work groups.

Ultimately, the goal is to move away from a classification that focused on reliability while inadvertently sacrificing validity toward a classification that is far more clinically useful than that of *DSM-IV* and far more open to validation. If, as an additional benefit, the *ICD-11* would adopt the same meta-structure, which is a real possibility, there will be progress toward the harmonization of the two classifications. Since the world does not benefit from there being divergent populations in clinical trials or different epidemiologies depending on the choice of manual, this would be a significant global benefit.