「精神障害者又はその扶養義務者」が入院に要する費用を負担することができると認めたときには，その費用の全部または一部を徴収することができるとしている（精保31条）。要するに，措置入院においても本人あるいは扶養義務者の費用負担が原則なのである。医療保護入院に保護者の同意を不要としたときにも，入院費はこれまでと同様，本人または扶養義務者が支払うことになろう。

　もちろん，医療保護入院も措置入院と同様の都道府県の全額支弁の方法をとるべきである，あるいはすべての強制入院を全額完全な公費負担とし，精神障害者，その扶養義務者に一切求償しないとすることも考えられよう。しかし，これは現在の国の財政状況からするなら現実的とは思われない。

4．保護者制度改革の先にあるもの

（1）　地域精神医療システムの整備

　精神保健福祉法の規定している保護者の法律的義務を削除し，医療保護入院の要件から「保護者の同意」を外したとしても，精神障害者の権利を擁護し，その医療を支援する保護者の役割はこれからも残るだろう。しかし，これは一般医療における家族の役割と変わらないのであり，精神医療における「保護者」は特別なものとはいえなくなっているということに帰する。現行法で唯一保護者の権利として認められているのは退院等の請求権（精保38条の4）であるが，これもこのままの形で維持すべきかには検討の余地がある。

　「保護者から家族へ」は精神医療の実践に携わってきた人からは自然の流れであり，決して衝撃的な変革ではないと思われる。そしてその先にある最大の課題は，地域精神医療システムの整備である。精神病院，地域支援事業者は，精神障害者，その家族と連携をとりながら，地域精神医療の実現に向けた一層の努力を続けなければならない。医療が積極的に地域内の精神障害者の方に出向くアウトリーチも推進されなければならない。

（2）　強制入院手続の整備

　保護者制度の改革の後でも，精神障害者の医療へのアクセスを保障する，「入りやすく，出やすい」強制入院として医療保護入院制度は維持されるであろう。そのためには移送制度（精保34条）を「使いやすいものにする」ことも必要であるが，他方では安易に医療保護入院に頼ることがあってはならない。また，早期の退院を促すために精神医療審査会による定期的審査の方法にも工夫の余地はあると思われる。

（3）　精神障害者と家族の支援，患者の権利擁護（patient advocacy）

　保護者制度改革の目的の1つは，精神障害者の家族の負担を軽減しなければならないというものがあった。精神障害者を医療に結びつける義務をもっぱら保護者，家族に負わせるべきでないとする以上，そして，家族も支援を要する存在であることを認識する以上，精神障害者と家族をサポートしながら医療・福祉を遂行するシステムを考えていかなければならないことになる。

　このような観点からは，精神障害者と精神医療とを仲介し，精神障害者の権利を擁護する存在，patient advocate の必要性が導入も考える必要があろう。国連 NGO である「国際法律家委員会」（International Commission of Jurists. ICJ）は宇都宮病院事件の後に3度来日して，調査報告書を出したが，その中で，日本においても精神障害者の権利擁護システムを作ることが必要であるとしていた。[17] 日本の精神医療でどのようなシステムを構想すべきかは，まだ議論の途中であるが，考えられなければならない問題である。

（17）　国際法律家委員会（編）広田伊蘇夫＝永野貫太郎（監訳）『精神障害者の人権　国際法律家委員会レポート』（明石書店，1996年）97-100頁・161-162頁・188-189頁。

LETTERS

"Prosumers" and Recovery

To the Editor: In an open e-mail to his colleagues, psychologist Frederick Frese, Ph.D., an acknowledged "prosumer" (a mental health professional who has experienced mental illness) pointed out that of 137,000 members of the American Psychological Association, only ten were known to him to have revealed a psychiatric history. Among psychiatrists, some may reveal their status to trusted friends. However, very few have been openly willing to utilize their psychiatric histories as areas of special expertise. Among these are Suzanne Vogel-Scibilia, M.D., who speaks often of her diagnosis of bipolar disorder, and Daniel Fisher, M.D., Ph.D., a psychiatrist with a diagnosis of schizophrenia and a leadership role in the consumer movement. All acknowledge prior episodes of psychosis and psychiatric hospitalizations. Yet all are functioning as practitioners or as nationally known advocates.

Where are the others? Hidden from view, they presumably are reluctant to be forthcoming because of their fear of stigma and of being demeaned by fellow professionals. Concerned about being labeled "impaired," mental health professionals have good reason to hide a psychiatric diagnosis. In *An Unquiet Mind*, noted psychologist Kay Jamison

wrote tellingly of what happened when she revealed her bipolar disorder to an old friend and colleague: an immediate drop in status, an instant perception of an unforeseen defect.

Prosumers do not reveal their status because they fear devaluation and mistrust of their skills. Yet objectively, those who are in recovery and intact enough to conduct their work may also be viewed as superior in important respects. They are able to control their symptoms, overcome external and internalized stigma, and utilize a battery of coping strategies when confronting stress. Consider the accomplishments of the aforementioned mental health professionals with major axis I diagnoses. For many years Fred Frese was director of psychology at a large state psychiatric hospital in Ohio. Dan Fisher is long-time director of the SAMHSA-funded National Empowerment Center in Massachusetts. Suzanne Vogel-Scibilia, a former president of the National Alliance on Mental Illness, has a substantial practice and is active in the American Association of Community Psychiatrists. All have lectured widely and participated in national policy-making venues. How many others could influence policy and training if they were willing to lend their personal expertise to these enterprises?

Prosumers who are able to function in their professions are to be admired. They should be proud to acknowledge their diagnoses and take credit for their coping skills in going the extra mile. Fears of disclosure demean their enormous courage in overcoming deficits and turning them into strengths. They are our role models for recovery.

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Alternative Settings: Unintended Consequences

To the Editor: The November issue includes a timely review by Thomas and Rickwood (1) of residential

alternatives to psychiatric hospitalization for patients who need acute care. Their main conclusion was that care provided in these settings can improve symptoms at least as well as care provided in psychiatric hospitals and that the alternative settings appear to be cost-effective. At a time when saving money is becoming increasingly important, it is essential to look closely at these findings. The authors noted the enormous variation among these services. They also remarked that the studies they reviewed did not provide much detail about the patients and the actual treatment and support provided. A recent review of nonresidential alternatives to psychiatric hospitalization also mentioned the omission of such details (2), and we agree with the authors that these aspects should be investigated further.

However, there is a point that was not emphasized by Thomas and Rickwood. Not only are details lacking about the patients and treatments, but virtually no information has been reported about what happens in the rest of the service system when a "crisis house" is introduced. Tyrer and colleagues (3) described the introduction of a home treatment team and mentioned that the number of suicides in the catchment area increased, although none of the patients who killed themselves were under the care of the home treatment team. It may have been the case that experienced staff had moved to the home treatment team and that community mental health teams thus became less effective. Something similar might happen with the introduction of crisis houses.

For economic evaluations of residential alternatives, it is also important to observe what happens in other parts of the system. For example, introduction of a home treatment team or a residential alternative may increase the number of empty hospital beds. Therefore, even though the alternative setting is cheaper per patient, the increased costs for the system of the empty beds may mean that offering care in the alternative setting is more

expensive than offering standard inpatient care.

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In Reply: Hubbeling and Chang raise important issues and highlight the fact that changes in one area of mental health care have an impact on other parts of the system. The mental health care system provides a continuum of services of treatment and support. Ideally, clients are able to move between levels of service according to changes in their symptoms and wellbeing; the aim is to provide care in the least restrictive environment. For example, both Australia (1) and the United Kingdom (2) have such a system.

