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The World Psychiatric Association (WPA)

The WPA is an association of national psychiatric societies aimed to increase knowledge and skills necessary for work in the field of mental health and the care for the mentally ill. Its member societies are presently 135, spanning 117 different countries and representing more than 200,000 psychiatrists.

The WPA organizes the World Congress of Psychiatry every three years. It also organizes international and regional congresses and meetings, and thematic conferences. It has 65 scientific sections, aimed to disseminate information and promote collaborative work in specific domains of psychiatry. It has produced several educational programmes and series of books. It has developed ethical guidelines for psychiatric practice, including the Madrid Declaration (1996).

Further information on the WPA can be found on the website www.wpanet.org.

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Psychiatric diagnosis: pros and cons of prototypes vs. operational criteria

MARIO MAJ

President, World Psychiatric Association

In this issue of *World Psychiatry*, we publish several papers which are relevant to the ongoing process of revision of the two main diagnostic and classification systems we have in the field of psychiatry: the ICD-10 (chapter on mental and behavioural disorders) and the DSM-IV.

It is clear at this stage that the two revision processes are pursuing objectives which are in part different. In the case of the ICD, the main objective is to improve the public health utility of the system, and in particular its usability by a range of health professionals. In the case of the DSM, the main objective, or one of the main objectives, is to make the clinical characterization of each patient more comprehensive, by adding several dimensions to the categorical diagnosis.

In spite of these partially different (and potentially divergent) aims of the revision processes, an effort is being made to “harmonize” the two diagnostic systems. They will probably share at least the same “metastructure” and use the same nomenclature to denote the main diagnostic categories. However, a major difference will remain the fact that the ICD-11 will be based on narrative descriptions of the various mental disorders, whereas the DSM-5 will provide operational diagnostic criteria.

In the WPA-WHO Global Survey, whose results appear in this issue of the journal (1), over two-thirds of the participants (practising psychiatrists) maintained that a diagnostic system based on clinical descriptions is more clinically useful than one based on operational criteria. The proportion of DSM-IV users endorsing this position was even slightly higher than that of ICD-10 users. A reflection on the advantages and disadvantages of the two approaches seems therefore timely, and will be the theme of a Forum which will be published in a forthcoming issue of the journal. Some preliminary considerations may be meanwhile useful.

The development of operational diagnostic criteria for mental disorders in the 1970s was a response to serious concerns about the reliability of psychiatric diagnosis. Initially intended only for research purposes, the operational approach was subsequently proposed also for ordinary clinical practice by the DSM-III. That this approach increases the reliability of psychiatric diagnosis in research settings is now well documented. Much less clear, even in the US, is whether the approach is commonly used by clinicians in ordinary practice, thus really resulting in an increase of the reliability of psychiatric diagnosis in clinical settings. It has been, for instance, reported that several US clinicians have difficulties to recall the DSM-IV criteria for major depressive disorder

and rarely use them in their practice (e.g., 2). Furthermore, some of the DSM-IV cut-offs and time frames have been found not to have a solid empirical basis (e.g., 3) and to generate a high proportion of sub-threshold and “not otherwise specified” cases (e.g., 4).

More in general, it has been maintained that a “prototype matching” approach is more congruent with human (and clinical) cognitive processes than a “defining features” approach (e.g., 5). The spontaneous clinical process does not involve checking in a given patient whether each of a series of symptoms is present or not, and basing the diagnosis on the number of symptoms which are present. It rather involves checking whether the characteristics of the patient match one of the templates of mental disorders that the clinician has built up in his/her mind through his/her training and clinical experience.

Moreover, some recent research focusing on various classes of mental disorders (i.e., personality disorders, eating disorders, anxiety disorders) suggests that a diagnostic system based on refined prototypes may be as reliable as one based on operational criteria, while being more user friendly and having greater clinical utility (e.g., 6).

The issue, however, is more complex than it may appear. In fact, while it is probably true that many clinicians have difficulties to memorize, recall and correctly apply operational diagnostic criteria, it should not be taken for granted that they will not have problems to memorize, recall and correctly apply prototypes proposed by a diagnostic system. Many clinicians are reluctant to change the templates of mental disorders they have built up in their mind along the years. Being influenced by those templates, they may selectively catch or recall the various features of a prototype, or may read in a prototype description elements which are not actually there. Moreover, the expectation that a given patient will present the various components of a prototype may lead the clinician to infer the presence of clinical aspects which do not actually appear in that patient. Finally, a clinician may conclude that a patient matches a given prototype because several elements of the prototype description are present, while another clinician may conclude that the same patient does not match that prototype because some other aspects are absent. These are indeed the biases that the operational approach aimed to correct, and the risk of a return to the diagnostic chaos preceding the publication of the DSM-III should not be overlooked.

So, there are potential advantages and disadvantages in

both the “prototype matching” and the “defining features” approaches to psychiatric diagnosis. It is auspicious that research following the publication of the ICD-11 and DSM-5 will assess these pros and cons systematically, guiding further developments in psychiatric diagnosis and classification. This will more probably occur if those systems will exploit the full potential of the two approaches, i.e., if the ICD-11 will provide paragraph descriptions of the various mental disorders which are not less precise and detailed than the DSM-IV lists of symptoms, and the DSM-5 will propose cut-offs and time frames which have a reasonably strong empirical basis.

References

1. Reed GM, Correia JM, Esparza P et al. The WPA-WHO Global Survey of Psychiatrists' Attitudes Towards Mental Disorders Classification. *World Psychiatry* 2011;10:118-31.
2. Zimmerman M, Galione J. Psychiatrists' and nonpsychiatrist physicians' reported use of the DSM-IV criteria for major depressive disorder. *J Clin Psychiatry* 2010;71:235-8.
3. Kendler KS, Gardner CO, Jr. Boundaries of major depression: an evaluation of DSM-IV criteria. *Am J Psychiatry* 1998;155:172-7.
4. Zinbarg RE, Barlow DH, Liebowitz M et al. The DSM-IV field trial for mixed anxiety-depression. *Am J Psychiatry* 1994;151:1153-62.
5. Ortigo KM, Bradley B, Westen D. An empirically based prototype diagnostic system for DSM-V and ICD-11. In: Millon T, Krueger RF, Simonsen E (eds). *Contemporary directions in psychopathology: scientific foundations of the DSM-V and ICD-11*. New York: Guilford, 2010:374-90.
6. Westen D, Shedler J, Bradley R. A prototype approach to personality disorder diagnosis. *Am J Psychiatry* 2006;163:846-56.

SOCIAL INCLUSION OF PERSONS WITH SEVERE MENTAL ILLNESS

A WPA INTERNATIONAL CALL FOR RESEARCH PROPOSALS

The World Psychiatric Association (WPA) is the largest association active in the mental health field worldwide, with 135 Member Societies (national psychiatric societies), representing more than 200,000 psychiatrists, and 65 Scientific Sections.

In the WPA Action Plan 2008-2011, one of the objectives is to support international and national activities aiming to promote the rights of persons with mental disorders, including the right not to be deprived of a full social and affective life because of their mental health problem.

As one of the activities pursuing this objective, the WPA will fund an international project based on a collaboration of psychiatrists with public health experts, policy makers or organizations of users or carers, aimed to explore the feasibility and effectiveness of an innovative programme for the social inclusion of persons with severe mental illness.

Proposals will have to include a description of the project (max. 1200 words), a list of the participating centres, a timetable, a detailed budget, and a short curriculum vitae of the principal investigator.

Proposals should be sent by e-mail to the WPA Secretariat (wpasecretariat@wpanet.org) by June 30, 2011.

KENNETH S. KENDLER IS THE RECIPIENT OF THE JEAN DELAY PRIZE 2011

The WPA announces that Kenneth S. Kendler, Professor of Psychiatry and Human and Molecular Genetics at the Virginia Commonwealth University, Richmond, VA, USA, is the recipient of the Jean Delay Prize 2011.

The Jean Delay Prize, awarded by the WPA every third year, is the most prestigious prize in the field of psychiatry. It bears the name of the first President of the WPA, and is awarded to an individual who has made a major contribution in building bridges between biological, psychological and social aspects of psychiatry.

Kenneth Kendler is well known for his studies on genetic and environmental risk factors for mood disorders, schizophrenia and substance abuse. He will deliver a lecture on this issue in the Opening Session of the 15th World Congress of Psychiatry, to be held in Buenos Aires, Argentina, from 18 to 22 September, 2011.

According to a long-standing tradition, the Prize is supported by an unrestricted grant from Servier.

Lessons learned from radiation disasters

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The triple catastrophe that began in Japan on March 11, 2011 was unprecedented. In the wake of the devastating earthquake and tsunami, the Fukushima Daiichi nuclear power plant crisis deteriorated to a Level 7 nuclear accident, the most severe level reserved by the International Atomic Energy Association for accidents involving significant releases of radioactive material having the potential for extensive environmental contamination and health consequences. The evacuation zone encompassed 50,000 people living within 20 km of the facility. However, as occurred after the Chernobyl accident, additional communities with high levels of contamination were subsequently identified and evacuated.

Although three such catastrophic events have never before occurred simultaneously, it is safe to predict from previous studies of earthquakes, tsunamis, and nuclear power plant disasters that these events will have significant psychological consequences (1-5). Studies of radiation events (6) and risk perceptions (7,8) show that this specific exposure, whether real or perceived (9,10), is highly dreaded and pernicious because it is conflated with nuclear weapons and the bombings of Hiroshima and Nagasaki during World War II. Thus, the mental health effects will likely be long-lasting.

When the problems at the Fukushima Daiichi reactors first began, the situation was likened to the 1979 Three Mile Island accident, a Level 5 event in central Pennsylvania. At the time, communities surrounding Harrisburg were given confusing and contradictory information about what exactly was occurring at the reactor and whether their health was at risk. The Governor advised pregnant women and small children living nearby to evacuate and, although optional, most people living within 5-10 miles fled. The President's Commission on Three Mile Island documented an immediate impact on distress and anxiety symptoms and growing distrust of authorities amidst the perplexing, ambiguous, and inconsistent reports (11). Subsequent research has demonstrated the intractable nature of such distrust (8). Longitudinal studies of residents who participated in the Task Force report (12), surveys by the Pennsylvania Department of Health (13), and a small prospective population study (14) showed that a range of symptoms was elevated up to six years after the accident, including somatic complaints, generalized anxiety, post-traumatic stress, and depression. Our longitudinal research found that the rate of clinical depression and anxiety among mothers of young children living near the plant was double that of a comparison group in the year after the accident (15). A decade later, depression, anxiety and hostility symptoms remained elevated, and 75% of women were worried or uncertain about the effects of the

accident on their own or their children's health, concerns that were strongly associated with symptomatology (16).

Seven years after Three Mile Island, the Chernobyl nuclear reactor in Ukraine exploded. The 30 km zone around the plant was permanently evacuated, and pregnant women were told to have abortions. Evacuees were stigmatized and feared by the communities where they were resettled (17). Although there were no official statements that something serious had occurred, rumors spread about birth defects, hundreds of thousands of deaths, and cancers arising in countries miles away (17,18). Research conducted 6-20 years after the accident in contaminated villages and communities where evacuees were resettled found elevated rates of anxiety, including post-traumatic stress disorder, depression, and somatization relative to controls (19,20), particularly in mothers of young children (21,22) and clean-up workers (23). In part, fears about contamination were fueled by local doctors who indiscriminantly attributed many medical problems to radiation exposure or diagnosed patients with radiophobia (17). At the 20th anniversary, the Chernobyl Forum (24) and others (25) concluded that mental health was the biggest public health effect from Chernobyl. Although misconstrued by many to mean that the physical health effects of Chernobyl were inconsequential, the Forum report used this finding to promote the importance of integrated mental and physical health care.

If past research is a predictor of the future, it is clear that the Japanese populations exposed to the triple disaster, especially the nuclear power plant disaster, will develop significant psychological and somatic symptoms that will be long-lasting in some risk groups. The few English-language reports about the psychological aftermath of the atomic bombings of Hiroshima and Nagasaki support this prediction (26-28). Thus, the radiation exposure could spawn persistent fears about developing cancer and long-term depression, regardless of the actual dose of radiation exposure received. Nonetheless, most survivors of extreme events are resilient (2,3). Therefore, future research in Japan should focus on vulnerable populations, such as mothers with young children evacuated or remaining near Fukushima or in Tokyo, pregnant women and small children living in towns found to have high levels of contamination, nuclear plant workers and their families, the elderly living in shelters, evacuees who lost their jobs and livelihoods, and A-bomb survivors and their offspring. Based on previous research, the most salient aspects of mental health will be health-related anxiety, somatic complaints, anger, sense of abandonment, stigma, and distrust in authorities. It is criti-

cal that a registry be created to enumerate individuals directly or indirectly affected by these events and document the exposures they endured.

What can be done in the short-term to prevent or reduce the expected fears, worries, anger, and distrust? First, plant and government officials should be truthful about what is known and unknown about the situation in and around the plant (29). Second, dosimetry monitoring centers should be available throughout Japan for the foreseeable future. Third, most people with common psychiatric symptoms do not seek professional care, including in Japan (30). Those who seek such care often present to general practitioners or pediatricians with physical symptoms (31). Medical practitioners need to understand the true health effects of radiation exposure, to recognize and manage psychosomatic, anxiety and depression symptoms, and to treat mental and physical health with equal respect. Most importantly, building resilience will be the key challenge for disaster recovery (32).

References

- Bromet EJ, Havenaar JM. The long-term mental health impacts of the Chernobyl accident. In: Neria Y, Galea S, Norris F (eds). *Mental health and disasters*. Cambridge: Cambridge University Press, 2009:441-53.
- Neria Y, Nandi A, Galea S. Post-traumatic stress disorder following disasters: a systematic review. *Psychol Med* 2008;38:467-80.
- Norris FH, Friedman MJ, Watson PJ et al. 60,000 disaster victims speak: Part 2. An empirical review of the empirical literature, 1981-2002. *Psychiatry* 2002;65:207-39.
- Gerrity ET, Flynn BW. Mental health consequences of disasters. In: Noji EK (ed). *The public health consequences of disasters*. New York: Oxford University Press, 1997:101-21.
- Danieli Y, Rodley NS, Weisaeth L (eds). *International responses to traumatic stress*. Amityville: Baywood, 1996.
- Bromet EJ. Psychological effects of radiation catastrophes. In: Peterson LE, Abrahamson S (eds). *Effects of ionizing radiation*. Washington: Joseph Henry Press, 1998:281-92.
- Slovic P. Perception of risk. *Science* 1987;236:280-5.
- Slovic P, Flynn JH, Layman M. Perceived risk, trust, and the politics of nuclear waste. *Science* 1991;00:1603-7.
- Havenaar JM, Bromet EJ. The experience of the Chernobyl nuclear disaster. In: Lopez-Ibor JJ, Christodoulou G, Maj M et al (eds). *Disasters and mental health*. Chichester: Wiley, 2005:179-92.
- Tønnessen A, Mårdberg B, Weisaeth L. Silent disaster: a European perspective on threat perception from Chernobyl far field fallout. *J Trauma Stress* 2002;15:453-9.
- Dohrenwend BP, Dohrenwend BS, Warheit GJ et al. Stress in the community: a report to the President's Commission on the Accident at Three Mile Island. *Ann NY Acad Sci* 1981;365:159-74.
- Goldstein R, Schorr JK, Goldstein KS. Longitudinal study of appraisal at Three Mile Island: implications for life event research. *Soc Sci Med* 1989;28:389-98.
- Cleary PD, Houts PS. The psychological impact of the Three Mile Island incident. *J Human Stress* 1984;10:28-34.
- Davidson LM, Baum A. Chronic stress and posttraumatic stress disorders. *J Consult Clin Psychol* 1986;54:303-8.
- Bromet EJ, Parkinson DK, Dunn LO. Long-term mental health consequences of the accident at Three Mile Island. *Int J Ment Health* 1990;19:48-60.
- Dew MA, Bromet E. Predictors of temporal patterns of psychiatric distress during 10 years following the nuclear accident at Three Mile Island. *Soc Psychiatry Psychiatr Epidemiol* 1993;28:49-55.
- Gluzman SF. The Chernobyl accident – a personal perspective. *Clin Oncology* (in press).
- Rahu M. Health effects of the Chernobyl accident: fears, rumours and the truth. *Eur J Cancer* 2003;39:295-9.
- Bromet EJ, Havenaar JM. Psychological and perceived health effects of the Chernobyl disaster: a 20-year review. *Health Physics* 2007;93:516-21.
- Bromet EJ, Havenaar JM, Guey LT. A 25 year retrospective review of the psychological consequences of the Chernobyl accident. *Clin Oncology* (in press).
- Havenaar JM, Rummyantzeva GM, van den Brink W et al. Long-term mental health effects of the Chernobyl disaster: an epidemiologic survey in two former Soviet regions. *Am J Psychiatry* 1997;154:1605-7.
- Adams RE, Bromet EJ, Panina N et al. Stress and well-being in mothers of young children 11 years after the Chernobyl nuclear power plant accident. *Psychol Med* 2002;32:143-56.
- Loganovsky K, Havenaar JM, Tintle N et al. The mental health of clean-up workers 18 years after the Chernobyl accident. *Psychol Med* 2008;38:481-8.
- Chernobyl Forum: 2003-2005. *Chernobyl's legacy: health, environmental and socio-economic impacts*. Vienna: International Atomic Energy Agency, 2006.
- Baverstock K, Williams D. The Chernobyl accident 20 years on: an assessment of the health consequences and the international response. *Environ Health Perspect* 2006;114:1312-7.
- Misao T, Hattori K, Shirakawa M et al. Characteristics of abnormalities observed in atom-bombed survivors. *J Rad Res* 1961;2:85-97.
- Yamada M, Izumi S. Psychiatric sequelae in atomic bomb survivors in Hiroshima and Nagasaki two decades after the explosions. *Soc Psychiatry Psychiatr Epidemiol* 2002;37:409-15.
- Lifton RJ. *Death in life: survivors of Hiroshima*. New York: Random House, 1967.
- Havenaar JM, Cwikel JG, Bromet EJ. *Toxic turmoil: psychological and societal consequences of ecological disasters*. New York: Plenum, 2002.
- Kawakami N, Takeshima T, Ono Y et al. Twelve-month prevalence, severity, and treatment of common mental disorders in communities in Japan: preliminary findings from the World Mental Health Japan Survey 2002-2003. *Psychiatry Clin Neurosci* 2005;59:441-52.
- Von Korff M, Scott K, Gureje O (eds). *Global perspectives on mental disorders and physical illness in the WHO World Mental Health Surveys*. Cambridge: Cambridge University Press, 2009.
- Castleden M, McKee M, Murray V et al. Resilience thinking in health protection. *J Publ Health* (in press).

Addressing the mental health consequences of the Japan triple catastrophe

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As E. Bromet points out, the current situation in Japan is the result of a triplet of catastrophes. The initial catastrophe, the earthquake itself, caused a certain amount of damage to buildings, but accounted for less than 10% of deaths. The second catastrophe of the tsunami swept away seashore areas and resulted in tremendous loss of life and property. The third and ongoing catastrophe, the nuclear power plant accident, will probably result in only minimal actual harm to physical health. However, it is definitely this last man-made catastrophe which will result in the longest-lasting damage to mental and public health. The whole world has vicariously been exposed to this distress.

Phenomena reported in Three Mile Island and Chernobyl are already being observed in our country. We have seen confusing and contradictory information from authorities, inconsistent media reports, excessive reaction to risks, and distrust of the government. People are forced to evacuate and mental health infrastructures are lost. Exaggerated rumors of risk are harming the economy, people's mental health, and even human rights in the affected regions. We predict that somatic complaints, anxiety, post-traumatic

stress, and depression will be elevated for a very substantial period, as suggested by Bromet.

The Japanese Society of Psychiatry and Neurology and the World Psychiatric Association are developing a joint intervention and research project, to be funded by the Japanese government, aiming to train general practitioners, obstetricians, gynecologists and pediatricians to recognize and address health anxiety related to actual or presumed exposure to radiation, as well as to identify the physical symptoms which can be actually related to radiation and those which cannot.

Meanwhile, we are trying to contribute to: a) the establishment of factual risk information based on scientific evidence; b) the efficient dissemination of information, as risk/crisis communication, to the public through collaboration with stakeholders in administrative, media, education and economic areas; c) the provision of effective psychosocial support; d) psychological/psychiatric interventions, as required.

We must mobilize our response using the full range of accumulated expertise of our organizations. We can do this, and we shall.

A conceptual framework for the revision of the ICD-10 classification of mental and behavioural disorders

INTERNATIONAL ADVISORY GROUP FOR THE REVISION OF ICD-10 MENTAL AND BEHAVIOURAL DISORDERS

Department of Mental Health and Substance Abuse, World Health Organization, Geneva, Switzerland

The World Health Organization (WHO) is revising the ICD-10 classification of mental and behavioural disorders, under the leadership of the Department of Mental Health and Substance Abuse and within the framework of the overall revision framework as directed by the World Health Assembly. This article describes WHO's perspective and priorities for mental and behavioural disorders classification in ICD-11, based on the recommendations of the International Advisory Group for the Revision of ICD-10 Mental and Behavioural Disorders. The WHO considers that the classification should be developed in consultation with stakeholders, which include WHO member countries, multidisciplinary health professionals, and users of mental health services and their families. Attention to the cultural framework must be a key element in defining future classification concepts. Uses of the ICD that must be considered include clinical applications, research, teaching and training, health statistics, and public health. The Advisory Group has determined that the current revision represents a particular opportunity to improve the classification's clinical utility, particularly in global primary care settings where there is the greatest opportunity to identify people who need mental health treatment. Based on WHO's mission and constitution, the usefulness of the classification in helping WHO member countries, particularly low- and middle-income countries, to reduce the disease burden associated with mental disorders is among the highest priorities for the revision. This article describes the foundation provided by the recommendations of the Advisory Group for the current phase of work.

Key words: Mental disorders, classification, International Classification of Diseases, clinical utility, cross-cultural applicability

(World Psychiatry 2011;10:86-92)

The World Health Organization (WHO) is in the process of revising the International Classification of Diseases and Related Health Problems, currently in its tenth version (ICD-10). The WHO Department of Mental Health and Substance Abuse is responsible for the revision of the ICD-10 classification of mental and behavioural disorders, within the overall framework of the ICD revision effort. The purpose of this article is to articulate WHO's perspective and priorities for the ICD-11 mental and behavioural disorders classification, based on the initial period of work by the International Advisory Group for the Revision of ICD-10 Mental and Behavioural Disorders.

The WHO is a specialized agency of the United Nations established in 1948, whose mission is the attainment by all peoples of the highest possible level of health. The WHO has explicitly defined mental health as a part of health from its inception. WHO's constitution (1), ratified by all 193 current WHO member countries, enumerates its core responsibilities, which include: establishing and revising international nomenclatures of diseases, causes of death and public health practice; and standardizing diagnostic procedures as necessary. Classification systems are therefore a core constitutional responsibility, which the WHO does not have the option of devolving to other parties. The ICD is the oldest, most central, and most historically important of WHO's classification systems.

The purpose of the ICD is to serve as an international standard for health information to enable the assessment and monitoring of mortality, morbidity, and other relevant parameters related to health. The WHO is the only organization with the ability to secure global cooperation and inter-

national agreement on these issues and is therefore in a unique position to initiate and promote global health standards. WHO's classification systems are the basis for tracking epidemics and disease burden, identifying the appropriate targets of health care resources, and encouraging accountability among member countries for public health at the population level. WHO's classification systems are also among the core building blocks for the electronic health information systems that are of increasing importance in many countries.

As a common classification framework, the ICD has fostered global communication and information exchange. At the clinical level, classifications enable communication among health professionals, their patients, and the health systems in which they work, and facilitate the training of health professionals across countries and cultures. WHO classifications also serve other sectors, including health policy makers and payers of health care services, the judicial system, and governments. Because the ICD plays such a crucial role in the international health community, it is critical that it be based on the best available scientific knowledge and that it keep pace with significant advances in health care that have the potential to improve its reliability, validity, and utility. The ICD-10 was approved by the World Health Assembly in 1990 and published in 1992 (2), making the current period the longest in the history of the ICD without a major revision. The World Health Assembly, comprised of the health ministers of all WHO member countries, has directed WHO to revise the ICD-10. The technical work associated with the preparation of ICD-11 is scheduled for completion in 2013. It is envisioned that the World Health Assembly will ap-

prove the ICD-11, covering all diseases, disorders, injuries, and health conditions, in 2014.

Within the context of the overall revision framework, the revision of ICD-10 Chapter V (F), Mental and Behavioural Disorders, is being undertaken. Conducting the Chapter V revision within the overall context of ICD revision facilitates coordination with classification of other disorders, including neurological and other medical conditions that are frequently comorbid with mental and behavioural disorders. The inclusion of mental and behavioural disorders alongside all other diagnostic entities in health care is an important feature of the ICD, facilitating the search for related mechanisms of etiology, pathophysiology, and comorbidity of disease processes and providing a solid basis for the parity of psychopathology with the rest of the medical system for clinical, administrative, and financial functions in health care.

To assist with the current revision of the ICD mental and behavioural disorders classification, the WHO convened a high-level International Advisory Group in January 2007, with the primary task of advising on all steps leading to the revision of the chapter on mental and behavioural disorders in ICD-10 in line with the overall revision process. The Advisory Group includes experts from all WHO regions, as well as representatives of international associations of multidisciplinary mental health professionals. The Advisory Group has considered a number of important foundational issues on which specific revision activities in the next phase of work have to be based, achieving a fairly remarkable degree of consensus in its perspective. The following sections describe some of the basic conceptual issues considered and recommendations made by the Advisory Group.

WHAT IS A MENTAL DISORDER?

One of the earliest questions confronting the Advisory Group was how mental disorders should be defined. This definition of mental disorders sets the boundaries for what is being classified, and has enormous consequences for public health action, for governments, for health systems, and for research. For example, how mental disorders are defined affects epidemiological estimates of their prevalence, the legal protections available to people affected by them, the structure, functioning, and payment mechanisms for mental health service systems, and evaluation of the outcomes of mental health interventions.

The clinical descriptions and diagnostic guidelines for ICD-10 mental and behavioural disorders (3) define a mental disorder as “a clinically recognizable set of symptoms or behaviours associated in most cases with distress and with interference with personal functions”. The definition of mental disorders found in DSM-IV-TR (4) is similar, and has not changed since DSM-III (5): “a clinically significant behavioral or psychological syndrome or pattern that occurs in an individual and that is associated with present distress ... or disability or with a significantly increased risk of suffer-

ing death, pain, disability, or important loss of freedom... [that is] considered a manifestation of behavioral, psychological, or biological dysfunction in the individual”. The Advisory Group recommended that ICD-11 use the same definition for mental and behavioural disorders used in ICD-10, favoring its simplicity over the more complex definition used in DSM. The Advisory Group also noted that the DSM-IV definition has a different relationship to issues of functional status than does the ICD-10 definition, a topic that is explored further in a later section of this article.

WHO'S CONSTITUENCIES FOR THE REVISION OF THE CLASSIFICATION

Due to their broad importance, the WHO considers that classifications should be designed in consultation and, where possible, collaboration with stakeholders. The first direct stakeholder group to which WHO considers itself accountable during the ICD revision, and WHO's primary constituency, consists of the governments of WHO member countries. These governments have specific interests in ICD for several reasons. First, governments are asked to report morbidity and mortality statistics to the WHO according to the ICD classification. Second, governments want health classification to reflect their particular perspectives and priorities for health care. For example, they may not share the assumption that categories of mental illness are both culturally universal and adequately defined by existing categories. Third, governments are interested in the ICD because diagnostic classification provides a large part of the framework that defines the government's obligations to provide free or subsidized health care, social services, and disability benefits to its citizens. Fourth, the interests of governments are aligned with the global public health priorities that are the reason for WHO's existence: they want help in reducing the disease burden of mental and behavioural disorders. Finally, any changes to the existing ICD as it is used by member countries may involve the commitment of substantial resources to change existing record systems, health survey instruments, administrative procedures, health policy, and even legislation related to diagnosis. Governments may also have to make large investments in training health professionals to use the new system.

The second important group of direct stakeholders in the revision of the ICD mental health classification is health care professionals. Psychiatrists are not the only professionals involved in the diagnosis and classification of mental disorders. Only a very small percentage of individuals with mental disorders will ever see a psychiatrist. Psychiatrists are in relatively generous supply in high-income countries: about 10.5 per 10,000 population (6). But the proportion of the world's population that live in these countries is small, only about 15%, and declining. By contrast, there is less than 1 psychiatrist per 100,000 population in low-income countries, which are home to nearly half the world's people.

In lower-middle income countries, there is an average of about 1 psychiatrist per 100,000 population, and an average of 2.7 in upper-middle income countries (6).

Therefore, psychiatrists cannot be seen as the primary users and the sole professional constituency for the classification. Other professional groups should also have a meaningful and proportionate role in the process. This includes other mental health professionals such as psychologists, social workers, and psychiatric nurses. It also includes other physician groups, especially primary care physicians, as well as lay health care workers who deliver the majority of primary and mental health care in some developing countries. For this reason, representatives of international professional associations representing these groups have been included in the Advisory Group from the beginning. Geographic and linguistic diversity must also be addressed carefully in creating mechanisms for participation, as in the past it has generally been professionals from wealthier, usually Anglophone, countries who have been most easily able to travel and participate in meetings conducted in English. The influence of the pharmaceutical industry on some groups of professionals must also be addressed seriously. In order to avoid undue influence, the WHO considers that it is imperative to examine carefully possible conflicts of interest among participants in the revision of mental disorders classification and diagnostic criteria.

For the mental disorders classification in ICD, the WHO recognizes the users of mental health services and their family members as a third direct stakeholder group. The user community in mental health has been increasingly aligned with the disability rights movement, adopting the motto of 'Nothing about us without us!', rejecting what they see as medical paternalism, and demanding to be consulted about the decisions that affect their lives. The ICD revision process must encompass substantive and serious opportunities for participation of user groups, not just symbolic and ritualistic gestures. At the same time, service user and family organizations are not monolithic, but rather characterized by a wide diversity of perspectives and opinions. Opportunities must be created for broader input that are structured and timed so that they contribute constructively to the revision process and are more than a political exercise.

UNIVERSALITY OF CATEGORIES

Universality of specific categories of mental disorders is an inherent assumption in ICD-10. This assumption has not been proven, however, and in spite of the repeated call for more attention to culture in psychiatric diagnosis by some authors, the issue of culture has largely been viewed as a distraction or source of error in classification (7). Attention to cultural framework cannot be optional but should become a key element in defining future classification concepts (8).

The WHO and the Advisory Group have been pursuing several strategies for increasing the global scope and range

of information considered as a basis for revising the ICD mental and behavioural disorders classification, with the goal of improving its clinical utility and cultural applicability. First, a series of international and multilingual literature reviews have served to evaluate major trends, themes, and areas of active debate related to the classification of mental disorders, particularly concerning clinical utility in low- and middle-income countries. A second project has been a systematic analysis of country-level and regional diagnostic systems for mental disorders (e.g., 9,10), providing important data regarding which ICD elements are endorsed by local users as useful, which are seen as lacking, and what additional categories and alternative disorder descriptions may be needed. A third project has been a large international survey, carried out in collaboration with the WPA, of the attitudes of psychiatrists of the various countries of the world concerning diagnosis and classification of mental disorders. The results of this survey appear in this issue of *World Psychiatry* (11).

USES OF ICD-10 MENTAL AND BEHAVIOURAL DISORDERS CLASSIFICATION

The nature of the changes that will be made in the course of the revision will be heavily influenced by the uses of the classification that are considered important during the revision process. Five main uses of the ICD-10 mental and behavioural disorders classification can be identified: clinical uses; research uses; teaching and training uses; health statistics uses; and public health uses. How changes in the classification will influence its utility for all these purposes is an important focus of the revision process.

Clinical uses

Past revisions have focused primarily on the use of the classification by mental health professionals, particularly psychiatrists, in specialty mental health settings. The WHO published a volume of clinical descriptions and diagnostic guidelines (3), primarily intended for such applications. But the ICD mental and behavioural disorders classification is applied in a much broader range of settings – for example, primary, secondary and tertiary medical settings, substance abuse settings, and rehabilitation centres – and must be responsive to their needs.

From WHO's point of view, the usefulness of the ICD mental and behavioural disorders classification in primary care settings is one of the most important considerations in the current revision. By definition, primary care settings are those in which people are most likely to come into contact with the health care system. Across the world, when people with mental disorders do receive care, they are far more likely to receive it in primary care than in specialty mental health settings (12). Therefore, primary care settings repre-

sent the best opportunity to improve the identification and effective treatment of people with mental disorders.

A classification system that is usable and useful for health care workers in those settings is a fundamental requirement for such an effort. Globally, primary health care workers are often not physicians, and are highly unlikely to be mental health professionals. In many community-based primary care settings in low-income countries, health workers may have limited formal professional training of any kind. After the previous revision of the ICD, the WHO created a modification of the mental and behavioural disorders classification for primary care (13). However, the usefulness of this system has been limited by the fact that it was adapted from the specialty classification, primarily by collapsing it, rather than being created on the basis of the needs and priorities of primary care settings (14). The Advisory Group has strongly emphasized the need for a separate primary care version of the ICD-11 mental and behavioural disorders classification. In contrast to the last revision process, however, the primary care version is being created simultaneously with the specialty version, based on the diversity and particularities of primary care settings and the characteristics of the health care personnel who work in them.

The revision process must also consider several other uses of the ICD in assessment and decision-making with individuals who may have mental disorders. These include forensic settings, where diagnosis and classification may be used as part of making decisions about competency and future risk, and social assistance settings, where eligibility and selection of benefits and services is partly based on diagnostic information. Another major sector in which the classification is used is educational settings, where diagnostic information is often used as a part of decision-making about the most appropriate educational placement and the nature of the educational services that a child receives. These applications tend to be very important to governments because of the direct implications they have for government decisions and responsibilities, but they received very little systematic consideration in previous revisions of the ICD mental and behavioural disorders classification.

Research uses

Mental and behavioural disorders classifications are used in a wide variety of research areas, including genetics, neuroscience, epidemiology, development of pharmacological and psychosocial treatments, health services and outcomes, and prevention and health promotion research. However, the requirements of clinical trials have had a disproportionate influence on the nature of the classification over time. Clinical trials require highly specified patient groups that can be described as having a specific diagnosable disorder based on explicit criteria that can be precisely replicated in different settings by different researchers. Sometimes, this results in large numbers of potential research participants

being excluded for a particular trial, even when clinicians would judge them to have the relevant condition. This emphasis has contributed to the problems of over-specification and reification that characterize current classification of mental disorders (15,16). These characteristics have not only limited the classification's clinical utility, but have also created barriers to research into shared basic mechanisms underlying mental disorders and symptom expression (17).

Utility for research is an important consideration, but this is only one of several major uses of the ICD. Moreover, the usefulness of the classification as an organizing framework for research should not be confused with the scientific basis of the classification itself. In recognition of the specific needs of researchers and the need for operationalized criteria that could be used in epidemiological and clinical studies, the WHO published diagnostic criteria for research for the ICD mental and behavioural disorders classification in 1993 (18). Whether or not such criteria are published as a separate book, operationalized and replicable diagnostic criteria will also be needed for ICD-11 for these same purposes.

Teaching and training uses

The ICD-10 mental and behavioural disorders classification is an integral part of training for a wide range of mental health providers, and serves as an organizing principle in the education of psychiatrists, psychologists, social workers, mental health nurses, and other social, mental health, and occupational professionals. It is also important in the training of general medical professionals, including physicians, nurses, and other practitioners. And it is used in the training of professionals outside the health sector, for example of forensic and educational professionals. This area has not been a systematic focus in the past, but a variety of initiatives to assist in the training of professionals to use ICD-11 will be necessary.

Health statistics uses

As noted, ICD-10 is used as a basis for routine population-based collection of health information as well as mandatory statistical reporting by WHO member countries. This information is used for both internal and external purposes. The nature of health information systems using the ICD varies dramatically across WHO member countries, ranging from sophisticated, integrated, electronic case records to nearly nonexistent health records where information is recorded entirely by hand, if at all. The expenses involved in making the transition to a new classification may be difficult for governments to take on, regardless of how much better the new system is. The WHO will need to develop effective ways of making the case to the health ministries of member countries' governments that the new classification will produce benefits that justify the costs of making the change.

Public health uses

If the ICD-11 classification of mental and behavioural disorders is to be true to WHO's constitution and charter, its public health application must be its most important orienting principle. The revision should seek to maximize the contribution of the classification to collective action for sustained population-wide health improvement. More specifically, as part of the revision process, consideration should be given to how the classification system can assist in: a) decreasing the incidence and prevalence of mental disorders; b) decreasing disability associated with mental disorders; c) improving the accessibility and delivery of mental health services; d) promoting mental health; and e) evaluating public health needs and monitoring trends.

The most important global challenge in mental health is what the WHO often refers to as the mental health gap (19). Neuropsychiatric disorders account for a greater share of total global disease burden and disability than any other category of non-communicable disease (20). Yet, treatment remains unavailable or woefully inadequate. In developing countries, fewer than 25% of people with even severe mental disorders receive any treatment at all (21). Worldwide, the gap between those who need treatment and those who receive it ranges from 32% to 78%, depending on the disorder (22). In addition to the scarcity of mental health professionals, other factors that contribute to the mental health gap include the under-resourcing of mental health care systems, issues of stigma, inadequate prevention programming, and lack of parity in health financing including through insurance coverage (23).

To address the mental health gap, WHO considers the development of more accessible and less stigmatized services, that reach more of the population in need and increase the population impact of services for mental health and substance abuse disorders, to be an urgent priority. Currently available services often bear little relation to those with sound scientific support that may be more cost-effective. In order to improve the quality of mental and substance use disorder treatment at a population level, the allocation of limited intervention resources should be brought more in line with the epidemiology, natural course and disease burden of these disorders. The ICD is an integral part of such an effort. People are only likely to have access to the most appropriate mental health services when the conditions that define eligibility and treatment selection are supported by a precise, valid, and clinically useful classification system.

DISENTANGLING DIAGNOSIS AND THE FUNCTIONAL IMPACT OF MENTAL DISORDERS

In 2001, the World Health Assembly approved the International Classification of Functioning, Disability, and Health (ICF) (24). The ICF provides a systematic and universal framework for describing the ways in which human func-

tioning may be affected by a health condition. The ICF was designed to "provide a unified and standard language and framework for the description of health and health-related states". The ICF does not classify diseases, disorders, injuries, or health problems, which is the purpose of the ICD. The ICF was designed as a complementary system, meant to be used together with the ICD, to classify the *functional consequences, components, or correlates* of health conditions.

The approval of the ICF represents a policy basis for the position that functional status and disability – those things that are categorized by the ICF – should not be part of the definitions and criteria for the diagnostic entities classified by the ICD. Another reason that this discussion has been an important focus of the Advisory Group is that differing conceptualizations of functioning and disability in relation to diagnosis are one of the most significant differences between the ICD-10 mental and behavioural disorders classification and the DSM-IV (25). As noted earlier in this article, the Advisory Group endorsed the ICD-10 definition of a mental disorder as a working definition for ICD-11. This definition refers to functional impairment but does not require it, simply indicating that mental disorders often interfere with personal functioning. The clinical descriptions and diagnostic guidelines for ICD-10 mental and behavioural disorders (3) provide more specific guidance, stating as a general principle that interference with the performance of social roles (e.g., family, employment) should not be used as a diagnostic guideline or criterion.

