Finalization of DSM-5, Part I: Classification and criteria

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The Diagnostic and Statistical Manual of Mental Disorders (DSM) is the standard diagnostic system for mental disorders in the United States and numerous healthcare entities around the world, including Canada. The DSM is primarily a tool that was developed to guide to clinical practice through the provision of diagnostic criteria for mental disorders that enabled a common language for clinical communication.[1] In addition to criteria provided to help clinicians determine diagnosis, entries are accompanied by diagnostic codes – largely used for billing and administrative purposes – and narrative text that expounds on features relevant to assessment and research, such as age, gender, and cultural-related information; development and course of illness; prevalence; and differential diagnosis. In addition to its central role as a tool for patient care, the DSM is used by researchers, insurance companies, legislators and policy makers, and health statisticians. Revisions are coordinated by the American Psychiatric Association (APA) and have generally been undertaken every 15-20 years.

The Fifth Edition of the DSM, DSM-5, was published in May 2013, following a decade-long development process to review the scientific foundations and clinical utility of the manual and, when indicated, develop new criteria and text. This revision was driven by evidence from the clinical, epidemiological, neuroscience, and genetic literature, which suggested that the criteria and categorical classification approach used in the DSM-IV no longer reflected the evidence or patient and clinician realities, and had started to hinder research progress. The literature also identified serious implications associated with the use of the DSM-IV, including the over-occurrence of multiple diagnoses within the same patients, excessive use of "not otherwise specified" diagnoses, and an over-emphasis in research on criteria reliability rather than other important indicators, such as clinical utility, feasibility, and validity. These issues formed the basis of the DSM-5 Task Force and Work Groups proposals to develop the DSM-5. The highest priority in the revision of the DSM was to optimize its clinical usefulness with changes guided by clinical and research evidence to bring better scientific and clinical rigor to the diagnosis of mental disorders.

The degree to which the DSM-5 reflects the latest empirical evidence is among the most prominent changes, and is especially recognizable in its revised chapter organization. Previously, diagnostic groups were based on similarities in symptom presentation. But, as our understanding of neuroscience has further developed, it has become clear that classification based on shared genetic and pathophysiological factors, in addition to clinical similarities, will better facilitate research to identify causes of mental disorders, biomarkers, and improved treatments. For example, the most commonly studied mental disorders, autism, attention-deficit/hyperactivity disorder (ADHD), schizophrenia, major depressive disorder, and bipolar disorder, all appear to have significant genetic overlap with one another – a relationship that is particularly strong for schizophrenia and bipolar disorder.[2,3] Accordingly, the DSM-5 places the chapters on neurodevelopmental disorders (which include autism spectrum disorder and ADHD), schizophrenia spectrum and other psychotic disorders, bipolar and related disorders, and depressive disorders proximal to one another.

Advances in pathophysiology, brain imaging, and neurogenetics also informed the need to redistribute certain disorders from their DSM-IV classification. For instance, the DSM-IV's anxiety disorders now exist across four different chapters in the DSM-5 (anxiety disorders; obsessive-compulsive and related disorders; trauma- and stress-related disorders; and dissociative disorders). Recent studies have shown that obsessive-compulsive and related disorders (e.g., hoarding disorder, skin picking disorder, hair pulling disorder, etc.) are likely to involve distinctive neurocircuitry dysfunctions as compared ▶

to other anxiety disorders (e.g., social anxiety disorder [social phobia], panic disorder, specific phobia, etc.), which supported their disaggregation and redistribution into separate chapters.

The DSM-IV chapter on disorders typically diagnosed in infancy, childhood, and adolescence has been redistributed across different chapters in the DSM-5 based upon scientific evidence of their biologic relatedness. For instance, separation anxiety disorder and selective mutism are now in the anxiety disorders chapter; reactive attachment disorder and disinhibited social engagement disorder in the trauma and stress-related disorders chapter; pica and rumination in the feeding and eating disorders chapter; encopresis and enuresis in a separate elimination disorders chapter; and conduct disorder and oppositional-defiant disorder in the disruptive, impulse-control, and conduct disorders chapters. The DSM-IV's chapter on impulse-control disorders not elsewhere classified is also now more appropriately rearranged across obsessive-compulsive and related disorders (i.e., trichotillomania [hair-pulling disorder]); substance-related and addictive disorders (i.e., gambling disorder); and disruptive, impulse- control, and conduct disorders (i.e., intermittent explosive disorder, pyromania, and kleptomania).