The flow-on effects of changes in available services and client movements within a system are difficult to determine. Doing so requires a systemwide focus rather than evaluation of unique service types within a system, which was the type of review we undertook. Collateral effects of changes in provision of mental health services were not reported in any of the research articles that were included in our systematic review.

We acknowledge that a skilled workforce is essential to the effectiveness of mental health care and that staff movements within the continuum of services—or staff movements out of the mental health care system—will have an impact on the quality of services provided.

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ICD-11 and DSM-5 Classifications: A Survey of Japanese Psychiatrists

To the Editor: The World Health Organization is currently working on the 11th revision of the International Classification of Diseases (ICD-11) (1), and DSM-5 (2) was released in May 2013. Some criticized the process of developing DSM-5 (3). Thus we thought that it would be worthwhile to investigate how Japanese psychiatrists view the ICD and DSM revision processes and how they would like the diagnostic classifications to change.

The aim of this study was to clarify how ICD-10 (4) and DSM-IV-TR (5) have been perceived in clinical, administrative, and forensic settings in Japan. In addition, we solicited opinions on the diagnostic classifications proposed for ICD-11. A questionnaire was mailed in February 2011 to 452 members of the council of the Japanese Society for Psychiatric Diagnosis and 80 chief professors from every psychiatry department at universities in Japan. They were asked to provide their opinions and perspectives on issues regarding diagnostic classification in general, rather than on specific disorders or domains in the ICD-10 and DSM-IV-TR.

Data were collected from 245 respondents (response rate of 46%), of which 219 were men and 26 were women. The mean±SD age of respondents was 50.0±12.9 years, and the mean length of their experience as a psychiatrist was 23.9±12.4 years. [A table presenting the 12 questions and the responses is available in an online data supplement to this letter.]

Survey results appeared to indicate that respondents were rather hesitant about making major changes, such as reorganizing the classification system. The coexistence of two major diagnostic systems, namely the ICD and DSM, has been a concern among many clinicians. The Research Domain Criteria proposed by the National Institute of Mental Health in the United States were favorably seen by Japanese psychiatrists; 74% approved this approach.

Hesitation about making major changes was evident in responses to an item about recent molecular genetic research suggesting that bipolar disorder is closer to schizophrenia than to depression. Respondents were not comfortable combining bipolar disorder and schizophrenia as psychotic disorders; instead, 69% agreed that bipolar disorder should continue to be included in the category of mood disorders.

Two items asked about the many "not otherwise specified" (NOS) diagnoses and "comorbid" diagnoses that are yielded by the ICD-10 and DSM-IV-TR. Responses indicated a desire that revisions to the classification systems would lead to fewer such diagnoses; however, many respondents acknowledged that NOS and comorbid diagnoses were an unavoidable outcome of using operational diagnostic criteria.

These results were obtained from Japanese psychiatrists and therefore cannot be generalized to psychiatrists worldwide. However, we hope that these findings will help inform ICD-11 revision efforts.

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Acknowledgments and disclosures

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Disengagement in a Torture Treatment Program

To the Editor: Treatment programs for torture survivors often provide care without specifying discharge timelines—natural conditions in which to test service engagement. Although needs persist in this group (1), variance in pre- and postmigration stressors (2) suggests that needs are not uniformly chronic. We used survival analysis of data gathered from April 2008 to October 2013 at a New York program to predict disengagement, hypothesizing that posttraumatic stress disorder (PTSD) and associated characteristics would predict later disengagement and that practices accommodating immigrants would predict earlier disengagement.

The consecutive sample of 665 was mostly male (N=397, 60%). The mean±SD age was 33.93±9.65, 509 (77%) reported formal education (mode 12 years), and 249 (37%) spoke functional English. Represented were 75 countries across Africa (N=343, 52%), Asia (N=210, 32%), Europe (N=83, 13%), and the Americas (N=24, 4%). At intake, 515 patients (77%) had unstable immigration status (undocumented or asylum applicant). A total of 555 (83%) met criteria for the U.N. Convention Against Torture, 48 (7%)

met World Medical Association criteria only, and 62 (9%) met other criteria. Mean PTSD scores on the Harvard Trauma Questionnaire (HTQ) (3) were 2.59±.62 at intake, and 2.14±.57 at six-month assessment (N=414, 62 %), indicating improved symptoms.

A total of 305 patients (46%) received services from French- or Tibetan-speaking bilingual staff; others received services in English (N=227, 34%) or through telephonic interpreters (N=62, 9%). A total of 556 (84%) used social services, 529 (80%) used mental health care (individual and group therapy and psychopharmacology), and 503 (76%) received legal assistance.

Disengagement was defined as no use of services for six months. Mean days to disengagement was 816.74± 25.85; a quarter (27%) did not disengage. Mean days for receipt of social services was 756.04±28.16; mental health care, 616.76±26.61; and legal assistance, 604.79±26.00. Predictors of earlier disengagement were age ≤25 (hazard ratio [HR]=.62; 95% confidence interval [CI]=.49–.79), formal education (HR=.68, CI=.49–.79), European country of origin (HR=.61, CI=.46–.82), functional English (HR=.58, CI=.48–.72), not using bilingual staff (HR=.54, CI=.44–.66), and stable immigration status (HR=.56, CI=.39–.80). Not predicting disengagement were gender, number of persecution types, detention, sexual assault, head injury, and HTQ scores at intake and six months. The most parsimonious Cox regression model predicting earlier disengagement comprised not using bilingual staff (HR=.55, CI=.44–.69) and stable immigration status (HR=.55, CI=.39–.80).

Findings suggest that the needs of half of torture survivors can be reduced to a minimal level within two years. About a quarter may have chronic needs. Disengagement predictors are consistent with research showing education and English ability to be associated with multiple positive outcomes among immigrants (4). Use of bilingual staff predicted later disengagement, countering a hypothesis and

suggesting that patients' preference for services delivered by practitioners who speak their languages (5) prolongs their care. Null trauma findings may seem inconsistent with clinical common sense but reflect research suggesting that many needs of forced migrants are due more to displacement than to trauma severity (2). Programs should emphasize obtaining stable immigration status and redouble English education efforts.

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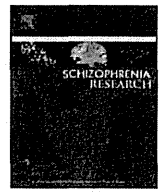
Letter to the Editor

Should schizophrenia still be named so?

Keshavan et al. (2013) seem open to discuss whether the term schizophrenia should be renamed. Recently, we conducted a global survey of renaming schizophrenia, the results of which we intend to share in hopes of encouraging further discussion. In 2002, the Japanese Society of Psychiatry and Neurology changed the official term for schizophrenia. Its corresponding Japanese term had been "*seishinbunretsu-byo*," literally meaning "split-mind disease", and it was changed to "*togoshitcho-sho*," meaning "loss of coordination disorder" (Kim, 2002; Sato, 2006). South Korea followed this movement, and changed the term for schizophrenia in 2011 from "*jeongshin-bunyeol-byung*," an expression equivalent to "split-mind disorder," to "*johyun-byung*," meaning "attunement disorder" (Park et al., 2012). The climate toward accepting this change has been particularly prominent in countries where the Chinese writing system is used, such as Japan and South Korea; however, it is also developing in Europe (van Os, 2009; George and Klijn, 2013). When Maruta and Iimori conducted a survey in 2008, 53% of experts said that the term "schizophrenia" (even in English) had a stigmatizing meaning (Maruta and Iimori, 2008).