Üstün and Kennedy (26) have proposed an even stricter separation of functional status and diagnosis than characterizes ICD-10: "No functioning or disability should appear as part of the threshold of the diagnosis... A separate rating of the disorder severity (i.e., mild, moderate, or severe), after a diagnosis has been made, would rely on an assessment of the development of the disease, its spread, continuity or any measure independent of disability parameters, so as to avoid co-linearity". The Advisory Group, however, suggested that the ability to make this distinction is less than perfect given the current state of science and clinical practice, citing the general lack of direct, objective disease indicators for mental disorders as well as the continuity of some phenomena considered to represent mental disorders with normal variations in behaviour. Consequently, in some specific diagnoses it may be necessary to refer to specific types of functional impairment as thresholds for separating disorder from non-disorder when more "direct" indicators of disease processes are not available.

Therefore, the Advisory Group has recommended that a reformulation of diagnostic definitions, descriptions, and criteria so as to exclude the phenomena considered to be representative of functional impact be undertaken where possible, and categories where it is not possible be clearly identified. If an inference about an underlying pathological phenomenon is being made based on a distinctive pattern of functional disturbance, this should be made explicit. The Advisory Group also noted that the development of valid and systematic methods for assessing functional status is a

separate activity that it sees as falling outside the scope of the classification itself.

THE SCOPE OF THE DIAGNOSTIC CLASSIFICATION

A related question is whether the diagnostic classification should include additional information or dimensions that, while not a part of diagnosis *per se*, are important for making decisions about patient care, such as associated disability, acuity, exacerbating psychosocial factors, level of social support, and cultural factors. Some have suggested that, when there is strong evidence for the use of particular treatments for particular disorders, this information should be included in the diagnostic classification. From a public health perspective, information about risk factors and protective factors may also be very important in formulating population-based strategies.

However, the Advisory Group took the position that diagnostic classification is only *a part* of patient assessment and that the classification system should not attempt to function as a guide to patient care or a comprehensive textbook of psychiatry. The focus of the ICD is on the classification of *disorders* and not the assessment and treatment of *people*, who are frequently characterized by multiple disorders and diverse needs. The mental and behavioural disorders classification must also be consistent with the rest of the ICD, which does not include such information for other areas. Therefore, the Advisory Group recommended against attempting to provide associated features and disorders, laboratory findings, physical examination, medical conditions, prevalence, course, and familial patterns as a part of the diagnostic classification system, unless these are needed for making a diagnosis. Similarly, most risk factors and protective factors are non-specific; they are common to many mental disorders and indeed to other types of health conditions, so it may be more useful to include a chapter on these as part of the overall ICD rather than as part of the mental and behavioural disorders classification.

Additional information beyond the diagnostic categories and descriptions is clearly needed to improve the quality of care and the impact of services for mental and behavioural disorders. It may be useful for countries, regions, or international professional associations to develop additional guidance about the use of the ICD-11 classification of mental and behavioural disorders as a part of patient assessment and treatment in different care settings. It is essential that such elaborations be consistently based on the ICD diagnostic definitions and the WHO will consider being a partner in the development of such additional materials in order to facilitate this goal.

PRIORITIES FOR THE CLASSIFICATION OF MENTAL AND BEHAVIOURAL DISORDERS IN ICD-11

A purely scientific basis for mental disorders classifica-

tion continues to be elusive. Thus far, neurobiological phenotypes or genetic markers useful in making the diagnosis of specific mental disorders in particular individuals have not been identified, and dramatic advances in neurosciences still fall short of providing a basis for a classification that is usable in clinical settings (27,28). Research to date has not provided a clear, validity-based overarching structure or coherent set of organizing principles for a standard diagnostic system or led to the scientific validation of individual diagnostic entities and criteria. At the same time, there is no shortage of evidence that existing classifications are characterized by serious problems of clinical utility (29-31). Based on this state of affairs, the Advisory Group has suggested that the current, mandated revision of the ICD mental and behavioural disorders classification represents an important opportunity to focus on improving the clinical utility of the classification system.

The Advisory Group has affirmed that scientific evidence for validity should not be, and has never been, the sole criterion for making change in the classification. However, despite the pragmatic, “utilitarian” connotations of the term, utility is not a simple construct. As has been suggested in the preceding discussion, utility is often specific with respect to purpose (e.g., individual treatment, public health, education, statistical reporting). Utility for research has often been conflated with scientific validity but, as described, research is only one purpose of the classification. Obtaining significant input from primary care and public health, for example, may inform changes in the system’s organization and presentation that improve the classification’s utility for those purposes. It is clear that compromising validity should be avoided when making such changes. It is much less clear how to prioritize among different purposes of the classification – different utilities – when these lead to divergent conclusions.

CONCLUSIONS

Based on WHO’s mission and constitution, public health utility must clearly be the highest priority in revising the classification. The guiding question must be “How can a diagnosis and classification manual assist in increasing coverage and enhancing mental health care across the world?”. In part, this question would suggest a focus on epidemiology and statistics, but information without practice will not reduce disease burden. To do this, it is even more important that the classification provide a basis for efficiently identifying people with the greatest mental health needs when they come into contact with health care systems, and ensuring that they have access to appropriate and cost-effective forms of treatment. The classification must lend itself to use in countries and settings with limited resources, especially primary care settings, and be usable by a range of mental health professionals, non-specialty health professionals, and even lay health care workers. To satisfy these requirements, one size is unlikely to fit all.

The conceptual decisions and recommendations of the Advisory Group discussed above have provided a solid foundation for the current phase of work on the ICD revision. We look forward to even greater collaboration with our international colleagues as we proceed with the development of ICD-11.

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References

1. World Health Organization. Basic documents, 46th edition. Geneva: World Health Organization, 2007.
2. World Health Organization. International classification of diseases and related health problems, 10th revision. Geneva: World Health Organization, 1992.
3. World Health Organization. The ICD-10 classification of mental and behavioural disorders: clinical descriptions and diagnostic guidelines. Geneva: World Health Organization, 1992.
4. American Psychiatric Association. Diagnostic and statistical manual of mental disorders, 4th ed., text revision. Washington: American Psychiatric Association, 2000.
5. American Psychiatric Association. Diagnostic and statistical manual of mental disorders, 3rd ed. Washington: American Psychiatric Association, 1980.

6. World Health Organization. Mental health atlas 2005. Geneva: World Health Organization, 2005.
7. Kirmayer LJ. Culture, context and experience in psychiatric diagnosis. *Psychopathology* 2005;38:192-6.
8. Alarcón RD. Culture, cultural factors, and psychiatric diagnosis: review and projections. *World Psychiatry* 2009;8:131-9.
9. Chen Y-F. Chinese Classification of Mental Disorders (CCMD-3): towards integration in international classification. *Psychopathology* 2002;35:171-5.
10. Otero-Ojeda AA. Third Cuban Glossary of Psychiatry (GC-3): key features and contributions. *Psychopathology* 2002;35:181-4.
11. Reed GM, Correia JM, Esparza P et al. The WPA-WHO global survey of psychiatrists' attitudes toward mental disorders classification. *World Psychiatry* 2011;10:118-31.
12. Wang PS, Aguilar-Gaxiola S, Alonso J et al. Use of mental health services for anxiety, mood, and substance disorders in 17 countries in the WHO World Mental Health Surveys. *Lancet* 2007;370:841-50.
13. World Health Organization. Diagnostic and management guidelines for mental disorders in primary care: ICD-10 Chapter V Primary Care Version. Göttingen: Hogrefe, 1996.
14. Gask L, Klinkman M, Fortes S et al. Capturing complexity: the case for a new classification system for mental disorders in primary care. *Eur Psychiatry* 2008;7:469-76.
15. Westen D, Novotny CM, Thompson-Brenner H. The empirical status of empirically-supported psychotherapies: assumptions, findings, and reporting in controlled clinical trials. *Psychol Bull* 2004; 130:631-63.
16. Hyman SE. The diagnosis of mental disorders: the problem of reification. *Annu Rev Clin Psychol* 2010;6:155-79.
17. Insel T, Cuthbert B, Garvey M et al. Research domain criteria (RDoC): toward a new classification framework for research on mental disorders. *Am J Psychiatry* 2010;167:748-51.
18. World Health Organization. The ICD-10 classification of mental and behavioural disorders: diagnostic criteria for research. Geneva: World Health Organization, 1993.
19. World Health Organization. mhGAP—Mental Health Gap Action Programme: scaling up care for mental, neurological, and substance use disorders. Geneva: World Health Organization, 2008.
20. World Health Organization. The global burden of disease: 2004 update. Geneva: World Health Organization, 2008.
21. World Health Organization World Mental Health Survey Consortium. Prevalence, severity, and unmet need for treatment of mental disorders in the World Health Organization World Mental Health Surveys. *JAMA* 2004;291:2581-90.
22. Kohn R, Saxena S, Levav I et al. The treatment gap in mental health care. *Bull World Health Organ* 2004;82:858-66.
23. Saxena S, Thornicroft G, Knapp M et al. Resources for mental health: scarcity, inequity, and inefficiency. *Lancet* 2007;370:878-89.
24. World Health Organization. International classification of functioning, disability and health. Geneva: World Health Organization, 2001.
25. First MB. Harmonisation of ICD-11 and DSM-V: opportunities and challenges. *Br J Psychiatry* 2009;195:382-90.
26. Üstün B, Kennedy C. What is 'functional impairment'? Disentangling disability from clinical significance. *World Psychiatry* 2009;8: 82-5.
27. Rounsaville BJ, Alarcón RD, Andrews G et al. Basic nomenclature issues for DSM-V. In: Kupfer DE, First MB, Regier DA (eds). A research agenda for DSM-V. Washington: American Psychiatric Association, 2002:1-29.
28. Hyman SE. Can neuroscience be integrated into the DSM-V? *Nat Rev Neurosci* 2007;8:725-32.
29. Kendell R, Jablensky A. Distinguishing between the validity and utility of psychiatric diagnoses. *Am J Psychiatry* 2003;160:4-12.
30. First MB. Clinical utility in the revision of the Diagnostic and Statistical Manual of Mental Disorders (DSM). *Prof Psychol Res* 2010; 41:465-73.
31. Andrews G, Goldberg DP, Krueger RF et al. Exploring the feasibility of a meta-structure for DSM-V and ICD-11: could it improve utility and validity? *Psychol Med* 2009;39:1993-2000.

WPA guidance on the protection and promotion of mental health in children of persons with severe mental disorders

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This guidance details the needs of children, and the qualities of parenting that meet those needs. Parental mental disorders can damage the foetus during pregnancy through the action of drugs, prescribed or abused. Pregnancy and the puerperium can exacerbate or initiate mental illness in susceptible women. After their birth, the children may suffer from the social disadvantage associated with severe mental illness. The parents (depending on the disorder, its severity and its persistence) may have intermittent or prolonged difficulties with parenting, which may sometimes result in childhood psychological disturbance or child maltreatment. This guidance considers ways of preventing, minimizing and remedying these effects. Our recommendations include: education of psychiatrists and related professions about the effect of parental mental illness on children; revision of psychiatric training to increase awareness of patients as caregivers, and to incorporate relevant assessment and intervention into their treatment and rehabilitation; the optimum use of pharmacological treatment during pregnancy; pre-birth planning when women with severe mental illness become pregnant; development of specialist services for pregnant and puerperal women, with assessment of their efficacy; community support for parenting by mothers and fathers with severe mental disorders; standards of good practice for the management of child maltreatment when parents suffer from mental illness; the importance of multi-disciplinary teamwork when helping these families, supporting their children and ensuring child protection; the development of child and adolescent mental health services worldwide.

Key words: Parenting, severe mental illness, mother-infant relationship, substance abuse, childhood mental disorders, child maltreatment, child and adolescent mental health services

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The United Nations (UN) Convention on the Rights of the Child (1) affirmed that the child, for the full and harmonious development of his/her personality, should grow up in a family environment, in an atmosphere of happiness, love and understanding. Nations must take appropriate measures to protect the child from all forms of physical or mental violence, maltreatment or exploitation, while in the care of parents or other persons entrusted with their care. This Convention was adopted by the UN General Assembly in November 1989, and has been ratified by 192 nations. It is not only because of this authoritative pronouncement, but also because the ambition of medicine is to prevent disease, that the issue of the mental health of children of mentally ill parents is important: a promising preventive strategy is to work with high risk groups, such as these vulnerable children.

Most of these children are born and reared in low-income nations, which have a dearth of resources and also, in some cases, of essential knowledge. There is a paradoxical relationship between wealth and birth rates: nations in Europe, North America and elsewhere, with advanced health systems and strong scientific contributions, have fewer than 10 million births/year. We are concerned not only to improve practice in these nations, but also and especially to find solutions for those countries in which the other 125 million infants are born. Thus, we seek to recommend state-of-the-art

services to those that can afford them, and creative interventions to less prosperous nations.

PARENTING AND THE NEEDS OF CHILDREN

The needs of children, which parenting must address, can be listed as follows:

- *Basic care* (shelter, nutrition, hygiene, clothing and medical care).
- *Safety* (protection from dangers, including unsafe people).
- *Emotional warmth*, so that the child feels unconditionally valued and secure. This will involve comforting, praise, and considerate, affectionate and loving care.
- *Encouragement of learning*. This requires quick and contingent responses to the child's language and questions, play, support to schooling, and the promotion of social opportunities. It is aided by understanding the child's world, his/her temperament, strengths and weaknesses, and may require special skills, for example in handling disabilities.
- *Guidance and setting consistent boundaries for culturally acceptable behaviour*, aiming to equip the child with consideration for others, discipline and internal moral values. This is achieved by supervision and monitoring (protecting the child from poor role models), coaching, and

rewarding good behaviour. Unacceptable actions are discouraged in a consistent way, providing a model for anger control and conflict resolution.

- A *stable family base* for engagement with the wider world.

Although there is much variation, these needs progress in phases from birth to adolescence, starting with attachment to primary caregivers in the first year. From the security thus provided, the child achieves gradually increasing autonomy, and starts to develop a sense of self, to recognize and regulate emotional states, and to discover the limits of personal power and identity. During the preschool years, an important task is peer-group integration. Towards the end of the first decade, the child begins to establish personal preferences, to take responsibility and develop a sense of right and wrong. Adolescence is marked by psychosexual development and a gradual move towards adulthood.

The term “parenting” covers the adult activities that meet these needs, and foster the child’s development into a successful adult. “Caregiving” is sometimes preferred, in order to include adoptive and foster parents, and others, such as grandparents, who have a substantial role in caring for the child. Parenting may be disturbed by many factors other than mental illness, including poverty, adverse events and family violence or disruption. The neighbourhood may be violent and deprived, or, in contrast, may have strong cooperative networks. There are cultural and religious influences such as attitudes towards family privacy and cooperation, social responsibility, authority and ethnicity. Violence, war and persecution on a national scale provide the most unfavourable circumstances for caregiving.

RISK FACTORS DURING PREGNANCY

Treatment and prophylaxis of mental disorders in pregnant women

Most patients with chronic psychoses, and many with recurrent mental illness, are prescribed prophylactic or therapeutic drugs, and many women become pregnant when taking them. Although it is generally advisable to avoid medication in pregnancy, the risks of stopping it often outweigh the risks to the foetus. Pregnancy does not usually become detectable before 30-40 days gestation, so that infants conceived by women on regular drug intake are exposed to teratogenic hazards. In the case of most psychotropic drugs, this risk is controversial and slight. But valproate (possibly also carbamazepine) can cause neural tube defects and learning disability; this risk is reduced, but not eliminated by folic acid. Electroconvulsive treatment can precipitate early labour, preventable by a tocolytic drug. Neonatal toxicity and/or addiction have been reported in some babies exposed to lithium, anti-psychotics, antidepressants and benzodiazepines. The risks to the breast-fed infant have been exaggerated (2).

Substance abuse

We focus on ethanol, narcotics and cocaine, which are the best researched. Exposed infants face many adverse factors: their parents often have mental disorders (such as depression and paranoid disorders); they often abuse other drugs; they suffer from multiple social problems and poverty; many do not seek antenatal care. The infants may be affected by maternal malnutrition and infections such as hepatitis, HIV or venereal diseases. The quality of care, as much as drug effects, is a strong predictor of outcome.

All three drugs are associated with an increased risk of short gestation and low birth weight. In addition, some exposed infants are small for gestational age, which carries the implication of placental insufficiency, not just early arrest of intra-uterine life. This in itself, without drug exposure, can result in neurological dysfunction, and possibly language delays and emotional disorders (3).

Selecting some salient points, *ethanol*, taken in excessive quantities, may be teratogenic, causing a general increase of congenital abnormalities. There may be microcephaly and permanent brain damage; foetal alcohol syndrome is a leading cause of mental retardation. A notable complication of *narcotic addiction* is the withdrawal syndrome, against which methadone maintenance does not protect. A specific complication of *cocaine abuse* is placental abruption. The long-term effects of both opiates and cocaine have been much studied, but without reaching a consensus on cognitive deficits or behavioural problems, when controlled for social deprivation (4).

Other harmful influences during pregnancy

There are claims that subclinical anxiety, depression or stress during pregnancy can have lasting effects on the child. They include pregnancy complications, prematurity, low birth weight or intra-uterine growth retardation, foetal or neonatal distress, and developmental delay, but there is no consensus on these effects. Perhaps the best supported claim is that mid-trimester anxiety affects mental health in mid-childhood, but such investigations are plagued by many confounding factors. Only rigorously designed cohort studies can substantiate these claims.

Domestic violence during pregnancy carries the risk of foetal injury and death. It can also severely affect maternal attitudes and morale.

Many pregnancies are unplanned, but most of these are merely mistimed, and are fully accepted. A minority remain persistently unwanted. The number of these unwelcome pregnancies is much reduced in nations that allow termination of pregnancy; even so some are carried to term. Unwanted pregnancy is a significant problem in many low-income countries (5). It is associated with an increased risk for denial of pregnancy, foetal abuse, neonaticide, depression, mother-infant relationship disorders and emotional disorder.

ders in children. Cohort studies of unwanted pregnancy and its psychological outcomes are a research priority.

DISTURBANCES OF PARENTING DUE TO MENTAL DISORDERS

The complex functions of parenting may be disrupted, to a greater or less extent, by all forms of parental mental disorders. It is not so much the diagnosis that confers the risk, but the severity and chronicity of psychopathology. It is important to emphasize that investigations of parenting report statistical associations in large samples. There is much variation in psychopathology (its severity and duration), and in each patient's personality, coping and social circumstances. Many parents with severe depressive, anxiety or eating disorders, and even those suffering from psychosis, make excellent caregivers.

Different disorders have their effect through common pathways:

- *Parental preoccupation.* Any preoccupation, whether in the form of worrying, obsessional or angry ruminations or delusions, can impair vigilance and the readiness to respond to the child; so this effect will be seen in anxiety, obsessional and querulant disorders, as well as psychoses and emotionally unstable personality disorders. Inattention is also caused by involvement in time-consuming morbid activities, such as compulsive rituals, bingeing or drug abuse. It will result from disorders affecting the faculty of attention itself, such as depression. If this withdrawal of attention is frequent and prolonged, boundary setting will be inconsistent, and the environment will be impoverished, without the stimulus to intellectual growth.
- *Emotional unavailability.* This ranges in severity from avoidance of the child due to a child-focused phobia or obsessions of infanticide, to extreme withdrawal seen in severe depression or psychosis.
- *Anger.* This is prominent in depression, acute psychosis, mania, intoxication and withdrawal from drugs or alcohol. Irritability can find an outlet in the children, who are more accessible than husbands or other relatives. Pathological anger is a manifestation of severe mother-infant relationship disorders. Hostility may be targeted on the child in delusional disorders. Explosive irritability is a problem for some people with personality disorders.
- *Disturbed behaviour.* A child may be exposed to impulsivity, extreme mood swings, bizarre utterances or behaviour based on delusions. Abnormal emotional responses may disturb the interaction. This is perplexing, sometimes frightening. The shift from institution to community treatment in some countries means that more children experience psychotic behaviour at close range.

Parenting is also affected indirectly by other factors:

- *Deprivation.* Mental illness has a general association with

social adversity (6), which may contribute to its causation, or may result from illness, disability or social incompetence. For example, mothers with chronic psychosis (who have a similar number of pregnancies and births to other women) more often have to cope with single motherhood, marital discord, domestic violence, poverty and homelessness. They are vulnerable to discrimination and exploitation. More experience rape, and face consequences such as abortion or sexually transmitted diseases. More have unwanted pregnancies. More are socially isolated and lack help in child-rearing. More have partners with mental disorders. The children may have a higher genetic risk, and are more likely to have challenging behavioural problems. These associated factors, taken singly or together (without the addition of maternal psychosis) increase the risk of mental disorders in the children.

- *Separation.* The parent-child relationship may be severely interrupted by parental hospitalization. Even with optimal treatment, these parents lose contact with their children for short or long periods, and this may affect attachment. The child may be traumatized by seeing his/her parents taken away or living in hospitals. The child will often have to be transferred to relatives, or foster care, so that he/she receives multiple parenting. Where there is neither state-provided foster care nor support from the extended family, parenting will be inadequate. In addition, mentally ill women fear the forced removal of their children. Many do in fact lose them – to estranged husbands, other relatives, foster care or adoption – and this is a source of prolonged sadness (7). Fear of losing custody or access dominates interaction with mental health and social services. Women may fail to seek help, or fail to disclose that they are parents, because of this fear.
- *Stigma.* On account of the parental illness, the child may be exposed to teasing, bullying and ostracism. The parents also suffer from stigma, which may lead to social isolation that increases the adversity of the child's background.

IMPACT OF SOME SPECIFIC MENTAL DISORDERS ON PARENTING

Psychosis

In parents with *chronic psychosis*, caregiving is often erratic and intermittent, with a low quality of sensitivity and involvement (8). In parents with *recurrent and acute psychosis* (including post-partum episodes), the parental relationship is often normal after recovery (9), unless the episodes are frequent and prolonged.

Depression

Depression is the commonest mental disorder, especially in women of child-bearing age. There is much concern about

its impact on mothering, and many studies have investigated its effects on mother-infant interaction and child development, using various modalities of investigation. Infant temperament and behaviour may also affect maternal mood, creating a vicious cycle. Nevertheless, adverse effects are not universal: some depressed mothers are sustained by the interaction with their children (10).

The effects of depression on parenting include the following:

- Depressed parents communicate sadness and pessimism. They lack laughter and gaiety, and are often irritable. They may show less affection, tenderness and responsiveness. These harmful influences have most impact in infancy, when contact is close and continuous.
- Depressive anergia reduces the efforts parents can make. There may be a reduction in the quantity, quality and variety of interaction. Thinking is inefficient, and, together with brooding and morbid preoccupations, reduces attention, resourcefulness and control.
- Depression (or associated relationship disorders) may be associated with language delays and, through their pervasive influence, other educational deficits.

There may also be effects on physical health and development (11). There are conflicting reports from Brazil, India, Ethiopia, Vietnam, Pakistan and Peru on an association of maternal depression with low infant weight and malnourishment.

Mother-infant relationship (attachment) disorders

The growth of the mother-infant relationship is the key psychological process in the puerperium. It is this relationship, gradually developing during the first few weeks after the birth, which enables mothers to make sacrifices, maintain vigilance, and endure the toil of nurturing their babies. There is a pathology of this process, even before the birth. In rejected pregnancies, the foetus may be viewed as an intrusion, resulting occasionally in foetal abuse (12). After the birth, a disappointing lack of feeling for the baby (which is common in the early stages) may, in a small proportion, progress to aversion, hatred and rejection (13). Maternal hostility deprives the infant of the fundamental need for loving relationships, severely impairs interaction, and leads to emotional abuse. The infant's demands provoke aggressive impulses which, when self-control gives way, lead to verbal abuse and rough treatment. These children are at high risk of maltreatment.

Anxiety disorders

Anxiety disorders may affect parenting. Intrusion and excessive control, "catastrophizing" (predicting dire consequences of normal adventures) and overprotection, some-

times coupled with a lack of warmth and responsiveness, may deprive children of opportunities to explore and manipulate the surrounding world. These can lead to separation anxiety, school refusal and social limitations.

Eating disorders

If an expectant mother severely restricts her intake, the foetus can suffer from impaired nutrition and growth. The attitudes of some anorexic or bulimic mothers lead to meal-time conflict, and occasionally to chronic hunger and impaired growth (14).

Learning disability

Parenting by women with learning disability is becoming more important, as they are transferred from institutions to the community. They are often socially isolated, and have many other problems. Their children may be at increased risk of abuse and neglect, but there is a dearth of information on parenting by these persons.

THE HARM TO CHILDREN WHICH MAY RESULT FROM PARENTAL MENTAL DISORDERS

Childhood psychological disturbance and mental disorders

Children of persons with severe mental disorders are at increased risk of psychological disturbance, not only because of parenting problems, but also because they may share a genetic predisposition, and be exposed to a slate of background factors associated with parental mental illness. These include antecedent obstetric complications, deprivation and lack of social support, marital conflict and chaotic family life. They are more vulnerable to exploitation. There is the reciprocal effect of challenging child behaviour, provoking parental hostility. On the other hand, protective factors may be at work, such as the resilience of the child or the beneficial influence of a healthy partner or another family member.

The child's mental health and social competence is best predicted by multiple contextual risks, less by illness variables and least by categorical diagnosis. It is widely believed that parent-child relationships lacking in nurturance and marked by harsh discipline and especially maltreatment are important factors in poor cognitive, behavioural and emotional outcomes. A focus on parenting offers excellent opportunities for intervention.

Some early forms of infant disturbance can confidently be related to parenting. They include the states of fear found in severe abuse. These children have behavioural stigmata: apathy to the point of stupor, crying only *in extremis*, lack of expression and vocalization, excessive visual awareness ("frozen watchfulness") (15).

Another early manifestation is the distress noticed in infants of depressed mothers. The infant plays an important part in the developing relationship with his/her caregiver, contributing to a dialogue through gazing, smiling, laughing and babbling. He/she is distressed by the failure of these overtures.

At the end of the first year, *attachment disorders* may be recognized. Secure attachment may signify an enduring capacity to form relationships, predicting popularity and acceptance by peers, which in turn promotes other forms of social competence. Disorganized attachment may be related to neglectful and abusive parenting. *Reactive attachment disorder of infancy and early childhood* is a clinical disorder seen in the first five years, marked by persistent abnormalities in peer and other relationships. There is a disinhibited variant, with indiscriminate sociability, associated with institutional rearing.

In later childhood, there may be “*externalizing*” *syndromes* (hyperkinetic, conduct and oppositional/defiant disorders). Claims that parenting is implicated in attention-deficit/hyperactivity disorder (ADHD) are controversial, but children exposed to drug abuse or suffering maltreatment may be at increased risk. Conduct disorders, and disobedience in the first decade, grade into teenage delinquency, adult antisocial traits and offending. Although there are many competing aetiological factors (including genetic), much research has found an association of these disorders with parenting (16). The style most clearly related is authoritarian: rigid, harsh parenting, and an atmosphere of hostility and criticism, lead to a vicious circle of misbehaviour and punishment (17). The child’s aggression is learned from the parent. It becomes part of a web of risk factors leading to further social disadvantage, provoking negative reactions, underachievement, problems in social relationships and future parenting, mood disorders and substance abuse, as well as crime.

There may be also “*internalizing*” *syndromes*, depression and anxiety. A diagnosable syndrome of depression can be recognized in later childhood. There is much evidence of increased depression, and teenage parasuicide, in the offspring of mentally ill parents. Parental depression has many disadvantages for children, which include problems in self-esteem and peer relationships. But these may be related to “family risk factors” (such as marital and parent-child discord) in addition to, or instead of, maternal depression itself (18). There is extensive literature on the influence of parental anxiety on the development of morbid anxiety in children. The transmission of anxiety across generations is partly genetic and partly through modelling and overprotection.

In the teenage years, *substance abuse* becomes prevalent in vulnerable adolescents, more so in the children of addicts. Genetic factors may partly explain the association, but longitudinal studies have shown that parenting is also important, through ineffective discipline, lack of supervision and monitoring, low levels of support, parent-child conflict and learning by example.

Child maltreatment

Child physical abuse

Child physical abuse may be especially associated with aggressive personalities, but also with psychosis (19), alcoholism (20,21) and depression (20-22).

Child neglect

Child neglect is defined as the persistent failure to meet a child’s basic needs and rights, resulting in serious impairment of health or development (23). It may complicate severe depression, psychosis (19,24) and substance abuse (20,25,26).

Neglect is a heterogeneous phenomenon with varied manifestations, including a failure to prevent suffering or seek medical or mental health care, lack of clothing, lack of supervision, leaving the child with unsafe carers, or deliberate denial of education or social opportunities. It is important to distinguish it from the unavoidable consequences of poverty: children in poor, single parent families with many social problems may be neglected despite the parents’ best efforts. This applies to nutrition: “failure to thrive” should not be attributed to neglect without positive evidence. Nevertheless, extreme examples, such as severe global neglect and death from deliberate starvation, and the syndrome of “deprivation dwarfism”, show that nutrition can also be involved in neglect.

Emotional neglect and abuse

Emotional maltreatment is a manifestation of severe disorders of the parent-child relationship. “Emotional neglect” means that mothers are emotionally distant and unresponsive to the child’s need for comfort and help. “Emotional abuse” includes persistent belittling and humiliation – hostile, critical or sarcastic comments, conveying to children that they are worthless and unloved, scapegoating, isolating, ignoring, exploiting or “terrorizing” the child, such as by threatening suicide or abandonment (27). Exposure to domestic violence can be put under this heading. Emotional maltreatment may be a more potent risk factor for later maladjustment than other forms of abuse (28).

Munchausen’s syndrome by proxy

This term covers caregivers who induce or feign illness in their children (29). The manifestations include fabrication or simulation of symptoms, and deliberate induction of illness by acts such as poisoning, smothering or infecting their infants.

Death of the child

This is usually subdivided into *neonaticide* (murder of the newborn) and *filicide* (parental killing of an older child). In neonaticide, there is usually no formal mental illness, but rather an emotional crisis marked by panic or rage, but various forms of impaired consciousness can occur during parturition (30), and can never be excluded in solitary deliveries. Filicide is very rare, but of great public concern. It is often associated with mental illness, especially suicidal depression, but also delusions involving the child, severe mother-infant relationship disorders and occasionally acute psychosis, command hallucinations, delirium, or trance states (31). Some may fear that mentioning this association of mental disorder will increase stigma, but we believe that the better strategy is to recognize the risk and take steps to minimize it.

PROMOTION OF HEALTH IN VULNERABLE CHILDREN

Clinical practice in adult psychiatry

Diagnostic classifications

Those responsible for producing the ICD-11 and the DSM-V, when formulating their multidimensional systems, should include the obligatory coding of important contextual factors. One proposed specifier is “onset of mental illness related to childbearing”. We suggest that “parental context” (current care of a child under the age of 18) should be another.

Clinical assessment

The UN Convention on the Rights of the Child (1) states that nations should provide preventive health care and guidance for parents. Current practice in adult psychiatry falls far short of this requirement. The status, or even the existence, of children is often not noted. Psychiatrists must be aware that many patients are parents, and that their children are at increased risk of psychological problems. Clinicians must adapt the standard psychiatric history to include questions about parenting, marriage and family life. These must be included in mainstream training programmes for mental health professionals.

We suggest, as a preliminary probe, “Are you looking after a child?”, followed by “How are you managing as a parent?” or “Do you have any worries about the care you can provide for (name of child)?”. In those with childcare responsibilities, there should be a brief parenting assessment, as outlined in Table 1. This takes some time, but sets the stage for family support and interventions.

Visiting facilities in hospital

During admission, facilities must be provided for visiting by the children, shielded from interaction with other patients. The sick parent may need help in explaining the illness to the children.

Discharge planning and rehabilitation

This should include educating parents about child development and the management of parenting problems. After discharge, if possible in collaboration with social services, plans should be made for long-term parenting support in the community. This could include respite for parents and leisure opportunities for children. Family status should be monitored to pre-empt a crisis demanding removal of the children. The UN Convention draws attention to the need for family planning. When this is in the best interests of the family, this advice should be a routine part of clinical practice. Schedules for brief parenting assessment, and remedial programmes, are subjects for future research. The vignette in Table 2 illustrates the management of parenting failure by an overloaded Indian service.

Pre-birth planning

When a woman with severe mental illness becomes pregnant, communication between mental health and obstetric teams, and other relevant services, is essential. If distance and resources allow, a multidisciplinary pre-birth planning meeting should be convened as soon as possible, to share information and coordinate management. The reason for urgency is that the interval between the diagnosis of pregnancy (which may be delayed) and birth (which may be premature) can be short. The meeting should include the general medical practitioner, a representative from the obstetric team, members of the mental health team, and (if possible) the expectant mother herself. It is helpful to include the patient’s husband (or father of the child) and a member of the wider family. There are many issues to be

Table 1 Brief parenting assessment for patients with childcare responsibilities

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- A. Evidence that all the children’s needs are being met.
B. If there are problems, further exploration of:
- The quality of the relationship
 - Family violence
 - Disrupted schooling
 - Other problems, such as neglect of safety or health, overprotection or children taking on a parental role
 - Children’s emotional disorders or disturbed behaviour
 - Sources of alternative care.
- C. Available supports – the other parent, the extended family, school, neighbours, non-governmental agencies or health care services.
-

Table 2 A vignette illustrating parenting assessment and interventions in a case of severe mental illness in India

A 35 year old widow lived with her son and daughter, aged 7 and 9. Her elderly father-in-law lived nearby. For 2 years she seldom left the house, confined the children, neglected their hygiene and fed them on chips and fizzy drinks. Eventually, when she started screaming at imagined persecutors, neighbours helped her father-in-law to enforce her hospital admission.

Findings of the *parenting assessment*:

- The children suffered vitamin deficiencies.
- When they fell ill, their mother failed to consult a doctor.
- They had missed 6 months schooling, and had no playmates.
- Their mother was noisy and unpredictable.
- The elder child took on the parental role, and had to undertake household chores.

Available *resources*:

- The children's bond with each other and their grandfather.
- An extended family (alienated by her behaviour).
- Concerned neighbours and school teachers.

The (adult) psychiatry service was the point of delivery for all forms of care. Despite the lack of a generic social service, there was a social worker attached to the team. Together with a trainee resident, she undertook the planning of family care.

Action:

- The father-in-law was given guidance and physical help in caring for the children. He agreed to ensure school attendance.
- When the mother's mental illness was explained, her family became less critical, and agreed to visit regularly. Neighbours continued to support the grandfather.
- A teacher monitored the children's attendance and welfare.
- The children visited their mother. She was instructed in the essentials of parenting.
- Since the children were at risk from genetic loading, neglect, single parenting and unstable childhood, they were referred to the child psychiatry service for assessment and intervention.

addressed: pharmaceutical treatment, antenatal care, early signs of a relapse, the management of the puerperium and the care of the infant. It is essential that the mental health team is alerted as soon as the mother goes into labour. She will need extra support in child rearing, and the child protection team may need to be involved. Referral to a specialist psychiatric service for pregnant and puerperal women may be feasible.

Similar pre-conception planning can also be recommended when a man or woman with mental illness is considering starting a family.

Specialist services

Mother-infant psychiatry

The UN Convention stipulates that nations should ensure appropriate prenatal and postnatal health care. Mother-infant (perinatal) services, either as a branch of child psychiatry or a subspecialty of adult psychiatry, have developed in a few high-income countries, and also in India and Sri Lanka.

They can serve a population, handling severe and intractable illness, training staff, developing services, and conducting research. Their resources may include outpatient clinics, day hospitals, inpatient facilities, community outreach, obstetric liaison, links with other services and voluntary agencies, and medico-legal expertise. The core of the service is a multidisciplinary specialist team, providing care for the mentally ill mother and her child – a key resource whatever the cultural background and the resources available. There is a need for research into the cost-effectiveness of these expensive “state-of-the-art” services.

The assessment and management of disordered mother-infant relationships is one of the skills exercised by these teams. In all newly delivered mothers who present with symptoms, it is essential to explore this relationship, bearing in mind that shame, or fear that disclosure of problems will lead to the involvement of child protection agencies, often leads to concealment. Certain tactful probes should be used: “Have you felt disappointed in your feelings for (name of child)?” or “How long did it take for you to feel close to your baby?”. If there is any indication of negative feelings toward the child, these are explored, together with manifestations of anger: “What is the worst thing you felt an impulse to do?”, “Have you ever lost control?”, “What were the worst things you did to your baby?”. For mothers whose aversion is strong enough to threaten the health and safety of the infant, intervention is essential. Skillful treatment often achieves a normal relationship.

Services for pregnant women with substance abuse

All members of society should understand that drinking alcohol, and abusing drugs, can have hazardous consequences, particularly during pregnancy. Practitioners and midwives should counsel women who are planning pregnancy, or are already pregnant, advising them to abstain; they should be trained to assess abuse in pregnancy. In alcoholism an issue is the recognition of foetal alcohol effects. In narcotic addiction, reducing the exposure of the foetus is the aim. Other drugs of abuse should gradually be withdrawn. Complete withdrawal from opiates, or using an antagonist such as naloxone, can precipitate a foetal abstinence syndrome. For many, replacing heroin by moderate doses of methadone or buprenorphine is the best option, with less intra-uterine growth retardation and perinatal complications.

Pregnant addicts require intensive case management. After delivery, unsuspected abuse can be detected by markers in blood, hair, urine, meconium or umbilical tissues. The infants should be kept in hospital for long enough to manage intoxication or withdrawal symptoms. Early intervention can alleviate secondary effects, and improve literacy and behaviour. There are a few specialist multidisciplinary diagnostic and treatment services (32); their efficacy and worldwide deployment should be explored.

Child protection

The UN Convention states that child protection should include programmes to support the child and his/her caregivers, as well as to identify, report, investigate, treat, follow-up and prevent child maltreatment. In all actions concerning children, whether undertaken by administrative authorities or legislative bodies, the best interests of the child should be paramount. This, rather than family preservation, is the primary consideration, and the child's welfare trumps parental rights, even when his/her removal aggravates parental mental illness. Nations must pass laws, assigning responsibility, and setting out the procedures for investigation and remedial action, including emergency protection. Mental health professionals need to understand the law and the procedures in the country where they are working.

Child protection requires the alliance of many social institutions:

- *The extended family.* The Convention asserts the fundamental role of the family, as the natural environment for the growth and well-being of children. The father's active involvement is of great value. Siblings, in-laws and grandmothers are often the main sources of support – indeed, in some countries, the only resource.
- *Multidisciplinary child protection teams* are the mainstay in high-income nations.
- In alliance with these teams, or as an alternative, *neighbourhoods, schools, voluntary agencies and religious organizations* can support families, reporting maltreatment and promoting social opportunities and informal networks.
- *Alternative placements* are the refuge of children who cannot safely be reared by their biological parents. They include adoption, foster-parenting and various forms of institutional care.

Management of maltreatment

The early diagnosis, assessment and management of suspected maltreatment has been summarized elsewhere (33). When it is associated with severe mental disorder, this introduces a further element of complexity. We take Munchausen-by-proxy as an example. In this case the parent's severe psychopathology brings the child's right to protection into conflict with the family's right to privacy, normal doctor-patient relations and medical confidentiality. The investigation may involve reviewing the parent's medical history (with the general practitioner's help), an unscheduled home visit, covert surveillance (after wide consultation), and excluding the parent from child care. When the diagnosis is established, the meeting with the parents is critical: the physician should make it clear that he/she knows what has been happening, explain the harm to the child, and assure them that he/she is going to help them and the child.