Lastly, the DSM-5's chapters loosely reflect a developmental grouping with conditions more likely to be diagnosed in infancy and childhood placed earlier in the manual (e.g., neurodevelopmental disorders), conditions diagnosed in later life placed near the end (e.g., neurocognitive disorders), and those commonly seen in adulthood generally in the midsection of the manual. This is also replicated in the listing of disorders themselves within several, though not all, of the chapters, including the chapters on depressive disorders (i.e., disruptive mood dysregulation disorder [DMDD] listed first), anxiety disorders (i.e., separation anxiety disorder and selective mutism are the first two listed), trauma- and stress-related disorders (i.e., reactive attachment disorder and disinhibited social engagement disorders are the first two listed), and feeding and eating disorders (i.e., pica, rumination, and avoidant/restrictive food intake disorder are the first three listed).

The structure of diagnostic criteria in the DSM-IV is such that individuals either do or do not meet criteria for a disorder, which suggests that there is a discrete boundary between "normal" and "disordered" brain functioning. This is in opposition to much of general medicine: there is no single blood pressure reading, for instance, that demarcates having or not having hypertension ; instead,

there are gradients of elevations, from mild, to moderate, and so on, and these delineations are important for informing physicians' treatment decisions. The same is true for the assessment of body mass index, serum cholesterol, glycosylated hemoglobin, left ventricular ejection fraction, etc. In the diagnosis and treatment of mental disorders, little guidance is given for how to account for variations that deviate from the strict criteria and diagnostic thresholds, such as mild symptoms, atypical presentations, or subthreshold symptoms from other disorders. As a result, these patients often land in the "not otherwise specified" (NOS) category of diagnosis, which is not clinically useful and does little to enhance treatment development. This indicates the need for a more dimensional approach to the diagnosis of mental disorders or, at least, the need for a combined categorical-dimensional system.

The move towards a dimensional approach is slow but ongoing. In the DSM-5, efforts were made to include different levels of dimensional assessments that can be employed to better characterize distinctions of disorders. These include, for instance, clinician and patient (or parent/informant) rated dimensional assessment of symptom domains that are important across all mental disorders (i.e., cross- cutting measures), and patient (or parent/informant) assessment of disability. Included in the main sections of the manual (i.e., Section II) are clinician-rated dimensional assessment of the severity of some, but not all, DSM-5 diagnoses, such as autism spectrum disorder, substance use disorders, anorexia nervosa, and bulimia nervosa. The patient (or parent/informant) rated cross-cutting, diagnostic-specific severity, and disability measures are included in Section III of the manual and in the online supplemental materials for the DSM-5 (http://www.psychiatry.org/dsm5). Section III indicates the need for further testing in the field. Clinicians and researchers are encouraged to evaluate the measures' usefulness in describing patients' clinical status and response to treatment.

The cross-cutting dimensional measures assess symptoms that cut across most, if not all, mental disorders – such as depressed mood, anxiety, cognition problems, substance use, and sleep disturbance – is analogous to general medicine's review of systems. This measure calls attention to symptoms that may or may not indicate the presence of a disorder (but nonetheless may indicate a need for treatment), and could otherwise be overlooked during clinical exam. If endorsed, a second level of dimensional assessments can be administered to explore the symptom(s) in greater detail, providing clinicians with clues as to ▶

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whether related symptoms or, possibly, even a full disorder may be present. If a clinician determines that a disorder is present (based on responses to dimensional assessments as well as diagnostic interview and clinical judgment), another level of dimensional assessment can provide quantitative ratings of the severity of the disorder, which help establish baseline functioning and aid in tracking clinical course and treatment response. Finally, inclusion of the World Health Organization Disability Assessment Schedule (WHODAS) 2.0 provides an alternate method for the assessment of disability and functioning. The WHODAS 2.0 allows for a thorough assessment of disability and functioning without confounding from the effects of symptoms. The fact that these dimensional measures are completed by the patient (or parent/informant) is reflective of recent healthcare trends to more actively adopt patient-reported outcomes as part of clinical care, which may improve decision-making and quality of care and is already standard in clinical trials and drug and device labeling.