We investigated how schizophrenia experts perceive the possible renaming of schizophrenia in the midst of the revision process for the International Classification of Diseases and Related Health Problems (ICD) initiated by the World Health Organization. We surveyed the members of the Sections on Schizophrenia of the World Psychiatric Association (N = 35) and those of the European Psychiatric Association (N = 44). The memberships of 13 individuals were found to overlap and their response was treated as that of one respondent. The questionnaire was sent via e-mail to 66 members, and 38 members (57%) responded. The mean length of their career as a psychiatrist was 25 years (SD = 11 years). This survey was carried out from April to May, 2013.

The idea of renaming seemed somewhat supported, with 57% of the respondents expressing their opinion that the term "schizophrenia" was not appropriate. A total of 84% of such individuals thought schizophrenia denoted stigma, 72% of which explicitly supported renaming schizophrenia. Concerning the timing of renaming, 57% of the respondents thought that it would be desirable to bring about the change by the publication of the 11th revision of the ICD (ICD-11) (Table 1).

In addition to appropriateness of the term and possible timing for renaming, respondents were asked about possible alternatives. Of note, due to the exploratory nature of our study, respondents were allowed to name up to 3 alternatives, which resulted in over 20 suggested terms. We observed that the alternatives tended to be centered around 5 themes: (1) nominative (Bleuler's syndrome, Eugen Bleuler syndrome, Schneider syndrome, Kraepelin disease, John Nash syndrome), (2) failure in organization (Brain tuning disorder, Discoordination disorder, Dysfunctional thought disorder, Disorganized disorder, Disorganized thinking disorder, Thought disorder), (3) failure in integration (Disintegration disorder, Disintegration disorder of the brain, Brain disintegration disorder, Integration disorder, Integrative mental disorder, Mind integration failure disorder, Salience dysregulation syndrome),

(4) neurodevelopmental process (Developmental psychosis, Neurodevelopmental psychosis, Neurodevelopmental vulnerability disorder, Vulnerability-based psychosis, Social brain disorder), and (5) others (Idiopathic psychosis, Endogenous psychosis, Psychosis, Psychosis spectrum disorder, Nonaffective (enduring) psychosis, Dopamine dysregulation disorder). It is important to note the presence of multiple themes among the suggestions: in the absence of a consensus on what should be the focus for the new term, schizophrenia remains the most supported term for the condition in question. Also, the possibility that some respondents may have refrained from explicitly supporting renaming due to the lack of a viable alternative should be pointed out.

Interestingly, however, renaming "schizoid" and "schizotypal" drew only modest interest, with 54% of the respondents considering them as needing renaming.

Table 1
Questionnaire on the term "schizophrenia".

	Yes	No
1. How long have you been working as a psychiatrist? (*Space was provided for an answer.*)		
2. Do you use the term "schizophrenia" or its equivalent in your language when you explain the diagnosis to the patient?	28	10
3. If you do not use the word "schizophrenia", please write the term you use and which language it is. (*Space was provided for indicating the term and language.*)		
4. Do you think that the term "schizophrenia" is an appropriate term for the disorder?	16	21
5. Do you think that the term "schizophrenia" denotes stigma?	31	6
6. If you answered "Yes" to No. 5, should "schizophrenia" be changed to another term to reduce stigma?	21	8
7. In your language, is the term "schizophrenia" concordant with the meaning of "split-mind disease"?	28	5
If you answered "No" to No. 7, what does it mean in English? (*Space was provided for an answer.*)		
8. In your country or in your main psychiatric society, is there any action or movement to change the term "schizophrenia"?	4	34
9. If you answered "Yes" to No. 6, please mark when it should be changed.		
a) As soon as possible	5	–
b) By the publication of ICD-11	12	–
c) Later	3	–
d) Did not answer "Yes" to Q.6	1	–
10. If you answered "Yes" to No. 6, what term do you think is more appropriate than the current term, i.e., "schizophrenia"? Please provide your suggestions below. (*Space was provided for suggestions.*)		
11. Should the new name convey an acceptable scientific concept or concepts?	27	4
12. If you answered "Yes" to No. 11, what scientific concept(s) should be reflected? (*Space was provided for an answer.*)		
13. If you answered "No" to No. 11, why do you not think so? (*Space was provided for an answer.*)		
14. Do you think that the terms "schizoid" and "schizotypal" should also be changed?	17	20
15. For question 14, if you answered "Yes", what terms do you think are more appropriate instead of the terms "schizoid" and "schizotypal"? Please write your suggestions below. (*Space was provided for suggestions.*)		

Some researchers are against renaming schizophrenia (Lieberman and First, 2007). Indeed, one of the limitations of our study is that it failed to finely delineate the relationship between the term "schizophrenia" itself and its perceived stigma, that is, we do not know whether the respondents' recognition of stigma associated with the term "schizophrenia" can be attributed to the term itself or the public concept associated with the term, or both, the latter of which, although not explicitly explored in our study, unquestionably requires just as much attention. Nonetheless, this survey revealed that many experts do think schizophrenia denotes stigma and hence support renaming. With the publication of the ICD-11 approaching, the authors urge mental health professionals, clinicians and researchers both to re-examine the appropriateness of the term schizophrenia and to change it if necessary. On a last note, we would like to emphasize that we believe in renaming schizophrenia by utilizing evidence and knowledge accumulated up to the present, and we hope that it will result in lessened stigma and hopelessness felt among the patients and their family members.

Disclosures

All authors report that they have no conflicts of interest associated with this manuscript.

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Mental Health Professionals' Natural Taxonomies of Mental Disorders: Implications for the Clinical Utility of the ICD-11 and the DSM-5

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[6] National Institute of Psychiatry Ramon de la Fuente Muñiz
[7] Federal University of São Paulo
[8] Shanghai Mental Health Center
[9] University of Ibadan
[10] Universidad Autónoma de Madrid
[11] Yale School of Medicine
[12] Shanghai Jiaotong University School of Medicine

Objective: To examine the conceptualizations held by psychiatrists and psychologists around the world of the relationships among mental disorders in order to inform decisions about the structure of the classification of mental and behavioral disorders in World Health Organization's International Classification of Diseases and Related Health Problems 11th Revision (ICD-11). **Method:** 517 mental health professionals in 8 countries sorted 60 cards containing the names of mental disorders into groups of similar disorders, and then formed a hierarchical structure by aggregating and disaggregating these groupings. Distance matrices were created from the sorting data and used in cluster and

correlation analyses. **Results:** Clinicians' taxonomies were rational, interpretable, and extremely stable across countries, diagnostic system used, and profession. Clinicians' consensus classification structure was different from ICD-10 and the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders 4th Edition (DSM-IV), but in many respects consistent with ICD-11 proposals. **Conclusions:** The clinical utility of the ICD-11 may be improved by making its structure more compatible with the common conceptual organization of mental disorders observed across diverse global clinicians. © 2013 Wiley Periodicals, Inc. J. Clin. Psychol. 69:1191–1212, 2013.

The World Health Organization (WHO) is currently revising the International Classification of Diseases and Related Health Problems Tenth Revision (ICD-10; WHO, 1992), with the ICD-11 slated for approval by the World Health Assembly in 2015. The WHO Department of Mental Health and Substance Abuse is responsible for managing the technical work of developing the ICD-11 chapter on mental and behavioral disorders, within the context of broader policies developed by the overall ICD-11 classifications team. Serious problems with the clinical utility of both the ICD-10 and the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders 4th Edition (DSM-IV) classifications of mental disorders are widely acknowledged (e.g., Andrews et al., 2009; Kendell & Jablensky, 2003; First, 2010). Some of these problems are: (a) extensive use of "Unspecified" or "Not Otherwise Specified" categories of no informational value; (b) artificial and inflated comorbidity among mental disorders categories; (c) many of the distinctions clinicians are asked to make in diagnostic classification systems have no relevance for treatment, while important diagnostic heterogeneity in other areas is obscured; and (d) the sheer complexity of current diagnostic systems, with each revision including more categories, more subtypes, and more specifiers (see Reed, 2010).