Often the only safe remedy is to remove maltreated children. Coercive relinquishment is one of the most traumatic events a mother can experience, and even more so if this results from a treatable mental illness. It may also be distressing for the child. Alternative placements also have hazards: the loneliness and misery of children in orphanages and hospitals ("hospitalism") was noted long ago. Foster placements, often of great benefit, sometimes fail, leading to further disruption.

Much research has been undertaken on the prevention of maltreatment, through public education and proactive intervention in high risk groups (34,35). Except in so far as some severe mental disorders (and especially the social environment associated with them) are risk factors, this is outside the remit of these Guidelines.

Resources available worldwide

We sought information about resources for child protection in the nations that contribute most of the world's children. We had the benefit of a series of reports, obtained by one of us, from 19 countries. We supplemented this by letters sent to colleagues, asking about laws, public and political support, national records, reporting, child protection teams, training, social services and other agencies devoted to child protection. We obtained answers from six nations in Africa (Ethiopia, Kenya, Mozambique, Nigeria, Tanzania and Uganda), three in South-East Asia (India, Pakistan and the Philippines), two in the Middle East (Egypt and Turkey) and three in South and Central America (Argentina, Brazil and Mexico), as well as many high-income nations. A pattern of four broad groups emerged:

- Group 1 consists of prosperous nations, with different styles and legal arrangements, but everything available – for example Canada, which has made major contributions to research on child maltreatment.
- Group 2 consists of nations like Turkey and Taiwan, which may have begun later, but are already making strides towards an effective service. Turkey, for example, has at least 14 child protection teams.
- Group 3 consists of countries like India and Uganda, overwhelmed with children, resourceful but destitute of resources, struggling to establish pioneering units.
- Group 4 consists of nations, of which Pakistan is an example, where the problem of child maltreatment is at an earlier stage of resolution (36). A Child Protection Bill is still awaiting parliamentary action. An obstacle is the strong culture of family privacy.

We also asked our correspondents what, given their financial constraints, would improve child protection in their countries. We only have space for a selection of their responses, and have omitted the obvious need for more staff and funding. The first priority was education – "to raise public awareness of this very taboo topic" (Pakistan), educating

the populace, school teachers, families of psychiatric patients and even indigenous healers. The second was improving professional training, especially of paediatricians, primary care teams, midwives and home visitors, who often lack mental health training. The third was lobbying governments to recognize these children as a high risk group and take action.

Child and adolescent mental health services

Child and adolescent mental health services are essential for the promotion of mental health in vulnerable children. They provide treatment for all the disorders previously summarized. They have a role in teaching and training, assessment, liaison with other agencies, research and prevention, and developing guidelines. In clinical practice, multidisciplinary teamwork is optimal, with a focus on the parent, on the child and on the social and family context of the child's life. Many specific forms of psychotherapeutic and psychological intervention have been developed, including family therapies, mother and infant psychotherapies, and brief cognitive therapy appropriate to the age and stage of child development.

In the course of our enquiries, it became clear that these services hardly exist in many low-income nations. In 2005, the World Health Organization published an atlas of child and adolescent mental health resources, based on responses from 66 countries. The atlas does not give details of individual nations, but it is clear that most countries with high birth rates have limited child and adolescent services. For example, Uganda (where 1.5 million children are born each year) has two outpatient clinics in Kampala, and only one qualified child psychiatrist, dealing mainly with epilepsy and mental retardation. In 37 nations, care is provided by paediatricians, often with no training in mental health. Even the United States of America is short of child psychiatrists.

One of the research priorities is to investigate best practice interventions for mentally ill parents and their children, which are feasible, fundable and culturally acceptable in low-income nations. This could include the role of extended families in supporting vulnerable children and their families.

The way forward is long and difficult. It should perhaps start with the training of a few specialists working alone, but available for consultation. They can take a lead in public education and lobbying politicians. They can build up demonstration units and start training programmes. Training can be directed not only towards future specialists, but also towards professional people who have contact with children – for example nurses, paramedical staff and teachers – and other trusted figures in the community, who can be recruited to assist children in need.

Addressing the needs of children of persons with severe mental illness requires (in addition to improvements in the practice of adult psychiatry, community support for the families and collaboration with child protection agencies) a worldwide increment of services for child and adolescent mental health.

References

1. United Nations. Convention on the rights of the child. New York: United Nations, 1989.
2. Viguera AC, Newport DJ, Ritchie J et al. Lithium in breast milk and nursing infants: clinical implications. *Am J Psychiatry* 2007;164:342-5.
3. Rice F, Jones I, Thapar A. The impact of gestational stress and prenatal growth on emotional problems in offspring: a review. *Acta Psychiatr Scand* 2007;115:171-83.
4. American Psychiatric Association. Practice guidelines for the treatment of patients with substance use disorders, 2nd ed. *Am J Psychiatry* 2007;164(Suppl.).
5. Germain A. The Christopher Tietze International Symposium: an overview. *Int J Gynecol Obstet* 1989;3(Suppl.):1-8.
6. Mowbray CT, Oyserman D, Zemencuk JK et al. Motherhood for women with serious mental illness: pregnancy, childbirth and the postpartum period. *Am J Orthopsychiatry* 1995;65:21-38.
7. Diaz-Caneja A, Johnson S. The views and experiences of severely ill mothers: a quantitative study. *Soc Psychiatry Psychiatr Epidemiol* 2004;39:472-82.
8. Goodman SH, Brumley HE. Schizophrenic and depressed mothers: relational deficits in parenting. *Dev Psychol* 1990;26:31-9.
9. Reichart CG, van der Ende J, Hillegers MHJ et al. Perceived parental rearing of bipolar offspring. *Acta Psychiatr Scand* 2007;115:21-8.
10. Pound A, Puckering C, Cox A et al. The impact of maternal depression on young children. *Br J Psychother* 1988;4:240-52.
11. Stewart RC. Maternal depression and infant growth – a review of recent evidence. *Matern Child Nutr* 2007;3:94-107.
12. Condon JT. The spectrum of fetal abuse in pregnant women. *J Nerv Ment Dis* 1986;174:509-16.
13. Brockington IF, Aucamp HM, Fraser C. Severe disorders of the mother-infant relationship: definitions and frequency. *Arch Women's Ment Health* 2006;9:243-52.
14. Russell GFM, Treasure J, Eisler I. Mothers with anorexia nervosa who underfeed their children: their recognition and management. *Psychol Med* 1998;28:93-108.
15. Ounsted C, Oppenheimer R, Lindsay J. Aspects of bonding failure: the psychopathology and psychotherapeutic treatment of families of battered children. *Dev Med Child Neurol* 1974;16:447-56.
16. Rothbaum F, Weisz JR. Parental caregiving and child externalizing behaviour in nonclinical samples: a meta-analysis. *Psychol Bull* 1994;116:55-74.
17. Larsson H, Viding E, Rijdsdijk FV et al. Relationships between parental negativity and childhood antisocial behaviour over time: a bidirectional effects model in a longitudinal genetically informative design. *J Abnorm Child Psychol* 2008;36:633-45.
18. Weich S, Patterson J, Shaw R et al. Family relationships in childhood and common psychiatric disorders in later life: systematic review of prospective studies. *Br J Psychiatry* 2009;194:392-8.
19. Dipple H, Smith S, Andrews H et al. The experience of motherhood in women with severe and enduring mental illness. *Soc Psychiatry Psychiatr Epidemiol* 2002;37:336-40.
20. Chaffin M, Kelleher K, Hollenberg J. Onset of physical abuse and neglect: psychiatric, substance abuse, and social risk factors from prospective community data. *Child Abuse Neglect* 1996;20:191-203.
21. Bland RC, Orn H. Psychiatric disorders, spouse abuse and child abuse. *Acta Psychiatr Belg* 1986;86:444-9.
22. Windham AM, Rosenberg L, Fuddy L et al. Risk of mother-reported child abuse in the first 3 years of life. *Child Abuse Neglect* 2004;28:645-67.
23. Dubowitz H, Newton RR, Litrownik AJ et al. Examination of a conceptual model of child neglect. *Child Maltreat* 2005;10:173-89.
24. Mullick M, Miller LJ, Jacobsen T. Insight into mental illness and child maltreatment risk among mothers with major psychiatric disorders. *Psychiatr Serv* 2001;52:488-92.

25. Dube SR, Anda RF, Felitti VJ et al. Growing up with parental alcohol abuse: exposure to childhood abuse, neglect, and household dysfunction. *Child Abuse Neglect* 2001;25:1627-40.
26. Ondersma SJ. Predictors of neglect within low-SES families: the importance of substance abuse. *Am J Orthopsychiatry* 2002;72:383-91.
27. Trickett PK, Mennen FE, Kim K et al. Emotional abuse in a sample of multiply maltreated, urban young adolescents: issues of definition and identification. *Child Abuse Neglect* 2009;33:27-35.
28. Yates TM, Wekerle C. The long-term consequences of childhood emotional maltreatment on development: maladaptation in adolescence and young adulthood. *Child Abuse Neglect* 2009;33:19-21.
29. Meadow R. Munchausen syndrome by proxy. *Arch Dis Child* 1982;57:92-8.
30. Brockington IF. *Eileithyia's mischief: the organic psychoses of pregnancy, parturition and the puerperium*. Bredenbury: Ery Press, 2006.
31. Brockington IF. *Motherhood and mental health*. Oxford: Oxford University Press, 1996.
32. Peadon E, Fremantle E, Bower C et al. International survey of diagnostic services for children with fetal alcohol spectrum disorders. *BMC Ped* 2008;8:12-9.
33. Jones DPH. Child maltreatment. In: Rutter M, Bishop D, Pine D et al (eds). *Rutter's child and adolescent psychiatry*. Oxford: Blackwell, 2008:421-39.
34. Reynolds AJ, Mathieson LC, Topitzes JW. Do early childhood interventions prevent child maltreatment. *Child Maltreatment* 2009;14:182-206.
35. Olds DL, Sadler L, Kitzman H. Programs for parents of infants and toddlers: recent evidence from randomized trials. *J Child Psychol Psychiatry* 2007;48:355-91.
36. Muhammed T. Child protection in Pakistan. *Int J Child Health Hum Dev* (in press).

Well over 1,000 works were consulted in the preparation of this guidance. A list of 200 representative references can be obtained from the first author at i.f.brockington@bham.ac.uk.

Personality and psychopathology

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Personality and psychopathology can relate to one another in three different ways: personality and psychopathology can influence the presentation or appearance of one another (pathoplastic relationships); they can share a common, underlying etiology (spectrum relationships); and they can have a causal role in the development or etiology of one another. Each of these possible forms of inter-relationship is considered in this paper.

Key words: Personality, psychopathology, comorbidity, co-occurrence, spectrum, pathoplastic

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Personality and psychopathology can relate to one another in three different ways (1). Personality and psychopathology can influence the presentation or appearance of one another, commonly referred to as a pathoplastic relationship. They can share a common, underlying etiology, referred to as a spectrum relationship. And, finally, they can have a causal role in the development or etiology of one another. Each of these relationships has significant theoretical and clinical implications, and each will be considered in turn.

PATHOPLASTIC RELATIONSHIPS

The influence of personality and psychopathology on the presentation, appearance, or expression of one another is typically characterized as a pathoplastic relationship. This relationship is bidirectional, as psychopathology can vary in its appearance depending upon a person's premorbid personality traits, and the appearance of personality can similarly be affected by the presence of a comorbid psychopathology.

Pathoplastic effects of personality on psychopathology

Personality is the characteristic manner in which one thinks, feels, behaves, and relates to others. Mental disorders are clinically significant impairments in one or more areas of psychological functioning. It would be surprising for the presentation, course, or treatment of

a dysfunction in thinking or feeling not to be significantly affected by a person's *a priori* characteristic manner of thinking and feeling. For example, anorexia and bulimia tend to emerge during adolescence (driven in part perhaps by high levels of neuroticism). Persons with a preoccupation with weight loss who go on to develop anorexia are most likely characterized in part by high premorbid conscientiousness, one of the fundamental individual differences included within the well validated five-factor model (FFM) of general personality structure (2). Persons high in conscientiousness have high levels of self-discipline, competence, and achievement-striving, precisely the attributes that would be necessary to be so successful in weight loss. In contrast, persons low in conscientiousness would be prone to the impulsive dyscontrol characteristic of binge eating and bulimia. Empirical support for this hypothesis is provided by studies indicating the presence of perfectionistic and compulsive personality traits in persons with anorexia, particularly the restrained subtype, as well as personality traits of impulsivity with bulimic symptomatology (3).

Pathoplastic effects of psychopathology on personality

One of the most well-documented relationships between personality and psychopathology is the pathoplastic effect of psychopathology on the appearance, presentation, or perception of personality (4,5). Clinicians (and at

times researchers) will typically assess a patient's personality during an initial intake procedure, yet this is perhaps the worst time to do so (6). Persons who are very anxious, depressed, angry, or distraught will often fail to provide an accurate description of their usual way of thinking, feeling, behaving, and relating to others. Once their mood, anxiety, or other mental disorder is successfully treated, their self-description changes accordingly.

Consider, for example, temporal stability findings reported in the highly published, multi-site Collaborative Longitudinal Study of Personality Disorders (CLPS). Twenty-three of 160 persons (14%) who met diagnostic criteria for borderline personality disorder (BPD) at baseline had no more than two diagnostic criteria just six months later (7). Eighteen sustained this reduction from six months to one year. For five of the 18 cases, a "remission of the Axis I disorder was judged to be the most likely cause for the sudden BPD improvement" (7). For eight cases, "the changes involved gaining relief from severely stressful situations they were in at or before the baseline assessment" (7). For one of the participants, the "personality disorder" symptoms were even secondary to the use of a stimulant for weight reduction during the year prior to the beginning of the study: "the most dramatic improvement following a treatment intervention occurred when a subject discontinued a psychostimulant she had used the year prior to baseline for purposes of weight loss. Discontinuation was followed by a dramatic reduction of her depression,

panic, abandonment fears, and self-destructiveness" (7). Nevertheless, all 18 cases have been considered to be true cases of remission from a personality disorder (7). An alternative view is that the initial assessments of personality disorder were inaccurate due to the presence of emotional distress at baseline.

Costa et al (8) though argue that change in self-description secondary to a mood disorder can represent an actual change in personality. One of the fundamental traits of personality is neuroticism, which is a disposition to experience and express negative affects (3). Persons high in neuroticism will respond to stress with clinically significant levels of depression, and this depression could then be understood as a direct expression of the neuroticism. "Rather than regard these depression-caused changes in assessed personality trait levels as a distortion, we interpret them as accurate reflections of the current [personality] of the individual" (8).

On the other hand, to the extent that one considers self-report levels of neuroticism secondary to a mood disorder to reflect actual personality functioning, it becomes difficult to conduct research on the etiological contribution of these same personality traits to the mood disorder. They are no longer distinguished constructs. One should at least not attempt to infer premorbid personality traits on the basis of an assessment when the person is suffering from a mood disorder (or other comparable disorder or condition).

SPECTRUM RELATIONSHIPS

The identification of pathoplastic (and etiological) relationships of personality and psychopathology is complicated by the possibility that personality and psychopathology may themselves fail in some instances to be distinct entities. They may instead exist along a common spectrum of functioning. All personality disorders may in fact be maladaptive variants of general personality traits, and some personality disorders could be early onset, chronic, and pervasive variants of other mental disorders. These two possibilities will be discussed in turn.

Personality disorders on a spectrum with personality

There is a considerable body of research on how general personality traits (e.g., neuroticism and low conscientiousness) can contribute to the etiology of anxiety, mood, substance, and other mental disorders (1), but little to no research on how these traits could contribute to the etiology of personality disorders. This may reflect an implicit acceptance that personality and personality disorders lie along a common spectrum of functioning. In fact, there is now a considerable body of research to indicate that personality disorders are readily understood as maladaptive and/or extreme variants of the FFM personality structure (9,10).

For example, obsessive-compulsive personality disorder (OCPD, 11) can be understood as largely a maladaptive variant of FFM conscientiousness. FFM conscientiousness includes such facets as order (i.e., OCPD preoccupation with details, rules, lists, and order), achievement striving (i.e., OCPD excessive devotion to work and productivity), dutifulness (i.e., OCPD overconscientiousness and scrupulousness about matters of ethics and morality), competence (i.e., OCPD perfectionism), and deliberation (i.e., OCPD rumination). Empirical support for this conceptualization is extensive (12-14).

The fifth edition of the American Psychiatric Association (APA)'s diagnostic nomenclature is likely to include a dimensional classification that will serve as an ancillary supplement to the traditional categorical diagnoses (15). The proposal for this model currently consists of six domains: negative emotionality (aligning with FFM neuroticism), introversion (FFM introversion), antagonism (FFM antagonism), compulsivity (FFM conscientiousness), disinhibition (low FFM conscientiousness), and schizotypy (low FFM openness). The authors of this model, however, argue that compulsivity is not in fact a maladaptive variant of conscientiousness and schizotypal is not a maladaptive variant of openness (15). No normal variants for the dimensions of compulsivity and schizotypy are

in fact proposed, suggesting that these maladaptive personality traits are somehow qualitatively distinct from general personality structure.

Personality disorders on a spectrum with other mental disorders

A spectrum relationship may also exist for personality disorders with other mental disorders. In fact, a proposal for DSM-5 has been to abandon the classification of personality disorder altogether, subsuming personality disorders within other mental disorder diagnoses (16). Schizotypal personality disorder is already classified as a variant of schizophrenia rather than as a personality disorder in the ICD-10 (17). Support for this alternative classification is that schizotypal personality disorder is genetically related to schizophrenia, many of its neurobiological risk factors and psychophysiological correlates are shared with schizophrenia (e.g., eye tracking, orienting, startle blink, and neurodevelopmental abnormalities), and the treatments that are effective in ameliorating schizotypal symptoms overlap with treatments used for persons with schizophrenia (18).

One can similarly convert avoidant personality disorder into generalized social phobia, OCPD into an early onset, pervasive, and chronic variant of obsessive-compulsive disorder, antisocial into an adult variant of disruptive behavior disorder, and borderline into a mood dysregulation disorder (1). The narcissistic, histrionic, and dependent personality disorders are not well integrated into any existing mental disorder, but it might be no coincidence that these diagnoses are slated for deletion in DSM-5 (14).

A concern with reformulating personality disorders as early onset and chronic Axis I disorders, beyond the fundamental consideration that the diagnostic manual would no longer recognize the existence of maladaptive personality functioning, is that it might create more problems than it solves. Persons have constellations of maladaptive personality traits that are not well described by just one or even multiple personality disorder diagnoses

(19). These constellations of maladaptive personality traits would be even less well described by a collection of anxiety, mood, disruptive behavior, and schizophrenic diagnoses. In addition, simply because a personality disorder (or trait) shares some genetic foundation with another mental disorder does not then indicate that it is a form of that disorder. For example, inconsistent with the ICD-10 classification of schizotypal personality disorder as a form of schizophrenia is that this disorder is far more comorbid with other personality disorders than it is with psychotic disorders. Furthermore, persons with schizotypal personality disorder almost never go on to develop schizophrenia, and schizotypal symptomatology is seen in quite a number of persons who appear to lack a genetic association with schizophrenia and would not be at all well described as being schizophrenic (18).

ETIOLOGICAL (CAUSAL) RELATIONSHIPS

Of primary concern to many personality, personality disorder, and psychopathology researchers is the etiological relationship between personality and psychopathology. This causal relationship is again bidirectional, as one's characteristic way of thinking, feeling, behaving, and relating to others can at times result in or contribute to the development of a mental disorder, just as a severe or chronic mental disorder can itself contribute to fundamental changes to personality.

Causal effects of psychopathology on personality

Psychopathology can fundamentally alter personality, for the better or for the worse. For example, it is conceivable that the experience of having suffered from a severe mental disorder, such as a psychosis or a major depression, might have a lasting effect on one's characteristic manner of thinking, feeling, and relating to others. This alteration to personality functioning, often referred to as a "scar" of a mental disorder, need not rep-

resent simply a continuing subthreshold manifestation of the psychopathology (e.g., a residual phase of schizophrenia appearing to be schizotypal personality traits) but may even represent the development of new personality traits due to the occurrence or experience of the psychopathology (e.g., dependent personality traits resulting from an experience of recurrent panic attacks or psychotic episodes).

The ICD-10 does include a diagnosis for personality change secondary to a mental disorder, as well as secondary to catastrophic experience (17). The APA nomenclature though provides no recognition to either possibility (11). An example of the latter condition would be "complex post-traumatic stress disorder" (complex PTSD), a reaction to severe (often sustained) interpersonal stress (e.g., abuse, battering, or torture), that includes "impaired affect modulation; self-destructive and impulsive behavior; dissociative symptoms; feeling permanently damaged; a loss of previously sustained beliefs; hostility; social withdrawal; feeling constantly threatened; impaired relationships with others; or a change from the individual's previous personality characteristics" (11). Complex PTSD could be conceptualized as an adult-onset borderline personality disorder. However, most advocates for the inclusion of this diagnosis in a future edition of the diagnostic manual prefer that it be classified as an anxiety disorder rather than as a disorder of personality change (20).

Causal effects of personality on psychopathology

Much of the vast literature on the relationship of personality or personality disorder with psychopathology is concerned with the contribution of personality to the onset or etiology of mental disorder. Premorbid personality traits can provide a vulnerability (or a resilience) to stress, helping to explain why some people collapse under life stresses while others remain unscathed by severely traumatic circumstances.

Neuroticism is a particularly robust

predictor of future psychopathology in response to life stress (21,22), including mood, eating, substance use, anxiety, and other forms of psychopathology (23). Neuroticism can contribute both diathesis and stress, providing a vulnerability through both reactive and evocative person-environment interactions. Persons high in neuroticism react to events with high levels of distress, anxiety, and worry, providing an explicit risk for various forms of psychopathology, particularly mood and anxiety disorders (which perhaps can also be understood then as a spectrum rather than a causal relationship). The evocative interaction occurs when one's frequent expressions of upset, worry, and vulnerability produce negative reactions from others or contribute to poor decision-making, thus reinforcing and increasing the original distress (i.e., personality as causing stress). The contribution of neuroticism to the development of physical health problems, financial difficulties, and dissolution of relationships and other negative life outcomes (21) will result in a considerable amount of stress, with which persons high in neuroticism would have an inherent difficulty emotionally surmounting.

Dependent personality traits have also been shown to have an important role in the etiology of depression. Multiple prospective, longitudinal studies have confirmed that dependent cognitions and behaviors result in increased feelings of depression in reaction to interpersonal loss or rejection (24). This relationship can again be both reactive and evocative. Dependent persons will react to interpersonal loss and rejection with intense feelings of despair, hopelessness, and sadness. The dependent traits of neediness, clinging, preoccupation with fears of loss, and excessive reassurance-seeking can also evoke a disengagement and rejection by others (25). However, despite the importance of dependent traits for the development of psychopathology, dependent personality disorder is slated for deletion in DSM-5 (26).

CONCLUSIONS

One basic observation of the research

on the relationship of personality and psychopathology is its vibrancy. All aspects of the various relationships between personality and psychopathology (pathoplastic, spectrum, and causal) are the focus of a number of highly productive, sophisticated, and informed research programs. Disentangling the forms of relationship from one another, however, is a formidable task. However, it will be through the dismantling of this complexity that continued progress will be made in understanding the relationship of personality and psychopathology.

References

- Widiger TA, Smith GT. Personality and psychopathology. In: John OP, Robins R, Pervin LA (eds). *Handbook of personality: theory and research*, 3rd ed. New York: Guilford, 2008:743-69.
- McCrae RR, Costa PT. Personality in adulthood. A five factor theory perspective, 2nd ed. New York: Guilford, 2003.
- Cassin SE, von Ranson KM. Personality and eating disorders: a decade in review. *Clin Psychol Rev* 2005;25:895-916.
- Farmer RF. Issues in the assessment and conceptualization of personality disorders. *Clin Psychol Rev* 2000;20:823-51.
- Widiger TA, Samuel DB. Evidence based assessment of personality disorders. *Psychol Assessment* 2005;17:278-87.
- Widiger TA, Boyd S. Personality disorder assessment instruments. In: Butcher JN (ed). *Oxford handbook of personality assessment*. New York: Oxford University Press, 2009:336-63.
- Gunderson JG, Bender D, Sanislow C et al. Plausibility and possible determinants of sudden "remissions" in borderline patients. *Psychiatry* 2003;66:111-9.
- Costa PT, Bagby RM, Herbst JF et al. Personality self-reports are concurrently reliable and valid during acute depressive episodes. *J Affect Disord* 2005;89:45-55.
- Samuel DB, Widiger TA. A meta-analytic review of the relationships between the five-factor model and DSM-IV-TR personality disorders: a facet level analysis. *Clin Psychol Rev* 2008;28:1326-42.
- Widiger TA, Trull TJ. Plate tectonics in the classification of personality disorder: shifting to a dimensional model. *Am Psychol* 2007;62:71-83.
- American Psychiatric Association. *Diagnostic and statistical manual of mental disorders*, 4th ed., text revision. Washington: American Psychiatric Association, 2000.
- O'Connor BP. A search for consensus on the dimensional structure of personality disorders. *J Clin Psychol* 2005;61:323-45.
- Samuel DB, Widiger TA. Conscientiousness and obsessive-compulsive personality disorder. *Personality Disorders: Theory, Research, and Treatment* (in press).
- Widiger TA. A shaky future for personality disorders. *Personality Disorders: Theory, Research, and Treatment* (in press).
- Krueger RF, Clark LA, Watson D et al. Deriving an empirical structure of personality pathology for DSM-5. *J Pers Disord* (in press).
- First MB, Bell CB, Cuthbert B et al. Personality disorders and relational disorders: a research agenda for addressing crucial gaps in DSM. In: Kupfer DJ, First MB, Regier DA (eds). *A research agenda for DSM V*. Washington: American Psychiatric Association, 2002:123-99.
- World Health Organization. *The ICD-10 classification of mental and behavioral disorders. Clinical descriptions and diagnostic guidelines*. Geneva: World Health Organization, 1992.
- Raine A. Schizotypal personality: neurodevelopmental and psychosocial trajectories. *Annu Rev Clin Psychol* 2006;2:291-326.
- Trull TJ, Durrett CA. Categorical and dimensional models of personality disorder. *Annu Rev Clin Psychol* 2005;1:355-80.
- McLean LM, Gallop R. Implications of childhood sexual abuse for adult borderline personality disorder and complex posttraumatic stress disorder. *Am J Psychiatry* 2003;160:369-71.
- Lahey BB. Public health significance of neuroticism. *Am Psychol* 2009;64:241-56.
- Widiger TA. Neuroticism. In: Leary MR, Hoyle RH (eds). *Handbook of individual differences in social behavior*. New York: Guilford, 2009: 129-46.
- Malouff JM, Thorsteinsson EB, Schutte NS. The relationship between the five-factor model of personality and symptoms of clinical disorders: a meta-analysis. *J Psychopathol Behav* 2005; 27:101-14.
- Hammen C. Stress and depression. *Annu Rev Clin Psychol* 2005;1:293-319.
- Bornstein RF. *The dependent patient: a practitioner's guide*. Washington: American Psychological Association, 2005.
- Skodol AE, Bender DS, Morey LC et al. Personality disorder types proposed for DSM-5. *J Pers Disord* (in press).

Further thoughts on the relation of personality and psychopathology

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In his usual incisive and erudite way, T. Widiger has outlined the manner in which personality and psychopathology may relate conceptually. I wish to make two points in this brief commentary. First, others have approached this important matter by setting forth a number of alternative personality/psychopathology hypotheses; I will note several of these briefly in order for the reader to be further enlightened as to how other scholars and investigators approach the subject. Second, and in response to Widiger's "factorial orientation", I will touch on a number of concerns regarding the use of statistics in building the foundations of personality/psychopathology classification.

Eight alternate hypotheses regarding the personality/psychopathology relationship are herein noted (1):

- A. *Characterological predisposition hypothesis*. The most popular approach in both theory and research, the dispositional hypothesis, suggests that characterological personality disorders are primary, with psychopathology being a secondary outgrowth.
- B. *Complication hypothesis*. In contrast to the characterological predisposition hypothesis, the complication thesis postulates that it is the experience of psychopathology that influences personality, not the other way around.
- C. *Attenuation hypothesis*. Also known as the *abnormal approach* (2), this hypothesis presumes that personality disorders are an attenuated or alternative expression of the disease process that underlies the psychopathology.
- D. *Coeffect hypothesis*. This hypothesis states that psychopathology and personality occur together as a result of a common third variable (e.g., traumatic childhood), even though they do

not share a common psychobiological origin. In this sense, neither personality disorder nor psychopathology gives rise to the other.

- E. *Modification hypothesis*. This hypothesis puts considerations of etiology and pathogenesis aside, proposing merely that personality features will substantially influence not only the manner in which psychopathology is presented clinically, but also responsiveness to treatment and the prognosis of the psychopathologic episode.
- F. *The orthogonal hypothesis*. This hypothesis suggests that whereas personality disorders and psychopathology are fundamentally independent entities, they frequently co-occur because both are, in effect, common conditions.
- G. *Overlapping symptomatology hypothesis*. According to this hypothesis, the observed comorbidity of personality disorders and psychopathology is largely artificial in that it results from overlapping criteria sets employed to diagnose each of the disorders.
- H. *Heterogeneity hypothesis*. This final hypothesis postulates that several different sources contribute to the signs and symptoms of psychopathology and personality disorders. Various configurations of genetic/constitutional factors, in conjunction with environmental variables, may combine to produce differing vulnerabilities. A heterogeneous population arises from these various combinations, including a subset of individuals who evidence both the symptoms of psychopathology and personality disorder.

Concerns regarding Widiger's preference for employing the mathematical technique of factor analysis has been expressed for years in numerous quarters: empirical, philosophical and psychiatric (3,4).

Ever since the eminent physicist P. Dirac stumbled upon a mathematical device that uncovered the existence of a

previously unobserved "anti-world" particle, there has been a recurring theme in the physical sciences favoring the power of math to reveal "realities" previously unimagined. Unfortunately, with the exception of a few recondite phenomena (e.g., Hawking's deduction of black hole radiation), the power of math as a decoder of unobserved realities in the life sciences has often been judged simplistic, irrelevant or invalid (5).

The state of statistical construction procedures in psychiatry has been summarized as follows: "Clinicians have at best given only a lukewarm reception to such classifications. They have been skeptical about the value of clustering methods to identify 'naturally' occurring subgroups. Furthermore, the classifications generated by these methods have not seemed particularly meaningful or relevant to everyday clinical practice" (6).

Kendell's (7) comment of some three decades ago, is, rather sadly, no less apt today than it was then: "Looking back on the various studies published in the last twenty years it is clear that many investigators, clinicians and statisticians, have had a naive, almost Baconian, attitude to the statistical techniques they were employing, putting in all the data at their disposal on the assumption that the computer would sort out the relevant from the irrelevant and expose the underlying principles and regularities".

Among the striking data found in recent biological investigations is the awesome intricacy of standard statistical procedures, which were expected to produce evidence leading to construct coherence. Thus, it has been recently reported (8-10) that statistical analyses of our major genetically-based common diseases have proven much more complicated than initially expected. In diseases such as diabetes, cancer, and schizophrenia, the few sources that were detected statistically turned out to explain surprisingly little about their genetic origins. These common clinical syndromes prove to be associated with numerous and differing

sets of genetic variants in each person. Mathematicians have concluded that complex genetic networks possess numerous intricate feedback loops. Some gravitate toward a stable balance and then stay there. Others home in on a repetitive cycle and then follow a circular pattern endlessly. Tweaked just a bit, the genetic architecture often crosses over into chaotic behavior, meandering through interactive sequences that are unpredictable and incoherent.

Hempel (5), the philosopher of science, has stated that mature sciences progress initially from statistically-based categories to others characterized by abstract concepts and theoretical relationships. The characteristic that distinguishes a scientific classification is its success in grouping its elements according to theoretically consonant explanatory propositions. These propositions are formed

when certain attributes have been shown or have been hypothesized to be logically or causally related to other attributes (e.g., the personality/psychopathology relationship). The taxa that undergird a scientific nosology are not statistically-derived collections of overtly similar attributes (e.g., factorial categories), but a linked or unified pattern of known or presumed relations among them. A theoretically grounded pattern of *relationships*, such as those based on evolutionary principles, for example, do provide the foundation of a true scientific taxonomy.

References

1. Millon T. Disorders of personality: introducing a DSM/ICD spectrum from normal to abnormal. Hoboken: Wiley, 2011.
2. Hirschfeld RMA, Cross CK. The measurement of personality in depression. In: Marsella AJ, Hirschfeld RMA, Katz MM (eds). The measurement of depression. New York: Guilford, 1987.
3. Lykken DT. Multiple factor analysis and personality research. *J Exp Res Pers* 1971;5: 161-70.
4. Block J. A contrarian view of the five-factor approach to personality descriptions. *Psychol Bull* 1995;117:187-215.
5. Hempel CG. Aspects of scientific explanation. New York: Free Press, 1965.
6. Skinner HA, Blashfield RK. Increasing the impact of cluster analysis research: the case of psychiatric classification. *J Consult Clin Psychol* 1982;5:727-35.
7. Kendell RE. The role of diagnosis in psychiatry. Oxford: Blackwell, 1975.
8. Goldstein DB. Common genetic variation and human traits. *N Engl J Med* 2009;360: 1696.
9. Hirschhorn JN. Genomewide association studies – Illuminating biologic pathways. *N Engl J Med* 2009;360:1699.
10. Kraft P, Hunter DJ. Genetic risk prediction – Are we there yet? *N Engl J Med* 2009; 360:1701-3.

Personality diathesis explains the interrelationships between personality disorder and other mental conditions

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T. Widiger correctly summarizes the often complex relationship between personality disorders and other forms of psychopathology. What is needed now is an integrating hypothesis that both explains existing knowledge and predicts future relationships and developments. I argue here, and have done so previously, that the concept of personality diathesis is such an integrating hypothesis (1). This is a useful concept that combines both latent and overt pathology. Conditions that are best described as diatheses are “mental or physical inherited or acquired chronic predisposition or disease states”. For a condition to be described as a diathesis it requires onset early in life, variation in its expression in different settings and at different times, a greater association with other, often more severe, disorders, and its acceptance as an intrinsic component of functioning.

The origin of personality diathesis may be genetic or environmental and subject to often complex interactions between these factors (2), but once it is developed it remains a persistent feature that can be identified. Because it represents a vulnerability, it will have a pathoplastic influence on the presentation of other mental disorders such as depression (3); it will show variation over time, as in the well documented Collaborative Longitudinal Personality Disorders Study, but also show persistence of its core component, inter-personal social dysfunction (4). There may also be a spectrum of disorders within a diathesis – the haemorrhagic diatheses are a good example – but there can be argument over where personality disturbance is on the spectrum. The diathesis model suggests it should be lower down than other disorders but constitutes vulnerability for them.

What is not clear is whether there is more than one diathesis. There are certainly several distinct domains of normal personality, and Widiger and others have

argued strongly for the five-factor model to be the integral substrate of DSM-5 personality disorders (5), but there are differences between normal trait expression and the most severe personality disorders (6) that are not merely those of degree. In particular, there is extensive comorbidity between personality disorder categories at greater levels of severity and mental state disorders (6,7) and over a prolonged period there can also be a shift in the expression of personality pathology (8). How these pathologies link together is a matter for further enquiry.

Several conclusions follow from this hypothesis. Firstly, personality disorder presenting later in life is not part of the diathesis. Even though the features may be the same as those with a known disorder (9), the fact that they arise late make them part of a separate diagnosis of “personality change” as described by Widiger. This is an important but poorly studied diagnosis in ICD-10 and a closer look may help in understanding core personality disorders. Secondly, the fail-

ure to diagnose personality disorder in clinical practice, despite its high prevalence in the community (10), is understandable if these conditions are felt to be an intrinsic part of the person rather than a separate disorder or disease. This also explains why approaches that change the environment rather than the person (11) may be valued; they do not alter the diathesis but allow a much better quality of life. Thirdly, the hypothesis leads to the expectation, a word specially chosen as it signifies more than hope, that one or more aspects of personality diathesis can be measured as endophenotypes of disorder, the heritable component of the disorder that is present at all times (12) and which can act as a clinical or biological marker.

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References

1. Tyrer P. Personality diatheses: a superior description than disorder. *Psychol Med* 2007; 37:1521-5.
2. Kendler KS, Gardner CO. Interpretation of interactions: guide for the perplexed. *Br J Psychiatry* 2010;197:170-1.
3. Gorwood P, Rouillon F, Even C et al. Treatment response in major depression: effects of personality dysfunction and prior depression. *Br J Psychiatry* 2010;196:139-42.
4. Seivewright H, Tyrer P, Johnson T. Persistent social dysfunction in anxious and depressed patients with personality disorder. *Acta Psychiatr Scand* 2004;109:104-9.
5. Widiger TA, Mullins-Sweatt SN. Five-factor model of personality disorder: a proposal for DSM-V. *Ann Rev Clin Psychol* 2009; 5:197-220.
6. Tyrer P, Mulder R, Crawford M et al. Personality disorder: a new global perspective. *World Psychiatry* 2010;9:56-60.
7. Yang M, Coid J, Tyrer P. A national survey of personality pathology recorded by severity. *Br J Psychiatry* 2010;197:193-9.
8. Seivewright H, Tyrer P, Johnson T. Changes in personality status in neurotic disorder. *Lancet* 2002;359:2253-4.
9. Casher M, Gih D. Emergence of borderline personality disorder features in the sixth decade of life. *Personal Ment Health* 2009;3:68-73.
10. Huang Y, Kotov R, de Girolamo G et al. DSM-IV personality disorders in the WHO World Mental Health Surveys. *Br J Psychiatry* 2009;195:46-53.
11. Tyrer P, Sensky T, Mitchard S. The principles of nidotherapy in the treatment of persistent mental and personality disorders. *Psychother Psychosom* 2003;72:350-6.
12. Gould TD, Gottesman II. Psychiatric endophenotypes and the development of valid animal models. *Genes Brain Behav* 2006; 5:113-9.

Personality and psychopathology: the dangers of premature closure

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T. Widiger articulates the various relationships between personality and psychopathology as either influencing the appearance of one another, pathoplastic relationship; sharing a common etiology, spectrum relationship or having an etiologic role in causing one another, etiological relationship. Although he provides great clarity to these issues, he readily acknowledges that disentangling these relationships between personality and psychopathology is “a formidable task”. My commentary will mainly focus on the approach of the DSM-5 Personality and Personality Disorders Working Group (see www.dsm5.org) to resolving the issue of comorbidity between personality disorders (PDs) and clinical disorders (psychopathology or disorders on Axis I). I would suggest that their resolution to understanding the relationship is like diving into unknown waters; without some measurement of the depth, diving can place you in great danger.

