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Original article

Research planning for the future of psychiatric diagnosis

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ABSTRACT

More than 10 years prior to the anticipated 2013 publication of DSM-5, processes were set in motion to assess the research and clinical issues that would best inform future diagnostic classification of mental disorders. These efforts intended to identify the clinical and research needs within various populations, examine the current state of the science to determine the empirical evidence for improving criteria within and across disorders, and stimulate research in areas that could potentially provide evidence for change. In the second phase of the revision process, the American Psychiatric Institute for Research and Education (APIRE) recently completed the 5-year international series of 13 diagnostic conferences convened by APA/APIRE in collaboration with the World Health Organization and the National Institutes of Health (NIH), under a cooperative grant funded by the NIH. From these conferences, the DSM-5 Task Force and Work Groups have developed plans for potential revisions for DSM-5, including the incorporation of dimensional approaches within and across diagnostic groups to clarify heterogeneity, improve diagnostic validity, and enhance clinical case conceptualization. Use of dimensions for measurement-based care has been shown to be feasible in psychiatric and primary care settings and may inform monitoring of disorder threshold, severity, and treatment outcomes. The integration of dimensions with diagnostic categories represents an exciting and potentially transformative approach for DSM-5 to simultaneously address DSM-IV's clinical short-comings and create novel pathways for research in neurobiology, genetics, and psychiatric epidemiology.

The release of the fifth edition of the Diagnostic and Statistical Manual for Mental Disorders (DSM-5) may well mark the advent of a modified approach to psychiatric diagnostic and classification. Despite its advances in clinical utility and reliability, the fourth edition of DSM (DSM-IV [3]) drew criticism that diagnostic validity had become mired in numerous extraneous factors, including excessive comorbidities, overreliance on the "Not Otherwise Specified" category, vague operationalization of the clinical significance criterion, lack of treatment specificity, and under-evaluation of genetic and biomedical outcomes in psychiatric research and epidemiology. Consequently, among the DSM-5 revision experts now faced with assessing the current state of the science, validity and dimensional classification have moved to the forefront of DSM-5's purview. The neo-Kraeplinian use of explicit diagnostic criteria in DSM-III, reflecting a phenomenological rather than etiological assumption, represented a vast departure from the psychodynamic schemata embraced by DSM-I and DSM-II, but the question of where the field of psychiatry will land as we move beyond this approach is still unclear. What is clear is that DSM-5 will need to represent, at the very least a reevaluation of the implicit hierarchical structure of DSM-IV and ICD-10 that has a strict separation of psychosis, mood, anxiety, somatic, and personality disorder syndromes and an absence of any dimensional components in diagnostic criteria.

1. Planning for DSM-5

As the American Psychiatric Institute for Research and Education (APIRE)–an affiliated corporation of the APA–began the formal planning process for DSM-5 in 1999, it soon became evident that greater attention would need to be given to cross-cutting issues relevant to all diagnostic categories, such as age- and gender-related features of disorders, diagnosis across the developmental lifespan, assessment of impairment and disability, and cultural expressions of disorders. The mass acceleration of advances in neuroscience and genetics during the 1990s, appropriately proclaimed the "Decade of the Brain", also needed to be reflected in our understanding of lab science and neurobiological underpinnings of mental disease. In an effort to summarize the gaps in the current nosology and to discuss how these issues may potentially be adopted in DSM-5, APIRE, under direction of the author (D.A.R.), collaborated with the National Institute for Mental Health (NIMH) to develop a series of white

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papers, later published by APA in two volumes, *A Research Agenda for DSM-5* [16] and *Age and Gender Considerations in Psychiatric Diagnosis: A Research Agenda for DSM-5* [20].

At the close of this initial phase of DSM-5 development, APIRE received a $1.1 million grant from the National Institutes of Health (NIH) to convene a series of international planning conferences. These meetings were designed with three primary goals in mind: to stimulate the empirical research base for future changes in diagnostic classification; to promote international collaboration for cross-talk between DSM-5 and the forthcoming 11th edition of the International Classification of Diseases (ICD-11); and to begin building a consensus about revised criteria, in an effort to maximize clinical and research validity of DSM-5 diagnoses. The conference series, which was jointly sponsored by NIMH, the National Institute on Drug Abuse, the National Institute on Alcohol Abuse and Alcoholism, and the World Health Organization (WHO), organized 13 diagnosis-specific international meetings over the span of 5 years, from 2003–2008. As a result, more than 190 scholarly articles and 13 white paper monographs [4,9–11,14,16,20–22,27,31,32,35] have been published as resource documents for the DSM-5 Task Force and Work Group members. These publications have become integral components to the literature reviews conducted by the DSM-5 Work Groups to assess the current state of the criteria and determine which revisions are warranted. Since one of the aims of the conference series was to provide specific recommendations for how DSM-5 might address gaps in the literature, each monograph provides summary content theorizing how DSM-5 might begin to answer the numerous questions raised throughout the meetings. This has made the monograph series particularly valuable to the revision process.