A major goal of the WHO Department of Mental Health and Substance Abuse for the current revision is to improve the clinical utility of this part of the ICD-11 (Reed, 2010; International Advisory Group for the Revision of ICD-10 Mental and Behavioural Disorders, 2011). "People are only likely to have access to the most appropriate mental health services when the conditions that define identification, eligibility and treatment selection are supported by a precise, valid, and clinically useful classification system" (International Advisory Group for the Revision of ICD-10 Mental and Behavioural Disorders, 2011, p. 90). In order for the ICD-11 classification of mental and behavioral disorders to be a more effective tool for meeting international public health goals, the new system will need to be usable for implementation throughout the world at the point where people with mental health needs are most likely to come into contact with the health system.

What Is Clinical Utility and Why Is It Important to WHO?

For the purpose of this program of work and drawing on previous definitions of clinical utility (First et al., 2004; Kendell & Jablensky, 2003; Mullins-Sweatt & Widiger, 2009), WHO has conceptualized the clinical utility of a classification, construct, or category for mental and behavioral disorders as: (a) its value in *communicating* (e.g., among practitioners, patients, families, administrators); (b) its *implementation characteristics* in clinical practice, including its goodness of fit (i.e., accuracy of description), its ease of use, and the time required to use it (i.e., feasibility); (c) its usefulness in *selecting interventions* and making *clinical management* decisions; and (d) the extent to which it is associated with improvements in clinical outcomes at the individual level and in health status at the population level (see Reed, 2010).

WHO is interested in clinical utility because it is critical to the interface between clinical practice and health information. Global health care systems are overburdened; clinicians are under enormous time pressure, and only a very small minority of persons with mental health needs will ever see a specialist mental health professional. A mental disorders classification that

is difficult and cumbersome to implement in clinical practice and does not provide information that is of immediate value to the clinician has no hope of being implemented accurately at the encounter level in real-word health care settings (Reed, 2010; Roberts et al., 2012). In that event, clinical practice will not be guided by the standardization and operationalization of concepts and categories that are inherent in the classification, and important opportunities for practice improvement and outcomes assessment will be lost. In turn, a diagnostic system that is characterized by poor clinical utility at the encounter level cannot generate data based on those encounters that will be a valid basis for health programs and policies, or for global health statistics.

Clinical Utility and the Architecture of Diagnostic Classification

The appropriate architecture of a diagnostic classification of mental and behavioral disorders is an issue that has received substantial recent attention. Andrews et al. (2009) offered a particularly ambitious proposal of five broad clusters of mental and behavioral disorders and examined the evidence for these a priori clusters based on eleven "validators." The authors claimed that such a simplified structure would enhance clinical utility by reducing complexity. However, this reduction in complexity was partly due to the fact that more than half of existing mental disorders categories were not encompassed by the five groupings (First, 2009). The authors did not explain the mechanisms through which an improvement in clinical utility would occur or provide any supporting evidence for this claim, which was strenuously challenged in a series of commentaries published simultaneously with the proposals (First, 2009; Jablensky, 2009; Wittchen, Beesdo, & Gloster, 2009).

Andrews and colleagues' implicit perspective is that what is most important in creating the structure of a mental disorder classification is to reflect the most current and accurate scientific understanding about the "true" relationships among mental disorders. Unfortunately, as Jablensky (2009) and Wittchen et al. (2009) pointed out, a review of currently available evidence does not provide uniform or definitive support for one particular architecture. Moreover, Hyman (2010) has suggested that the foundation for such an effort is shaky when many of the disorders themselves may not be valid and distinct disease entities; it is not possible to have a valid biomarker for a fictive category.

From a clinical utility perspective, particularly in terms of improving the interface between health information and clinical practice, the most important and desirable features of a classification's organization would be that (a) it helps clinicians find the categories that most accurately describe the patients they encounter as quickly, easily, and intuitively as possible and (b) the diagnostic categories so obtained would provide them with clinically useful information about treatment and management. An organization based on Andrews et al.'s (2009) "validators" would not contribute to this objective unless individual data for these parameters (e.g., genetic risk factors, biomarkers) were routinely available in the clinical setting and contributed meaningfully to treatment and management decisions, which for many of them is clearly not currently the case.

Given current technology, it is possible to develop a comprehensive and uniform taxonomic system that underlies a classification, with unique identifiers for each individual category to facilitate interoperability across different applications that are distinct from how those categories are presented to users. For example, the structure and logic of airline reservation codes are meaningless to most travelers—who are more concerned with the date, time, and destination of their flights—but perfectly interpretable to computers. The underlying architecture of the identifiers is completely independent of how that information might be presented to users for a particular purpose. As an illustration of a similar process, different Amazon.com users can find the same book by searching under mysteries, bestsellers, the works of a particular author, or books published in June 2011, rather than having to use the 10-digit International Standard Book Number (ISBN) of the International Organization for Standardization (ISO) to make their purchase; that is, the unique identifier for each book—its code in the classification— is independent of how the material is presented to the user, because the presentation can be

organized by any attribute that is part of the underlying taxonomy (e.g., author, theme, date of publication).

Parallel electronic characteristics are central to the current ICD-11 development process across all disease areas, of which the mental and behavioral disorders chapter is only a part. Therefore, the question of what is the best architecture for the classification can be framed as an inquiry into what organization will be most useful for the system's intended users in a particular context (e.g., use in tertiary mental health settings, primary care, research, public health), rather than as an argument about the single and most correct way to summarize inconsistent and incomplete evidence about the "true" relationships among mental disorder categories.

It was in this context that the current study set out to explore the subjective classification systems of mental disorders held by mental health professionals. The purpose of this study was to examine the conceptualizations held by psychiatrists and psychologists around the world of how mental disorders are related to one another, to use that information together with available validity evidence in making decisions about the "metastructure" of the ICD-11 classification of mental and behavioral disorders. If clinicians' "natural taxonomies" are consistent across countries, languages, and disciplines—and also distinct from current formal classification systems—then this information could be used to create a classification of mental disorders that corresponds more closely to clinicians' cognitive organization of categories and is therefore more intuitive and efficient for use in real-world health care settings. This could contribute to better implementation of the classification and improved health encounter data quality and, in turn, help to make the ICD-11 a better tool in relationship to WHO's public health priority of improving the identification and treatment of mental disorders at the country level (WHO, 2012).

Clinicians' Natural Taxonomies of Mental Disorders

If one considers the corpus of mental health professionals as representing a type of "culture" in that they share common beliefs, experiences, and purposes, then a model exists for understanding and measuring the ways in which they classify the phenomena most relevant to them (Flanagan & Blashfield, 2007). "Natural" or "folk" taxonomies have long been studied by cultural anthropologists because of what these reveal about how cultures organize and categorize the living world around them (Berlin, 1992). Often cultures develop detailed and complex classifications for living creatures or environmental phenomena because this knowledge serves a useful purpose (e.g., which plants are good to eat and which are poisonous). Cognitive psychologists have developed these ideas into a systematic methodology for studying natural taxonomies among a variety of different groups (Medin, Lynch, Coley, & Atran, 1997).

Mental health professionals inherently organize the salient aspects of their environment (i.e., individuals seeking treatment) to facilitate a variety of purposes, such as communicating with other professionals, establishing prognoses, facilitating access to information, and making treatment decisions (Blashfield, Keeley, & Burgess, 2009). Some of this inherent classificatory activity has been systematized over time in theories of psychopathology as well as in formal classification systems such as the ICD and the DSM. However, these taxonomies also exist at an informal level in the cognitive, conceptual structures of individual clinicians (Cantor, Smith, French, & Mezzich, 1980).