In 1980, the DSM-III first introduced a multiaxial system which placed PDs on a separate axis from clinical disorders. While not definitively distinguishing the two, this classification drew more attention to PDs both clinically and in research. Ever since, a growing body of literature has documented the extensive comorbidity between the two types of disorders. The use of the term comorbidity has been inconsistent and can be misleading if not defined explicitly. Feinstein (1) first defined this term as “any distinct

additional clinical entity that has existed or that may occur during the clinical course of a patient who has the index disease under study”. In this definition, disorders are conceptualized as distinct; they can co-occur, but are not necessarily correlated. This is an important distinction, because correlation implies a causal or risk relationship. More contemporary models, such as those proposed by Krueger and Markon (2), suggest a multivariate comorbidity model to understand the relationship between liabilities and manifest disorders. James and Taylor (3) carried out their approach to study the structure of comorbidity regarding borderline personality disorder (BPD) and clinical disorders. They confirmed that BPD was associated with both internalizing and externalizing liabilities. However, these associations differed by gender, as externalizing was more strongly associated with BPD in men than women. James and Taylor demonstrated the complexity of the relationships between personality and psychopathology and the need to examine how other PDs fit into the internalizing and externalizing framework and with other liabilities.

Changes to our current classification as proposed by the DSM-5 Personality and Personality Disorders Working Group appear driven by the desire to reduce the occurrence of comorbidity. The proposed solution seems to consider the observed co-occurrence as the result of diagnostic artifact and as harmful to our understanding of comorbidity. The proposed shedding of five PD diagnoses from DSM-IV to DSM-5 is in keeping with this argument, and several

experts have supported this part of the proposal (4). However, the concern to remove spurious relationships between clinical disorders and PDs has trumped other considerations, including the purposes of clinical utility. Recent studies of comorbidity, including well-defined prospective cohort studies, have advanced our understanding of the clinical utility of making comorbid diagnoses. For example, the course of BPD is markedly affected by the presence or absence of comorbid substance abuse disorders. The absence of substance abuse disorders or the remission from a comorbid substance abuse disorder seems to predict earlier remission of BPD (5). Although many Axis I disorders are found to be comorbid with BPD, mood and anxiety disorders appear most interrelated. Specifically, remissions of BPD predict the remission of comorbid major depressive disorder (MDD) and lessen the risk of future MDD episodes in patients with BPD; thus, treatment interventions for BPD psychopathology must be undertaken to address the comorbid MDD (6). Based on the most comprehensive reviews, the treatment response of patients with comorbid MDD and PDs is twice as unsatisfactory as patients with MDD alone (7).

Over and over again, the clinical utility of the concept of comorbidity has been supported and enhanced by the last decades of research. The clinical utility of studying the comorbidity between clinical disorders and PDs has not

been adequately prioritized when deciding on changes to our classification system. From a clinical utility perspective, the concept of comorbidity versus pure disorders may be analogous to studying malignant versus benign tumors. A malignancy is defined by its lack of boundaries and its system-wide impacts. These concepts, malignancy versus benign, are still incompletely understood, but they have very great clinical utility. Similarly, comorbidity of psychiatric disorders should not be hidden by our classification approach, but should be front and center in our approach to understanding individuals destined to have the poorest course, unsatisfactory treatment response and high rates of mortality. The radical changes proposed by the DSM-5 Personality and Personality Disorders Working Group have been criticized because they imply that we currently understand comorbidity adequately to generate a valid classification system. Their radical approach has also been criticized for moving away from the current diagnoses and all the recent empirical research based on these diagnoses that has accumulated over the last three decades. Finally, unlike the clarity provided in Widiger's paper, the DSM-5 Personality and Personality Disorders Working Group's proposal is highly complex and includes at least four separate diagnostic steps. The complexity of this proposal could hamper clinical utility and become a major barrier for clinicians attempting

to diagnose personality disorders.

Our field is going through a period of significant change and we must ensure that these transitions are carefully navigated. Premature closure on issues like comorbid diagnoses before we understand the waters depth could potentially be detrimental to our patients or mute our voice with policy and decision makers.

References

1. Feinstein AR. The pre-therapeutic classification of co-morbidity in chronic disease. *J Chronic Dis* 1970;23:455-68.
2. Krueger RF, Markon KE. Reinterpreting comorbidity: a model-based approach to understanding and classifying psychopathology. *Ann Rev Clin Psychol* 2006;2:111-33.
3. James ML, Taylor J. Revisiting the structure of mental disorders: borderline personality disorder and internalizing/externalizing spectra. *Br J Clin Psychol* 2008;47:361-80.
4. Livesley J. The current state of personality disorder classification: introduction to the special feature. *J Pers Disord* (in press).
5. Zanarini MC, Frankenburg FR, Hennen J et al. Comorbidity in patients with borderline personality disorder: 6-year follow-up and prediction of time to remission. *Am J Psychiatry* 2004;161:2108-14.
6. Gunderson J, Stout R, Sanislow C et al. New episodes and new onsets of major depression in borderline and other personality disorders. *J Affect Disord* 2008;111:40-5.
7. Newton-Howes G, Johnson T, Tyrer P. Personality disorder and the outcome of depression: systematic review and meta-analysis. *Br J Psychiatry* 2006;188:13-20.

Exploring personality - personality disorder relations and their implications for DSM-5

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In Widiger's thoughtful review of the manner in which personality and psychopathology may be related, he touched briefly on the relations between personality and personality disorders (PDs). This topic is expanded upon here as it is an important and timely issue, especially as it pertains to the upcoming release of

DSM-5, the internationally influential diagnostic taxonomy for psychiatry and psychology. As Widiger noted, there is compelling evidence to suggest that PDs can be conceived of as "maladaptive and/or extreme variants of the FFM (Five Factor Model) personality structure". There are a number of different research lines and studies that support this conceptualization: a) researchers and clinicians can easily and reliably rate PDs using the

30 traits of the FFM (1-2); b) individuals' scores on these traits can be scored to assess the PDs in a valid manner (3-4); c) the factor structure of PDs can be readily interpreted using a five-factor framework (5); and d) these general traits can be used to understand the pattern of comorbidity observed among the PDs (1). An additional benefit of the use of such a personality model in the conceptualization and diagnosis of PD is that this structure

is “robust across major regions of the world” (6).

Others have argued that DSM-IV PDs are “hybrids of more stable traits and less stable symptomatic behaviors” (7). These authors suggested that these more stable traits may be the “prime candidates for retention” in DSM-5, given that there is an emphasis on “stability and resistance to change” in the PD criteria in DSM-IV (8). Another reason for researchers and clinicians to focus on these stable traits is that data suggest that changes to these underlying traits results in changes in PD symptoms, whereas the converse is not true (9). Warner et al (9) stated that “these results coincide with the clinical belief that lasting personality change may require more than targeting specific behaviors or symptoms”.

Ultimately, it makes sense from both a clinical and empirical standpoint to focus on these stable traits in the conceptualization and assessment of PDs. It appears that the DSM-5 will incorporate a dimensional trait model that can be used to describe traditional PDs that are set for inclusion (e.g., borderline PD) and exclusion (e.g., narcissistic PD) from the DSM-5, as well as other less common forms of PD. Although one may disagree with the manner with which this trait model was developed, and/or the resultant model itself, the inclusion of a trait model is a step in the right direction.

Yet, despite strong empirical support for these types of dimensional trait models of PD, many prominent scholars disagree vehemently with the DSM-5 proposal. For example, 29 psychologists and psychiatrists, led by noted scholar J. Gunderson, wrote an email to the DSM-5 Personality and Personality Disorder Work Group criticizing the proposal (10). These experts suggest that “there remains a huge gap between the science of personality traits or dimensional models and clinical practice... much of the language involves descriptors that are either unfamiliar to clinicians or require so much inference that reliability is likely to be very hard to attain”.

With all due respect, this sentiment is inconsistent with existing data that demonstrate that dimensional traits can be rated by clinicians who are unfamil-

iar with the underlying trait model in a reliable and valid manner and that these traits can be used in isolation and combination to provide clinically useful information (11,12). The explicit recognition of the fundamental relation between personality traits and PDs is an important step in building a diagnostic taxonomy that is both valid and clinically useful.

References

1. Lynam DR, Widiger TA. Using the five-factor model to represent the DSM-IV personality disorders: an expert consensus approach. *J Abnorm Psychol* 2001;110:401-12.
2. Samuel DB, Widiger TA. Clinicians' personality descriptions of prototypic personality disorders. *J Pers Disord* 2004;18:286-308.
3. Miller JD, Bagby RM, Pilkonis PA et al. A simplified technique for scoring the DSM-IV personality disorders with the five-factor model. *Assessment* 2005;12:404-15.
4. Miller JD, Reynolds SK, Pilkonis PA. The validity of the five-factor model prototypes for personality disorders in two clinical samples. *Psychol Assessment* 2004;16:310-22.
5. O'Connor BP. A search for consensus on the dimensional structure of personality disorders. *J Clin Psychol* 2005;61:323-45.
6. Schmitt DP, Allik J, McCrae RR et al. The geographic distribution of big five personality traits. Patterns and profiles of human self-description across 56 nations. *J Cross Cult Psychol* 2007;38:173-212.
7. McGlashan TH, Grilo CM, Sanislow CA et al. Two-year prevalence and stability of individual DSM-IV criteria for schizotypal, borderline, avoidant, and obsessive-compulsive personality disorders: toward a hybrid model of axis II disorders. *Am J Psychiatry* 2005;162:883-9.
8. American Psychiatric Association. Diagnostic and statistical manual of mental disorders, 4th ed., text revision. Washington: American Psychiatric Association, 2000.
9. Warner MB, Morey LC, Finch JF et al. The longitudinal relationship of personality traits and disorders. *J Abnorm Psychol* 2004;113:217-27.
10. Gunderson J, Bateman A, Beck A et al. Scientific forum for borderline personality disorder. www.bpdforum.com.
11. Few LR, Miller JD, Morse JQ et al. Examining the reliability and validity of clinician ratings on the Five-Factor Model score sheet. *Assessment* 2010;17:440-53.
12. Miller JD, Maples J, Few LR et al. Using clinician-rated Five-Factor Model data to score the DSM-IV personality disorders. *J Pers Assess* 2010;92:296-305.

Interaction of personality disorders with other co-occurring psychiatric disorders

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T. Widiger presents a thoughtful and balanced overview of the bidirectional ways that personality and psychopathology can influence each other. He focuses first on the differential effects that various personality types might have on the development of specific psychiatric disorders, suggesting some phenotypic similarities between personality traits (referring to the five-factor model, FFM) and features of specific disorders, such as selected eating disorders.

In the clinical context of the growing interest in prevention and early interven-

tion, it is valuable to consider whether or not certain personality types might be thought of as predictive patterns, to bring early attention to those with heritable risk for specific illnesses that might emerge during adverse environmental circumstances. Widiger does not differentiate here between personality types characterized by the FFM and personality disorders as defined by DSM-IV-TR, but similar arguments have been made about the influence of Axis II disorders on the course of Axis I disorders. In particular, a recent paper by Skodol et al (1) reported that, in a large nationally representative sample of adults with major depressive disorder (MDD), borderline personality disorder (BPD) strongly pre-

dicted persistence of MDD over time and was more strongly predictive of persistent depression than the co-occurring presence of Axis I disorders.

Widiger then reviews the influence of psychopathology on personality. He contends that personality assessment will be inaccurate if carried out when a patient is experiencing an acute symptomatic episode of illness. There is some controversy about this assertion, however. Morey et al (2), for example, recently reported that personality disorders can be validly diagnosed during depressive episodes. Regarding the interactive dynamics over time, Widiger cites a report from the Collaborative Longitudinal Personality Disorders Study (CLPS), published in 2003, in which Gunderson et al (3) suggest that remission of BPD may often follow resolution of an Axis I disorder. However, the CLPS group subsequently reported that, over 3 years, the rate of remission of BPD was not affected by whether or not patients had co-morbid MDD, whereas time to remission of MDD was significantly prolonged in patients with co-occurring BPD (4). Similar findings were described in a 10-year follow-up study from the same research group (5).

Widiger's summary of studies indicating that personality disorders can be understood as extreme variants of the FFM is a helpful conceptual model, one that is familiar in the medical world and similar to medical conditions such as hypertension. However, the argument that many

DSM-defined personality disorders exist on a spectrum linking them to major Axis I categories is more controversial. Here, the evidence is most persuasive that patients with schizotypal personality disorder share some biomarkers and some degree of genetic risk with those at risk to develop schizophrenia. The evidence is more controversial regarding the link of other personality disorders to Axis I categories.

The recognition that psychopathology, particularly if severe and persistent, can alter or shape personality is certainly persuasive in many clinical situations. How, or whether even to try, to diagnose the presence of a personality disorder in certain patients, such as patients with early onset severe and persistent schizophrenia, is certainly a legitimate question. However, even in these cases, there almost always is a "person" who has been there all along, prior to the development of the Axis I condition, and it will help us to sustain hope and a recovery framework to remember that. Sometimes the interconnectivity of conditions can be quite thorny. I recall one patient to whom I administered the Personality Disorder Examination, a semi-structured clinical diagnostic interview for DSM-defined personality disorders. I began with the usual introductory instructions that I was interested in what she was like most of her adult life, not just during a period of illness such as depression or substance abuse. She said "stop", which I did, and

she informed me that she was 35 years old, that this was her first hospitalization for severe alcoholism, and that the last time she remembered being sober was when she was 12. In a case like this, we could only learn "who she is" over time, and then only if she achieved and maintained sobriety.

These and many other issues are nicely assembled in this welcome paper by Widiger, which points us in important directions for further study.

References

1. Skodol AE, Grilo CM, Keyes KM et al. Relationship of personality disorders to the course of major depressive disorder in a nationally representative sample. *Am J Psychiatry* 2011;168:257-64.
2. Morey LC, Shea MT, Markowitz JC et al. State effects of major depression on the assessment of personality and personality disorder. *Am J Psychiatry* 2010;167:528-35.
3. Gunderson JG, Bender D, Sanislow C et al. Plausibility and possible determinants of sudden "remissions" in borderline patients. *Psychiatry* 2003;66:111-9.
4. Gunderson JG, Morey LC, Stout RL et al. Major depressive disorder and borderline personality disorder revisited: longitudinal interactions. *J Clin Psychiatry* 2004;65:1049-56.
5. Gunderson JG, Stout RL, McGlashan TH et al. Ten year course of borderline personality disorder: psychopathology and function from the Collaborative Longitudinal Personality Disorders Study. *Arch Gen Psychiatry* (in press).

Personality may be psychopathology, and vice versa

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T. Widiger thoroughly discusses the relationship of common personality dimensions to personality disorders and of personality and personality disorders to symptom disorders, also called clinical conditions or Axis I disorders in DSM. In that way, he discusses the relationship

between egosyntonic and egodystonic behaviors, feelings, thoughts; between how we *are* in feelings, thoughts and behaviors and what *happens to us*, as for feelings, thoughts and behaviors.

The thesis in this commentary is that personality and psychopathology are sometimes merging into each other, sometimes related although conceptually and functionally different, and sometimes completely unrelated. A conclusion

will be that this fact ought to have consequences for diagnostic classification.

Depression is psychopathology. However, not so few individuals are depressed their whole life. They feel insecure, guilt prone, worthless, unhappy, etc. This may be regarded as a personality structure. On the other hand, some have a personality they see as egodystonic: they do not understand themselves, their sudden bursts of anger, insecurity, desperation. This may have to be called psychopathology. Generalized anxiety disorder is for many a chronic feeling of apprehension and fear of what may happen. Schizophrenia has a relatively stable personality forma-

tion. A delusional disorder is often persistent through the whole life. Thus we may say that many Axis I disorders may be stable personality structures.

From another perspective, extreme scores on common personality dimensions, such as neuroticism, are according to any criteria psychopathology, often indistinguishable from clinical entities such as various types of mood and anxiety disorders. An extremely high score on introversion is similar to negative features of schizophrenia, most notably simple schizophrenia. An extremely low score on agreeableness and conscientiousness is certainly a basic core of personality disorders, as Widiger notes.

So what are we left with? The concept of personality has developed within the framework of psychology, especially personality psychology, in contrast to, and sometimes in competition with, clinical psychology. Psychopathology is a concept within psychiatry, although sometimes also accepted within clinical psychology. Personality is usually assessed by means of self-report questionnaires, psychopathology by means of interview, being structured or open-ended clinical. The correlations between common personality dimensions assessed by questionnaire and personality disorders assessed by interview are almost as high as reliability deficiency permits (1). The genetic origin appears to be the same (2,3). What comes out as non-shared environment specific for either questionnaire-assessed personality or interview-assessed psychopathology in twin studies is probably mostly error variance.

Does this mean that personality (extreme) and psychopathology (personality disorders or symptom disorders) always coincide? Probably not. Personality features assessed early in life may develop into risky health behaviors, unfortunate social adaptation, conflicts in relationships and dysfunction in adult age (4,5). This development creates life conditions and events that in turn lead to depression and anxiety, as Widiger stresses. An individual with a tendency to strong introversion may lead a life with few social contacts, producing a feeling of loneliness and subsequent depression. An impulsive person with strong emotional vari-

ability may experience frequent breaks and losses in relationships, and consequently anxiety and depression. A number of such sequences are well known to every clinician. At the same time, these personality traits do not need to lead to symptoms. Thus they are not the same as psychopathology. Some will say: yes, but in any case they are personality disorders. However, personality disorders are perhaps not basically different from symptom disorders. They may be due to the same genes (mentioned by Widiger), as seems to be the case for avoidant personality disorders and social phobia (6). They are not either more stable than symptom disorders (7,8).

Where does this lead us? Probably, our current concepts of personality and psychopathology are very rudimentary. We may imagine for instance that what today is diagnosed as major depression consist of a number of disorders of completely different origin. One depressive disorder may simply be a chronic personality entity with a number of lifelong personality traits named depressive and anxiety symptoms today. Another depressive disorder is solely a biological brain event taking place in a person with a completely normal personality without any special triggering environmental event. A third depression, sometimes with additional anxiety, is the normal (common) reaction to extreme life events and conditions. A fourth depression is the consequence of a personality formation that creates obnoxious life events with consequent depression and anxiety reactions. On the other hand, people with extreme scores on personality dimensions may be individu-

als whose personality features have completely different origins. So, our concepts of personality and psychopathology may be far from what we will find reasonable in the future, when we know more about the causes and the structures behind the concepts.

References

1. Saulsman LM, Page AC. The five-factor model and personality disorder empirical literature: a metaanalytic review. *Clin Psychol Rev* 2004;23:1055-85.
2. Kendler KS, Myers J, Torgersen S et al. The heritability of cluster A personality disorders assessed by both personal interview and questionnaire. *Psychol Med* 2007;37:655-65.
3. Torgersen S, Myers J, Reichborn-Kjennerud T et al. The heritability of cluster B personality disorders assessed by both personal interview and questionnaire. Submitted for publication.
4. Caspi A. The child is father of the man: personality continuities from childhood to adulthood. *J Pers Soc Psychol* 2003;78:158-72.
5. Moffitt TE, Arsenault L, Belsky D et al. A gradient of childhood self-control predicts health, wealth and public safety. *Proc Natl Sci USA* 2011;108:2693-8.
6. Reichborn-Kjennerud T, Czajkowski N, Torgersen S et al. The relationship between avoidant personality disorder and social phobia: a population-based twin study. *Am J Psychiatry* 2007;164:1722-8.
7. Durbin CE, Kline DN. Ten-year stability of personality disorders among outpatients with mood disorders. *J Abnorm Psychol* 2006;115:75-84.
8. Zanarini MC, Frankenburg FR, Reich DB et al. Time to attainment of recovery from borderline personality disorder and stability of recovery: a 10-year prospective follow-up. *Am J Psychiatry* 2010;167:663-7.

Challenges in the study of personality and psychopathology

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T. Widiger presents three well-known ways of conceptualizing the relationship between personality and psychopathol-

ogy. First, a *pathoplastic* relationship indicates that each may have an influence on the presentation or manifestation of the other. When personality features and psychopathology co-occur within the same person, the resulting clinical picture will look different than cases of

these personality traits or of this vein of psychopathology appearing in isolation. A second form of relationship is a *spectrum* relationship. Here, certain personality traits and forms of psychopathology are viewed as existing on the same spectrum of functioning. A dimension of functioning may exist in which personality traits “bleed into” psychopathology as we move along a dimension in the direction of dysfunction. Finally, personality and psychopathology may be *causally* related to each other.

Despite years of research attempting to disentangle and elucidate the nature of the relationship between personality and psychopathology, this remains a challenging task. As a starting point, one must demonstrate a relationship between personality and psychopathology. The observation that personality traits and psychopathology co-occur frequently within individuals raises multiple possibilities (1,2). First, the association between certain personality traits and certain forms of psychopathology may be artificial because of measurement or design confounds. For example, substance use problems are considered to be one example of personality trait of impulsivity, ensuring some degree of overlap between this personality trait and substance use disorder diagnoses. Similarly, a number of behavioral indicators of impulsivity or of aggressiveness can be substance-related (e.g., driving while intoxicated, substance-related violence).

Concerning design confounds, most studies of the personality-psychopathology relationships are cross-sectional, and many are conducted on patients who are either currently in or recently ending an active phase of their Axis I disorder. For example, substance use can contribute to problems of affective instability (or negative affectivity) and impulsivity which are major personality traits (2). Although one might attempt to circumvent this potential confound by having patients report only those personality traits or features that were present when not using substances, the reliability and validity of these retrospective reports remains unclear.

It is also possible that an unmeasured third variable, related to both personality

traits and to psychopathology, is responsible for their association in a given study. Such a third variable may or may not be etiologically relevant. For example, age is not etiologically important, in the causal sense, but may make it more likely that a personality-psychopathology relationship is found. Younger adults are more likely to be impulsive and are also more likely to abuse substances. In contrast, a third variable like a common genetic diathesis is etiologically important (3).

It is also possible that the personality-psychopathology relationship is a causal one. Conceptually, the template for temperament and personality appears to be laid in place at an early age and would seem to have ontological priority. Longitudinal, prospective studies suggest the influence of temperament/personality features on later development and mental health (4). Furthermore, there is good evidence that personality is associated with later important life outcomes (5,6), reinforcing this causal direction. On the other hand, personality features may be a consequence of the experience of psychopathology or vice versa. For example, chronic, excessive alcohol consumption may result in serotonin depletion that, in turn, can lead to impulsive behavior.

In conclusion, the three models are helpful but only as a starting point. There are many complexities both in the way constructs are conceptualized as well as in the way studies in this area are designed and implemented. Major challenges for the future study of personality-psychopathology include the following:

Defining what is personality and what constitutes personality change. Some of the symptoms/indicators for psychopathology are directly related to personality traits whereas others seem less so. Concerning personality change, mean levels of personality traits change across the lifespan, naturally (7,8). Therefore, simply demonstrating changes in mean personality trait scores over time does not necessarily indicate “personality change” due to the experience of psychopathology. However, the personality structure within an individual (e.g., the factor structure of personality traits) may be a better indicator of personality change due to the

experience of psychopathology.

The need for good prospective studies that examine personality-psychopathology relations within a long-term, developmental framework. Most studies of the personality-psychopathology relations have largely ignored the effects of development (indexed by age) on personality and on psychopathology. Further cross-sectional studies will never be able to fully explain these relations. This is not to say that only studies starting with a birth-cohort and extending into old age are valuable. Rather, depending on the form of psychopathology (taking into account the periods of risk and age-related manifestations of the disorder) and on the personality traits in question, “shorter” longitudinal studies can be informative.

The influence of genes, the environment, and interactions. Ground-breaking, longitudinal studies that analyze genetic influences on traits, behavior, and the environment across the life span suggest that the answers to our questions about personality-psychopathology relations are likely to be quite complex (9). Findings suggesting the role of gene-environment correlations, gene-environment interactions, and epigenetics in the development of psychopathology should alert us to the myriad of possibilities when describing personality-psychopathology relations and help us begin to focus on mechanisms (10).

References

1. Sher KJ, Trull TJ, Bartholow BD et al. Personality and alcoholism: issues, methods, and etiological processes. In: Leonard KE, Blane HT (eds). *Psychological theories of drinking and alcoholism*, 2nd ed. New York: Guilford, 1999:54-105.
2. Trull TJ, Sher KJ, Minks-Brown C et al. Borderline personality disorder and substance use disorders: a review and integration. *Clin Psychol Rev* 2000;20:235-53.
3. Distel MA, Trull TJ, Willemsen G et al. The five factor model of personality and borderline personality disorder: a genetic analysis of comorbidity. *Biol Psychiatry* 2009;66:1131-8.
4. Hampson SE, Goldberg LR, Vogt TM et al. Forty years on: teachers' assessments of children's personality traits predict self-reported health behaviors and outcomes at midlife. *Health Psychol* 2006;25:57-64.
5. Ozer D, Benet-Martínez V. Personality and

- prediction of consequential outcomes. *Ann Rev Psychol* 2006;57:401-21.
6. Roberts BW, Kuncel N, Shiner RN et al. The power of personality: the comparative validity of personality traits, socio-economic status, and cognitive ability for predicting important life outcomes. *Perspectives in Psychological Science* 2007;2:313-45.
 7. Caspi A, Roberts BW, Shiner RL. Personality development: stability and change. *Ann Rev Psychol* 2005;56:453-84.
 8. Roberts BW, Walton KE, Viechtbauer W. Patterns of mean-level change in personality traits across the life course: a meta-analysis of longitudinal studies. *Psychol Bull* 2006;132:1-25.
 9. Moffitt TE, Caspi A, Rutter M. Strategy for investigating interactions between measured genes and measured environments. *Arch Gen Psychiatry* 2005;62:473-81.
 10. Hampson SE. Mechanisms by which childhood personality traits influence adult well-being. *Current Directions in Psychological Science* 2008;17:264-8.

Towards an approach to mental disorders based on individual differences

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T. Widiger has been one of the most influential scholars exploring the role of personality in psychopathology in the last 20 years. In this paper, he provides the reader with a highly accurate, and at times somewhat provocative, overview of the main findings concerning the interface between personality and psychopathology, lively conveying also the excitement that is permeating research on the role (actually, the roles) of personality in psychopathology.

I tried to read the article as a clinician, not as a researcher. From a clinician's perspective, the complex relationships between personality and psychopathology which are consistently documented by research findings suggest that the time is coming for psychiatry to shift from the aim "to carve nature at its joints" to adopting individual differences in personality as the main perspective to understand mental disorders.

Putting personality at the cross-roads of adaptive functioning and mental disorders does not imply to dismiss a medical approach to diagnosis. Rather, it implies to put the subject's mental disorder(s) in the perspective of the "characteristic manner in which she/he thinks, feels, behaves, and relates to others", quoting Widiger's words. In turn, this involves considering the subject's mental disorder(s) in the perspective of his/her developmental history, including psychobiological and psychophysiological aspects and risk factors.

Widiger's accurate presentation of the mutual influences between personality and mental disorders also avoids the pitfalls of a simplistic approach to the treatment of mental disorders. In fact, an approach to mental disorders based on individual differences implies taking into account the subject's personality when deciding the overall therapeutic strategy. For instance, it is well known that, in people with obsessive-compulsive disorder (OCD), the co-diagnosis of schizotypal personality disorder may negatively affect treatment response (1), which suggests the need for an individual case formulation in OCD patients with complex symptomatology and comorbid Axis II disorders (2).

Consistent with the complex interplay between personality and mental disorder that Widiger highlights in his article, recent data suggest that impulsivity is a behavioral endophenotype mediating risk for stimulant dependence that may be exacerbated by chronic drug exposure (3). Thus, taking into account this personality trait could be relevant for both preventing substance abuse and fostering abstinence during the maintenance phase of a treatment program for drug addiction.

Neuroticism seems to represent a risk factor for depression as well as for several other mental disorders and personality disorders (4). Interestingly, neuroticism seems to be associated also to genetic risk for depression (5). Moreover, personality disorders are among the significant predictors of the risk that a current depressive episode becomes chronic (6). Cuijpers et al (4) pointed out that the eco-

nomic costs of neuroticism exceed those of common mental disorders. Thus, they suggested that psychiatry should start thinking about interventions that focus not on each of the specific negative outcomes of neuroticism but rather on the starting point itself (4).

Another implication of Widiger's article is that it is possible to adopt a personality-centered approach to mental disorder without adhering to a specific personality theory. Although a Five Factor Theory of personality actually exists (7), the Big Five model of personality does not represent a particular theoretical perspective but was derived from analyses of the terms people use to describe themselves and others (8). This model actually integrates different theories of personality. Widiger's paper shows that the Big Five traits – i.e., openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism – may have this integrative role also in psychopathology.

References

1. Keeley ML, Storch EA, Merlo LJ. Clinical predictors of response to cognitive-behavioral therapy for obsessive-compulsive disorder. *Clin Psychol Rev* 2008;28:118-30.
2. Fricke S, Moritz S, Andresen B et al. Do personality disorders predict negative treatment outcome in obsessive-compulsive disorders? A prospective 6-month follow-up study. *Eur Psychiatry* 2006;21:319-24.
3. Ersche KD, Turton AJ, Pradan S et al. Drug addiction endophenotypes: impulsive versus sensation-seeking personality traits. *Biol Psychiatry* 2010;68:770-3.
4. Cuijpers P, Smit F, Penninx BWJH et al.

Economic costs of neuroticism. *Arch Gen Psychiatry* 2010;67:1086-93.

5. Harro J, Kiive E. Droplets of black bile? Development of vulnerability and resilience to depression in young age. *Psychoneuroendocrinology* 2011;36:380-92.

6. Hölzel L, Härter M, Reese C et al. Risk factors for chronic depression – A systematic review. *J Affect Disord* 2011;129:1-13.

7. McCrae RR, Costa PT. A five-factor theory of personality. In: Pervin LA, John OP (eds). *Handbook of personality*, 2nd ed.

New York: Guilford, 1999:139-53.

8. John OP, Srivastava S. The Big Five trait taxonomy: history, measurement, and theoretical perspectives. In: Pervin LA, John OP (eds). *Handbook of personality*, 2nd ed. New York: Guilford, 1999:102-38.

The influence of personality on the treatment outcome of psychopathology

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T. Widiger's paper summarizes how personality and psychopathology relate to each other and the challenge of disentangling the various forms of inter-relationship. This commentary focuses on how personality may influence treatment outcome and choice of treatment in patients with psychopathology.

The research on the relationship between personality and treatment outcome is largely confined to one psychopathological condition, which is depression. Widiger notes that some authors claim that a change in self-description secondary to a mood disorder can represent an actual change in personality. He argues that it is then difficult to conduct research since depression and personality are no longer distinguished constructs. This commentary attempts to consider the relationship between depression and personality as distinct constructs in relation to treatment outcome.

It can be stated with some confidence that high scores on neuroticism or similar measures such as harm avoidance are associated with poorer outcomes in the treatment of depression (1). This result has been consistently reported in pharmacotherapy (2) as well as psychotherapy (3,4) trials.

The effects of personality disorders on the outcome of depression have been less robust. Although it is generally maintained that personality disorders have a negative effect on outcome, a review by Mulder (1) found that the best designed studies show little or no difference in outcome between depressed patients

with and without personality disorders. A meta-analysis of pharmacotherapy studies also reported no significant difference in outcome (5). However, a larger meta-analysis using less stringent study criteria reported a modest but significant negative effect on treatment outcome in depressed individuals with a comorbid personality disorder (6).

Recent treatment trials, using more sophisticated designs to specifically study the relationship between personality and treatment outcome, have not reported a worse outcome. Kelly et al (7) measured the severity of personality disorder as well as depression and found that, while the severity of depressive symptoms at baseline predicted poorer outcome, the severity of personality disorder did not. Craigie et al (8) reported that, while increasing personality disorder complexity was related to slightly poorer end state functioning, there was no association between personality disorder complexity and poorer treatment outcome.

One problem is that the severity of personality disorder and the severity of depressive symptoms were strongly correlated in both studies. Unless the analyses correct for this, the effect of personality disorder on outcome will be over-estimated. De Bolle et al (9) went further contending that the statistical approach used to analyse data may contribute to the inconsistent findings. They showed in their study that, while single level regression analysis showed significantly worse treatment outcome among depressed patients with personality disorder, this worse outcome was no longer present after controlling for statistical heterogeneity and interdependency. We are left with the uncomfortable conclu-

sion that better designed studies show the least effect of personality on depression outcome.

Clinicians are most interested in whether a depressed patient with a comorbid personality disorder would respond better to some treatments than others. In particular whether psychotherapy, either alone or added to antidepressant treatment, would produce a better outcome. The available evidence in this respect is a little counter-intuitive. In Newton-Howes et al's (6) meta-analysis, there was a non-significant trend for pharmacotherapy to be *superior* to psychotherapies. Fournier et al (10) directly compared paroxetine and cognitive behaviour therapy in depressed patients with and without personality disorder. They reported a non-significant trend favouring paroxetine over the psychotherapy (66% vs. 44% met response criteria at 16 weeks). Kelly et al (7) reported no interaction between personality disorder states, problem solving treatment, group seminars or treatment as usual. Joyce et al (11) reported that comorbid personality disorders negatively affected treatment response to interpersonal psychotherapy but not cognitive behaviour therapy.

With regard to pharmacotherapy, there is also little specific guidance. There is some evidence that tricyclic antidepressants (TCAs) are less useful in individuals with comorbid Cluster B personality disorders (12). Perhaps of greater interest is that antidepressant treatment may produce improvements in neuroticism (13) and personality disorder pathology (14) in patients whose depression has shown only minimal improvement with treatment. In other words, the improvement in personality functioning was not de-

pendent upon depression improvement.

In conclusion, the relationships among personality, psychopathology and treatment outcome are complex. In depression, higher neuroticism scores are consistently associated with poorer outcome. Comorbid personality disorders are generally but less consistently associated with worse treatment response. However, these findings may partially reflect correlations between depression severity and neuroticism and personality pathology. Depression could be understood as direct expression of neuroticism, as Widiger notes. Depression may also have links with specific personality disorders (e.g., Cluster C with low self-esteem and worry).

The limited literature appears to slightly favour antidepressants (with the possible exception of TCAs in Cluster B personality disorders) over psychotherapies, and cognitive behavioural type therapies over less structured interpersonal psychotherapies. It is possible that antidepressants produce improvements in personality pathology without much effect on an individual's depressive symptoms. All this evidence encourages clini-

cians to actively treat depressed patients with personality pathology.

References

1. Mulder RT. Personality pathology and treatment outcome in major depression: a review. *Am J Psychiatry* 2002; 159:359-71.
2. Mulder RT, Frampton CM, Luty SE et al. Eighteen months of drug treatment for depression: predicting relapse and recovery. *J Affect Disord* 2009;114:263-70.
3. Bush T, Rutter C, Simon G et al. Who benefits from more structured depression treatment? *Int J Psychiatry Med* 2004;34:247-58.
4. Spek V, Nyklicek I, Cuijpers P et al. Predictors of outcome of group and internet-based cognitive behavior therapy. *J Affect Disord* 2008;105:137-45.
5. Kool S, Schoevers R, de Maat S et al. Efficacy of pharmacotherapy in depressed patients with and without personality disorders: a systematic review and meta-analysis. *J Affect Disord* 2005;88:269-78.
6. Newton-Howes G, Tyrer P, Johnson T. Personality disorder and the outcome of depression: meta-analysis of published studies. *Br J Psychiatry* 2006;188:13-20.
7. Kelly BD, Nur UA, Tyrer P et al. Impact of severity of personality disorder on the outcome of depression. *Eur Psychiatry* 2009;24:322-6.
8. Craigie MA, Saulsman LM, Lampard AM. MCMI-III personality complexity and depression treatment outcome following group-based cognitive-behavioral therapy. *J Clin Psychol* 2007;63:1153-70.
9. De Bolle M, De Fruyt F, Quilty LC et al. Does personality disorder co-morbidity impact treatment outcome for patients with major depression? A multi-level analysis. *J Pers Disord* 2011;25:1-15.
10. Fournier JC, DeRubeis RJ, Shelton RC et al. Antidepressant medications v. cognitive therapy in people with depression with or without personality disorder. *Br J Psychiatry* 2008;192:124-9.
11. Joyce PR, McKenzie JM, Carter JD et al. Temperament, character and personality disorders as predictors of response to interpersonal psychotherapy and cognitive behaviour therapy for depression. *Br J Psychiatry* 2007;190:103-8.
12. Mulder RT, Joyce PR, Luty SE. The relationship of personality disorders to treatment outcome in depressed outpatients. *J Clin Psychiatry* 2003;64:259-64.
13. Tang TZ, DeRubeis RJ, Hollon SD et al. Personality change during depression treatment: a placebo-controlled trial. *Arch Gen Psychiatry* 2009;66:1322-30.
14. Mulder RT, Joyce PR, Frampton CM. Personality disorders improve in patients treated for major depression. *Acta Psychiatr Scand* 2010;122:219-25.

The WPA-WHO Global Survey of Psychiatrists' Attitudes Towards Mental Disorders Classification

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This article describes the results of the WPA-WHO Global Survey of 4,887 psychiatrists in 44 countries regarding their use of diagnostic classification systems in clinical practice, and the desirable characteristics of a classification of mental disorders. The WHO will use these results to improve the clinical utility of the ICD classification of mental disorders through the current ICD-10 revision process. Participants indicated that the most important purposes of a classification are to facilitate communication among clinicians and to inform treatment and management. They overwhelmingly preferred a simpler system with 100 or fewer categories, and over two-thirds preferred flexible guidance to a strict criteria-based approach. Opinions were divided about how to incorporate severity and functional status, while most respondents were receptive to a system that incorporates a dimensional component. Significant minorities of psychiatrists in Latin America and Asia reported problems with the cross-cultural applicability of existing classifications. Overall, ratings of ease of use and goodness of fit for specific ICD-10 categories were fairly high, but several categories were described as having poor utility in clinical practice. This represents an important focus for the ICD revision, as does ensuring that the ICD-11 classification of mental disorders is acceptable to psychiatrists throughout the world.

Key words: Mental disorders, classification, International Classification of Diseases (ICD), Diagnostic and Statistical Manual of Mental Disorders (DSM), clinical utility, cross-cultural applicability

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The World Health Organization (WHO) is in the process of revising the International Classification of Diseases and Related Health Problems, currently in its tenth version (ICD-10) (1). The WHO Department of Mental Health and Substance Abuse has technical responsibility for the development of the classification of mental and behavioural disorders for ICD-11, and has appointed an International Advisory Group to advise it throughout this process. The WPA is a key partner for WHO in developing the new classification, and as such is officially represented on the Advisory Group.

The conceptual framework that has been articulated by the Advisory Group for the development of ICD-11 mental and behavioral disorders is described in another article in this issue of *World Psychiatry* (2). That article highlights the improvement of the classification's clinical utility as a key goal of the current revision process, an issue that has been discussed in more detail elsewhere (3). The WHO has also emphasized the revision's international and multilingual nature, along with the intention to engage in a serious examination of the cross-cultural applicability of categories, definitions, and diagnostic descriptions.

If improving global clinical utility and cross-cultural applicability represent important goals of the revision, then it is clearly important to obtain information from professionals who come into daily contact with people who require treatment for mental and behavioural disorders in the various countries. Because of the relative scarcity of psychiatrists in many parts of the world, psychiatrists cannot accomplish WHO's public health goals of reducing the global disease burden of mental and behavioural disorders without the collaboration of other groups. Nonetheless, psychiatrists represent a critical professional group in the diagnosis and

management of mental disorders, whose role is essential in all regions of the world.

International surveys represent one of the most feasible methods for obtaining relevant information from professionals. Several studies have used surveys to assess the views of psychiatrists and other mental health professionals regarding the classification of mental disorders. However, previous surveys have been relatively limited in scope, geographically specific, and sometimes characterized by sampling methods that make conclusions difficult. A previous WPA survey including psychiatrists from 66 different countries (4) reported that psychiatrists' top recommendations for future diagnostic systems concerned broader availability of diagnostic manuals, more effective promotion of diagnostic training, and a wider use of multiaxial diagnosis. However, the reported conclusions were based on only 205 completed questionnaires. In addition, the sample's representativeness was restricted by only including psychiatrists who were part of the WPA Classification Section, presidents and secretaries of WPA Member Societies, officers of other WPA Sections and "pertinent" network members.