The importance of the international aspect of the conference series should not be overlooked, as DSM-5 is attempting to move closer to creating a universally-accepted and culturally-sensitive perspective on diagnosis than previously [17]. To that end, the conferences included in sum nearly 400 participants from 39 countries, including 16 developing nations. One of the conferences devoted to implications of psychiatric diagnosis and classification on aspects of public health [28] was specifically structured to solicit input from international colleagues on global public health needs and how these might be impacted by DSM-5. The proposed harmonization of DSM-5 with ICD-11 is a reflection of the interplay between mental health and more general public health efforts on the world stage. These efforts include WHO's interest in statistics on mortality and morbidity; the translation of psychiatric diagnoses into primary care terminology; economic and socio-demographic implications across the globe; the role of private, public, and consumer stakeholders in psychiatric classification; and the interrelationship between psychiatric diagnosis and various cultural expressions of mental disorders. DSM-5 Task Force members and APIRE representatives are continuing to work closely with the WHO to ensure DSM-5 and ICD-11 provide a common international scientific framework for clinical practice and future research.

2. Dimensions as an avenue to improved validity in DSM-5

As noted above, DSM-IV's improvements were somewhat tempered by concerns about validity, which stemmed partially from DSM-IV's attempts to help rectify the diagnostic rigidity created by the third iteration of DSM (DSM-III [1]). DSM-III introduced a hierarchical classification that eliminated simultaneous diagnoses and gave deference to "higher order" diagnoses, such as organic brain diseases, schizophrenia, bipolar disorder, and major depression. After its release, the inability to co-classify disorders, such as anxiety disorders in patients with schizophrenia, became a particular point of contention [5]. Furthermore, DSM-III's exclusionary rules inhibited accurate identification of clinically comorbid cases, hindering treatment planning. The revised edition of DSM-III (DSM-III-R [2,24]) consequently removed the hierarchical structure, but in doing so, introduced a new diagnostic challenge–comorbidities.

The descriptive and categorical nature of DSM-IV, combined with its comparatively lax approach to inclusion/exclusion criteria, resulted in a dramatic rise in the prevalence of comorbid conditions from DSM-III-R [23]. Using the National Comorbidity Survey Replication (NCS-R) study, 55% of individuals with a psychiatric diagnosis had a single diagnosis, while approximately 22% had two diagnoses and 23% three diagnoses [13]. However, clinicians in routine clinical practice, who do not always strictly adhere to DSM-IV criteria, are typically underreporting comorbidities. In a comparison of 1,000 patients assessed for psychiatric intake [36], wherein half were diagnosed via the DSM-IV Structured Clinical Interview for DSM-IV Axis I Disorders (SCID [8]) and half using an unstructured clinical evaluation, the SCID sample was twice as likely to have two or more diagnoses (OR = 2.1) than the clinical sample. These odds increased exponentially with the number of diagnoses (e.g., three or more diagnoses, OR = 4.9; four or more diagnosis, OR = 16.0), with more than one-third of the SCID group receiving three or more diagnoses. By comparison, less than 10% of the clinical group received the same. Mood, anxiety, eating, somatoform, and impulse control disorders were significantly more frequent in the SCID sample.

In response to high rates of comorbidities, particularly in primary care settings, the DSM-5 revision experts are proposing the use of dimensional assessments to clarify heterogeneity within and across disorders and to aid clinicians in systematically assessing a wide range of symptoms that may inform diagnosis and treatment planning and monitoring. This includes measurement of symptoms that cut across most patient populations, such as mood, anxiety, sleep functioning, suicidal ideation, cognition, and psychosis. These cross-cutting assessments provide a more thorough conceptualization of diagnosis that mirrors general medicine's "review of systems" and calls attention to symptoms of clinical importance that might otherwise be overlooked. Endorsement of any of these cross-cutting dimensions would lead to administration of a second tier of assessments that further delineate symptoms and assess thresholds for a possible comorbid diagnosis, such as administration of the Generalized Anxiety Disorder-7 [30] upon endorsement of the anxiety questions.

Yet another level of cross-cutting assessments should prompt the clinician to consider symptoms of disorders specifically related to the primary diagnosis. This could include, for example, the assessment of impulsivity in children with oppositional-defiant disorder or substance use in adults with personality disorders. Finally, dimensional assessments will involve the measurement of disorder severity, which is not clearly operationalized in DSM-IV and, as a result, is currently underutilized despite the fact that severity offers important information about clinical course and magnitude of change over time. Severity measures will likely be criteria-specific and may be operationalized differently across disorders. For instance, simple symptom counts may be appropriate for substance use disorders, while severity of major depression can be assessed directly as a component of the Nine-Item Patient Health Questionnaire.

The cumulative effect of comorbid psychiatric diagnoses on prognosis includes poorer response to treatment [34], presumably due in part to ineffective interventions and/or inaccurate diagnosis. Cross-cutting and severity dimensions would help enhance diagnostic assessment, specify treatment, and reduce the