In a series of studies, Flanagan and colleagues (Flanagan & Blashfield, 2006, 2007; Flanagan, Keeley, & Blashfield, 2008, 2012) applied cognitive psychological methods to investigating the natural taxonomies of mental disorders held by American psychologists and psychiatrists. Participants were asked to sort index cards with the names of mental disorders into groups. The clinicians were instructed to put the disorders together based upon how they felt they should go together, rather than simply replicating the structure of the DSM or another classification system. The resulting structure provides a glimpse into the cognitive organization of individual clinicians, as well as a measure of how similar or divergent professionals were. These studies were conceptually interesting and potentially relevant to the ICD revision process, but were small and geographically narrow in scope. We sought to expand this examination to a more global level

that could provide more definitive information that would be useful for the development of the ICD-11.

The Present Study

The present study was conducted as a project of the Field Studies Coordination Group for ICD-11 Mental and Behavioural Disorders during the formative phases of the ICD revision, as part of a broader program of surveys and field studies intended to inform early decisions about the basic structure and content of the classification. The primary purpose of the study was to elucidate the "natural taxonomies" of mental and behavioral disorders that mental health professionals used in their day-to-day practice. Based on that information, the study sought to examine whether clinicians' conceptual structures for classifying mental disorders appeared to be common across global mental health professionals or differed according to country, language, or profession. Finally, the study aimed to determine the extent to which clinicians' taxonomies replicated existing classification systems or otherwise varied according to the classification system they actually used (e.g., ICD, DSM).

More than 500 mental health professionals, recruited through International Field Study Centers in eight countries and five continents, participated in the present study. This mix of participants was designed to include individuals from multiple regions, languages, and cultures— including non-Western societies—to allow an examination of whether these variables influence clinicians' classifications. Participation involved an individually administered session of 60 to 90 minutes with a trained experimenter, conducted in the local language of that country, in which participants were asked to generate a classification of mental disorder categories based on their own clinical experience. To be eligible for the study, participants had to spend a minimum of 10 hours per week providing direct mental health services to patients. In addition, participants had to have a minimum of 2 years of professional experience posttraining. This was based on evidence that during training mental health professionals' conceptual structure of mental disorders more closely resembles the formal classification systems they are being taught and that a more differentiated "expert" model emerges over time (Egli, Schlatter, Streule, & Läge, 2006; Egli, Streule, & Läge, 2008).

The methodology for the study was partly based on the previous U.S. study of clinicians' "natural" taxonomies of mental disorders described above (Flanagan et al., 2008), with some important innovations. As in the earlier study, clinicians were presented with a set of cards, each containing the name of a mental disorder, and were asked to sort the cards into groups based on their own clinical experience and how they approached the clinical management of these conditions, without attempting to replicate the structure of the ICD or DSM. They were then asked to perform aggregations and disaggregations of their groupings to illuminate each participant's implicit hierarchy. In the Flanagan et al. (2008) study, an attempt was made to elicit each participant's entire hierarchical structure, however many levels that might be. However, a feasible formal classification of mental disorder can only realistically contain a certain number of hierarchical levels of categories. Based on how participants in the Flanagan et al. study had approached the hierarchical aspect of the task, we designed the procedure to elicit a maximum of three hierarchical levels from each participant, in an effort to limit its complexity and time requirements.

Method

Participants

The sample comprised 517 mental health professionals recruited through eight WHO-appointed International Field Study Centers in Brazil (Federal University of São Paulo), People's Republic of China (Shanghai Mental Health Center), India (All India Institute of Medical Sciences), Japan (Tokyo Medical University), Mexico (National Institute of Psychiatry Ramón de la Fuente Muñiz), Nigeria (University of Ibadan), Spain (Universidad Autónoma de Madrid), and the United States (University of Kansas). These Centers are working officially with WHO as a part

of the ICD revision and were selected because of WHO's confidence in their capacity to conduct the study, their willingness to participate, and their location in widely diverse countries and regions. At least 60 participants were recruited per International Field Study Center (as shown in Table 2).

Procedures

All procedures for the study had been approved by the WHO Research Ethics Review Committee and appropriate local institutional review boards for the International Field Study Centers.

Recruitment. Individuals who met the following eligibility criteria were recruited at each Center: licensed or authorized mental health professionals with more than 2 years experience posttraining and whose current professional activities included providing mental health services to patients (i.e., direct patient contact involving assessment, treatment, or management) for at least 10 hours per week.

Experimenters and training. Experimenters for this study were either graduate-level research assistants with a background in mental health or doctoral-level co-investigators. Each experimenter participated in a 3-hour training session conducted by either the first author or one of the co-investigators. Experimenters were provided with all necessary materials and a detailed script to follow throughout all phases of the study. Posttraining follow-up procedures ensured that the experimental sessions were implemented consistently and correctly. Data entered by experimenters directly into the study website were checked for protocol compliance and accuracy on a continuous basis.

Languages. All materials were provided and all procedures conducted in the local language of the country in which the International Field Study Center was located. Languages included Chinese, English, Japanese, Portuguese, and Spanish. Translations of all materials from English were prepared under the supervision of the International Field Study Center investigators based on instructions provided by WHO.

Experimental session. Experimental sessions were structured so as to minimize distractions and unintentional environmental influences. Participants were given a set of 60 laminated 9 cm by 4.5 cm white cards, each printed with the name of a mental disorder category phrased in a way that would be identifiable to both ICD-10 and DSM-IV users. See Table 1 for a list of the categories used in the study.[1] The cards were shuffled before beginning the session, so that the stack of cards was in random order when given to participants. The cards were numbered on the back to facilitate recording, as shown in Table 1, but the numbers were not visible to the participant.
    Participants were then read the following instructions:

> In this study, we want to understand your views of the relationships among mental and behavioral disorders. Each of these cards contains the name of a mental disorder category. There are 60 cards. Categories have been labeled so that they are recognizable both to people who are familiar with ICD as well as the DSM. Slight differences between category names on these cards and the ones you might be familiar with are not intended to be meaningful. They are intended to correspond

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[1] Because the experimental task would have been practically impossible had all possible disorders in the ICD and the DSM been used, we limited the number of disorders presented to participants. Before beginning the procedures for the current study, a pilot study identified exemplar disorders from the ICD and the DSM critical to understanding diagnostic taxonomies utilized by practitioners in clinical practice (see Roberts et al., 2012). This yielded the 60 disorder labels used in the study, listed in Table 1. The list is similar, but not identical, to the categories used in an earlier U.S. study of clinicians' natural taxonomies of mental disorders (Flanagan et al., 2008).