Mellsop et al (5,6) used more widely targeted surveys to assess the use and perceived utility of diagnostic systems among psychiatrists in New Zealand, Japan, and Brazil. The techniques for implementing the surveys varied across countries, partly due to an effort to encourage local ownership of the survey and its results. Based on this work, a similar survey was implemented in Japan, Korea, China and Taiwan (7). Across regions, psychiatrists indicated that they wanted simple, reliable and user-friendly diagnostic tools, although there were significant regional differences in psychiatrists' views of the cross-cultural applicability of existing classifications, including both the ICD-10 and the American Psychi-

atric Association's Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV) (8).

Zielasek et al (9) conducted a survey of German-speaking psychiatrists in Germany, Austria and Switzerland regarding their perceptions of mental disorders classification and needs for revision. They investigated the extent to which the ICD-10 adequately reflected actual clinical practice, including its understandability and ease of use. The majority of respondents reported that they were satisfied with the mental disorders chapter of the ICD-10. However, the response rate was low, making it difficult to generalize the results of the survey.

The purpose of the WPA-WHO Global Survey was to expand on the international scope and content of prior surveys to generate information about psychiatrists' views and attitudes about the classification of mental disorders that would be of direct relevance to the WHO Department of Mental Health and Substance Abuse in the revision of the ICD-10. In line with the priorities identified above, the survey was specifically intended for a broad spectrum of practicing psychiatrists, rather than organized psychiatry leadership or individuals with a specific interest in classification. In order to reach this population, the WPA and the WHO partnered with 46 WPA Member Societies (national psychiatric societies) in 44 countries, in all regions of the globe. Through this collaboration, the survey was administered in 19 languages, in order to maximize the participation of international psychiatrists.

The survey focused on major practical and conceptual issues in mental disorders classification as encountered in the day-to-day psychiatric practice, as well as the characteristics of a classification system that international psychiatrists would find most useful. These included the most important purpose of a classification system, the number of categories that should be included for maximum clinical utility, whether the classification should also be useable by other mental health professionals and understandable to relevant non-professionals, what sort of classification system should be used by primary care professionals, whether a system with strict or specified criteria for all disorders or more flexible guidance would be most useful, the best way to conceptualize severity and the relationship between diagnosis and functional status, whether psychiatrists believed that a dimensional component would be a useful addition, and the cross-cultural applicability of existing classifications systems and the perceived need for national classifications. Participating psychiatrists who used the ICD-10 in their day-to-day clinical work were also asked to indicate which specific categories they used frequently, and to provide ratings of the ease of use and goodness of fit of those specific categories.

Participating psychiatrists were contacted via their national psychiatric societies, and told that the purpose of the survey was to provide input to the WHO related to the revision of the ICD-10 classification of mental and behavioural disorders. Although it was expected that the survey would also produce information that would be relevant to the on-

going revision of the DSM-IV, unlike some previous surveys (4,10), comparing and contrasting the ICD-10 and the DSM-IV was not a major purpose of the study.

We decided that the most efficient way to implement the survey would be electronically via the Internet, although preserving the option to use a paper-and-pencil methodology for those Societies whose members could not participate in an Internet-based study. At the outset, there was some concern that conducting the survey over the Internet would limit the ability of psychiatrists from low-resource countries to participate. Some previous surveys (5,7) have been conducted via the Internet, but this has tended to be in high-income countries. However, access to the Internet in developing countries has dramatically expanded in recent years, especially among the types of professionals who were the target participants in this survey. If this type of international, multilingual study could be effectively conducted electronically, particularly among low- and middle-income countries, this would have major implications for expanding access and participation in other field studies as a part of the development of ICD-11.

METHODS

In late 2009, the WPA and the WHO (Maj and Saxena) wrote jointly to the Presidents of all WPA Member Societies inquiring about their interest in participating in various aspects of the revision process for the ICD-10 classification of mental and behavioural disorders. One of the participation options presented was to participate in a global survey of psychiatrists' experiences and attitudes regarding the ICD-10 and other mental disorders classifications. Societies were asked to indicate whether they were interested in participating, had the capacity to implement the survey systematically, whether their members could participate in an English-language survey and, if not, whether the Society could translate the survey into the language used by most of its members. Fifty-two Societies responded that they were interested in participating in such a survey.

The survey was developed by Reed, Maj, and Saxena, with input from G. Mellsop (Waikato Hospital, New Zealand) and W. Gaebel and J. Zielasek (University of Düsseldorf, Germany), from whose prior surveys (5,6,9) some questions in the current survey were adapted. Questions on goodness of fit were adapted from the field trial (11) of the Clinical Descriptions and Diagnostic Guidelines for ICD-10 Mental and Behavioural Disorders (12). Feedback on the survey was also provided by the WPA Executive Committee (see Acknowledgements).

Following development of the survey in English, the WHO undertook translation of the survey into French and Spanish, using experts from multiple countries (see Acknowledgements) and an explicit translation methodology that included forward and back translation. The WPA Member Societies which had indicated that they wished to trans-

late the survey into their local languages were provided with a set of translation materials and a translation methodology that included instructions on semantic and conceptual equivalence, forward translation, back translation, and resolution of differences among translators. WPA Member Societies produced item-by-item translations according to these instructions in 16 additional languages (see Table 1).

The survey was prepared for administration in all languages via the Internet using the Qualtrics electronic survey platform (see www.qualtrics.com). The survey was programmed to present only those questions that were relevant to a particular respondent, depending on his or her prior responses. For example, questions related to use of specific ICD-10 categories were skipped for respondents who indicated they do not use the ICD-10 in their clinical practice.

Survey packets were sent to all participating Societies, including instructions for administration, and initial solicitation and reminder messages to send to their members. Messages were provided in English, French and Spanish to the appropriate Societies, and other Societies were asked to translate the solicitation and reminder messages into their local language. Participating WPA Member Societies were informed that the survey data collected from their membership would be jointly owned by the WPA, the WHO and the Society, that they would be provided with the survey results from their own membership, and that they would be free to publish the survey results from their own membership after publication of the international data by the WPA and the WHO.

Those WPA Member Societies that according to WPA records had more than 1,000 members were asked to randomly select 500 eligible members to solicit for participation. Member Societies that had fewer than 1,000 members were asked to solicit all eligible members. Eligible members were defined as all psychiatrist members of the Society who had completed their training.

Participating WPA Member Societies were asked to send a standard initial solicitation message by e-mail or regular mail to the selected sample, and reminder messages to the entire selected sample at 2 weeks and 6 weeks following the initial solicitation. After the second reminder message had been sent, participating Societies were asked to return a Participation Tracking Form, indicating the number of members in the Society, the number of members solicited, the number of solicitations sent by e-mail and by regular mail, the number of solicitation messages returned as undeliverable, and the dates that the initial and reminder solicitations were sent.

The initial solicitation and reminder messages contained a link (Internet address) to the online survey that was unique to each participating Member Society. When the respondent clicked on the link (or entered the Internet address in his or her web browser), he or she was directed to a page that explained the purpose of the survey, its anonymous and voluntary nature, the time required, and its exemption by the WHO Research Ethics Review Committee, and provided relevant contact information in the event of questions or

comments. In order to proceed to the survey, the respondent had to affirm that he or she was a psychiatrist who had completed his or her training and that he or she wished to participate in the study.

After receiving the survey packets, two Societies – the Cuban Society of Psychiatry and the Pakistan Psychiatric Society – contacted the WPA and indicated that they felt that their members would be unable to participate in an Internet-based survey. A paper-and-pencil version of the survey, with exactly the same content, was provided to these Societies for their use. The solicitation message to accompany the paper-and-pencil survey gave potential respondents the option of participation via the Internet or by completing the paper-and-pencil survey and returning it to their Society by regular mail.

Data are presented here for the 46 WPA Member Societies in 44 countries that implemented the survey. Participation by Member Societies took place over a period of 11 months, due to the time necessary for Societies to complete translations, make other preparations, and implement the survey. The data presented here were collected between 3 May 2010 and 1 April 2011.

RESULTS

A total of 4,887 psychiatrists worldwide participated in the survey. A list of participating WPA Member Societies, countries, languages of administration, number of participants from each Society, response rate, mean age of respondents, mean number of years of professional experience, and ratio of men to women for each is provided in Table 1. Responses in Table 1 are also aggregated according to the six WHO global regions – AFRO (primarily sub-Saharan Africa), AMRO (the Americas), EMRO (Eastern Mediterranean/North Africa), EURO (Europe), SEARO (Southeast Asia), and WPRO (Western Pacific) – and across the global sample. Weighted totals presented in Table 1 and elsewhere in this article represent averages of totals by country divided by the number of respondents for that country, so that each country is weighted equally, thus controlling for differences in sample size among countries. A comparison of the unweighted and weighted statistics provides an indication of whether Societies with large samples contributed disproportionately to the overall result.

Response rates

Response rates for each WPA Member Society participating in the Internet-based survey were calculated by dividing the total number of psychiatrists from that Society who accessed the survey website and agreed to participate by the total number of participants solicited by that Society less any returned e-mail or regular mail solicitations. For the paper-and-pencil surveys in Cuba and Pakistan, the response rate represents the number of surveys completed and returned

Table 1 Participating WPA Member Societies, response rates, demographic characteristics, and classification use

Country	WPA Member Society	Survey language	N. responses	Response rate	Mean age (years)	Mean years professional experience	Ratio men/women	Mean patient hours/wk	% use formal classification often/always	% most often use ICD-10
Kenya	Kenya Psychiatric Assoc.	English	14	22%	46.4	9.9	0.57	24.6	77%	0%
Nigeria	Assoc. of Psychiatrists in Nigeria	English	18	36%	48.6	12.4	0.78	19.2	94%	83%
South Africa	South African Soc. of Psychiatrists	English	51	24%	51.0	14.2	0.41	29.1	95%	20%
AFRO region		Unweighted	83	26%	49.7	13.1	0.52	25.9	92%	32%
		Weighted	83	27%	48.6	12.2	0.59	24.3	89%	35%
Argentina	Assoc. of Argentinean Psychiatrists	Spanish	173	85%	55.4	22.6	0.51	28.8	70%	16%
Brazil	Brazilian Assoc. of Psychiatry	Portuguese	77	18%	43.9	14.9	0.61	32.4	84%	88%
Chile	Soc. of Neurology, Psychiatry and Neurosurgery	Spanish	27	14%	52.4	20.7	0.56	31.3	74%	37%
Colombia	Colombian Assoc. of Psychiatry	Spanish	28	11%	45.8	14.0	0.71	34.2	100%	54%
Costa Rica	Costa Rican Psychiatric Assoc.	Spanish	15	9%	46.2	15.1	0.60	34.0	93%	47%
Cuba	Cuban Soc. of Psychiatry	Spanish	26	55%	48.3	18.0	0.50	24.6	100%	21%
Honduras	Honduran Soc. of Psychiatry	Spanish	26	65%	50.6	14.8	0.54	19.0	81%	62%
Peru	Peruvian Psychiatric Assoc.	Spanish	77	27%	58.0	23.5	0.81	25.7	89%	80%
USA	American Psychiatric Assoc.	English	91	21%	58.9	24.3	0.60	26.3	84%	1%
AMRO region		Unweighted	540	26%	53.2	20.6	0.60	28.3	81%	40%
		Weighted	540	34%	51.1	18.7	0.60	28.5	86%	45%
Egypt	Egyptian Psychiatric Assoc.	English	79	29%	45.4	16.4	0.71	30.3	69%	55%
Iraq	Iraqi Soc. of Psychiatrists	English	14	39%	56.0	18.9	1.00	30.0	92%	77%
Morocco	Moroccan Soc. of Psychiatry	French	38	54%	44.6	12.1	0.45	26.9	67%	22%
Pakistan	Pakistan Psychiatric Soc.	English	184	84%	47.9	13.0	0.85	30.9	73%	87%
EMRO region		Unweighted	315	52%	47.2	14.0	0.77	30.2	72%	71%
		Weighted	315	51%	48.5	15.1	0.75	29.5	75%	60%

Country	WPA Member Society	Survey language	N. responses	Response rate	Mean age (years)	Mean years professional experience	Ratio men/women	Mean patient hours/wk	% use formal classification/always	% most often use ICD-10
Armenia	Armenian Psychiatric Assoc.	Armenian	103	88%	50.3	20.7	0.48	31.2	88%	96%
Austria	Austrian Assoc. for Psychiatry and Psychotherapy	English/German	97	10%	47.2	12.0	0.59	26.0	76%	93%
Bosnia and Herzegovina	Psychiatric Assoc. of Bosnia-Herzegovina	Bosnian	34	38%	49.4	12.9	0.35	28.0	94%	88%
Czech Republic	Czech Psychiatric Soc.	Czech	125	13%	50.7	21.0	0.50	20.3	84%	93%
Finland	Finnish Psychiatric Assoc.	English	147	20%	52.9	15.6	0.55	21.4	86%	94%
France	French Assoc. of Psychiatrists in Private Practice	French	145	23%	58.9	27.0	0.55	37.8	14%	42%
France	Psychiatric Information Soc.	French	113	23%	55.3	24.6	0.52	28.8	64%	71%
Germany	German Assoc. for Psychiatry and Psychotherapy	German	194	42%	49.5	11.7	0.68	22.4	95%	96%
Italy	Italian Psychiatric Soc.	Italian	76	15%	52.5	20.6	0.59	26.2	64%	26%
Kyrgyzstan	Kyrgyz Psychiatric Assoc.	Russian	14	93%	44.0	16.3	0.29	8.1	100%	100%
FYRO Macedonia	Psychiatric Assoc. of Macedonia	Macedonian	31	31%	52.5	15.9	0.45	25.9	93%	100%
Montenegro	Montenegrin Psychiatric Assoc.	Montenegrin	22	73%	46.6	9.0	0.23	24.3	95%	86%
Poland	Polish Psychiatric Assoc.	Polish	206	43%	41.7	9.7	0.48	35.4	91%	96%
Romania	Romanian Psychiatric Assoc.	Romanian	87	18%	42.9	10.4	0.29	29.8	94%	72%
Russian Federation	Russian Soc. of Psychiatrists	Russian	298	51%	43.2	15.9	0.54	17.0	92%	92%
Serbia	Serbian Psychiatric Assoc.	Serbian	71	10%	45.7	12.0	0.30	25.6	94%	96%
Slovenia	Psychiatric Assoc. of Slovenia	Slovene	14	7%	46.6	13.0	0.43	30.7	93%	100%
Spain	Spanish Assoc. of Neuropsychiatry	Spanish	56	7%	50.1	19.9	0.73	32.0	90%	67%
Spain	Spanish Soc. of Psychiatry	Spanish	128	26%	53.9	23.3	0.73	26.8	88%	46%
Sweden	Swedish Psychiatric Assoc.	English	129	26%	58.6	18.3	0.57	21.3	81%	61%

Country	WPA Member Society	Survey language	N. responses	Response rate	Mean age (years)	Mean years professional experience	Ratio men/women	Mean patient hours/wk	% use formal classification often/always	% most often use ICD-10
Switzerland	Swiss Soc. of Psychiatry	English	431	28%	54.3	17.9	0.63	26.1	67%	95%
Turkey	Psychiatric Assoc. of Turkey/Turkish Neuropsychiatric Soc.	Turkish	148	37%	44.5	12.9	0.59	28.3	85%	36%
UK	Royal College of Psychiatrists	English	105	22%	48.1	12.7	0.59	19.2	69%	86%
EURO region		Unweighted	2774	24%	50.0	16.6	0.55	25.8	79%	80%
		Weighted	2774	32%	49.1	15.6	0.49	25.2	84%	81%
India	Indian Psychiatric Soc.	English	386	23%	43.5	12.8	0.87	32.3	79%	71%
Thailand	Psychiatric Assoc. of Thailand	English	77	27%	44.2	13.8	0.44	22.0	84%	43%
SEARO region		Unweighted	463	23%	43.6	13.0	0.80	30.6	80%	66%
		Weighted	463	25%	43.9	13.3	0.66	27.1	82%	57%
Australia and New Zealand	Royal Australian and NZ College of Psychiatrists	English	80	16%	52.4	16.7	0.59	22.3	65%	15%
Hong Kong (China)	Hong Kong College of Psychiatrists	English	50	19%	45.4	15.2	0.62	29.8	94%	76%
Japan	Japanese Soc. of Psychiatry and Neurology	Japanese	355	71%	56.2	24.5	0.83	29.0	74%	79%
Malaysia	Malaysian Psychiatric Assoc.	English	16	8%	47.9	12.1	0.63	26.9	69%	19%
PR China	Chinese Soc. of Psychiatry	Chinese	211	73%	47.1	16.9	0.70	21.8	91%	49%
WPRO region		Unweighted	712	41%	52.1	20.4	0.74	26.1	79%	61%
		Weighted	712	37%	49.8	17.1	0.67	26.0	79%	47%
TOTAL unweighted			4887	26%	49.9	17.1	0.62	26.9	79%	70%
TOTAL weighted by country			4887	34%	49.3	16.0	0.57	26.4	83%	64%

divided by the total sent less any returned as undeliverable. Response rates for each participating Society and aggregated response rates by region and overall are shown in Table 1.

As shown in Table 1, the weighted overall global response rate was 34%. However, response rate varied dramatically by Society, from 7% (Slovenian Psychiatric Association, Spanish Neuropsychiatric Association) to 93% (Kyrgyzstan Psychiatric Association). By WHO region, weighted response rates were lowest for SEARO (25%) and highest for EMRO (51%). To examine the impact of country income level on participation in the Internet-based survey, based on the possibility that lower-resource countries would be less technologically able to participate, weighted response rates were calculated for countries grouped by World Bank country income level (13). The mean weighted response rate was 58% for low-income countries, 48% for lower-middle income countries, 30% for upper middle-income countries, and 24% for high-income countries.

Response time

Because the survey was administered electronically, it was possible to capture the amount of time required for each participant to complete it. For the global sample, the mean response time was 21.8 min (weighted mean 21.8 min). Response times of less than 5 min were excluded from this calculation, as were response times of greater than 2 hours (the survey platform made it possible to leave the survey unfinished and come back at a later time to complete it, so using a maximum of 2 hours likely resulted in an overestimation of response time). The average response time was shortest for Italy (13.5 minutes), and longest for Nigeria (34.8 minutes). Response time would be influenced both by speed of Internet connectivity and by the pattern of participants' responses. For example, respondents who reported that they did not use a formal classification system were not asked subsequent questions about use of specific diagnostic categories.

Amount of patient contact

Globally, 96.7% of the participating psychiatrists reported that they currently saw patients (97.0% weighted by country). Subsequent questions regarding day-to-day clinical work were not presented in the electronic survey to psychiatrists who did not see patients. Of those who reported that they did see patients, 13.8% reported that they saw patients for between 1 and 9 hours during a typical week, 22.3% for between 10 and 19 hours, 44.9% for between 20 and 40 hours, and 18.8% for more than 40 hours. In order to facilitate comparisons across Societies and regions, categorical responses to this question were transformed into a continuous variable by setting "between 1 and 9 hours" to 5, "between 10 and 19 hours" to 15, "between 20 and 40" to 30 and "more than 40 hours" to 50. Table 1 shows the result-

ing transformed mean number of patient hours per week by Society, by WHO region, and for the global sample.

Regular use of a formal classification system

All participants who reported they saw patients were asked: "As part of your day-to-day clinical work, how much of the time do you use a formal classification system for mental disorders, such as the ICD, the DSM, or a national classification?" Overall, use of classification systems among psychiatrists participating in the survey was high, with 79.2% of psychiatrists in the global sample who see patients (83.3% weighted) reporting that they "often" or "almost always/always" use a formal classification system as part of their day-to-day clinical work. An additional 14.1% (11.7% weighted) indicated that they "sometimes" use a formal classification system as part of their day-to-day clinical work. The proportion of participants for each Society who reported using a formal classification system "often" or "almost always/always", as opposed to those who only "sometimes", "rarely" or "never" did so, is shown in Table 1, as are unweighted and weighted aggregated results by WHO region and globally.

Classification system most used

Participants who saw patients were asked: "In your day-to-day clinical work, which classification system for mental disorders do you use most?" Overall, 70.1% of the global sample (63.9% weighted) reported that ICD-10 is the classification system they use most in their daily clinical work. Most of the remaining participants (23.0% unweighted, 29.9% weighted) reported that the system they use most frequently is the DSM-IV, but 5.6% (5.2% weighted) reported using another classification system, such as the Chinese Classification of Mental Disorders, the Cuban Glossary of Psychiatry, or the French Classification of Child and Adolescent Mental Disorders, and 1.3% (1.0% weighted) reported that they use the ICD-9 or the ICD-8. Table 1 shows the percentage of participating psychiatrists from each WPA Member Society who reported that the ICD-10 is the classification system they use most in daily clinical work, as well as aggregated totals by region and for the global sample.

Most important purpose of classification

All participating psychiatrists, including those who do not see patients, were asked: "From your perspective, which is the single, most important purpose of a diagnostic classificatory system?" Overall global responses are shown in Figure 1. The most important purpose of a diagnostic classification system, from the respondents' perspective, is communication among clinicians, followed by informing treatment and management decisions.

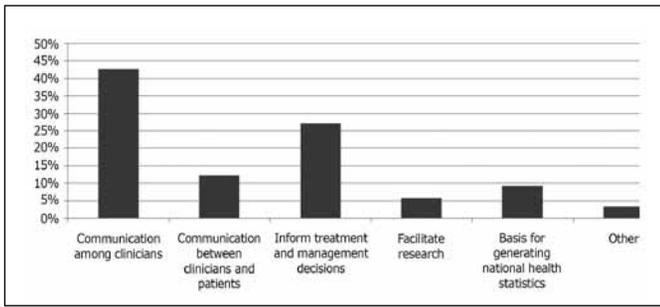


Figure 1 Percentage of participating psychiatrists endorsing six response options for the single, most important purpose of a diagnostic classificatory system of mental disorders

Number of categories desired

All participants were asked: “In clinical settings, how many diagnostic categories should a classificatory system contain to be most useful for mental health professionals?”. The overwhelming majority favored a system with dramatically fewer categories than current classification systems: 40.4% responded that a classification system with between 10 and 30 categories would be most useful (39.5% weighted), 47.1% preferred a classification system with 31 to 100 categories (46.9% weighted), 9.2% a classification system with 101-200 categories (9.6% weighted), and only 3.3% a system with more than 200 categories (4.0% weighted). Both the ICD-10 and the DSM-IV contain more than 200 categories.

Use of the classification system by non-psychiatrists

Overall, 79.5% of respondents (79.6% weighted) said that they completely or mostly agreed with the statement “A diagnostic classification system should serve as a useful reference not only for psychiatrists but also for other mental health professionals (e.g., psychologists, social workers, psychiatric nurses)”, and 15.5% (15.6% weighted) said they agreed somewhat. Similarly, 60.4% (61.6% weighted) completely or mostly agreed that “a diagnostic classification system should be understandable to service users, patient advocates, administrators, and other relevant people as well as to health professionals”, and 28.2% (27.3% weighted) agreed somewhat.

Approximately two-thirds of respondents (66.1% unweighted, 64.8% weighted) said that primary care practitioners should have a modified/simpler classification system of mental disorders, while approximately one-third (33.9% unweighted, 35.2% weighted) felt that primary care practitioners should use the same classification system as specialist mental health professionals.

Strict criteria vs. flexible guidance

Only a minority of participants (30.7% unweighted, 31.1%

weighted) indicated that for maximum utility in clinical settings a diagnostic manual should contain clear and strict (specified) criteria for all disorders. The large majority (69.3% unweighted, 68.9% weighted) said they would prefer diagnostic guidance that is flexible enough to allow for cultural variation and clinical judgment. This is one of the main differences between the approach taken by the ICD-10 Clinical Descriptions and Diagnostic Guidelines (12) and that of the DSM-IV, so it was relevant to compare the responses of ICD-10 users and DSM-IV users to this question. A slightly higher proportion of global DSM-IV users (72.3%) compared to ICD-10 users (68.3%) expressed a preference for flexible guidance rather than strict criteria ($p < 0.05$).

Severity

All participating psychiatrists were asked their view of the best way for a diagnostic system to address the concept of severity. On this issue there was no majority opinion. Because this is an important issue for both the ICD-10 and the DSM-IV revisions (14), results for respondents who most frequently use the ICD-10 as compared to those who most frequently use the DSM-IV are presented in Figure 2. The responses of these two groups were significantly different from one another ($p < 0.01$), with DSM-IV users more likely than ICD-10 users to favor a separate axis allowing an overall assessment of severity that could be used for all diagnoses, and less likely to say that a classification should provide subtypes of relevant diagnostic categories (e.g., mild, moderate or severe depressive episode) based on the number and/or severity of symptoms present.

Functional status

Participants were asked: “What is the best way for a diagnostic system to conceptualize the relationship between diagnosis and functional status (e.g., impairment in self-care or occupational functioning)?”. Again, because of the relevance of this issue for both the ICD-10 and DSM-IV revisions (15), responses to this question for ICD-10 users as compared to

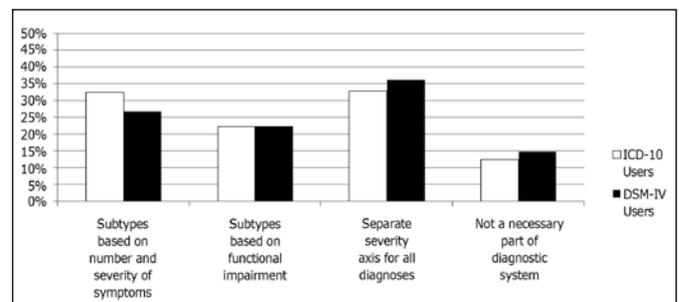


Figure 2 Percentage of global ICD-10 and DSM-IV users endorsing four options for the best way to address severity in mental disorders classification systems

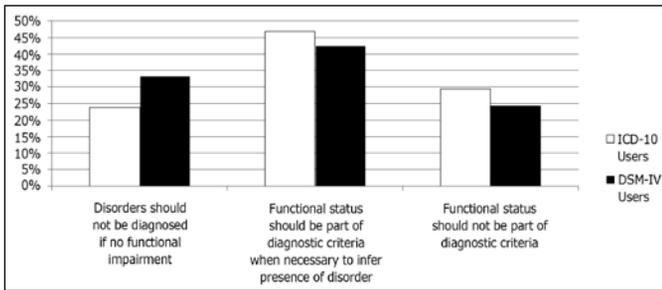


Figure 3 Percentage of global ICD-10 and DSM-IV users endorsing three options for diagnostic classification systems to conceptualize the relationship between diagnosis and functional status

DSM-IV users are shown in Figure 3. Responses of ICD-10 and DSM-IV users were significantly different from one another ($p < 0.0001$). Although the most frequent response for both groups was that “functional status should be a diagnostic criterion for some mental disorders, when it is necessary to infer the presence of a disorder from its functional consequences”, ICD-10 users more frequently endorsed this option. ICD-10 users were also more likely to say that “functional status should not be included in diagnostic criteria” at all, whereas DSM-IV users were more likely to say that “functional impairment should be a diagnostic criterion for most mental disorders; if there is no functional impairment, then a disorder should not be diagnosed”. This result parallels the difference in the way that issues of functional status and clinical significance are currently treated in the two systems.

A dimensional component

Participants were asked to indicate whether they felt that a diagnostic system should incorporate a dimensional component, where some disorders are rated on a scale rather than just as present or absent. Responses for ICD-10 and DSM-IV users are shown in Figure 4. Although responses of these two groups are significantly different ($p < 0.05$), the patterns are the same. The majority of both groups were favorable to the inclusion of a dimensional component, either because it would make the diagnostic system more detailed and personalized or because it would be a more accurate reflection of the underlying psychopathology. Only a minority said that a dimensional system would be too complicated for use in most clinical systems or that there was insufficient evidence regarding the reliability of such an approach.

Depression and adverse life events

Participants were asked to indicate whether they thought that a diagnosis of depression should be assigned when the depressive symptoms are a proportionate response to an adverse life event (e.g., loss of job or home, divorce). Nearly two-thirds (64.1% unweighted, 64.3% weighted) said yes,

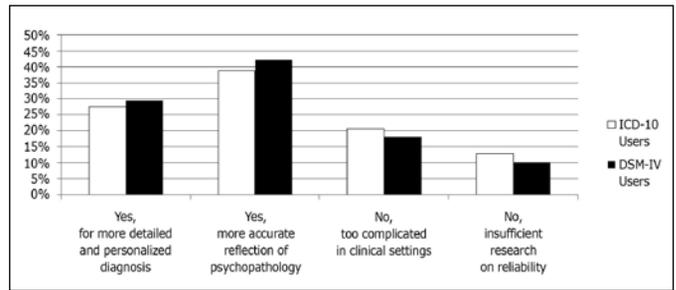


Figure 4 Percentage of global ICD-10 and DSM-IV users endorsing four options for whether a diagnostic classification system should incorporate a dimensional component

that if the full depressive syndrome is present, the diagnosis should be made regardless of whether there are life events that can potentially explain it, with the remaining respondents indicating that a proportionate response to an adverse life event should not be considered a mental disorder.

Cultural applicability and need for a national classification

Participants who see patients were asked to rate their level of agreement with the statement “The diagnostic system I use is difficult to apply across cultures, or when the patient/service user is of a different cultural or ethnic background from my own”. Nearly three-quarters of respondents (74.8% unweighted, 71.3% weighted) said that they at least somewhat agreed with this statement. The proportion of psychiatrists by WHO region who mostly or completely agreed with the statement is shown in Figure 5. For this analysis, the USA (AMRO North) was separated from Latin America (AMRO South), and Australia and New Zealand (WPRO Oceania) were separated from Asia (WPRO Asia). As shown in Figure 5, there was significant regional variation in agreement with this statement, with over 30% of participating psychiatrists in Latin America and Asia, and nearly 30% of those in Southeast Asia indicating that they mostly or completely agreed, in contrast to only 10% of psychiatrists in the USA.

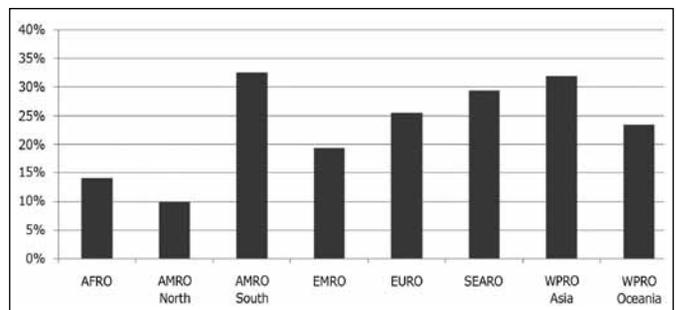


Figure 5 Percentage of psychiatrists by global region indicating they mostly or completely agreed with the statement “The diagnostic system I use is difficult to apply across cultures, or when the patient/service user is of a different cultural or ethnic background from my own”

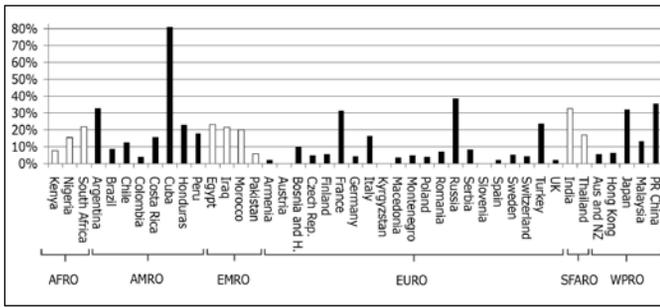


Figure 6 Percentage of psychiatrists, by country and within WHO region, indicating that they saw the need in their countries for a national classification of mental disorders

A related question asked of all participants was whether they saw the need for a national classification of mental disorders (i.e., a country-specific classification that is not just a translation of ICD-10). Participants in the USA were not asked this question. Figure 6 shows the percentage of psychiatrists, by country and within WHO region, indicating that they saw such a need in their countries. For presentations of country-level data, data from the two participating Societies in France were combined, as were data from the two participating Societies in Spain. Data for Hong Kong and the People's Republic of China are presented separately, because of historically different training and practice traditions that may have direct implications for attitudes toward classification. The overwhelming majority of participating Cuban psychiatrists had indicated that the diagnostic system they use most frequently is the Third Cuban Glossary of Psychiatry (16), a Cuban adaptation of the ICD-10 Clinical Descriptions and Diagnostic Guidelines, and these same Cuban participants also endorsed the need for such a national classification, as shown in Figure 6. In addition, more than

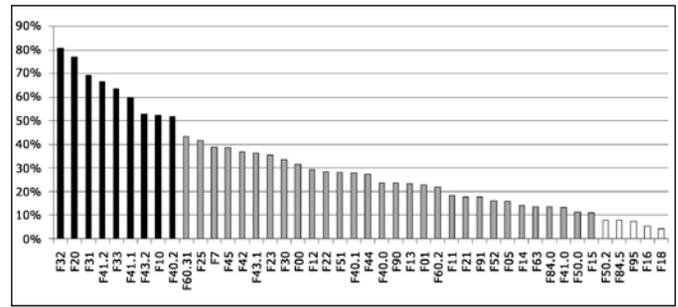


Figure 7 Percentage of participating psychiatrists indicating that they used each of 44 ICD-10 diagnostic categories at least once a week in their day-to-day clinical practice, weighted by country

30% of psychiatrists in the Russian Federation, the People's Republic of China, Argentina, India, Japan and France also indicated they saw a need for a national classification of mental disorders.

Use of ICD-10 diagnostic categories

Participating psychiatrists who indicated they see patients and that the ICD-10 is the diagnostic classification system they use most in day-to-day clinical practice were asked to select from a list of 44 ICD-10 diagnostic categories the ones that they used at least once a week in their day-to-day clinical practice. The list of diagnostic categories presented is shown in Table 2.

Figure 7 shows the weighted frequency with which participating psychiatrists who were presented with this question selected each diagnostic category, ordered by frequency of use from left to right. Nine categories were selected by more than 50% of participating psychiatrists to indicate that

Table 2 List of ICD-10 diagnostic categories from which survey participants were asked to indicate those they used at least once a week

F00	Dementia in Alzheimer's disease	F40.2	Specific (isolated) phobias
F01	Vascular dementia	F41.0	Panic disorder
F05	Delirium, not induced by alcohol and other psychoactive substances	F41.1	Generalized anxiety disorder
F10	Mental and behavioural disorders due to use of alcohol	F41.2	Mixed anxiety and depressive disorder
F11	Mental and behavioural disorders due to use of opioids	F42	Obsessive-compulsive disorder
F12	Mental and behavioural disorders due to use of cannabinoids	F43.1	Post-traumatic stress disorder
F13	Mental and behavioural disorders due to use of sedatives or hypnotics	F43.2	Adjustment disorder
F14	Mental and behavioural disorders due to use of cocaine	F44	Dissociative [conversion] disorders
F15	Mental and behavioural disorders due to use of other stimulants	F45	Somatoform disorders
F16	Mental and behavioural disorders due to use of hallucinogens	F50.0	Anorexia nervosa
F18	Mental and behavioural disorders due to use of volatile solvents	F50.2	Bulimia nervosa
F20	Schizophrenia	F51	Nonorganic sleep disorder
F21	Schizotypal disorder	F52	Sexual dysfunction
F22	Persistent delusional disorder	F60.2	Dissocial personality disorder
F23	Acute and transient psychotic disorder	F60.31	Emotionally unstable personality disorder, borderline type
F25	Schizoaffective disorder	F63	Habit and impulse disorders
F30	Manic episode	F7	Mental retardation (i.e., intellectual disability)
F31	Bipolar affective disorder	F84.0	Childhood autism
F32	Depressive episode	F84.5	Asperger's syndrome
F33	Recurrent depressive disorder	F90	Hyperkinetic disorder
F40.0	Agoraphobia	F91	Conduct disorder
F40.1	Social phobia	F95	Tic disorders

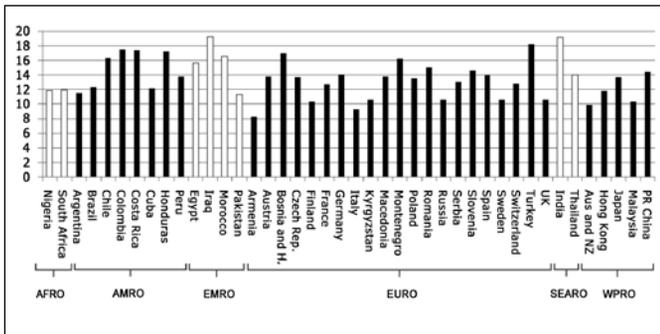


Figure 8 Average number of diagnostic categories used at least once per week, by country and within WHO region

they used them at least once a week: F32 Depressive episode, F20 Schizophrenia, F31 Bipolar affective disorder, F41.2 Mixed anxiety and depressive disorder, F33 Recurrent depressive disorder, F41.1 Generalized anxiety disorder, F43.2 Adjustment disorder, F10 Mental and behavioural disorders due to use of alcohol, and F40.2 Specific (isolated) phobias. Five categories (F18 Mental and behavioural disorders due to use of volatile solvents, F16 Mental and behavioural disorders due to use of hallucinogens, F95 Tic disorders, F84.5 Asperger's syndrome, and F50.2 Bulimia nervosa) were selected by less than 10% of participating psychiatrists. The average number of categories selected per participant, for each country and within WHO region, is shown in Figure 8.

Ease of use and goodness of fit of ICD-10 diagnostic categories

For each ICD-10 category that a participant had indicated that he or she uses at least once a week, he or she was asked to make two ratings related to the use of that category in clinical practice: a) ease of use; and b) goodness of fit or accuracy of the ICD-10 definition, clinical description and diagnostic guidelines in describing patients he or she sees in clinical practice. Ratings were made on a 4-point scale from 0 ("not at all easy to use in clinical practice" or "not at all accurate") to 3 ("extremely easy to use" or "extremely accurate").

Ratings for ease of use and goodness of fit were strongly, though not perfectly, correlated (overall $r = .72$, per item range = .65-89). In order to facilitate comparisons, the discrete variables for category ratings were transformed into continuous variables ranging from 0 to 1. Figures 9 and 10 show the mean transformed numerical rating for each category based on participants' categorical evaluations of their ease of use and goodness of fit, weighted by country, presented in the same order of frequency of use (from left to right) as in Figure 7. A transformed rating of .66 corresponds to a participant rating of 2 ("Quite easy to use" or "Quite accurate") on ease of use and goodness of fit, and a transformed rating of .33 corresponds to a participant rating of 1

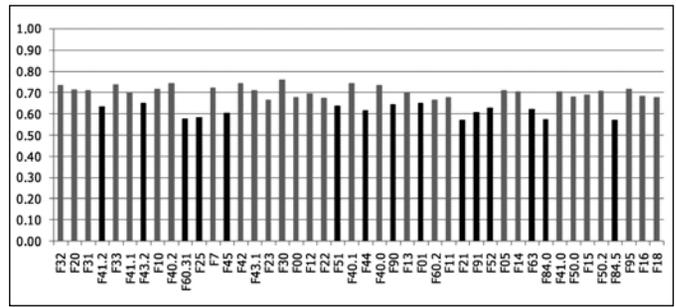


Figure 9 Mean transformed "ease of use" ratings for ICD-10 categories, weighted by country, presented in order of frequency of use from left to right

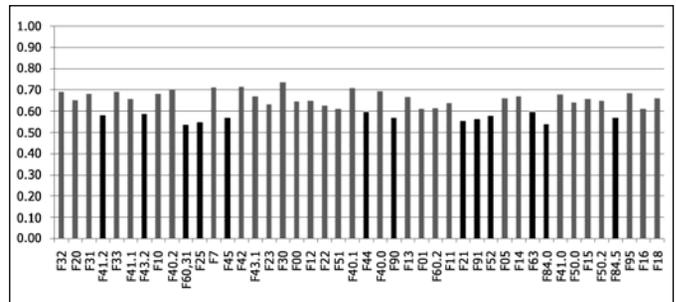


Figure 10 Mean transformed "goodness of fit" ratings for ICD-10 categories, weighted by country, presented in order of frequency of use from left to right

("Somewhat easy to use" or "Somewhat accurate"). Overall weighted mean ratings for ease of use and goodness of fit were fairly high (.68 for ease of use and .64 for goodness of fit). However, there was substantial variation across categories. Those categories with the lowest ratings of ease of use or goodness of fit – operationalized as those categories for which average ratings of ease of use or goodness of fit were more than 0.5 standard deviations below the overall mean across categories – are shown in Table 3.