Beyond the organization of the diagnostic chapters and disorders, other notable modifications were endorsed to improve clinical care, such as the addition of new disorders. Autism spectrum disorder (ASD), which folds DSM-IV's autism, Asperger's disorder, childhood disintegrative disorder, and pervasive developmental disorder NOS, was proposed after a rigorous review of existing data indicated the disorders were not consistently and reliably diagnosed and that evidence indicating their unique associated features, familial history, treatment response, and prognosis was lacking.[4] However, the DSM-5's specification of the severity of social communication impairments and restricted repetitive patterns of behaviours, variability, onset, and course led to inclusion of ASD specifiers to demarcate particular presentations, such as whether or not accompanying intellectual impairment or language impairment are present. This will allow children to be diagnosed more accurately while preserving the DSM-IV disorders that allow already-diagnosed individuals to receive insurance coverage and educational assistance.

Major neurocognitive disorders (NCD) replace DSM-IV's various dementia and amnestic disorder diagnoses. Mild neurocognitive disorders were approved as mental disorders for the DSM-5, after having been in the appendix of the DSM-IV. Each is accompanied by specific subtypes, including diagnostic criteria and text, to help better describe potential underlying causes of the cognitive impairment, including Alzheimer's disease, HIV infection, vascular disease, traumatic brain injury, and frontotemporal disease.

Individuals with these disorders are frequently the subject of research and treatment development, and the provision of specific criteria and more detailed text descriptions for each of the NCD subtypes should facilitate advances in those areas. These patients are also often encountered in clinical settings, and the revised criteria should yield more accurate and reliable diagnoses.

Among other new disorders are hoarding disorder, premenstrual dysphoric disorder, DMDD, binge eating disorder, restless legs syndrome, REM sleep behaviour disorder, and excoriation (skin-picking) disorder. Proposals for novel diagnoses were developed only after the DSM-5 Work Groups conducted thorough literature reviews and, in some instances, secondary data analyses to determine the validity and public health need for inclusion. Some proposals did not meet the standard for inclusion set by the various review committees charged with assessing all major proposed changes to the DSM-5, and in many cases, those proposals were accepted into the DSM-5's chapter on Conditions for Further Study. These include attenuated psychosis syndrome, caffeine use disorder, Internet gaming disorder, and non-suicidal self-injury. While criteria and text are provided for each of these, they are not considered official mental disorders and their criteria are not to be used clinically; they are primarily for further research to determine whether inclusion in a future edition of DSM is warranted.

In summary, the development of diagnostic criteria that are completely dimensional and/or are based entirely on biological and genetic markers would be ideal since this would provide for more reliable and valid diagnosis of mental disorders. However, in the absence of such biological and genetic markers, and with a focus to enhance the diagnosis and care of patients with mental health problems, the DSM-5 has relied on clinical experience as well as existing and growing empirical evidence to guide the revision process. This has resulted in an updated manual that will help clinicians better describe and diagnose their patients. The inclusion of clinicians' dimensional rating of the severity for some diagnoses is a significant step towards this endeavor to have a more dimensional assessment of mental disorders. The DSM-5's cross-cutting dimensional measures are also a major step towards this endeavor. This is complementary to the National Institute of Mental Health's Research Domain Criteria (RDoC) initiative, which calls for the development of "new ways of classifying psychopathology based on dimensions of observable behaviours and neurobiological measures."[5] While the RDoC emphasises the dimensional approach to the classification ▶

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of psychopathology from a more basic science perspective, the DSM examines similar issues from a clinical research and practice perspective. It is hoped that, with continuing research, the two approaches will merge, resulting in a clinically useful diagnostic system that is fully informed by neuroscience and basic behavioural science. ■

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