Table 1

Mental and Behavioral Disorders Category Labels Used in the Study

Card	Category	% Excluded	% Never used	% Remove
C1	Alzheimer's dementia	0.2%	5.0%	6.1%
C2	Vascular dementia	1.6%	10.9%	6.5%
C3	Amnestic disorder (organic)	2.1%	21.6%	7.5%
C4	Delirium	0.4%	7.3%	5.7%
C5	Mood disorder due to a general medical condition	0.2%	5.9%	2.2%
C6	Alcohol dependence	0.2%	1.8%	1.2%
C7	Opioid dependence	1.0%	13.9%	1.0%
C8	Cocaine dependence	0.4%	12.1%	0.8%
C9	Cannabinoid abuse	0.4%	9.5%	1.6%
C10	Abuse of volatile solvents (inhalants)	0.8%	18.0%	2.2%
C11	Tobacco (nicotine) dependence	0.4%	8.5%	5.0%
C12	Substance-induced psychotic disorder	0.6%	5.4%	0.2%
C13	Schizophrenia	0.0%	2.2%	0.0%
C14	Schizotypal disorder	1.4%	11.9%	1.8%
C15	Delusional disorder	0.2%	4.8%	0.6%
C16	Acute and transient (brief) psychotic disorder	0.4%	6.7%	0.6%
C17	Schizoaffective disorder	1.2%	5.2%	2.8%
C18	Bipolar I disorder	0.2%	2.0%	0.6%
C19	Bipolar II disorder	0.6%	1.4%	1.0%
C20	Depressive disorder (major)	0.2%	0.4%	0.0%
C21	Cyclothymia	2.7%	15.8%	5.0%
C22	Dysthymia	1.0%	3.6%	2.0%
C23	Panic disorder	0.0%	1.2%	0.2%
C24	Social phobia	0.0%	3.0%	0.6%
C25	Generalized anxiety disorder	0.0%	0.6%	0.8%
C26	Mixed anxiety and depressive disorder	0.8%	5.4%	4.2%
C27	Obsessive-compulsive disorder	0.0%	1.4%	0.2%
C28	Posttraumatic stress disorder	0.2%	3.4%	0.6%
C29	Adjustment disorders	2.5%	5.2%	5.7%
C30	Dissociative disorders	1.6%	9.9%	1.0%
C31	Conversion disorders	1.0%	7.1%	1.6%
C32	Somatization disorder	0.4%	3.8%	0.8%
C33	Hypochondriacal disorder	1.0%	7.5%	1.2%
C34	Persistent somatoform pain disorder	3.9%	17.0%	3.2%
C35	Body dysmorphic disorder	3.3%	18.6%	2.0%
C36	Anorexia nervosa	0.2%	8.1%	0.6%
C37	Primary (nonorganic) insomnia	1.4%	11.7%	8.9%
C38	Sexual dysfunction	1.2%	14.7%	10.3%
C39	Abuse of nondependence producing substances (e.g., steroids, hormones)	2.1%	28.3%	5.0%
C40	Paranoid personality disorder	0.0%	6.1%	2.0%
C41	Antisocial (dissocial) personality disorder	0.2%	5.0%	3.8%
C42	Borderline personality disorder	0.0%	3.4%	2.8%
C43	Dependent personality disorder	1.0%	9.5%	3.2%
C44	Pathological gambling	1.6%	26.9%	4.8%
C45	Intermittent explosive disorder	13.0%	38.6%	7.3%
C46	Paraphilias	7.0%	35.6%	9.1%

Table 1
Continued

Card	Category	% Excluded	% Never used	% Remove
C47	Gender identity disorder	3.1%	24.2%	19.4%
C48	Factitious disorder	10.3%	30.3%	4.6%
C49	Intellectual disability (mental retardation)	0.8%	4.4%	5.9%
C50	Specific developmental disorders of speech and language	2.1%	26.7%	6.7%
C51	Specific developmental disorders of scholastic skills	2.1%	25.2%	8.5%
C52	Autistic disorder	1.0%	13.5%	1.6%
C53	Asperger's syndrome	6.8%	23.8%	3.2%
C54	Attention deficit-hyperactivity (hyperkinetic) disorder	0.4%	4.8%	0.4%
C55	Conduct disorder	0.2%	7.3%	3.6%
C56	Oppositional defiant disorder	6.6%	22.6%	3.8%
C57	Childhood separation anxiety disorder	1.7%	21.0%	2.8%
C58	Reactive attachment disorder	11.0%	47.1%	6.3%
C59	Tic disorders	2.3%	11.9%	5.0%
C60	Nonorganic enuresis	3.1%	24.6%	8.5%

Note. "% Excluded" is the percentage of participants who *excluded* that category from sorting task based on lack of familiarity with the disorder. "% Never used" is the percentage who reported never having that category in clinical practice (i.e., who had never seen a patient with that diagnosis). "% Remove" is the percentage of participants who indicated that the category should not be included in a classification of mental and behavioral disorders.

> to the same diagnostic entities. I will ask you to arrange the cards to create groups of mental and behavioral disorders based on your own clinical experience of how similar they are, and how you approach the clinical management of these conditions. Your views may or may not match the structure of the ICD or DSM. We are interested in your views; this is not a test of your knowledge of existing systems. There are no right or wrong answers. Please sort the disorders on these cards into groups that you think are clinically relevant in the assessment and management of people with mental and behavioral disorders. There is no maximum or minimum number of groups, and each group can contain as few or as many disorders as you like. If you are unfamiliar with or lack basic knowledge about a particular disorder, you may set the card aside and move on to the next card.

The next step depended on the number of groups in the participant's first sorting. As described earlier, the goal was to obtain three levels of the participant's personal hierarchy of mental disorders at approximately the same level of detail that could reasonably be encompassed by a diagnostic classification system. Based on prior research (Flanagan et al., 2008), it was expected that the most common pattern would be for the participant to form more than four but fewer than ten groups in the first sorting. In that case, the experimenter read the following statement:

> Could you combine these groups into fewer, higher order groups that you think make sense clinically, without undoing the groups you have already formed? Some of these higher order groups might be the same as these original groups, if you believe it doesn't make sense to combine them with others into higher order groups.

Table 2
Demographic and Response-Related Variables by International Field Study Center

	Brazil	China	India	Japan	Mexico	Nigeria	Spain	U.S.A.	TOTAL
N Participants	60	62	61	73	67	60	74	60	517
Mean age (years)	40.6	38.8	39.0	41.6	43.7	42.4	42.8	49.1	42.3
Mean years of training	7.6	6.9	3.3	5.6	6.9	7.5	4.0	6.0	5.9
Mean years of experience	13.9	9.9	11.3	11.1	13.0	7.6	13.4	14.8	11.9
Patient contact per week (hours)	21.5	23.9	27.4	29.2	30.6	21.7	33.4	25.1	26.9
% psychiatrists	51.7%	100%	73.8%	100%	71.6%	68.3%	74.3%	40%	73.3%
% psychologists	46.7%	0%	21.3%	0%	28.4%	31.7%	18.9%	58.3%	24.8%
% used ICD-10 and DSM-IV	41.7%	11.3%	37.7%	60.3%	26.9%	38.3%	25.7%	6.7%	31.3%
% used ICD-10 only	13.3%	16.1%	54.1%	12.3%	3.0%	26.7%	16.2%	0.0%	17.6%
% used DSM-IV only	23.3%	16.1%	3.3%	19.2%	65.7%	30.0%	41.9%	78.3%	34.8%
% did not use ICD-10 or DSM-IV	21.7%	56.4%	4.9%	8.2%	4.5%	5.0%	16.2%	15.0%	16.2%
% participants who excluded categories	81.7%	64.5%	14.8%	20.5%	17.9%	16.7%	14.9%	25.0%	31.1%
Number of groups on first sorting	12.1	11.6	14.4	13.5	14.6	14.1	13.7	15.8	13.7
% participants who refused sorting	50.0%	43.5%	70.5%	6.8%	59.7%	56.7%	64.9%	31.6%	47.6%
Average maximum number of groups	13.2	14.8	16.4	17.6	14.7	15.9	13.3	17.3	15.8
Average minimum number of groups	6.0	6.9	6.6	6.5	8.6	6.6	7.4	7.4	6.9

Note. Average maximum number of groups and average minimum number of groups as shown above were calculated based *only* on those participants who did three sortings, as these participants provided the deepest hierarchical structure. Maximum corresponds to the number of groups in the participant's lowest order (most differentiated) sorting, and minimum corresponds to the number of groups in the participant's highest order (most aggregated) sorting. Maximum and minimum numbers of groups for participants who did two or one sorting fall between the maximum and minimum values for participants who did three sortings.