Table 3 ICD-10 diagnostic categories rated by participating psychiatrists as having low ease of use or goodness of fit in day-to-day clinical practice relative to other categories

F01	Vascular dementia
F21	Schizotypal disorder
F25	Schizoaffective disorder
F41.2	Mixed anxiety and depressive disorder
F43.2	Adjustment disorder
F44	Dissociative [conversion] disorders
F45	Somatiform disorders
F51	Nonorganic sleep disorder
F52	Sexual dysfunction
F60.31	Emotionally unstable personality disorder, borderline type
F63	Habit and impulse disorders
F84.0	Childhood autism
F84.5	Asperger's syndrome
F90	Hyperkinetic disorder
F91	Conduct disorder

DISCUSSION

The WPA-WHO Global Survey is the largest and most broadly international survey ever conducted of psychiatrists' attitudes toward mental disorders classification. Based on the proportion of time spent by participating psychiatrists in seeing patients, the survey was successful in reaching practicing psychiatrists, rather than confining input to the WPA Member Society leadership or to putative classification experts. This study demonstrates that the current ubiquity of electronic communications makes it feasible to implement projects of this nature via the Internet in all but a few parts of the world, suggesting that this mechanism can be used to facilitate a far more distributed and participatory process for the current ICD revision than was possible with previous versions.

The fact that average response rates were actually higher for low- and middle-income countries than for high-income countries parallels the comments of individual members from those countries that they were pleased to be asked for their opinion and enthusiastic about participating. The particular effort made in this collaborative study to implement the survey in 19 languages obviously contributed to making participation as accessible as possible. Even within the European region, there was strong participation from relatively lower-resource countries that are not as commonly involved in Anglophone international projects as their higher-resource neighbors.

The results of the survey demonstrate that formal classification systems of mental disorders are an integrated part of psychiatric practice worldwide. The study was not set up to compare and contrast the ICD and the DSM, given that it was framed as an effort to assist the WHO with the revision of the ICD-10 and would therefore likely have been of more interest to ICD-10 users. However, this global survey of nearly five thousand psychiatrists provides convincing evidence that the ICD-10 is widely used throughout the world, in contrast to older surveys of small and highly selected samples (10).

Through this survey, global psychiatrists provided strong endorsement of a focus on clinical utility during the current ICD-10 revision process. The findings of this survey are consistent with and extend those of Mellsop et al (5,6) and Suzuki et al (7), particularly in terms of the main purpose of classification, the desired number of categories, and the need for a simpler and more clinically useful system. Psychiatrists responding to the current survey indicated that facilitating communication among clinicians and informing treatment and management were the most important purposes of the classification, with research and statistical applications a far lower priority. They indicated that they would prefer a dramatically simplified classification, with 87.5% (86.4% weighted) saying that a classification system of 100 categories or fewer would be most useful.

Results of the survey appear to reflect the multidisciplinary orientation and complex organizational realities of current psychiatric practice. A huge majority of global psy-

chiatrists saw the need for the diagnostic system to be useful for non-psychiatrist mental health professionals, and nearly as many agreed that the system should be understandable to relevant non-professionals. Most also favored the development of a simplified diagnostic system of mental disorders for use in primary care.

Over two-thirds of global psychiatrists indicated that they prefer a system of flexible guidance that would allow for cultural variation and clinical judgment as opposed to a system of strict criteria, and this was true of global users of both the ICD-10 and the DSM-IV. Opinions were divided about how best to incorporate concepts of severity and functional status, suggesting that these areas would be an important focus of further testing, while most respondents were receptive to a system that incorporated a dimensional component in the description of mental disorders. In spite of the recent controversies about the medicalization of normal suffering (17), most global psychiatrists felt that a diagnosis of depression should be assigned even in the presence of potentially explanatory life events.

Although the large majority of psychiatrists worldwide appeared to endorse the possibility of a global, cross-culturally applicable classification system of mental disorders, results of this survey point to several areas of caution. A significant minority of psychiatrists in Latin America and Asia reported problems with the cross-cultural applicability of existing classifications. Substantial proportions of participating psychiatrists in several countries – e.g., Cuba, Russian Federation, People's Republic of China, Argentina, India, Japan, France – said they see the need for a national classification of mental disorders for use in their countries. This pattern of responses is consistent with previous surveys, reporting variable views across countries of the cross-cultural utility of current classification systems (5). It will be important for the ICD revision process to attend carefully to these perspectives in order to develop a system that is accepted on a global level.

Results of the survey on the use of specific diagnostic categories are interesting in several respects. The list of most commonly used diagnoses overlaps partially, but not entirely, with the most commonly used diagnostic categories found in an international study primarily focused on hospital-based care in 10 countries (18), likely reflecting the use of a somewhat different set of categories in outpatient practice. It is noteworthy that some categories that have generated controversy during the current revision discussions, including F41.2 Mixed anxiety and depressive disorder and F43.2 Adjustment disorder, were very commonly used by psychiatrists worldwide. The extremely widespread use of both F32 Depressive episode and F33 Recurrent depressive disorder is also of interest, as this is one area of difference between the ICD-10 and the DSM-IV. Psychiatrists reported using a relatively small number of categories at least once a week (see Figure 8), ranging from an average of fewer than 10 categories in Armenia and Italy to an average of just under 20 categories in India and Iraq. This appears to be con-

sistent with a general narrowing or constriction of psychiatric practice (19). Future analyses will explore differences in the use of specific diagnostic categories by region and by country.

The information on ease of use and goodness of fit is obviously of direct relevance to the ICD revision, as it points directly to categories where there are perceived to be problems in the definition and diagnostic guidance provided. From a public health perspective, this has particularly important implications for very commonly used categories. It is important to underscore that all ease of use and goodness of fit ratings were made by psychiatrists who reported using the ICD-10 in their daily clinical practice and who indicated that they use that particular category at least once a week. This method was chosen specifically so that ease of use and goodness of fit ratings for each category would be made by those psychiatrists who were most familiar with using them.

Overall, average ease of use and goodness of fit ratings were reasonably high, indicating that psychiatrists who used these categories regularly generally found them easy to use and relatively accurate in describing the patients they saw in clinical practice. These results are consistent with findings from field trials of the ICD-10 Clinical Descriptions and Diagnostic Guidelines (11), which used a similar rating scale for goodness of fit, and those of a recent study of psychiatrists in German-speaking countries (9). However, the results also point to problems with a number of specific categories (see Figures 9 and 10, and Table 3), which should be a focus of attention as a part of the ICD revision process.

The current survey provides both a baseline and a set of specific targets for improvement related to the definition and description of specific mental disorder categories, as well as more general guidance on a series of important issues. The results of this survey will be extremely useful to the WHO in improving the clinical utility of the classification and its global acceptability as a part of the current ICD-10 revision. This study also provides an important example of an extremely rich and successful collaboration among the WHO, the WPA, and WPA Member Societies, and we plan to build on this experience during the next stages of developing the ICD-11.

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References

1. World Health Organization. International classification of diseases and related health problems, 10th revision. Geneva: World Health Organization, 1992.
2. International Advisory Group for the Revision of ICD-10 Mental and Behavioural Disorders. A conceptual framework for the revision of the ICD-10 classification of mental and behavioural disorders. *World Psychiatry* 2011;10:86-92.
3. Reed GM. Towards ICD-11: improving the clinical utility of WHO's international classification of mental disorders. *Prof Psychol Res Pr* 2010;41:457-64.
4. Mezzich JE. International surveys on the use of ICD-10 and related diagnostic systems. *Psychopathology* 2002;35:72-5.
5. Mellsop G, Banzato C, Shinfuku N et al. An international study of the views of psychiatrists on present and preferred characteristics of classifications of psychiatric disorders. *Int J Ment Health* 2008; 36:18-26.
6. Mellsop G, Dutu G, Robinson G. New Zealand psychiatrists views on global features of ICD-10 and DSM-IV. *Aust NZ J Psychiatry* 2007;41:157-65.
7. Suzuki Y, Takahashi T, Nagamine M et al. Comparison of psychiatrists' view on classification of mental disorders in four East Asian countries/area. *Asian J Psychiatry* 2010;3:20-5.
8. American Psychiatric Association. Diagnostic and statistical manual of mental disorders, 4th ed., text revision. Washington: American Psychiatric Association, 2000.
9. Zielasek J, Freyberger HJ, Jänner M et al. Assessing the opinions and experiences of German-speaking psychiatrists regarding necessary changes for the 11th revision of the mental disorders chapter of the International Classification of Disorders (ICD-11). *Eur Psychiatry* 2010;25:437-42.
10. Maser JD, Kaelber C, Weise R. International use and attitudes toward DSM-III and DSM-III-R: growing consensus in psychiatric classification. *J Abnorm Psychol* 1991;100:271-9.
11. Sartorius N, Kaelber CT, Cooper JE et al. Progress toward achieving a common language in psychiatry: results from the field trial of the clinical guidelines accompanying the WHO classification of mental and behavioural disorders in ICD-10. *Arch Gen Psychiatry* 1993; 50:115-24.

12. World Health Organization. The ICD-10 classification of mental and behavioural disorders: clinical descriptions and diagnostic guidelines. Geneva: World Health Organization, 1992.
13. World Bank. Country and lending groups. data.worldbank.org.
14. Regier DA, Narrow WE, Kuhl EA et al. The conceptual development of DSM-V. *Am J Psychiatry* 2009;166:645-50.
15. Narrow WE, Kuhl EA, Regier DA. DSM-V perspectives on disentangling disability from clinical significance. *World Psychiatry* 2009;8:88-9.
16. Otero-Ojeda A. Third Cuban Glossary of Psychiatry (GC-3): key features and contributions. *Psychopathology* 2002;35:181-4.
17. Horwitz AV, Wakefield JC. The loss of sadness: how psychiatry transformed normal sorrow into depressive disorder. Oxford: Oxford University Press, 2007.
18. Müssigbrodt H, Michels R, Malchow CP et al. Use of the ICD-10 classification in psychiatry: an international survey. *Psychopathology* 2000;33:94-9.
19. Maj M. Mistakes to avoid in the implementation of community mental health care. *World Psychiatry* 2010;9:65-6.

Randomized controlled trial of supported employment in England: 2 year follow-up of the Supported Work and Needs (SWAN) study

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Studies from North America have concluded that supported employment using the Individual Placement and Support (IPS) model is effective in helping individuals with severe and persistent mental illness gain competitive employment. The aim of this study was to investigate the effectiveness and cost-effectiveness of IPS in England in patients followed up for 2 years. Patients with severe mental illness were randomised to IPS or local vocational services (treatment as usual). Service use and costs were measured. Two hundred-nineteen participants were randomised, and 86% re-assessed 2 years later. In the multivariate analysis, relatively low rates of competitive employment were found in both the intervention group and the treatment as usual group, although significantly more patients obtained competitive employment in the treatment arm (22% vs. 11%, $p=0.041$). There were no significant differences in costs. The employment rate among participants receiving IPS was lower than in previously published reports, and the number needed to treat to obtain the benefit of IPS was relatively high. This may reflect difficulties in the implementation of IPS where it is not structurally integrated within mental health teams, as well as economic disincentives which lead to lower levels of motivation for patients and mental health professionals.

Key words: Supported employment, severe mental illness, effectiveness, cost-effectiveness, vocational rehabilitation

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The Individual Placement and Support (IPS) model of supported employment was developed in the 1990s and is focussed on vocational rehabilitation as part of mental health treatment rather than a separate entity (1).

IPS aims for rapid job placement into competitive employment (i.e., in the open labour market) followed by support and necessary training obtained while in the job. IPS services are integrated within community mental health services and based on clients preferences (1).

Randomized controlled trials (RCTs) in the United States have found this model of vocational rehabilitation to be more effective in gaining employment for people with severe mental illness when compared with traditional vocational rehabilitation models (2-9). This has also been replicated outside North America (10,11). However, until the SWAN (Supported Work and Needs) trial (12), an RCT of supported employment in South London, there had been no large trials of supported employment in the UK.

The SWAN study reported that at one year follow-up the rate of employment was low for both the intervention group (13%) and the control group (7%), with no significant difference between the groups (12). Our primary hypothesis was that at 2 years follow-up a significantly greater percentage of individuals who received IPS would be in competitive employment compared with those receiving usual services. We report here on the 2 year follow-up findings.

METHODS

The SWAN (Supported Work and Needs) study is a pragmatic RCT of the IPS model of employment. Participants

were recruited from community mental health teams in two boroughs of South London. Inclusion criteria were that participants should be receiving outpatient or community psychiatric care from local mental health services, have severe mental illness (duration of illness over 2 years, Global Assessment of Functioning score of 60 or less, and a diagnosis of a psychotic or chronic affective disorder), be aged 18-65, be able to read and speak English to a high enough standard to give informed written consent, and have been unemployed for at least 3 months. After researchers had given a full description of the study to the potential participants, written informed consent was obtained. Ethical approval was obtained from the Joint Institute of Psychiatry/South London and Maudsley Research Ethics Committee.

Participants were randomly allocated to the intervention or the control group. Treatment allocation was stratified by gender and age (10 year bands). Randomization with minimization was used, performed by the Institute of Psychiatry Mental Health and Neuroscience Clinical Trials Unit, a unit independent of the study to maintain concealment. The intervention condition was an IPS programme integrated within community mental health teams, provided by a well-established not-for-profit non-governmental supported employment agency. The intervention involved linking the four employment specialists (two for each local borough) with community mental health teams, focussing on rapid placement with continued follow-up support. The employment specialists also sought to find employment opportunities that were consistent with participants' preferences, skills and abilities. The control condition (treatment as usual, TAU) consisted of existing psychosocial rehabilitation and day care programmes available in the local area (12).

Participants were assessed at baseline by the recruiting researcher and at 12 months and 24 months after randomization by a different researcher who was blind to allocation status. Each participant was given £20 for their time at the baseline and follow-up interviews. Participants were not reimbursed for any contacts they had with the employment consultants.

At baseline, participants were assessed using the Structured Clinical Assessment in Neuropsychiatry (SCAN, 13) to determine their diagnosis. Participants with a SCAN diagnosis of schizophrenia, schizoaffective disorder, delusional disorder or other psychotic disorders were categorized as having a psychotic disorder. Participants with a SCAN diagnosis of bipolar disorder, mania or depression were categorised as having a mood disorder.

At the baseline, 1-year and 2-year interviews, data was collected on demographic information, service use and employment status over the previous 12 months. Measures of psychosocial functioning were: the Manchester Short Assessment (MANSA) version 2 (14), a brief modified version of the Lancashire Quality of Life Profile, scored from 1-7 with low scores representing a lower quality of life; the Camberwell Assessment of Need (CAN) short version (15), an interview measure for assessing the unmet needs of people with severe mental illness in 22 health and social domains; the Rosenberg Self-Esteem Scale (RSE, 16), which is scored from 1-4 with low scores representing lower self esteem; the Brief Psychiatric Rating Scale (BPRS, 17), a researcher rated measure of psychopathology with possible scores ranging from 24 to 168, low scores representing fewer symptoms; the Global Assessment of Functioning (GAF, 18), a researcher rated measure of functioning with a range of 0 to 100, low scores representing lower levels of functioning; and the Client Service Receipt Inventory (CSSRI, 19), a measure of health and social resource use during the previous 12 months from patient report.

Open competitive employment was defined as a job paying at least the minimum wage, located in a mainstream socially integrated setting not set aside for persons with disabilities, held independently (i.e., not agency owned), with the participant in continuous employment for at least 30 days (with part-time employment rated pro-rata).

We calculated that a sample size of 75 in each group (150 in total) would be sufficient to detect a difference in employment from 10% in the TAU group compared to 30% in the experimental group, assuming a significance level $p=0.05$ (double sided) at 80% power. Allowing for a 30% attrition rate, our target recruitment was 108 (216 in total) in each group. The base rate of 10% and the likely refusal and attrition rates were based on the study in Baltimore (7) and are typical of many populations of people with schizophrenia in England.

Due to the nature of the study, it was not possible for participants or those administering the intervention to be blind to the participants' allocation status. However, the researcher who conducted the 1 and 2 year follow-up interviews was blind to allocation status. When conducting the follow-up assessment, the researcher was not told the participant's al-

location status and asked the participant not to disclose the allocation if possible. A test of blindness was carried out by comparing the researcher's best guess allocation with the actual allocation.

The IPS fidelity scale (20) was completed by a lead occupational therapist independent from the study. During the course of the study, employment workers were required to record any events that occurred in relation to the client. These events included direct client contact and any non-client contacts that were regarding the client, e.g., contact with the client's community psychiatric nurse. Employment workers were required to record the amount of time spent per contact, where and when the contact took place and the nature of the contact.

All data were analysed using SPSS for Windows (version 15.0). The primary and secondary hypotheses were tested on the whole group. We used t and χ^2 tests to compare means and proportions respectively, unless the data were highly skewed, in which case non-parametric tests were used. Logistic and linear regression models were also fitted including potential confounding variables or variables associated with missing status: (grouped) age, gender, ethnic group, educational level, symptomatology, functioning and diagnosis. All data were analysed in groups as randomized, whether or not receiving an intervention (i.e., intention to treat). Data were compared for those followed up with those not followed up, overall and by each treatment arm.

Service use data measured with the CSSRI were combined with appropriate unit cost information (21). Medication for psychosis, mania, depression, anxiety were costed, along with medication to treat side effects of these medications, using prices from the March 2006 British National Formulary (22). If any client reported using a medication but did not know the dose, the lowest recommended dose was used to cost the drug. Cost data are typically skewed and therefore bootstrap methods were used to produce a confidence interval around the mean cost difference between the groups. Cost data were combined with the main outcome (proportion of participants in employment during the two year follow-up period). If costs were lower for IPS and outcomes better then it would be "dominant". Higher costs and better outcomes would require the use of an incremental cost-effectiveness ratio to show the extra costs incurred to achieve a one percentage point difference in participants employed. A cost-effectiveness acceptability curve was produced to show the probability that IPS was more cost-effective than standard care for a range of values placed on a unit improvement in outcome. The range used here was £0-1000 in £100 increments. There were no data to guide the choice of this range, but it was assumed that gains in employment would be valued in terms of £100s.

RESULTS

Participants were recruited between November 2004 and September 2006. Of the 375 people referred to the study, 220

entered into the study (31 did not meet inclusion criteria; 108 refused to participate; 17 were excluded for other reasons). One participant withdrew between the baseline assessments and randomization, leaving 219 participants (Figure 1). There were no substantial differences between the two randomized arms on any baseline variables (see Table 1).

Thirty participants were lost to follow-up at 2 years, with similar proportions in both intervention and control groups. There were no significant baseline differences in socio-demographic or clinical variables between those who were and those who were not lost to follow-up; however, the proportion having worked in the last 5 years was somewhat higher among those lost to follow-up, albeit not significantly (66% vs. 52%, $\chi^2_1=1.738$, $p=0.19$).

IPS fidelity was found to be high; the employment consultants in the 2 boroughs maintained a good IPS rating of 69 and 67 respectively. For participants who had contact with an employment consultant (93 participants, 85%), the mean number of contacts with or on behalf of the clients was 15.41 (SD 17.46, median 9, range 1-77). Sixteen (15%) patients made no contact with the employment consultant despite being offered appointments to do so. One participant in the control arm had contact with the intervention.

The researchers who conducted the follow-up interviews guessed the allocation status correctly in 220 out of the 386 (57%) interviews at 1 year and 2 year follow-up, compared to a hypothesized 50% with random guesses ($p=0.006$; single sample, double sided test of a proportion).

Thirty-two (17%) participants out of 190 who were followed up reported having worked, between baseline and the 2 year follow-up, in jobs that met the competitive employment criteria. Of those followed up, 11 out of 95 (11%) were from the control group and 21 out of 95 (22%) were from the intervention group (risk ratio 1.91; 95% CI 0.98 to 3.74; $\chi^2_1=3.758$, $p=0.053$). This is equivalent to a number needed to treat (NNT) of 9. The 30 participants who were not available for follow-up were counted as missing for this analysis.

A logistic regression analysis was conducted controlling for all socio-demographic factors and clinical measures at baseline. This revealed that whether the participant had a job in the last 5 years before baseline also predicted outcome ($p=0.001$), and that the effect of the intervention was statistically significant ($p=0.041$). Sensitivity analyses found that when assuming all participants who were not followed up had not worked, the results were also significantly in favour of the intervention ($\chi^2_1=3.768$, $p=0.052$), though this was not

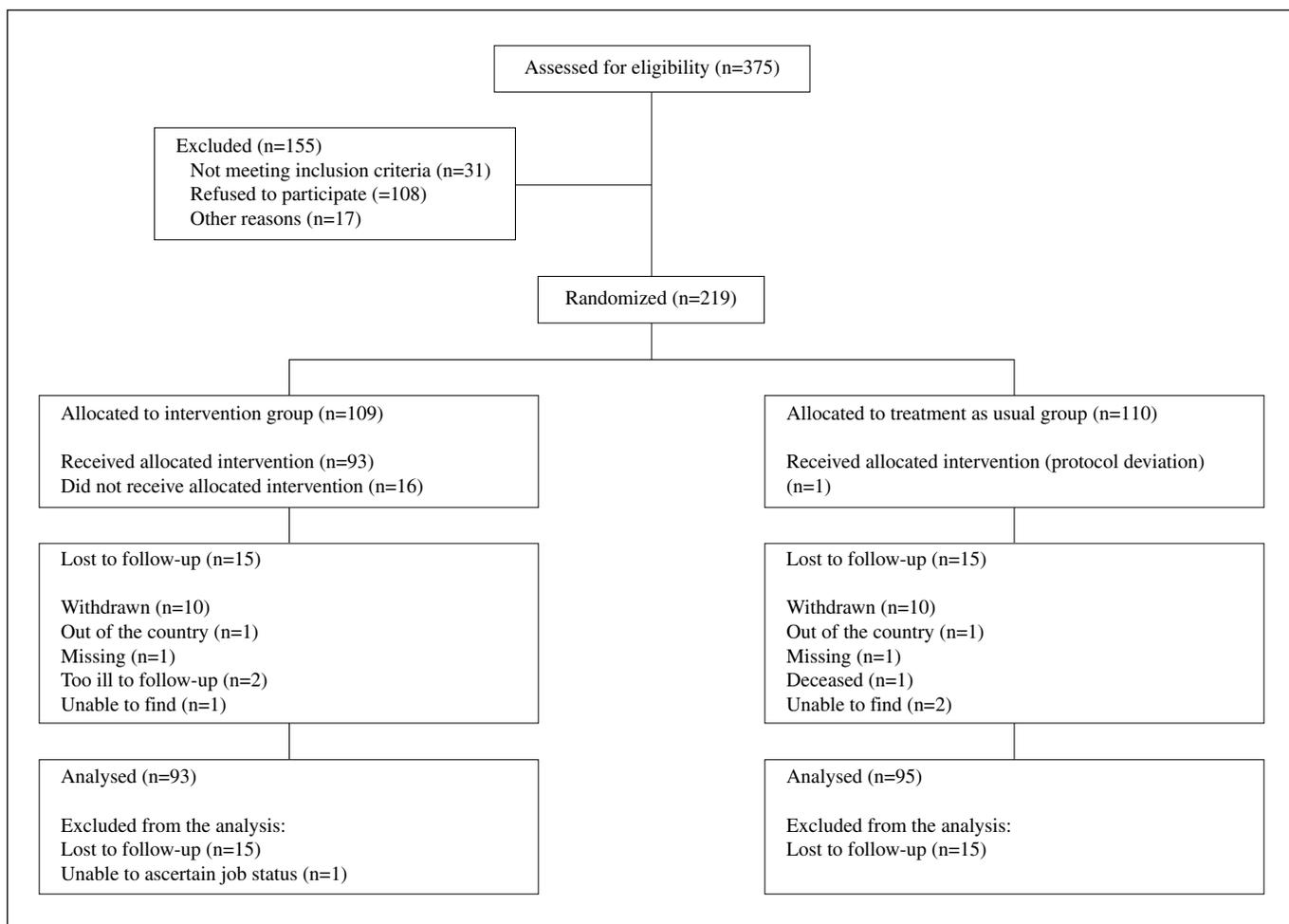


Figure 1 CONSORT flow diagram

Table 1 Baseline socio-demographic and clinical variables of participants by randomization group

	Control	Intervention
Males (%)	66	69
Borough A (%)	43	35
Borough B (%)	57	65
Worked in the last 5 years (%)	56	51
Living alone (%)	53	55
Ethnicity (%)		
White	41	34
Black	41	45
Other	17	20
Diagnosis (%)		
Psychotic disorder	69	76
Mood disorder	31	24
Age (mean ± SD)	38.3±9.3	38.4±9.5
Rosenberg Self Esteem Scale score (mean ± SD)	2.3±0.5	2.2±0.6
Global Assessment of Functioning score (mean ± SD)	47.7±6.3	48.3±7.0
Overall Manchester Short Assessment score (mean ± SD)	3.9±0.7	4.0±0.7
Brief Psychiatric Rating Scale score (median, interquartile range)	33 (28-41)	33 (28-42)
Camberwell Assessment of Need unmet needs (median, interquartile range)	2 (0-3)	1 (0-3)

the case when assuming all participants who were not followed up had worked ($\chi^2_1=1.956$, $p=0.162$). Sensitivity analyses also found that the p values for arm when controlling for potential confounders in the analysis adjusted using logistic regression were $p=0.044$, assuming all participants who were followed up had not worked, and $p=0.074$, assuming all participants who were followed up had worked.

Overall, the whole group was followed up for a mean of 703 days (SD 95.5). For the intervention arm this was 708 days (SD 87.1) and for the control 698 days (SD 103.1) ($t_{202}=0.723$, $p=0.470$). A Kaplan-Meier survival analysis found that the estimated mean time to getting a job was 680 days (95% CI 648-712) for the control group and 630 days (95% CI 588-671) for the intervention group. The time to obtaining a job was thus slightly lower by an average of about 6 weeks for the intervention arm ($X^2_1=3.753$, $p=0.053$). In a Cox regression adjusting for any significant potential confounders (having a job in the last 5 years, CAN score and GAF score), arm was significant in estimating length of time until finding a job ($p=0.043$).

Of the 32 people who had a job during the 2 year follow-up period, 25 participants had one job, 6 participants had two different jobs and one participant had three different jobs. There was a trend for a higher median number of hours worked per week for the control group compared to the intervention group (36 vs. 15 hours; Wilcoxon $Z = -1.765$, $p=0.078$). However, there was no evidence for a difference in duration of jobs

between the 11 people who obtained jobs in the control group and the 21 people in the intervention group (median 13 vs. 22 weeks; $Z=-0.955$, $p=0.353$). There was a significant difference in the salary per hour between the two groups, with the control group tending to earn higher salaries than the intervention group (median £8.81 vs. 6.00 per hour; $Z=-2.146$, $p=0.031$).

The majority of jobs gained in the 2 year follow-up period were elementary occupations or sales and customer service occupations (14/40, 35% and 11/40, 27.5% respectively). There were 6/40 (15%) administrative and secretarial occupations, 2/40 (5%) process, plant and machinery operatives, 2/40 (5%) skilled trade occupations and 2/40 (5%) professional occupations. There was also one manager/senior official and one associated professional/technical occupation (both in the control arm) and one personal service occupation (combined as 7.5%). These jobs were classified using the Standard Occupational Classification (23).

There was no significant difference in employment outcome by borough: within borough A, 9 (12.5%) of participants obtained competitive employment whereas within borough B, 23 (19.5%) of participants obtained competitive employment ($X^2_1=1.561$, $p=0.212$).

There were no differences between the intervention and the control groups at follow-up on any of the clinical measures (see Table 2).

At the end of the 2 year follow-up period, there were adverse events for four participants. Two participants were reported as missing by family and care coordinators (one from the intervention group and one from the control group). One participant was deceased as a result of a suspected medication overdose (control group). One participant was charged with murder (intervention group). None of these events were related to the study or the intervention.

There was a high level of use of general practitioners, psychiatrists and community mental health nurses in both arms. Inpatient costs were higher than for other services. The only service for which there was a noticeable cost difference between the groups at 2 year follow-up was day care and education, where costs were higher for the control group. The average intervention costs were slightly below £300. There were no significant differences between the intervention and control arm on overall costs, service costs or medication costs over the 2 year period (see Table 3). Regression analysis showed a cost difference of £2361 in favour of the intervention, but this was not statistically significant (-£6105 to £1308).

Based on the point estimates of costs and outcomes, IPS was seen as dominant. The cost-effectiveness acceptability curve showed that, even if a value of £0 is placed on one more person gaining employment, there is still a 90% likelihood that IPS is the most cost-effective option.

DISCUSSION

In this study we found that IPS was significantly more effective in helping patients with severe mental illness to obtain

competitive employment compared with traditional vocational services at 2 year follow-up, but that a low proportion of patients in both groups obtained employment, with even the intervention group having lower rates than reported in control groups in previous RCTs. Similarly, time to achieve employment was shorter in patients in the intervention arm (by six weeks), but this was with a long delay of more than one and a half years from randomization.

Of the seven previous RCTs that reported time to first job (2,4-9,11), all found that the typical time to first job was longer for the control than the intervention group, but time to first job in the intervention group varied from 72 to 197 days, whereas in the control group this was 118-293 days. In addition, the number needed to treat (NNT=9) reflects the fact that, while the proportion gaining a job in the intervention arm is double the proportion in the control arm, the absolute levels, and hence absolute difference, are relatively modest.

Therefore, at both 1 year (12) and 2 year follow-up, IPS was less effective than previously reported. The IPS arm had

lower costs than the control arm, but this difference was not statistically significant. While the point estimates of costs and outcomes suggest that IPS may be cost-effective, this needs to be viewed alongside the fact that the difference in outcomes was not substantial.

These findings may be due to differences in the England labour market compared to that in North America, namely a lack of employer incentives in employing patients with mental illness and differences in the benefits system. There was also a relatively high proportion of participants from non-white ethnic groups in this study. This could limit the success of IPS in England, as people who are not white are more likely to be unemployed in England (24).

In some of the RCTs in the USA, participants had to attend two initial meetings to screen out those who were less motivated, whereas in our study there was no such screening, reflecting current UK practice. The study may therefore have demonstrated greater effectiveness of IPS if participants were screened for motivation before being permitted into the

Table 2 Clinical outcome for participants by randomization status

	Control	Intervention	t, Z	p
Camberwell Assessment of Needs unmet needs (median, interquartile range) (n=183)	2 (0-4.7)	1 (0-3.25)	Z= -1.574	0.12
Brief Psychiatric Rating Scale score (median, interquartile range) (n=185)	33.5 (28-44.5)	35 (29-43)	Z= -0.225	0.82
Rosenberg Self Esteem Scale score (mean ± SD) (n=183)	22.9±6.1	22.3±5.3	t ₁₈₁ = 0.731	0.47
Overall Manchester Short Assessment score (mean ± SD) (n=178)	3.9±1.1	4.1±0.9	t ₁₇₆ =-1.445	0.15
Global Assessment of Functioning score (mean ± SD) (n=189)	56.8±18.7	56.1±16.4	t ₁₈₇ = 0.300	0.77

Table 3 Service use and costs over the entire 2 year follow-up period

	Control			Intervention		
	Using service (%)	Contacts (mean±SD)	Cost (mean±SD)	Using service (%)	Contacts (mean±SD)	Cost (mean±SD)
Psychiatric inpatient	23	19.9±59.8	4173±12340	20	17.4±55.8	3168±10754
Psychiatrist	66	2.0±3.7	1886±3121	56	1.5±2.2	1335±1896
Other doctor	30	0.8±2.8	239±770	37	0.9±1.7	227±538
Day care/education	30	11.5±26.1	2102±5878	17	4.6±12.5	562±1515
Psychologist	8	0.4±1.8	131±623	13	0.9±3.8	370±1675
Social care	16	1.2±4.4	209±726	12	0.6±2.4	111±404
General inpatient	13	2.1±10.2	469±2408	13	1.1±5.4	253±1268
General practitioner	77	2.3±2.4	411±524	70	2.7±4.3	430±569
District nurse	8	0.3±1.1	9±45	7	0.3±1.1	11±45
Community mental health nurse	81	7.5±7.3	839±1271	85	7.4±8.6	761±947
Occupational therapist	1	0.0±0.4	3±27	2	0.1±0.9	17±113
Other service	6	0.2±0.8	16±77	11	1.4±7.1	240±1307
Medication	97		1767±1830	98		1841±1807
Total costs			11932±13694			9571±11217

Inpatient data were collected for the entire 24 month period. Other service use data were collected for the 3 month period prior to 12- and 24-month follow-up interview. Service contacts for inpatient care are the number of days. Costs are over a 24 month period and are in 2006/7 £s (non-inpatient data was multiplied by 4 to get yearly figures for the 1 and 2 year follow-up)

study, or had received some form of motivational interviewing prior to entering the IPS programme. Also of note, this study was conducted in deprived areas of London, with a higher rate of unemployment compared to the national average, where it may be difficult to achieve even moderate rates of competitive employment.

Finally, the IPS program was provided by an external support employment agency. Such well-established but financially insecure non-governmental agencies may not be as IPS focused as new employment agencies set up as IPS programs (as in previous RCTs). Despite the high IPS fidelity rating, the separation of the supported employment agency from mental health services may also have led to differences in the intervention received by patients in this study compared with that delivered in more fully integrated models of care.

There is some evidence that our study population was more disabled than that recruited in other studies. This group may need longer periods of support and this suggests that time-limited IPS may not be as helpful for this particularly ill group.

This study is the largest RCT of IPS in a non-US setting, with a high level of follow-up and a diverse group of participants. With regard to the likely effect of drop-out, sensitivity analyses only cast doubt on the findings in the extreme scenario that all dropouts found work (which is unlikely). For the finding on proportions worked, adjustment for the only variable possibly related to loss to follow-up (having worked in the last 5 years) made little difference to the conclusions. While there was evidence of unblinding in a small proportion of cases, the primary outcome was an objective measure of finding a job, so this should have little impact on our results.

A key strength of this study is that it was conducted in a "real world" setting in a socially deprived inner-city catchment area where most patients with a severe mental illness do not obtain employment. The findings from this study are also important in highlighting the difficulties that are faced when implementing the IPS model in a non-US setting with the most severely mentally ill patients.

We conclude that, although IPS has produced beneficial results, these are rather more modest in this study than in previous research, and additional interventions may need to be provided to promote social inclusion for the majority of people with severe mental illness.

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References

1. Becker DR, Drake RE, Knedler W et al. Individual placement and support: a community mental health center approach to vocational rehabilitation. *Commun Ment Health J* 1994;30:193-212.
2. Bond GR, Salyers MP, Dincin J et al. A randomized controlled trial comparing two vocational models for persons with severe mental illness. *J Consult Clin Psychol* 2007;75:968-82.
3. Drake RE, McHugo GJ, Becker DR et al. The New Hampshire study of supported employment for people with severe mental illness. *J Consult Clin Psychol* 1996;64:391-9.
4. Drake RE, McHugo GJ, Bebout RR et al. A randomized clinical trial of supported employment for inner-city patients with severe mental disorders. *Arch Gen Psychiatry* 1999;56:627-33.
5. Gold PB, Meisler N, Santos AB et al. Randomized trial of supported employment integrated with assertive community treatment for rural adults with severe mental illness. *Schizophr Bull* 2006;32:378-95.
6. Latimer EA, Lecomte T, Becker DR et al. Generalisability of the individual placement and support model of supported employment: results of a Canadian randomised controlled trial. *Br J Psychiatry* 2006;189:65-73.
7. Lehman AF, Goldberg R, Dixon LB et al. Improving employment outcomes for persons with severe mental illnesses. *Arch Gen Psychiatry* 2002;59:165-72.
8. Mueser KT, Clark RE, Haines M et al. The Hartford study of supported employment for persons with severe mental illness. *J Consult Clin Psychol* 2004;72:479-90.
9. Twamley EW, Narvaez JM, Becker DR et al. Supported employment for middle-aged and older people with schizophrenia. *Am J Psychiatr Rehabil* 2008;11:76-89.
10. Burns T, Catty J, Becker T et al. The effectiveness of supported employment for people with severe mental illness: a randomised controlled trial. *Lancet* 2007;370:1146-52.
11. Wong KK, Chui R, Tang B et al. A randomised controlled trial of a supported employment program for persons with long-term mental illness in Hong Kong. *Psychiatr Serv* 2008;59:84-90.
12. Howard L, Heslin M, Leese M et al. The Supported Work and Needs (SWAN) study: a pragmatic randomised controlled trial of supported employment in South London. *Br J Psychiatry* (in press).
13. Wing JK, Babor T, Brugha T et al. SCAN: Schedules for Clinical Assessment in Neuropsychiatry. *Arch Gen Psychiatry* 1990;47:589-93.
14. Priebe S, Huxley P, Knight S et al. Application and results of the Manchester Short Assessment of Quality of Life (MANSA). *Int J Soc Psychiatry* 1999;45:7-12.
15. Slade M, Thornicroft G, Loftus L et al. Camberwell Assessment of Need (CAN). London: Gaskell, 1999.
16. Rosenberg M. Society and the adolescent self-image. Princeton: Princeton University Press, 1965.
17. Overall JE, Gorham DR. Brief Psychiatric Rating Scale. Rockville: U.S. National Institute of Health, Psychopharmacology Research Branch, 1976.
18. American Psychiatric Association. Diagnostic and statistical manual of mental disorders, 4th ed., text revision. Washington: American Psychiatric Association, 2000.
19. Beecham J, Knapp M. Costing psychiatric interventions. London: Gaskell, 2001.
20. Bond GR, Becker DR, Drake RE et al. A fidelity scale for the Individual Placement and Support model of supported employment. *Rehabilitation Counseling Bulletin* 1997;40:265-84.
21. Curtis L. Unit costs of health and social care. Canterbury: Personal Social Services Research Unit, 2007.
22. British National Formulary. BNF 51. London: BMJ Publishing Group, 2006.
23. Office of National Statistics. Standard Occupational Classification 2000. Vol. 2, The coding index. London: The Stationary Office, 2000.
24. Office of National Statistics. Annual local area labour force survey. London: Office of National Statistics, 2002.

Physical illness in patients with severe mental disorders.