After the participant completed the aggregation or combining task to form higher order groups, the experimenter restored the original groups and asked the participant to perform a disaggregation or subdivision of the original groups:

> Could you subdivide these groups into more specific subgroups that you think would be clinically sensible? If it doesn't make sense to you to subdivide one of your original groups further, you can leave that group as it is.

Participants who generated more than 10 groups on the first sorting were asked to do two levels of aggregation or combining, that is, the aggregation step was completed twice, with the same instructions. According to the protocol, participants who generated four or fewer groups on the first sorting were to be asked to do two levels of disaggregation or subdividing.

Participant's groupings and rationale for each grouping at each level of aggregation were recorded. If, on the second or third sorting, participants indicated that it was not possible to combine or subdivide the groupings further, then the experimenter encouraged him or her to do so with a standard series of prompts, provided that the participant felt the resulting new groups would make sense clinically (for example, "What about this group? Do you feel it doesn't make sense to subdivide this group further?"). If the participant still indicated that she or he felt that existing groups could not be further combined or subdivided, then the experimenter proceeded to the third sorting (if the sorting refused was the second) or stopped the sorting task (if the sorting refused was the third).

After the sorting task had been completed, the experimenter reassembled all of the cards and asked the participant to go through them and indicate any disorders that he or she had never used in clinical practice (i.e., had never seen a patient with that diagnosis). The participant was then asked to go through the cards again and to indicate whether she or he felt that any of the 60 categories should not be included in a classification of mental and behavioral disorders and, if so, based on what rationale.

Finally, participants were asked to complete a brief questionnaire containing demographic, training, and practice information (available from the authors upon request). The total duration of the experimental session was between 60 and 90 minutes.

Analysis

The procedure described above produced a hierarchical arrangement of mental disorder categories for each participant. Relative distance among each pair of disorders was calculated for each participant based on the number of "steps" in the hierarchy before the disorders were joined in the same group. For example, if bipolar I disorder was grouped with bipolar II disorder in the lowest order sorting for a given participant (i.e., the most differentiated sorting with the greatest number of groups), then these two disorders would be given a distance of 1, meaning that they were in the same group at every level of the participant's hierarchy. If those two disorders were then joined with cyclothymia in the intermediate-level sorting, but not in the most differentiated sorting, then the distance between bipolar I disorder and cyclothymia would be 2. In turn, if all three of these disorders were grouped with depressive disorder (major) in the highest order sorting for a given participant (i.e., the most aggregated sorting with the smallest number of groups), then the distance between bipolar I and depressive disorder was 3. A maximum distance of 4 was used to represent disorders that were never grouped together.

This procedure produced a 60 × 60 disorder distance matrix for each participant, which were then averaged across all participants. This average matrix formed the basis of the cluster analysis described below. Average matrices for subgroups of participants were also constructed (i.e., by country, by profession, by which diagnostic manual participants most commonly used) and are discussed below.

Results

Demographic characteristics of the total sample and those recruited by each International Field Study Center are shown in Table 2. Of the 517 participants, 379 (73.3%) were psychiatrists, 128 (24.8%) were psychologists, and 10 (1.9%) were members of other disciplines (psychiatric nursing, counseling or social work). Consistent with the study objectives, the sample comprised experienced practicing clinicians, who had an average of 11.9 years of professional experience posttraining and spent an average of 26.9 hours per week providing direct mental health services to patients. There were some small but statistically significant differences across International Field Study Centers. U.S. clinicians were older than clinicians in all other countries, $F(7,509) = 6.83$, $p < .001$, and Nigerian clinicians had fewer years of experience than Brazilian, Mexican, Spanish, and U.S. clinicians (all $ps < .05$ after Tukey error correction).

As a part of the questionnaire, participants were asked to indicate on a 5-point scale, ranging from (*never*) to (*routinely*), how often they used the ICD-10 and the DSM-IV in their current clinical practice.[2] Across all participants, 162 (31.3%) reported using *both* the ICD-10 and the DSM-IV "routinely" or "often"; 91 (17.6%) used the ICD-10 "routinely" or "often" but not the DSM-IV; 180 (34.8%) used the DSM-IV "routinely" or "often" but not the ICD-10; and 84 (16.2%) reported that they used *neither* classification "routinely" or "often." As expected, there were large differences, $\chi^2(21) = 283.55$, $p < .001$, in whether participants used the ICD-10, the DSM-IV, both classifications, or neither classification by International Field Study Center, as shown in Table 2. Most of the participants who reported using neither classification were from the People's Republic of China, where the Chinese Classification of Mental Disorders (Chinese Society of Psychiatry, 2001)—an adaptation of the ICD-10—is the dominant classification system. The majority of participants who reported regularly using the ICD-10 but *not* the DSM-IV were from India, again reflecting practice patterns in that country. Most participants from the United States used the DSM-IV exclusively, and this pattern was common in Japan as well.

Across all participants, the average number of groups generated during the first sorting was 13.7 (standard deviation [SD] = 4.5, range = 5 – 28). Over three-quarters of the participants ($n = 392$; 75.8%) generated more than ten groups on their first sorting, with the remainder ($n = 125$; 24.2%) generating between five and ten groups. No participant generated four or fewer groupings of mental disorders on his or her first sorting. The second sorting was refused by 15 participants (2.9%), while 231 participants (44.7%) refused the third sorting. All participants who refused the second sorting were being asked to aggregate their initial categories at the time they refused the sorting, and this was true for 203 of the participants who refused the third sorting (87.9%). Only 28 (5.4%) of the participants who refused the third sorting were being asked to subdivide or disaggregate their groupings further at the time. All participants who included at least one sorting were included in data analyses.

Categories were excluded from the sorting task by 31.1% of participants because they were unfamiliar with them. The percentage of participants who excluded each category is shown in Table 1. When asked to indicate which categories they had never used in clinical practice (that is, had never seen a patient with that diagnosis), 83.8% of participants identified at least one category. At least one category was indicated as not belonging in a classification of mental and behavioral disorders by 60.4% of participants. The percentages of participants who indicated they had never used each category and who indicated that each category should not be included in a classification of mental disorders are shown in Table 2.

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[2]The official system for diagnostic reporting in the US is the ICD-9 CM (Clinical Modification). Nine US participants reported "Routinely" or "Often" using the ICD-9; in all but one case these participants also "Routinely" or "Often" used the DSM-IV. The mental disorders classification in the ICD-9 CM is essentially the same as the DSM-IV, so use of the ICD-9 CM was not further considered in these analyses. Four US participants reported "Routinely" or "Often" using the ICD-10 in combination with the DSM-IV, as shown in Table 2.

Structure of the Classification

To examine the overall structure of mental disorders organization provided by clinicians, we submitted the distance matrices described above to cluster analysis using Ward's method. Ward's method was considered appropriate to the study questions because, compared to other cluster analytic methods, it tends to produce relatively homogenous groups that are similar in size (Aldenderfer & Blashfield, 1984). A rescaled cluster distance of 5 was adopted as a cutoff for determining what constituted a "group." Disorders that were joined at greater distances were not considered part of the same group. The resulting observed clusters are represented in Table 3. To provide a frame of reference, the clusters are listed in the order that most closely corresponds to ICD-10.

To examine the consistency of the obtained structure across participants in an intelligible and parsimonious way, we calculated a 60 × 60 matrix representing the frequency with which, at each participant's most differentiated sorting (i.e., the sorting with the highest number of groups), each disorder was grouped with every other disorder. Figure 1 shows the percentage of participants that placed each pair together in their most differentiated grouping (i.e., their sorting with the largest number of groups). The relative percentage of the sample that placed two disorders in the same group is also represented by shading in Figure 1, with darker shading indicating that a higher percentage of participants grouped those two disorders together.