II. Barriers to care, monitoring and treatment guidelines, plus recommendations at the system and individual level

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Physical disorders are, compared to the general population, more prevalent in people with severe mental illness (SMI). Although this excess morbidity and mortality is largely due to modifiable lifestyle risk factors, the screening and assessment of physical health aspects remains poor, even in developed countries. Moreover, specific patient, provider, treatment and system factors act as barriers to the recognition and to the management of physical diseases in people with SMI. Psychiatrists can play a pivotal role in the improvement of the physical health of these patients by expanding their task from clinical psychiatric care to the monitoring and treatment of crucial physical parameters. At a system level, actions are not easy to realize, especially for developing countries. However, at an individual level, even simple and very basic monitoring and treatment actions, undertaken by the treating clinician, can already improve the problem of suboptimal medical care in this population. Adhering to monitoring and treatment guidelines will result in a substantial enhancement of physical health outcomes. Furthermore, psychiatrists can help educate and motivate people with SMI to address their suboptimal lifestyle, including smoking, unhealthy diet and lack of exercise. The adoption of the recommendations presented in this paper across health care systems throughout the world will contribute to a significant improvement in the medical and related psychiatric health outcomes of patients with SMI.

Key words: Physical illness, severe mental illness, physical health, health care, barriers, health disparities, monitoring and treatment guidelines
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As outlined in the first part of this bi-partite publication (1), individuals with severe mental illness (SMI) are at an increased risk for a large number of physical disorders that require clinical attention. People with SMI are entitled to the same standards of care as the rest of the population. However, rates of undiagnosed and untreated medical illnesses are higher in SMI individuals, compared to the general population. Despite the fact that the higher morbidity and mortality of physical illnesses in SMI patients are largely due to modifiable lifestyle risk factors (1), there is sufficient evidence that disparities not only in health care access and utilization, but also in health care provision, contribute to these poor physical health outcomes (2,3). According to one recent study, people with psychotic disorders, bipolar disorder, or major depressive disorder have greatly increased odds of reporting difficulties in accessing care (odds ratios, OR=2.5-7.0) (4).

Although parity in access to and provision of health care should be conceived as a basic human right, a confluence of patient, provider, treatment and system factors has created a situation in which access to and quality of health care is problematic for individuals with SMI (5). Table 1 summarizes the barriers to the recognition and management of somatic illnesses in SMI patients.

In many cases, the SMI patients' only contact with the health service is through the mental health care team. More-

over, because of their SMI, these patients are less capable than other patients of interpreting physical signs, as well as solving their problems and caring for themselves, which places an increased responsibility on the part of mental care workers to be in the fore front for the physical health care of these patients (6). Two consensus conferences have called on mental health care providers to take responsibility for the physical health of their patients (7,8). However, despite data suggesting that the sensitization of psychiatrists to expand their tasks to include assessments of both mental and physical health in SMI patients can be improved by consensus guidelines (9), many psychiatrists still consider their primary or, even, sole function to provide clinical care in terms of psychiatric symptom control and are reluctant to monitor physical health (6).

Although many barriers can be related to the patient and his/her illness, and/or to the clinician and his/her medical treatment, the reintegration of psychiatric care and general somatic services, with an ultimate goal of providing optimal services to this vulnerable patient population, seems to represent one of the most important challenges for psychiatric care today (7,10). However, this is only one part of the broader picture: 37% of 195 countries in the world do not even have a specified budget for mental health, and 25% of the countries (of the 101 countries that reported their mental

Table 1 Barriers to the recognition and management of physical diseases in patients with severe mental illness (SMI)

Patient and illness-related factors	Treatment-related factors	Psychiatrist-related factors	Other physician-related factors	Service-related factors
Not seeking adequate physical care due to symptoms of the SMI (e.g., cognitive impairment, social isolation and suspicion) (13)	Deleterious impact (e.g., obesity, type 2 DM, CVD, hyperprolactinaemia, xerostomia) of psychotropic medication on physical health (14)	Tendency to focus on mental rather than physical health (15) with infrequent baseline and subsequent physical examination of patients (13)	Stigmatization of people with mental disorders (7,13,17,21)	Financial barriers, especially in developing countries (16), paucity of funding in some countries of general somatic care for patients with SMI (7)
Difficulty comprehending health care advice and/or carrying out required changes in lifestyle due to psychiatric symptoms and adverse consequences related to mental illness (e.g., low educational attainment, reduced social networks, lack of employment and family support, poverty, poor housing) (12,14,17,18)		Poor communication with patient or primary care health workers (15)	Physical complaints regarded as psychosomatic symptoms (2)	High cost of (integrated) care (19)
Severity of mental illness (SMI patients have fewer medical visits, with the most severely ill patients making the fewest visits) (20)		Physical complaints regarded as psychosomatic symptoms (2)	Suboptimal and worse quality of care offered by clinicians to patients with SMI (7,17,33-38).	Lack of access to health care (17,19,22,23)
Health risk factors and lifestyle factors (e.g., substance abuse, poor diet, smoking, lack of exercise and unsafe sexual practices) (2,20,24,25)		Suboptimal and worse quality of care offered by clinicians to patients with SMI (7,17,32-38). Lack of assessment, monitoring and continuity of care of the physical health status of people with SMI (2,14,39-41)	Lack of assessment, monitoring and continuity of care of the physical health status of people with SMI (2,14,39-41)	Lack of clarity and consensus about who should be responsible for detecting and managing physical problems in patients with SMI (2,7,14)
Less compliant with treatment (26,27,28)		Guidelines perceived as a threat to autonomy, not well known or not clinically accepted (43)	Unequipped or underfunded teams to handle behavioural and emotional problems of patients with SMI (46)	Fragmentation or separation of the medical and mental health systems of care, lack of integrated services (2,7,17,29)
Unawareness of physical problems due to cognitive deficits (30,31) or to a reduced pain sensitivity associated with AP medication (30,31)		Lack of knowledge regarding medical issues (47)	Complexity and time intensity of coordinating both medical and psychiatric medications (17)	Under-resourcing of mental health care that provides little opportunity for specialists to focus on issues outside their core specialty (2)
Migrant status and/or cultural and ethnic diversity (42)		Erroneous beliefs (SMI patients are not able to adopt healthy lifestyles, weight gain is mainly adverse effect of medications, lower cardiac risk medications are less effective)(45)		Lack of health insurance coverage (7,17)
Lack of social skills (13) and difficulties communicating physical needs (44)		Unequipped or underfunded teams to handle behavioural and emotional problems of patients with SMI (46)		

DM – diabetes mellitus; CVD – cardiovascular disease; AP – antipsychotic

health budget) spend less than 1% of their total health care budget on mental health (11). In some parts of the world, mental health resources are even poorer. In Africa and in the Western Pacific Regions, a mental health policy was found to be present in only half of the countries (12). Moreover, in developing as well as in developed countries, stigmatization, discrimination, erroneous beliefs and negative attitudes associated with SMI will have to be eliminated to achieve parity in health care access and provision. Due to differences between regions and countries (e.g., level of economic development, budgeting of health care, availability of mental health care personnel, etc.), the majority of actions should be adapted to the local needs and circumstances (7).

MONITORING AND TREATMENT GUIDELINES

The excess mortality rates in persons with SMI are largely due to modifiable health risk factors (1). Therefore, the monitoring and treatment of these factors should be a part of clinical routine care of the psychiatrist. Furthermore, to ad-

dress the problem of suboptimal medical treatment for patients with SMI, changes need to be made in the health care system and delivery (48), wherein the psychiatrist, once again, can and should play a pivotal role.

Monitoring

Physical health checks should focus on monitoring (49-51):

- weight gain and obesity (body mass index, BMI; waist circumference, WC);
- blood pressure;
- dietary intake;
- activity level and exercise;
- use of tobacco and alcohol or other substances;
- fasting blood levels of glucose;
- fasting blood levels of lipids, especially triglycerides and high-density lipoprotein (HDL)-cholesterol;
- prolactin levels (if indicated by reproductive system and/or sexual symptoms);

- cardiovascular disease (CVD) risk and electrocardiographic (ECG) parameters;
- dental health;
- liver function tests, blood count, thyroid hormone, electrolytes (periodically, as indicated).

Many of these physical health monitoring tests are simple, easy to perform and inexpensive (6,52-54), and therefore can/should be implemented in the health care systems of developed as well as developing countries. Moreover, even in developing countries, several of these simple and inexpensive measurements (e.g., body weight and blood pressure) can be routinely done by health workers other than doctors.

Screening and assessment of physical health should begin with the patient's personal and family history, covering (40): diabetes mellitus (DM), hypertension, CVD (myocardial infarction or cerebrovascular accident, including age at onset), smoking, diet, physical activity. Secondly, as the individual components of the metabolic syndrome (MetS) (see 1) are critical in predicting the morbidity and mortality of CVD, DM, cancer and other related diseases, these, as well as some other non-metabolic parameters, should be checked at baseline and measured regularly thereafter (46,51). Concerning metabolic parameters, one should remember that drug-naïve, first-episode patients, as well as children and adolescents with psychotic disorders, are at higher risk for metabolic side effects of medications (55,56). Higher baseline values of weight and visceral fat distribution, as well as laboratory evidence of impaired glucose and lipid metabolism, have been, although not consistently, reported for these patients (57). Likewise, young drug-naïve patients of non-Caucasian ethnicity with a personal or family history of metabolic risk factors are more likely to develop metabolic side effects (57).

Abdominal obesity

Psychiatrists should, regardless of the medication prescribed, monitor and chart BMI and WC of every patient with SMI at every visit, and should encourage patients to monitor and chart their own weight (58). WC seems to be a more useful measurement than BMI. Prospective data in patients with impaired glucose tolerance revealed that central adiposity, having a strong correlation with insulin resistance (59), better predicted future type 2 DM than BMI (60). WC is also a stronger indicator than BMI for systolic blood pressure, HDL-cholesterol, or triglycerides (61), and has been proposed as the best single measure to identify individuals at high risk for CVD and the MetS (52). It is also a simple tool to assess the likelihood of insulin resistance: in one study, a WC <100 cm excluded insulin resistance in 98% of males and 94% of females (61). This assessment can easily be done with a simple and inexpensive waist tape measure. The International Diabetes Federation (IDF) definition (see 1) provides sex- and race-specific criteria for defining elevated WC to identify people with central obesity, thus adapting this

criterion to make it also applicable to non-Caucasian populations. However, multiple studies found that WC is rarely measured (62-64).

The other MetS criteria of blood pressure, fasting plasma glucose and fasting lipid profile should also be assessed, even if WC is normal. As the MetS components seem to cluster, the presence of one component often suggests the presence of the others.

Blood pressure

High blood pressure in SMI patients is often missed (65). As the cost for measuring blood pressure is low, and hypertension is a relevant CVD risk factor, blood pressure can/ought to be assessed routinely, even at every visit. Hypertension can be defined as a systolic blood pressure ≥ 130 mm Hg or a diastolic blood pressure ≥ 85 mm Hg (66). This diagnosis requires at least two separate, independent measurements that fall both within the range of hypertension (65). Individuals with a systolic blood pressure of 120 to 130 mm Hg or a diastolic blood pressure of 80 to 85 mm Hg should be considered as pre-hypertensive and require lifestyle modifications to prevent heart disease (67).

Fasting blood glucose and lipid levels

A baseline measure of plasma glucose level should be collected for all patients before starting treatment (58). In patients starting antipsychotic (AP) treatment, finger prick tests should be carried out at baseline, 6 and 12 weeks to capture early cases of hyperglycemia and then, at minimum, yearly. Formal laboratory screening tests can then be carried out when necessary (68). Ideally, blood glucose measurement should be conducted in the fasting state, because this is the most sensitive measurement for the detection of developing glucose abnormalities. However, this can prove problematic to achieve. In cases where patients present non-fasting, it is preferable to conduct a random blood glucose test (and/or hemoglobin A_{1c} test), rather than to miss the opportunity to screen (6). An abnormal test value (fasting plasma glucose ≥ 126 mg/dl or hemoglobin A_{1c} value $\geq 6.5\%$) (69) suggests the possibility of DM. Fasting plasma glucose levels between 100 and 125 mg/dl (or hemoglobin A_{1c} values of 5.7-6.4%) are indicative of pre-diabetes and should also prompt closer assessment and follow-up. However, the possibility of false positive results need to be excluded by at least one repeated measurement of fasting plasma glucose. If the abnormality is confirmed, the frequency of fasting plasma glucose measurements needs to be increased to 4 times a year to assess the speed of the rise. Likewise, if fasting plasma glucose levels are ≥ 126 mg/dl or hemoglobin A_{1c} values are $>6.4\%$, the possibility of false positive results needs to be excluded by at least one repeated measurement of fasting plasma glucose. If the second measurement confirms the abnormality, this should

lead to a consultation with an internist or other primary health care provider for further assessment and, possibly, treatment. Importantly, hemoglobin A_{1c} reflects the mean glucose levels during the past 3 months. This is excellent as a goal for treatment outcome, but probably not sensitive enough to detect hyperglycaemia in its early stages (70).

Patients who have significant risk factors for DM (family history, BMI \geq 25, WC above critical values, gestational diabetes, minority ethnicity) should have their fasting plasma glucose level or hemoglobin A_{1c} value monitored at the same time points as other patients starting medication (baseline, week 6 and 12), but thereafter they need to be checked more frequently (approximately every 3-6 months). Patients who are gaining 7% or more of their baseline weight should also have their fasting plasma glucose level or hemoglobin A_{1c} value monitored more frequently, for example, every 4 months (58).

Because of its high mortality, special attention should be given to diabetic ketoacidosis (DKA). DKA signs and symptoms often develop quickly, sometimes within 24 hours. One may notice: polyuria and polydipsia, nausea and vomiting, abdominal pain, poor appetite, unintended weight loss, fatigue, Kussmaul respirations (a pattern of deep breathing and hyperventilation in response to metabolic acidosis), fruity-scented breath, somnolence and confusion. The presentation of a patient with DKA varies substantially depending on the severity of the episode (e.g., mild or moderately ill patients may only describe vague symptoms of fatigue, lethargy, poor appetite, or headache). In type 2 DM, polyuria and polydipsia may have been building for weeks to months. More specific signs of DKA, which can be detected through laboratory tests, include: blood glucose level $>$ 250 mg/dL, pH $<$ 7.3 and a moderate degree of ketonemia or ketonuria (71-74).

Lipid parameters (especially triglycerides and HDL-cholesterol) should also be assessed at baseline and at 3 months, with 12-monthly assessments thereafter. More frequent screening is unnecessary, unless in case of abnormal values. Abnormal values for total cholesterol are $>$ 190 mg/dl for patients without DM and $>$ 175 mg/dl for patients with DM. Abnormal low-density lipoprotein (LDL)-cholesterol values for patients without and with DM are $>$ 115 mg/dl and $>$ 100 mg/dl, respectively (65). However, the cost and lack of availability of this assessment may not make it feasible as a routine measure in all settings and patients.

CVD risk and ECG parameters

The patient's individual CVD risk should be calculated from his/her age, sex, presence or absence of DM, smoking habit, systolic blood pressure and total cholesterol, or the ratio of total cholesterol to HDL-cholesterol with reference to published guidelines, local protocols or online risk calculators. These measurements are relatively simple and easily accessible (54).

In the psychiatric setting, it is often difficult to obtain an

ECG as rapidly as in other acute medical settings. In less well economically developed countries, obtaining an ECG may be even more problematic. In these cases, whatever psychotropic a psychiatrist is intending to prescribe, patients should be asked about heart risks, such as family history of early cardiac death (i.e., $<$ 50 years in males and $<$ 55 years in females), personal history of a heart murmur, previous prescription of cardiac medications or anti-hypertensives, or if he/she has ever had an episode of simple syncope (51). Nevertheless, the measurement of ECG parameters as a baseline requirement deserves serious consideration. We propose that the ECG monitoring of patients with SMI has to be seen as a desired baseline parameter in order to assess the overall cardiac health status. As a general rule, we recommend that every patient should have an ECG measurement prior to the initiation of medication. Thereafter, depending on the advice given by a cardiologist, ECG monitoring can be repeated. A baseline ECG assessment is especially important in patients with clinical risk factors for arrhythmias, i.e., those with a family history of early cardiac death, personal history of a heart murmur, hypertension or diabetes, tachycardia at rest, irregular heart beats and fainting spells, particularly upon exertion.

Prolactin measurement

If possible, to have a reference value, prolactin levels should be measured in all patients at baseline. If too expensive, prolactin levels should only be measured in case sexual or reproductive system abnormalities are reported. Yet, these need to be asked about directly and monitored. Reproductive system abnormalities triggering prolactin level measurement include amenorrhea or oligomenorrhea (i.e., $<$ 9 periods per year), galactorrhea, gynecomastia in males, and/or breast tenderness and pain in females. Sexual dysfunction that should prompt prolactin measurement include new symptoms and/or those that coincided with antipsychotic treatment or dose change, including decreased libido, erectile or ejaculatory dysfunction, problems with arousal or orgasm. In these cases, prolactin should be measured every 3 months, especially when increasing the dose of known prolactin-elevating compounds. Although the clinician needs to be aware that laboratory ranges may differ between sites (75,76), in most laboratories normal prolactin values are set at 20 ng/ml (424 mIU/mL) for men and 25 ng/ml (530 mIU/L) for women (77). A complicating factor during measurement of prolactin levels is the presence of macroprolactin, which is essentially biologically inactive, but may lead to falsely high prolactin levels as measured by many assays (78). Conservative estimates suggest that the presence of macroprolactin leads to misdiagnosis in as many as 10% of all reported instances of biochemical hyperprolactinemia (79). In cases where measured prolactin is significantly raised, reporting of estimated monomeric prolactin instead of just "macroprolactin positive" can avoid unnecessary investigations.

With antipsychotic treatment, prolactin levels below 200 ng/ml and, mostly, below 100 ng/ml are most commonly observed. To date, the physiological relevance of these levels is unknown, unless hypogonadism (i.e., a state of markedly reduced sex hormone production) is the result, which has been associated with osteoporosis and fracture risk. The risk for breast cancer is much less clear. What seems to be certain is that any prolactin level that leads to hypogonadism should prompt a treatment change to a less prolactin elevating antipsychotic (e.g., quetiapine, aripiprazole or, in refractory patients, clozapine). Magnetic resonance imaging (MRI) of the sella turcica to rule out a prolactinoma should only be ordered after other reasons for prolactin elevation are excluded (e.g., chronic renal failure by assessing creatinine, hypothyroidism by assessing thyroid stimulating hormone, and pregnancy or oral contraception), if prolactin levels are above 200 ng/ml and do not decrease after a change to a lower risk agent, or if lateral visual deficits are observed, raising the suspicion of a prolactinoma (80).

Oral health

Although currently considered by many clinicians as not important, oral health needs to be scrutinized in the same way as other physical health problems (81,82). Risk factors for a poor oral health (e.g., smoking, medication side effects) and individual oral care needs should be assessed (83).

How and when to screen

Physical screening and monitoring programs are well accepted by patients and can be implemented in a variety of settings. Contrary to general belief, it is not difficult to motivate most patients to take part in the fasting blood assessments, and most are keen to getting and discussing the results of the evaluations (53,54).

Screening patients using an algorithm (84), monitoring form (85) or risk chart (65,86) is a simpler option than using the more complex and detailed guidelines previously published. Although, over recent years, both national and international groups have developed screening and monitoring guidelines (58,84,87-95), these seem not to be routinely implemented in the clinical care of patients (62,64,96,97).

Follow-up monitoring should be done at appropriate intervals (98) (Table 2). Physical health assessments should be recorded on charts showing the times and results of the assessments compared with reference ranges (54). During initial phases of treatment, it is important to measure weight weekly to identify patients who gain weight rapidly. Waterous and Laugharne (84) advocate screening of all patients on any medication at baseline (to identify high-risk individuals and to ensure early detection of changes in metabolic parameters), and, at the minimum, every 3 months. Other guidelines propose screening and monitoring at baseline, 3

Table 2 Routine measurements for use in monitoring and evaluation of physical health in SMI patients with normal baseline values (according to 64,65 and 88)

	Baseline	6 weeks	3 months	At least at 12 months and annually thereafter
Personal and family history	X			
Smoking, exercise, dietary habits	X	X	X	X
Weight (body mass index)	X	X	X	X
Waist circumference	X	X	X	X
Blood pressure	X	X	X	X
Fasting plasma glucose	X	X ^a	X	X
Fasting lipid profile	X		X	X
ECG parameters	X			
Prolactin	X ^b		X ^c	X ^c
Dental health	X			X

^aThis early blood sugar assessment to rule out precipitous diabetes onset has been recommended in Europe, but not in the US; ^bif possible to have some reference values, or, if this is too expensive, only in case sexual or reproductive system abnormalities are reported; ^conly in case of sexual dysfunction that coincided with antipsychotic treatment or dose change

months, 12 months and annually, unless patients gain at least 7% of baseline body weight or are at increased risk for adverse health outcomes (e.g., family history of DM or early cardiac death, personal history of overweight or obesity, gestational DM, minority ethnicity, etc.).

If the patient has central obesity, hypertensive blood pressure ($\geq 130/85$ mm Hg), pre-diabetes (fasting plasma glucose =100-125 mg/dL or hemoglobin A_{1c} =5.7-6.4%) or DM (fasting plasma glucose ≥ 126 mg/dL or hemoglobin A_{1c} >6.4%), or marked dyslipidemia (total cholesterol >350 mg/dL; LDL-cholesterol >160 mg/dL; triglycerides >300 mg/dL), he/she should be referred to primary care provider to treat these conditions, unless simple healthy lifestyle guidance or behavioural adjustment and/or switching to a lower cardiometabolic risk medication can address these medical conditions adequately (17,99).

Treatment

Many, but not all, individuals with SMI either are unaware of the need to change or do not possess the knowledge and skills required to make lifestyle changes. Psychiatrists, physicians, nurses and other members of the multidisciplinary team can help educate and motivate people with SMI to address their lifestyle, including smoking, diet and exercise, through the use of effective behavioural interventions (57, 100). Patients with SMI, as well as their family and caregivers, should be taught about healthy lifestyles and should receive psychoeducational packages to facilitate them. Psychoeducation does not need to be administered by a specialist

Table 3 Impact of various interventions on overall health (see 103-108)

Intervention	Impact on overall health
Maintenance of ideal body weight	35-60% ↓ CHD
Weight loss	
4-5%	Eliminate the need for antihypertensive medication in adults and elderly
5-7%	58% reduced risk for type 2 DM in adults
6-7%	Improvement of the MetS by decreasing LDL-cholesterol and fasting insulin
10%	Reduction of lifetime risk for heart disease up to 4% and increase of life expectancy up to 7 months
10% ↓ blood cholesterol	30% ↓ CHD
4-6 mm Hg ↓ high BP (>14/9 mm Hg)	16% ↓ in CHD and 42% ↓ in CVA
Stop smoking	50-70% ↓ in CHD
Maintenance of active lifestyle (at least 30 min walk daily)	35-55% ↓ in CHD (women) 18% ↓ in CHD (men) 27% reduction in CVA 40-50% ↓ in risk of cancer 33-50% ↓ in risk of developing DM

CHD – coronary heart disease; DM – diabetes mellitus; MetS – metabolic syndrome; BP – blood pressure; CVA – cerebrovascular accident

(e.g., a nutritionist), nor does it require special training, but should be administered by staff at the mental health clinic. Lifestyle advice and interventions can be obtained using resources already available within the local mainstream service (6). Patients should be provided positive feedback and support (17) and treatment must be tailored to meet the individual needs of SMI patients (14). Non-pharmacological interventions, incorporating dietary and physical activity modifications, demonstrated promise in terms of preventing weight gain in schizophrenia (94-103). The impact on one's overall health, even with simple life style changes, is considerable (Table 3). A healthy diet, regular physical activity and quitting smoking are the key components of lowering the prevalence and impact of modifiable risk factors. However, if lifestyle interventions do not succeed, medication, including statins, anti-hypertensive therapy or antidiabetic agents, may be indicated. These drugs should be prescribed and managed as for the general population and are generally well tolerated (109,110). Moreover, pharmacologic treatments added to reduce antipsychotic-related weight can be tried. To date, most evidence exists for metformin (500 to 1000 mg bid with meals) or topiramate (50-200 mg in divided doses) (111).

Diet

Many patients with SMI do not know the components of a healthy diet (46). It is commonly known that patients with schizophrenia have a diet higher in fat (111), higher in refined sugar (112), lower in fiber (25), and poor in fruits and vegetables (113). Therefore, nutrition education may be beneficial (46). Patients should be advised to avoid juices and soft drinks containing sugar and, even, artificial sweeteners, as well as high calorie, high fat, and nutritionally poor food, such as fast food and unhealthy snacks. The importance of

consuming healthy alternatives, such as fresh fruit and vegetables, fish, and lean meats in a balanced way, should be stressed by clinicians whenever possible. Although educating patients (as well as their family and caregivers) about healthy food is recommended, patients need to understand that lifestyle changes should be gradual. Most people who experience rapid weight loss without gradual behaviour modifications will return to their previous weight. Losing weight hastily increases the likelihood of developing cholesterol gallstones. Further, many toxins are stored in fat tissue and a rapid weight loss may release those toxins too quickly (46).

Changes in dietary composition can have substantial effects. Weight loss has many health-related benefits that are of particular importance to SMI patients, including a reduction in risk of DM and CVD, reduction of serum triglycerides and LDL-cholesterol concentrations, increase in HDL-cholesterol concentrations, and reduction in blood glucose concentrations and hemoglobin A_{1c} among patients with type 2 DM. However, interventions that address nutrition, weight management and physical activity have not become a routine part of psychiatric care (98). The psychiatrist can involve the individual with SMI in educational and psychosocial programs that address the issues of health and wellness, which can reduce medical comorbidities in this population. These programs, such as “The Healthy Living” program, the “Small Changes” strategy and the “Solutions for Wellness” program have been shown to be effective in people with SMI (114-119). Table 4 gives some examples of behavioural interventions to improve the health of patients with SMI.

Physical activity

Physical inactivity is one of the risk factors that theoretically can most easily be addressed and modified in individu-

Table 4 Examples of behavioural interventions to improve the health of patients with severe mental illness (see 5,44,99)

Area of concern	Educational suggested tools
Diet	<p>Healthy eating behaviour</p> <ul style="list-style-type: none"> - Cutting down on fast food - Increase healthy food items (fruits, vegetables, fish), decrease high glycemic index food items and mono-unsaturated fats - Decrease processed fat free food - Making healthy snack choices - Controlling portion size - Consume 4-6, but small meals - Eating more slowly - Minimizing intake of soft drinks with sugar and with artificial sweetener <p>Educational</p> <ul style="list-style-type: none"> - Reading food labels - Learning to discern differences between physiological and psychological appetite and eating - Keeping food diaries/plans/exchange tables - Learning cooking skills - Healthy food shopping
Exercise	<p>Physical activity</p> <ul style="list-style-type: none"> - Keeping activity diaries, daily activity list - Increasing physical activity such as moderate intensity walking - Reduce sedentary behaviours (TV watching, video/computer games, etc.) - Treating/reducing sedation and extrapyramidal effects of medications

als with SMI (100). People with schizophrenia are significantly more sedentary than the general population (120). Only 25.7% of these patients meet the minimum public health recommendation of 150 min a week of at least moderate-intensity physical activity (121,122). According to the guidelines of the American College of Sports Medicine and the American Heart Association, moderate-intensity physical activity between 150 and 250 min a week will provide modest weight loss and is effective in preventing weight gain. Greater amounts of physical activity (>250 min a week) can be associated with clinically significant weight loss (108). Physical activity can improve metabolic health status even in the absence of weight loss. There is evidence that physical activity with or without diet counselling is feasible and effective in reducing weight and improving cardiometabolic risk profile in people with schizophrenia (123). However, in patients who are obese, physical exercise should be accompanied by proper diet to achieve significant weight loss. For example, if a patient walks for 1 hour per day, about 200 calories are burned. While this is beneficial in terms of cardiovascular health, this energy expenditure will not result in substantial weight loss. More strenuous physical activities, such as jogging, may be necessary (46). Considering all these facts, patients should be advised to engage in at least 30 minutes of moderately vigorous activity (at least a brisk walk) on most days of the week (65).

Smoking

A meta-analysis of worldwide studies demonstrated that schizophrenic patients, compared with the general population, have a higher prevalence of ever smoking, heavy smoking and high nicotine dependence, as well as of risk factors that make them more vulnerable to start smoking (124). Up to 85% of individuals with SMI will die and/or have a reduced quality of life because of a tobacco-related disease (48,125). Cessation of smoking is associated with approximately a 50% decrease in the risk of coronary heart disease (104), and a 75% decrease in the risk of high/very high 10-year cardiovascular events (126). Therefore, SMI patients should be strongly encouraged to stop smoking.

However, smoking cessation has important implications for the management of patients taking clozapine and olanzapine. Abrupt cessation of smoking is associated with a potentially serious risk of toxicity in patients taking clozapine, while olanzapine levels can also increase significantly. Cormac et al (127) found that the percentage of patients with a plasma clozapine level $\geq 1000 \mu\text{g/l}$ increased from 4.2% to 41.7% within the six month period following the smoking ban despite dose reductions. Therefore, plasma clozapine levels must be monitored closely and adjustments made in dosage, if necessary, for at least six months after cessation (127). Moreover, smoking cessation also increases the short-term risk for DM. In a prospective study, adults who quit smoking experienced an increased risk for incident DM that peaked within 3 years of quitting (hazard ratio, HR=1.91) but was still observable 6 years after quitting. The increased risk seems to be partially mediated by weight gain: withdrawal of nicotine may lead to increased appetite and excess caloric intake. Therefore, clinicians should consider countermeasures (e.g., use of nicotine replacement therapy), especially for heavy smokers (128).

Treating tobacco dependence is effective in patients with SMI. There is emerging evidence that people with SMI can stop smoking (129-132). Moreover, treatments that work in the general population appear to be approximately equally effective in SMI patients. The evidence also suggests that treating tobacco dependence in SMI patients with stable psychiatric conditions does not worsen mental state (133). Finally, although staff from psychiatric hospitals often express concerns that adopting a smoke-free policy would have a negative impact on the hospital's treatment milieu, this is not necessarily the case (134). Therefore, at a minimum, psychiatric professionals should assess tobacco use in all patients, advise all tobacco users to quit, assist patients in developing a quit plan, and arrange follow-up (100). If necessary and possible, patients can be referred to a smoking cessation service, which can offer behavioural counselling, nicotine replacement therapy or other pharmacological interventions (65).

Blood pressure

Target blood pressure levels of less than 130/85 mmHg are

recommended. Lifestyle changes, such as stopping smoking, reducing salt intake, weight reduction and increased exercise, may be sufficient to reduce mildly elevated blood pressure, although some patients are likely to require pharmacological therapy (65). Recently updated European guidelines stress the importance of choosing anti-hypertensive agents best suited to the individual patient's needs (86,135).

Oral health

Oral health advice, support and education should be provided to SMI patients, appropriate to their needs. Preventive and treatment programmes need to be tailored to meet the individual needs of patients with different diagnoses, severity and stages of mental illness. These should include dietary issues, smoking, and oral side effects of medication, namely dry mouth and carbohydrate craving. Advice on the dietary control of sugars and the importance of sugar free lubrication to relieve the symptoms of a dry mouth are essential to reduce the adverse oral side effects of some psychotropic drugs.

Psychiatrists should be made more aware of the importance of oral health habits. Therefore, training for clinicians in the identification of oral health risk factors such as smoking and of oral side effects of medication, and on proper oral hygiene techniques, is necessary (83). Above all, patients with SMI need encouragement and support to make regular use of dental services. Another option are regular visits by dental care personnel (136). The psychiatrist should search for dentists who do not stigmatize patients and who are willing to take care of this vulnerable population. On discharge from the hospital, procedures for ensuring continuity of dental care should be established. Formal training for the dental team regarding social and behavioural aspects of mental illness and oral medication side effects can be provided (79).

QTc prolongation and sudden cardiac death

AP or antidepressants (AD) known to be associated with QTc prolongation should not be prescribed for SMI patients with known heart disease, a personal history of syncope, a family history of sudden cardiac death at an early age (especially if both parents had sudden cardiac death), or congenital long QT syndrome (see 58). Withdrawal of any offending drugs and correction of electrolyte abnormalities are recommended in patients presenting with torsade de pointes (137).

Sexual health and pregnancy

Before beginning treatment, the SMI patient should be asked about symptoms possibly related to elevated prolactin, such as loss of libido, erectile and ejaculatory (dys)function or menstrual irregularities (54,58). If patients are receiving medications known to be associated with prolactin elevation, these

baseline questions should be asked at every visit after starting the medication or until the dose is stable. When sexual dysfunction is identified, potential management strategies include decreasing the dose, switching to a prolactin-sparing medication, or specifically targeting sexual function by prescribing drugs such as dopamine agonists (138,139) or a partial agonist (140). Switching should be considered when prolactin elevation is persistently >50 ng/mL (>1000 mIU/L). When even a mildly elevated level persists for more than 3 months, dose reduction or switching to a prolactin-sparing medication should be considered. If a psychiatrist has any doubt regarding the cause of the raised prolactin, and levels are above 200 ng/ml, or the patient has symptoms suggestive of a cause other than medication-related hyperprolactinemia, then referral to an endocrinologist is recommended (141). Nevertheless, psychiatrists should also be aware that even minimal to moderate hyperprolactinemia can be the precursor of a serious underlying problem, such as a pituitary tumor (58).

Until there are more controlled prospective data on the impact of drugs on foetal and later development, the clinician will continue to work in a state of uncertainty, weighing partially estimated risks against managing individual clinical problems. On the basis of the available data, generalization is impossible and recommendations should be made on a drug-by-drug basis. The risks and benefits must always be carefully weighed for each patient on an individual basis. In general, the use of psychotropic medication during pregnancy is indicated when risk to the foetus from exposure to this medication is outweighed by the risks of untreated or exacerbated psychiatric illness in the mother (142). Women who require treatment should always discuss the risks and benefits of pharmacotherapy with their physician and, if it is felt that treatment should be continued during pregnancy, the available evidenced-based information will be of help in this important decision (143).

Importantly, advice on contraception and sexually transmitted infection prevention should also be given as part of routine mental health care (54).

Specific treatment advice on medication

Many psychiatrists are reluctant to switch medication, despite the presence of physical health issues (6). Nevertheless, consideration should be given to switching AP, AD and/or mood stabilizer medication when a SMI patient gains significant amount of weight (>5% of initial weight), or shows hyperglycemia, hyperlipidemia, or other significant adverse effects (e.g., clinically significant cardiometabolic side effects) during therapy. The switching protocol should, however, consider the entire psychiatric and physical condition of the patient and the pharmacological profiles of both agents (54). Another option is to add a pharmacological agent to reverse or prevent the medication-induced adverse event (e.g., metformin or topiramate to attenuate weight gain in patients taking AP) (111,144).

If DM or another severe physical illness has been diagnosed, the SMI patient should be referred to specialist services, including diabetology, endocrinology and cardiology, to receive the appropriate health care.

RECOMMENDATIONS

Our recommendations are organized at two levels of action: system level (state and health care institutions) and individual level (clinicians, patients, family) (Table 5).

System level

- *Designate the population with SMI as a health disparity population.* There is still a significant lack of awareness of the physical health and health care access problems for people with SMI. Therefore, state and health care institutions first have to identify and designate people with SMI as a health disparity population before the problem can be handled appropriately. Psychiatrists can play an important role in this process of raised awareness by addressing the current disparity with policy makers and budget decision makers.
- *Educate the health care community.* National and local education initiatives should be implemented to disseminate information widely about physical health risks in persons with SMI and to encourage awareness of the current disparity.
- *Train the health care community.* In addition to educa-

tional initiatives, mental health care personnel also need to be trained in adequately assessing and measuring CVD health and other (e.g., oral) health risks. Training in SMI issues should be offered to primary care clinicians.

- *Improve access to and care of physical health of the SMI population.* State and health care institutions should improve access to and care of physical health of the SMI population to ensure prevention, screening, and treatment of general health care issues. They have to build adequate capacity to serve the physical health care needs of the SMI population.
- *Reduce stigma and discrimination.* Stigma is a widespread and well-documented major access barrier for people with SMI. It lessens the responsiveness of the health services and may cause people with SMI to delay or to avoid seeking treatment altogether (145). Education interventions and personal contact with persons with SMI can be used to reduce public stigma and discrimination (22). If necessary, anti-discrimination legislation should be enforced and initiatives be implemented to ensure equal access to health care.
- *Bridge the collaboration gap between physical and mental health care and promote a policy of coordinated and integrated mental and physical health care for persons with SMI.* The reintegration of psychiatric care and general somatic services, with an ultimate goal of providing optimal services to this vulnerable patient population, seems to represent the most important challenge for psychiatric care today (146,147).
- *Address funding for these necessary service improvements.* Raise and provide adequate funding for the educa-

Table 5 Recommended system and individual level actions to address identified gaps in the assessment and treatment of physical health in patients with severe mental illness (SMI)

System level actions	Individual level actions
Designate the population with SMI as a health disparity population	Take responsibility for the physical health of the SMI patient
Educate the health care community	Screen the patient's personal and family history at baseline to identify high-risk patients and to ensure early detection of changes in critical parameters
Train the health care community	Adopt ongoing surveillance methods
Improve access to and care of physical health of the SMI population	Use an algorithm, monitoring form, or risk chart during the patient's screening
Reduce stigma and discrimination	If weight gain (> 5% of initial weight), glucose abnormalities, hyperlipidaemia, or other adverse effects during therapy occur, consider switching to medications with lower risk profiles
Bridge the collaboration gap between physical and mental health care and promote a policy of coordinated and integrated mental and physical health care for persons with SMI	Communicate monitoring findings to the primary care teams and specialist services, including diabetology, endocrinology and cardiology
Address funding for these necessary service improvements	Forge stronger collaborations with these medical specialists and other health care professionals
	Include lifestyle modifications into education and treatment programs for SMI patients, incorporating nutrition, exercise and behavioural strategies
	Strive to encourage and improve the patient's adherence to both psychiatric/medical and behavioural interventions
	Support wellness, personal empowerment and individual responsibility to enable healthy choices for recovery, and promote individual efforts

tional campaigns, health assessment tools, and service integration. In developing countries this funding tends to be very low or nonexistent.