The information presented in Figure 1 is directly relevant for understanding the classification structure generated by clinicians, but would be lost in a traditional depiction of cluster analysis results. Examining the frequency of disorder pairings in the manner depicted in Figure 1 has several advantages. First, it is a relatively face-valid, straightforward way of representing consensus among clinicians of how mental disorders should be organized in a classification. As can be seen in Figure 1, some disorders were grouped together by nearly the entire sample (darkest shading), other groupings were rare (lighter shading), and many disorders were never grouped together (blank cells).[3] Second, the information in Figure 1 provides a complete picture of the strength or cohesion of the clusters, and the covariance or overlap among disorders. This makes possible a direct examination of the distinctness or "fuzziness" of each disorder group and the pairings with disorders outside each cluster that account for this.

Stability of the Structure across Subgroups of Clinicians

To examine the stability of the observed structure as shown in Figure 1 across subgroups of participants, we calculated correlations for the averaged distance matrices by relevant subgroups. For example, to calculate a correlation among psychiatrists and psychologists, we averaged the matrices for members of each group, and then transformed them into single-column vectors. The correlation for the vectors was calculated in the usual way. It should be noted that these correlations are of averages, which will necessarily be higher than the correlations among individuals. Nonetheless, as a metric of reliability, the values can be interpreted.

Table 4 shows the correlations among averaged distance matrices across clinicians from different countries (International Field Study Centers). The consistency across global clinicians is remarkably high; all correlation values were above .90, indicating near linear redundancy among clinicians from the eight countries. Correlations for distance matrices by the five languages of administration were of similar magnitude, but are not presented here because language and country are obviously confounded. The diagnostic manuals that participants most commonly used did not affect the consensus matrix, with correlations among participant subgroups who used only the ICD-10, only the DSM-IV, both the ICD-10 and the DSM-IV, and neither classification were also uniformly above .90, as shown in Table 5. Finally, psychologists and psychiatrists were virtually identical in their consensus structures, $r = .97$.

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[3]In Figure 1, cells corresponding to pairings made by fewer than .5% of participants (2 participants or less) were rounded to 0 and are shown as blank.

Table 3

Disorder Grouping Based on Cluster Analysis of Distance Matrices, With Cohesion Indices and Corresponding ICD-10 Categories

Observed clusters	Cohesion index	Corresponding ICD-10 categories
Neurocognitive and "organic" disorders	**0.47**	**F0**
Alzheimer's dementia	0.41	F00
Vascular dementia	0.41	F01
Amnestic disorder (organic)	0.41	F04
Delirium	0.45	F05
Mood disorder due to a general medical condition (organic)	0.67	F06.3
Substance-related disorders	**0.36**	**F1, part of F5**
Alcohol dependence	0.32	F10.2
Opioid dependence	0.32	F11.2
Cocaine dependence	0.32	F14.2
Cannabinoid abuse	0.33	F12.1
Abuse of volatile solvents (inhalants)	0.33	F18.1
Tobacco (nicotine) dependence	0.33	F17.2
Substance-induced psychotic disorder	0.61	F1x.5
Abuse of nondependence producing substances (e.g., steroids, hormones)	0.36	F55
Schizophrenia spectrum and other primary psychotic disorders	**0.47**	**F2**
Schizophrenia	0.41	F20
Schizotypal disorder	0.55	F21
Delusional disorder	0.43	F22
Acute and transient (brief) psychotic disorder	0.45	F23
Schizoaffective disorder	0.48	F25
Mood disorders	**0.38**	**F3**
Bipolar I disorder	0.37	F31
Bipolar II disorder	0.37	F31.8*
Depressive disorder (major)	0.39	F33
Cyclothymia	0.37	F34.0
Dysthymia	0.41	F34.1
Anxiety, obsessive-compulsive, and stress-related disorders	**0.60**	**Part of F4**
Panic disorder	0.51	F41.0
Social phobia	0.52	F40.1
Generalized anxiety disorder	0.51	F41.1
Mixed anxiety and depressive disorder	0.69	F41.2
Obsessive-compulsive disorder	0.62	F42
Posttraumatic stress disorder	0.59	F43.1
Adjustment disorders	0.74	F43.2
Dissociative and somatoform disorders	**0.55**	**Parts of F4 & F6**
Dissociative disorders	0.59	F44
Conversion disorders	0.51	F44
Somatization disorder	0.49	F45.0
Hypochondriacal disorder	0.54	F45.2
Persistent somatoform pain disorder	0.51	F45.4
Factitious disorder	0.68	F68.1
Other bodily disorders	**0.86**	**Parts of F4 & F5**
Body dysmorphic disorder	0.86	F45.2*
Anorexia nervosa	0.81	F50.0
Primary (nonorganic) insomnia	0.90	F51.0
Personality disorders	**0.41**	**Part of F6**
Paranoid personality disorder	0.44	F60.0

Table 3
Continued

Observed clusters	Cohesion index	Corresponding ICD-10 categories
Antisocial (dissocial) personality disorder	0.40	F60.2
Borderline personality disorder	0.39	F60.31
Dependent personality disorder	0.40	F60.7
Disorders of impulse control	**0.78**	**Part of F6**
Pathological gambling	0.78	F63.0
Intermittent explosive disorder	0.78	F63.8*
Sexual disorders	**0.54**	**Parts of F5 & F6**
Sexual dysfunction	0.56	F52
Paraphilias	0.51	F65
Gender identity disorder	0.55	F64
Neurodevelopmental disorders	**0.47**	**F7, F8, part of F9**
Intellectual disability (mental retardation)	0.55	F7
Specific developmental disorders of speech and language	0.43	F80
Specific developmental disorders of scholastic skills	0.44	F81
Autistic disorder	0.45	F84.0
Asperger's syndrome	0.46	F84.5
Attention deficit-hyperactivity (hyperkinetic) disorder	0.52	F90
Other childhood disorders	**0.69**	**Most of F9**
Conduct disorder	0.68	F91
Oppositional defiant disorder	0.65	F91.3
Childhood separation anxiety disorder	0.63	F93.0
Reactive attachment disorder	0.63	F94.1
Tic disorders	0.80	F95
Nonorganic enuresis	0.73	F98.0

Note. Cohesion index is calculated based on average within group distances divided by average distances from categories outside group. Therefore, higher values for cohesion index (closer to 1) indicate *less* cohesion. Disorder categories for which corresponding ICD-10 categories indicated are asterisked (*) above do not appear in ICD-10 as separate disorders but are inclusion terms under the category number provided.

Cohesion Across Disorder Clusters

The differences between the observed consistency of some disorder groupings as shown in Figure 1 and the extremely high correlations shown in Tables 5 and 6 suggest that although the *average* matrix across subgroups is essentially identical, there is substantially more *individual* variability and overlap in some clusters than in others. For example, Figure 1 shows that the observed cluster of substance-related disorders is highly cohesive, with more than 85% of participants grouping all of these disorders together in their most differentiated sorting, with the exception of substance-induced psychotic disorder, which was grouped with schizophrenia spectrum and other primary psychotic disorders by approximately half of participants. On the other hand, the observed cluster of anxiety, obsessive-compulsive, and stress-related disorders is much less cohesive. Although this cluster contains a highly cohesive subcluster comprising panic disorder, social phobia, and generalized anxiety disorder, some disorders (e.g., adjustment disorder) were maintained in the cluster by only a minority of participants. This observed individual variability may have important implications for classification, as it could affect the consistency with which groupings of disorders are conceptualized and implemented across clinicians.