Individual level

- *Take responsibility for the physical health of the SMI patient.* Unless there is a clear provision of specific general somatic health care services for SMI patients, the psychiatrist should assume responsibility for the somatic health of his/her patients. He/she has to keep a check on the situation, as SMI patients may not seek help themselves until the problem is severe, or may not be aware of potentially harmful physical conditions until monitoring and education have been done.
- *Screen the patient's personal and family history at baseline to identify high-risk patients and to ensure early detection of changes in critical parameters.* For patients with a personal or family history of obesity, high blood pressure, DM, heart disease or cerebrovascular accident, or with high or borderline values on metabolic criteria, drugs with lower risk of adverse effects should be chosen.
- *Adopt ongoing surveillance methods.* Surveillance of the overall health status of SMI patients should include continued monitoring of weight, BMI, WC, blood pressure, fasting plasma glucose, fasting lipids, smoking, physical inactivity, diet, oral and sexual health, as well as adverse effects of the used psychotropic medications.
- *Use an algorithm, monitoring form, or risk chart during the patient's screening.* This is a simpler and better option than using the more complex and detailed published guidelines to monitor the physical health of the SMI patient.
- *If weight gain (>5% of initial weight), glucose abnormalities, hyperlipidemia, or other adverse effects during therapy occur, consider switching to medications with lower risk profiles.* Switching from higher to lower risk medications has been shown to reduce cardiovascular and endocrine risk factors (65), but needs to be done in a careful and informed way (148).
- *Communicate monitoring findings to the primary care teams and specialist services, including diabetology, endocrinology and cardiology.* Ensure that people with SMI who have been identified to be at risk of developing CVD and/or DM be appropriately managed. People with SMI who have established CVD and/or DM should be treated in primary care.
- *Forge stronger collaborations with these medical specialists and other health care professionals.* Coordinated and integrated physical care of patients with SMI has the greatest chance of improving their physical health care outcomes (53). These collaborations should seek to develop comprehensive educational efforts, aimed at improving the knowledge of primary care physicians about SMI patients, to reduce stigmatization and erroneous beliefs, as well as

the knowledge of the psychiatrist, to better monitor and manage physical illness in SMI patients. Integrated care models should be developed. These include co-location of services (locating a primary health care team close to mental health services, with good links between primary care staff and mental health staff, is highly effective in improving the physical health of those with SMI), having staff from one service visit another on a regular basis, or appointing case managers to liaise between services and coordinate the overall care for the patient. Another option involves a multidisciplinary team of health workers including medical specialists, as well as psychiatrists (149).

- *Include lifestyle modifications into education and treatment programs for SMI patients.* Nutrition, exercise and behavioural strategies should be incorporated and tailored to the SMI population.
- *Strive to encourage and improve the patient's adherence to psychiatric, medical and behavioural interventions.*
- *Support wellness, personal empowerment and individual responsibility in patients with SMI, enabling them to make healthy choices for recovery, and promote their individual efforts.* Specific programs (e.g., the Health and Recovery Peer Program) exist to help people with SMI to become more effective managers of their chronic illnesses, improving a range of self-management and health outcome measures, including patient activation and greater likelihood of using primary care medical services (150).

The adoption of these recommendations, summarized in Table 5, across health care systems throughout the world (with adaptations based on specific local situations), will contribute to a significant improvement in the medical and related psychiatric health of patients with SMI. The improved physical health outcomes in SMI patients will benefit both patients and societies. This benefit will come from improving functioning, and reducing suffering and physical health care costs that arise from poorly screened and managed patients with advanced physical illnesses compounded on the presence and effects of psychiatric conditions. Even small changes in the monitoring and management of physical disorders that do not have to be costly can make a positive change in this generally underserved and disadvantaged patient group.

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References

1. De Hert M, Correll CU, Cohen D et al. Physical illness in patients with severe mental disorders. I. Prevalence, impact of medications and disparities in health care. *World Psychiatry* 2011;10:52-77.

2. Lawrence D, Stephen K. Inequalities in health care provision for people with severe mental illness. *J Psychopharmacol* (in press).
3. De Hert M, Schreurs V, Vancampfort D et al. Metabolic syndrome in people with schizophrenia: a review. *World Psychiatry* 2009;8:15-22.
4. Bradford DW, Kim MM, Braxton LE et al. Access to medical care among persons with psychotic and major affective disorders. *Psychiatr Serv* 2008;59:847-52.
5. Parks J, Svendsen D, Singer P et al (eds). Morbidity and mortality in people with serious mental illness. Alexandria: National Association of State Mental Health Program Directors (NASMHPD) Medical Directors Council, 2006.
6. Millar H. Management of physical health in schizophrenia: a stepping stone to treatment success. *Eur Neuropsychopharmacol* 2008;18:S121-8.
7. Fleischhacker WW, Cetkovich-Bakmas M, De Hert M et al. Comorbid somatic illnesses in patients with severe mental disorders: clinical, policy, and research challenges. *J Clin Psychiatry* 2008;69:514-9.
8. Essock SM, Miller AL, Buchanan RW et al. Physical health monitoring of patients with schizophrenia. *Am J Psychiatry* 2004;161:1334-49.
9. Bobes J, Alegria AA, Saiz-Gonzalez MD et al. Change in psychiatrists' attitudes towards the physical health care of patients with schizophrenia coinciding with the dissemination of the Consensus on Physical Health in Patients with Schizophrenia. *Eur Psychiatry* (in press).
10. Maj M. Physical health in persons with severe mental illness: a public health and ethical priority. *World Psychiatry* 2009;8:1-2.
11. Saxena S, Sharan P, Garrido M et al. World Health Organization's Mental Health Atlas 2005: implications for policy development. *World Psychiatry* 2006;5:179-84.
12. World Health Organization. Mental Health Atlas, revised version. Geneva: World Health Organization, 2005.
13. Phelan M, Stradins L, Morrison S. Physical health of people with severe mental illness. *BMJ* 2001;322:443-4.
14. Robson D, Gray R. Serious mental illness and physical health problems: a discussion paper. *Int J Nurs Stud* 2007;44:457-66.
15. Colton CW, Manderscheid RW. Congruencies in increased mortality rates, years of potential life lost, and causes of death among public mental health clients in eight states. *Prev Chronic Dis* 2006;3:A42.
16. Saraceno B, van Ommeren M, Batniji R et al. Barriers to improvement of mental health services in low-income and middle-income countries. *Lancet* 2007;370:1164-74.
17. Kane JM. Creating a health care team to manage chronic medical illnesses in patients with severe mental illness: the public policy perspective. *J Clin Psychiatry* 2009;70:37-42.
18. Lambert TJ, Velakoulis D, Pantelis C. Medical comorbidity in schizophrenia. *Med J Aust* 2003;178:S67-S70.
19. Zeber JE, McCarthy JF, Bauer MS et al. Datapoints: self-reported access to general medical and psychiatric care among veterans with bipolar disorder. *Psychiatr Serv* 2007;58:740.
20. Cradock-O'Leary J, Young AS, Yano EM et al. Use of general medical services by VA patients with psychiatric disorders. *Psychiatr Serv* 2002;53:874-8.
21. World Health Organization. Mental health and physical health: a call to action. The Mental and Physical Health Platform. Geneva: World Health Organization, 2003.
22. Thornicroft G, Alem A, Dos Santos RA. WPA guidance on steps, obstacles and mistakes to avoid in the implementation of community mental health care. *World Psychiatry* 2010;9:67-77.
23. Maj M. Mistakes to avoid in the implementation of community mental health care. *World Psychiatry* 2010;9:65-6.
24. Kendrick T. Cardiovascular and respiratory risk factors and symptoms among general practice patients with long-term mental illness. *Br J Psychiatry* 1996;169:733-9.
25. Brown S, Birtwistle J, Roe L et al. The unhealthy lifestyle of people with schizophrenia. *Psychol Med* 1999;29:697-701.
26. Brown S, Inskip H, Barraclough B. Causes of the excess mortality of schizophrenia. *Br J Psychiatry* 2000;177:212-7.
27. Hennekens CH. Increasing global burden of cardiovascular disease in general populations and patients with schizophrenia. *J Clin Psychiatry* 2007;68:4-7.
28. Brugha TS, Wing JK, Smith BL. Physical health of the long-term mentally ill in the community. Is there unmet need? *Br J Psychiatry* 1989;155:777-81.
29. Horvitz-Lennon M, Kilbourne AM, Pincus HA. From silos to bridges: meeting the general health care needs of adults with severe mental illnesses. *Health Aff* 2006;25:659-69.
30. Jeste DV, Gladsjo JA, Lindamer LA et al. Medical comorbidity in schizophrenia. *Schizophr Bull* 1996;22:413-30.
31. Goldman LS. Medical illness in patients with schizophrenia. *J Clin Psychiatry* 1999;60:10-5.
32. Ananth J. Physical illness and psychiatric disorders. *Compr Psychiatry* 1984;25:586-93.
33. Hennekens CH, Hennekens AR, Hollar D et al. Schizophrenia and increased risks of cardiovascular disease. *Am Heart J* 2005;150:1115-21.
34. Nasrallah HA, Meyer JM, Goff DC et al. Low rates of treatment for hypertension, dyslipidemia and diabetes in schizophrenia: data from the CATIE schizophrenia trial sample at baseline. *Schizophr Res* 2006;86:15-22.
35. Goff DC, Sullivan LM, McEvoy JP et al. A comparison of ten-year cardiac risk estimates in schizophrenia patients from the CATIE study and matched controls. *Schizophr Res* 2005;80:45-53.
36. Frayne SM, Halanych JH, Miller DR et al. Disparities in diabetes care: impact of mental illness. *Arch Intern Med* 2005;165:2631-8.
37. Druss BG, Bradford WD, Rosenheck RA et al. Quality of medical care and excess mortality in older patients with mental disorders. *Arch Gen Psychiatry* 2001;58:565-72.
38. Druss BG, Rosenheck RA, Desai MM et al. Quality of preventive medical care for patients with mental disorders. *Med Care* 2002;40:129-36.
39. Burns T, Cohen A. Item-of-service payments for general practitioner care of severely mentally ill persons: does the money matter? *Br J Gen Pract* 1998;48:1415-6.
40. Paton C, Esop R, Young C et al. Obesity, dyslipidaemias and smoking in an inpatient population treated with antipsychotic drugs. *Acta Psychiatr Scand* 2004;110:299-305.
41. Greening J. Physical health of patients in rehabilitation and recovery: a survey of case note records. *Psychiatr Bull* 2005;29:210-2.
42. Lai DW, Chau SB. Effects of service barriers on health status of older Chinese immigrants in Canada. *Soc Work* 2007;52:261-9.
43. Sernyak MJ. Implementation of monitoring and management guidelines for second-generation antipsychotics. *J Clin Psychiatry* 2007;68:14-8.
44. Sokal J, Messias E, Dickerson FB et al. Comorbidity of medical illnesses among adults with serious mental illness who are receiving community psychiatric services. *J Nerv Ment Dis* 2004;192:421-427.
45. Parks J, Radke AQ (eds). Obesity reduction and prevention strategies for individuals with serious mental illness. Alexandria: National Association of State Mental Health Program Directors (NASMHPD) Medical Directors Council, 2008.
46. Fagiolini A, Goracci A. The effects of undertreated chronic medical illnesses in patients with severe mental disorders. *J Clin Psychiatry* 2009;70:22-9.
47. Druss BG, von Esenwein SA, Compton MT et al. A randomized trial of medical care management for community mental health settings: the Primary Care Access, Referral, and Evaluation (PCARE) study. *Am J Psychiatry* 2010;167:151-9.
48. Vreeland B. Bridging the gap between mental and physical health: a multidisciplinary approach. *J Clin Psychiatry* 2007;68:26-33.
49. National Collaborating Centre for Mental Health Commissioned by the National Institute for Health and Clinical Excellence.

- Schizophrenia. Core interventions in the treatment and management of schizophrenia in adults in primary and secondary care (update). www.guidance.nice.org.uk.
50. Saravane D, Feve B, Frances Y et al. Drawing up guidelines for the attendance of physical health of patients with severe mental illness. *Encephale* 2009;35:330-9.
 51. Kerwin R. Connecting patient needs with treatment management. *Acta Psychiatr Scand* 2009;438:33-9.
 52. Straker D, Correll CU, Kramer-Ginsberg E et al. Cost-effective screening for the metabolic syndrome in patients treated with second-generation antipsychotic medications. *Am J Psychiatry* 2005; 162:1217-21.
 53. De Hert M, van Winkel R, Silic A et al. Physical health management in psychiatric settings. *Eur Psychiatry* 2010;25:S22-8.
 54. Heald A, Montejo AL, Millar H et al. Management of physical health in patients with schizophrenia: practical recommendations. *Eur Psychiatry* 2010;25:S41-5.
 55. Correll CU, Manu P, Olshanskiy V et al. Cardiometabolic risk of second-generation antipsychotic medications during first-time use in children and adolescents. *JAMA* 2009;302:1765-73.
 56. De Hert M, Dobbelaere M, Sheridan EM et al. Metabolic and endocrine adverse effects of second-generation antipsychotics in children and adolescents: a systematic review of randomized, placebo controlled trials and guidelines for clinical practice. *Eur Psychiatry* (in press).
 57. Hasnain M, Fredrickson SK, Vieweg WV et al. Metabolic syndrome associated with schizophrenia and atypical antipsychotics. *Curr Diab Rep* 2010;10:209-16.
 58. Marder SR, Essock SM, Miller AL et al. Physical health monitoring of patients with schizophrenia. *Am J Psychiatry* 2004;161:1334-49.
 59. Wagenknecht LE, Langefeld CD, Scherzinger AL et al. Insulin sensitivity, insulin secretion, and abdominal fat: the Insulin Resistance Atherosclerosis Study (IRAS) Family Study. *Diabetes* 2003; 52:2490-6.
 60. de Vegt F, Dekker JM, Jager A et al. Relation of impaired fasting and postload glucose with incident type 2 diabetes in a Dutch population: the Hoorn Study. *JAMA* 2001;285:2109-13.
 61. Wahrenberg H, Hertel K, Leijonhufvud BM et al. Use of waist circumference to predict insulin resistance: retrospective study. *BMJ* 2005;330:1363-4.
 62. Newcomer JW, Nasrallah HA, Loebel AD. The Atypical Antipsychotic Therapy and Metabolic Issues National Survey: practice patterns and knowledge of psychiatrists. *J Clin Psychopharmacol* 2004;24:S1-6.
 63. Barnes TR, Paton C, Cavanagh MR et al. A UK audit of screening for the metabolic side effects of antipsychotics in community patients. *Schizophr Bull* 2007;33:1397-403.
 64. Mackin P, Bishop DR, Watkinson HM. A prospective study of monitoring practices for metabolic disease in antipsychotic-treated community psychiatric patients. *BMC Psychiatry* 2007;7:28.
 65. De Hert M, Dekker JM, Wood D et al. Cardiovascular disease and diabetes in people with severe mental illness. Position statement from the European Psychiatric Association (EPA), supported by the European Association for the Study of Diabetes (EASD) and the European Society of Cardiology (ESC). *Eur Psychiatry* 2009;24: 412-24.
 66. Alberti KG, Eckel RH, Grundy SM et al. Harmonizing the metabolic syndrome: a joint interim statement of the International Diabetes Federation Task Force on Epidemiology and Prevention; National Heart, Lung, and Blood Institute; American Heart Association; World Heart Federation; International Atherosclerosis Society; and International Association for the Study of Obesity. *Circulation* 2009;120:1640-5.
 67. Chobanian AV, Bakris GL, Black HR et al. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure: the JNC 7 report. *JAMA* 2003;289:2560-72.
 68. Mackin P. Cardiac side effects of psychiatric drugs. *Hum Psychopharmacol* 2008;23:3-14.
 69. International Expert Committee. International Expert Committee report on the role of the A1C assay in the diagnosis of diabetes. *Diabetes Care* 2009;32:1327-34
 70. Hanssens L, De Hert M, Van Eyck D et al. Usefulness of glycosylated haemoglobin (HbA1c) to screen for diabetes in patients with schizophrenia. *Schizophr Res* 2006;85:296-7.
 71. De Beer K, Michael S, Thacker M et al. Diabetic ketoacidosis and hyperglycaemic hyperosmolar syndrome – clinical guidelines. *Nurs Crit Care* 2008;13:5-11.
 72. Silversides JA, Farling PA. Diabetic ketoacidosis guidelines and protection from aspiration pneumonitis. *Diabet Med* 2009;26:829.
 73. Charles RA, Bee YM, Eng PH et al. Point-of-care blood ketone testing: screening for diabetic ketoacidosis at the emergency department. *Singapore Med J* 2007;48:986-9.
 74. Wilson JF. In clinic. Diabetic ketoacidosis. *Ann Intern Med* 2010; 152:ITC1/1-15.
 75. Peuskens J, Pani L, De Hert M et al. Antipsychotics and hyperprolactinemia. Unpublished paper.
 76. Peveler RC, Branford D, Citrome L et al. Antipsychotics and hyperprolactinaemia: clinical recommendations. *J Psychopharmacol* 2008; 22:98-103.
 77. Emiliano AB, Fudge JL. From galactorrhea to osteopenia: rethinking serotonin-prolactin interactions. *Neuropsychopharmacology* 2004; 29:833-46.
 78. Bushe C, Yeomans D, Floyd T et al. Categorical prevalence and severity of hyperprolactinaemia in two UK cohorts of patients with severe mental illness during treatment with antipsychotics. *J Psychopharmacol* 2008;22:56-62.
 79. Tschoner A, Engl J, Rettenbacher MA et al. Is second-generation antipsychotic-induced hyperprolactinemia due to biologically active prolactin or to biologically inactive macroprolactin? Results from a prospective study. *J Clin Psychiatry* 2009;70:293-4.
 80. Correll CU, Carlson HE. Endocrine and metabolic adverse effects of psychotropic medications in children and adolescents. *J Am Acad Child Adolesc Psychiatry* 2006;45:771-91.
 81. Persson K, Axtelius B, Söderfeldt B et al. Oral health-related quality of life and dental status in an outpatient psychiatric population: a multivariate approach. *Int J Ment Health Nurs* 2010;19:62-70.
 82. Nielsen J, Munk-Jørgensen P, Skadhede S et al. Determinants of poor dental care in patients with schizophrenia: a historical, prospective database study. *J Clin Psychiatry* (in press).
 83. British Society for Disability and Oral Health. Oral health care for people with mental health problems – guidelines and recommendations. www.bsdh.org.uk.
 84. Waterreus AJ, Laugharne JD. Screening for the metabolic syndrome in patients receiving antipsychotic treatment: a proposed algorithm. *Med J Aust* 2009;190:185-9.
 85. Castle D, Lambert T, Melbourne S et al. A clinical monitoring system for clozapine. *Australas Psychiatry* 2006;14:156-68.
 86. Graham I, Atar D, Borch-Johnsen K et al. European guidelines on cardiovascular disease prevention in clinical practice: full text. *Eur J Cardiovasc Prev Rehabil* 2007;14:S1-113.
 87. Allison DB, Newcomer JW, Dunn AL et al. Obesity among those with mental disorders: a National Institute of Mental Health meeting report. *Am J Prev Med* 2009;36:341-50.
 88. van Winkel R, De Hert M, Van Eyck D et al. Screening for diabetes and other metabolic abnormalities in patients with schizophrenia and schizoaffective disorder: evaluation of incidence and screening methods. *J Clin Psychiatry* 2006;67:1493-500.
 89. Barnett AH, Mackin P, Chaudhry I et al. Minimising metabolic and cardiovascular risk in schizophrenia: diabetes, obesity and dyslipidaemia. *J Psychopharmacol* 2007;21:357-73.
 90. Cahn W, Ramlal D, Bruggeman R et al. Prevention and treatment of somatic complications arising from the use of antipsychotics. *Tijdschr Psychiatr* 2008;50:579-91.

91. Citrome L, Yeomans D. Do guidelines for severe mental illness promote physical health and well-being? *J Psychopharmacol* 2005; 19:102-9.
92. Cohn TA, Sernyak MJ. Metabolic monitoring for patients treated with antipsychotic medications. *Can J Psychiatry* 2006;51:492-501.
93. De Hert M, van Eyck D, De Nayer A. Metabolic abnormalities associated with second generation antipsychotics: fact or fiction? Development of guidelines for screening and monitoring. *Int Clin Psychopharmacol* 2006;21:11-5.
94. De Nayer A, De Hert M, Scheen A et al. Belgian consensus on metabolic problems associated with atypical antipsychotics. *Int J Clin Pract* 2005;9:130-7.
95. Sáiz Ruiz J, Bobes García J, Vallejo Ruiloba J et al. Consensus on physical health of patients with schizophrenia from the Spanish Societies of Psychiatry and Biological Psychiatry. *Actas Esp Psiquiatr* 2008;36:251-64.
96. Buckley PF, Miller DD, Singer B et al. Clinicians' recognition of the metabolic adverse effects of antipsychotic medications. *Schizophr Res* 2005;79:281-8.
97. Haupt DW, Rosenblatt LC, Kim E et al. Prevalence and predictors of lipid and glucose monitoring in commercially insured patients treated with second-generation antipsychotic agents. *Am J Psychiatry* 2009;166:345-53.
98. American Diabetes Association; American Psychiatric Association; American Association of Clinical Endocrinologists; North American Association for the Study of Obesity. Consensus development conference on antipsychotic drugs and obesity and diabetes. *Diabetes Care* 2004;27:596-601.
99. International Diabetes Federation. The IDF consensus worldwide definition of the metabolic syndrome. www.idf.org.
100. Vreeland B. Treatment decisions in major mental illness: weighing the outcomes. *J Clin Psychiatry* 2007;68:5-11.
101. Faulkner G, Cohn T, Remington G. Interventions to reduce weight gain in schizophrenia. *Schizophr Bull* 2007;33:654-6.
102. Faulkner G, Cohn T, Remington G. Interventions to reduce weight gain in schizophrenia. *Cochrane Database Syst Rev* 2007; 1:CD005148.
103. Alvarez-Jiménez M, Hetrick SE, González-Blanch C et al. Non-pharmacological management of antipsychotic-induced weight gain: systematic review and meta-analysis of randomised controlled trials. *Br J Psychiatry* 2008;193:101-7.
104. Hennekens CH. Increasing burden of cardiovascular disease: current knowledge and future directions for research on risk factors. *Circulation* 1998;97:1095-102.
105. Rich-Edwards JW, Manson JE, Hennekens CH et al. The primary prevention of coronary heart disease in women. *N Engl J Med* 1995;332:1758-66.
106. Bassuk SS, Manson JE. Epidemiological evidence for the role of physical activity in reducing risk of type 2 diabetes and cardiovascular disease. *J Appl Physiol* 2005;99:1193-204.
107. Brock CM, King DS, Wofford MR et al. Exercise, insulin resistance, and hypertension: a complex relationship. *Metab Syndr Relat Disord* 2005;3:60-5.
108. Donnelly JE, Blair SN, Jakicic JM et al. American College of Sports Medicine Position Stand. Appropriate physical activity intervention strategies for weight loss and prevention of weight regain for adults. *Med Sci Sports Exerc* 2009;41:459-71.
109. Cormac I. Promoting healthy lifestyles in psychiatric services. In: *Physical health in mental health. Final report of a scoping group.* Royal College of Psychiatrists, 2009:62-70.
110. Laurent SM, Simons AD. Sexual dysfunction in depression and anxiety: conceptualizing sexual dysfunction as part of an internalizing dimension. *Clin Psychol Rev* 2009;29:573-85.
111. Maayan L, Correll CU. Management of antipsychotic-related weight gain. *Expert Rev Neurother* 2010;10:1175-200.
112. Ryan MC, Collins P, Thakore JH. Impaired fasting glucose tolerance in first-episode, drug-naive patients with schizophrenia. *Am J Psychiatry* 2003;160:284-9.
113. Stokes C, Peet M. Dietary sugar and polyunsaturated fatty acid consumption as predictors of severity of schizophrenia symptoms. *Nutr Neurosci* 2004;7:247-9.
114. McCreadie RG; Scottish Schizophrenia Lifestyle Group. Diet, smoking and cardiovascular risk in people with schizophrenia: descriptive study. *Br J Psychiatry* 2003;183:534-9.
115. Menza M, Vreeland B, Minsky S et al. Managing atypical antipsychotic-associated weight gain: 12-month data on a multimodal weight control program. *J Clin Psychiatry* 2004;65:471-7.
116. Vreeland B, Minsky S, Menza M et al. A program for managing weight gain associated with atypical antipsychotics. *Psychiatr Serv* 2003;54:1155-7.
117. Gabriele JM, Dubbert PM, Reeves RR. Efficacy of behavioral interventions in managing atypical antipsychotic weight gain. *Obes Rev* 2009;10:442-55.
118. Hill JO, Peters JC, Catenacci VA et al. International strategies to address obesity. *Obes Rev* 2008;9:41-7.
119. Hill JO, Wyatt HR. Small changes: a big idea for addressing obesity. *Obes Manage* 2006;2:227-331.
120. Roick C, Fritz-Wieacker A, Matschinger H et al. Health habits of patients with schizophrenia. *Soc Psychiatry Psychiatr Epidemiol* 2007;42:268-76.
121. Faulkner G, Cohn T, Remington G. Validation of a physical activity assessment tool for individuals with schizophrenia. *Schizophr Res* 2006;82:225-31.
122. US Department of Health and Human Services. *Physical activity guidelines for Americans.* Washington: US Department of Health and Human Services, 2008.
123. Vancampfort D, Knapen J, De Hert M et al. Cardiometabolic effects of physical activity interventions for people with schizophrenia. *Phys Ther Rev* 2009;14:388-98.
124. De Leon J, Diaz FJ. A meta-analysis of worldwide studies demonstrates an association between schizophrenia and tobacco smoking behaviors. *Schizophr Res* 2005;76:135-57.
125. García-Portilla MP, Saiz PA, Benabarre A et al. Impact of substance use on the physical health of patients with bipolar disorder. *Acta Psychiatr Scand* 2010;121:437-45.
126. Bobes J, Arango C, Garcia-Garcia M et al. Healthy lifestyle habits and 10-year cardiovascular risk in schizophrenia spectrum disorders: an analysis of the impact of smoking tobacco in the CLAM-ORS schizophrenia cohort. *Schizophr Res* 2010;119:101-9.
127. Cormac I, Brown A, Creasey S et al. A retrospective evaluation of the impact of total smoking cessation on psychiatric inpatients taking clozapine. *Acta Psychiatr Scand* 2010;121:393-7.
128. Yeh HC, Duncan BB, Schmidt MI et al. Smoking, smoking cessation, and risk for type 2 diabetes mellitus: a cohort study. *Ann Intern Med* 2010;152:10-7.
129. Addington J, el-Guebaly N, Campbell W et al. Smoking cessation treatment for patients with schizophrenia. *Am J Psychiatry* 1998; 155:974-6.
130. George TP, Ziedonis DM, Feingold A et al. Nicotine transdermal patch and atypical antipsychotic medications for smoking cessation in schizophrenia. *Am J Psychiatry* 2000;157:1835-42.
131. Weiner E, Ball MP, Summerfelt A et al. Effects of sustained-release bupropion and supportive group therapy on cigarette consumption in patients with schizophrenia. *Am J Psychiatry* 2001;158: 635-7.
132. George TP, Vessicchio JC, Termine A et al. A placebo controlled trial of bupropion for smoking cessation in schizophrenia. *Biol Psychiatry* 2002;52:53-61.
133. Banham L, Gilbody S. Smoking cessation in severe mental illness: what works? *Addiction* 2010;105:1176-89.
134. Hollen V, Ortiz G, Schacht L et al. Effects of adopting a smoke-free policy in state psychiatric hospitals. *Psychiatr Serv* 2010;61: 899-904.

135. Mansia G, De Backer G, Dominiczak A et al. 2007 ESH-ESC Guidelines for the management of arterial hypertension: the task force for the management of arterial hypertension of the European Society of Hypertension (ESH) and of the European Society of Cardiology (ESC). *Blood Press* 2007;16:135-232.
136. Shaw MJ, Shaw L. The effectiveness of differing dental health education programmes in improving the oral health of adults with mental handicaps attending Birmingham adult training centres. *Commun Dent Health* 1991;8:139-45.
137. European Heart Rhythm Association; Heart Rhythm Society, Zipes DP et al. ACC/AHA/ESC 2006 guidelines for management of patients with ventricular arrhythmias and the prevention of sudden cardiac death: a report of the American College of Cardiology/American Heart Association Task Force and the European Society of Cardiology Committee for Practice Guidelines. *J Am Coll Cardiol* 2006;48:e247-346.
138. Baggaley M. Sexual dysfunction in schizophrenia: focus on recent evidence. *Hum Psychopharmacol* 2008;23:201-9.
139. Molitch ME. Medication-induced hyperprolactinemia. *Mayo Clin Proc* 2005;80:1050-7.
140. Shim JC, Shin JG, Kelly DL et al. Adjunctive treatment with a dopamine partial agonist, aripiprazole, for antipsychotic-induced hyperprolactinemia: a placebo-controlled trial. *Am J Psychiatry* 2007;164:1404-10.
141. Walters J, Jones I. Clinical questions and uncertainty – prolactin measurement in patients with schizophrenia and bipolar disorder. *J Psychopharmacol* 2008;22:82-9.
142. Trixler M, Gáti A, Fekete S et al. Use of antipsychotics in the management of schizophrenia during pregnancy. *Drugs* 2005;65:1193-206.
143. Einarson A, Boskovic R. Use and safety of antipsychotic drugs during pregnancy. *J Psychiatr Pract* 2009;15:183-92.
144. Miller LJ. Management of atypical antipsychotic drug-induced weight gain: focus on metformin. *Pharmacotherapy* 2009;29:725-35.
145. Corrigan PW, Larson JE, Rüsç N. Self-stigma and the “why try” effect: impact on life goals and evidence-based practices. *World Psychiatry* 2009;8:75-81.
146. Craddock N, Craddock B. Patients must be able to derive maximum benefit from a psychiatrist’s medical skills and broad training. *World Psychiatry* 2010;9:30-1.
147. Hollins S. Bridging a cultural divide within medicine: a role for psychiatrists? *World Psychiatry* 2010;9:32-3.
148. Correll CU. From receptor pharmacology to improved outcomes: individualizing the selection, dosing, and switching of antipsychotics. *Eur Psychiatry* 2010;25:S12-S21.
149. Millar H. Development of a health screening clinic. *Eur Psychiatry* 2010;25:S29-S33.
150. Druss BG, Zhao L, von Esenwein SA et al. The Health and Recovery Peer (HARP) Program: a peer-led intervention to improve medical self-management for persons with serious mental illness. *Schizophr Res* 2010;118:264-70.

Bipolar units and programmes: are they really needed?

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In the era of managed care and cost-effectiveness considerations, some see specialized units and programmes as expensive, sophisticated and elitistic organizations which might not be needed at all in the field of psychiatry, where technology is still a little part of what we do. But what lays behind those considerations is the concept that expertise is not needed in psychiatry, and that everybody can provide psychiatric care because, at the end of the day, what is basically needed is some empathy, compassion, and a minimal knowledge on how to provide some “sedation” to the mentally ill. The reality is that psychiatry is probably the most difficult and clinically sophisticated medical speciality, and that, precisely because of the limited role of technology, expertise is crucial for clinical success.

Are specialized units the future of psychiatry? I believe so. Of course, they will have to coexist with generalists, who have the challenging task to know a little of everything, and to deal with the majority of those who seek psychiatric help; but, as it happened with internal medicine or even more recently with neurology, we need superspecialists to deal with the most complex cases, generate high-quality research, and provide education on specific conditions. The patients who do not do well on standard treatment want to find experts in their condition, and this is the spot for specialized clinics and programmes.

Specialized units should not be exclusive of the Western world. Their sophistication does not mean that they are necessarily expensive. The main ingredients are striving for excellence, meritocracy, team work, competitive funding, and some intangible joy of living with the privilege to help and learn from our patients. As far as the ingredients are there, this can be done anywhere.

I had the privilege to start what is now considered by many not only one of the first specialized health care and research psychiatry programmes in Europe, but also what I like to see as a school of psychiatry, where young doctors, fellows, residents, and medical students receive a sophisticated training in psychopathology, psychopharmacology, and psychotherapy. We used to call this center “the Bipolar Unit”, especially when it started and had only one staff member (a literal “Unit”). With time and a little luck, some Spanish government funding came up, and I was able to hire a psychologist to lead what I wanted to be our first research project, a clinical trial testing the efficacy of psychoeducation for bipolar disorder (1). Subsequently, we got further funding, with special mention of that coming from the Stanley Medical Institute in Bethesda, and we started doing drug clinical trials (2) and research in emerging areas of interest, such as neuropsychology (3), functional outcome (4), and

epidemiological studies (5).

Right from the beginning, the center had one aim: to generate, teach, and apply knowledge on how to best treat patients with bipolar disorder. It was clear to me then, and still is today, that there is a huge gap between the available scientific evidence and the questions that come up from everyday clinical practice and from the daily contact with patients with bipolar disorder and their caregivers. The center aims to fill that gap as much as possible. Over 700 patients with bipolar disorder attend the programme (mostly as outpatients), and we count on 26 beds for inpatients, which we share with the schizophrenia and depression programmes. About 60% of outpatients come from our designated catchment area, while 40% are sent to us as a reference center for difficult-to-treat cases, including patients with severe rapid cycling, somatic and psychiatric comorbidities, and treatment refractoriness. One unique feature of our department is that programmes take preeminence, and therefore the patients are followed up regardless of the facility which they attend (inpatient unit, outpatient clinic, emergency room). This ensures quality and continuity of care and is particularly helpful for teaching and research. Other features of our programme are the team approach and the open-door policy (6).

I believe that specialized programmes such as the Barcelona Bipolar Disorders Programme are truly needed. It is time for evidence-based, but personalized medicine, and for coordinating the efforts of all those who participate in the healing process, from the generalist to the top specialist.

References

1. Colom F, Vieta E, Martínez-Arán A et al. A randomized trial on the efficacy of group psychoeducation in the prophylaxis of recurrences in bipolar patients whose disease is in remission. *Arch Gen Psychiatry* 2003;60:402-7.
2. Vieta E, Martínez-Arán A, Goikolea JM et al. A randomized trial comparing paroxetine and venlafaxine in the treatment of bipolar depressed patients taking mood stabilizers. *J Clin Psychiatry* 2002; 63:508-12.
3. Martínez-Arán A, Vieta E, Reinares M et al. Cognitive function across manic or hypomanic, depressed, and euthymic states in bipolar disorder. *Am J Psychiatry* 2004;161:262-70.
4. Rosa AR, Reinares M, Franco C et al. Clinical predictors of functional outcome of bipolar patients in remission. *Bipolar Disord* 2009;11:401-9.
5. Vieta E, Angst J, Reed C et al. Predictors of switching from mania to depression in a large observational study across Europe (EMBLEM). *J Affect Disord* 2009;118:118-23.
6. Vieta E. The package of care for patients with bipolar depression. *J Clin Psychiatry* 2005;66(Suppl. 5):34-9.

Outcomes and future directions of the national community mental health care program in Viet Nam

The mental health system in Viet Nam (population >85 million) has services provided at the central, provincial, district and community levels. There are 31 central and provincial mental hospitals, 27 psychiatric departments in general hospitals, 60 outpatient mental health facilities and 17 social care centres. Its workforce comprises about 950 mental health doctors, 2700 nurses and 800 other staff. Each of Viet Nam's 10,750 communes has a primary health centre (PHC), and there are over 47,000 primary health staff.

Delivering mental health care via the primary care system is endorsed as a suitable option for many developing countries (1-3). A national community mental health care (CMHC) program was launched in Viet Nam in 2001 to build up community mental health service by integrating mental health care into PHCs. The components provided were illness identification, basic treatment, relapse prevention, and reduction of risk and disability. Activities included training of PHC staff, screening at the community level, monthly review and medication provision, rehabilitation in activities of daily living, community education and regular interactions between the PHCs and the provincial and central hospitals. In 2009, the National Psychiatric Hospital No. 1 in Hanoi implemented a World Health Organization (WHO)-funded review of the CMHC program. The review consisted of a national workshop of 40 provincial hospitals leaders, site visits of several CMHC services and selective data from the national monitoring system and various community mental health stakeholders (4).

After being initiated in all 64 provinces in Viet Nam, the program has driven the development of country-wide community mental health network and services (5). It has achieved a national coverage of 64%, reaching about 145,160 patients. The strengths identified include: better access to treatment for community patients especially from remote areas, thus reducing treatment gap; greater opportunities for rehabilitation and reintegration into community; and increased public awareness of mental illness. The main limitations concern human resource and facilities, scope of treatment, scale of service coverage and linkages with families and community.

A framework for the revised model of community mental

health care in Viet Nam was collaboratively developed by service providers and consultants, in line with best-practice recommendations in the region (6). This includes: broadening the scope of mental health care to include mental health promotion, prevention, and intervention at the primary care level; strengthening the partnership with community supports to deliver mental health services together with PHCs; and developing specialist mental health teams to initiate and support the service implementation in order to build local expertise and long-term sustainability.

The revised CMHC program will strive for an integrated mental health service in the primary health system which is supported by strong community partnerships and reliable governance. Building the capacity of PHC staff to meet these aims requires significant initial investment but is likely to be a cost-effective and viable strategy in the long term.

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References

1. World Health Organization and World Organization of Family Doctors. Integrating mental health into primary care: a global perspective. Geneva: World Health Organization, 2008.
2. Thornicroft G, Alem A, Dos Santos RA et al. WPA guidance on steps, obstacles and mistakes to avoid in the implementation of community mental health care. *World Psychiatry* 2010;9:67-77.
3. Patel V, Maj M, Flisher AJ et al. Reducing the treatment gap for mental disorders: a WPA survey. *World Psychiatry* 2010;9:169-76.
4. Ng C. WHO short term consultancy on community mental health care in Viet Nam. Final Technical Report, 2009.
5. Than TP, Tran VC. Viet Nam country report. In: Asia-Australia Mental Health. Asia-Pacific Community Mental Health Development Project: Summary Report, Asia-Australia Mental Health, Melbourne, 2008.
6. Ng CH, Herrman H, Chiu E et al. Community mental health care in the Asia-Pacific region: using current best-practice models to inform future policy. *World Psychiatry* 2009;8:49-55.

Physical complications of severe enduring obsessive-compulsive disorder

Obsessive-compulsive disorder (OCD) is a common psychiatric illness, with a lifetime prevalence in the general population of 1.9 to 3% (1). The World Health Organization estimated it to be the 11th leading cause of non-fatal burden in the world in 1990, accounting for 2.2% of total years lost to disability (2). Most patients with OCD can be effectively treated, but a subgroup develops a severe enduring illness despite treatment. The National Inpatient Unit based at South West London and St. George's Mental Health NHS Trust has been treating patients with the most disabling OCD conditions for over 20 years (3,4).

There is a dearth of papers reporting on physical illness in people with OCD. We carried out a study on successive admissions with the diagnosis of severe, chronic disabling OCD. Ninety-eight patients with profound OCD were admitted. These comprised 52 men and 46 women who had an average age of 39±13 years (range 19-70). On admission these individuals had an average Yale-Brown Obsessive Compulsive Scale (Y-BOCS) score of 35±3. Using intention to treat analysis, these scores had reduced by an average 29% to a mean of 25±9 at discharge ($p<0.0001$), thus demonstrating that even these seriously ill patients can improve.

Severe self-neglect with inability to perform basic activities of self-care and hygiene was found in 75 patients (76.5%). In addition, 40 patients (40.8%) were incontinent most of the time. This was most commonly urinary incontinence (29.6%). Self-neglect was found to be correlated with increasing severity of OCD measured by Y-BOCS (Pearson's correlation coefficient 0.65; $p<0.0005$).

Fifty-eight patients (59.2%) had clinical evidence of severe dehydration on admission. Most patients who had this described either difficulties in performing the act of drinking or preparing drinks due to compulsive rituals or deliberately avoiding drinking as a way of reducing trips to the toilet. Worryingly, 21 patients (21.4%) had evidence of renal failure with a raised blood urea and 48 (49.0%) had a raised serum creatinine. The degree of dehydration was correlated with severity of illness measured by Y-BOCS, despite all having profound OCD symptoms (Pearson's correlation coefficient 0.28; $p<0.01$).

Twenty patients (20.4%) were underweight and 48 (49.0%) were overweight. In patients who were overweight, the mean body mass index (BMI) was 30±6; in those who were under-

weight, it was 18±1. Forty-two patients (42.8%) had evidence of high blood cholesterol. In addition, three patients were being treated for raised cholesterol with medication.

This study demonstrates that patients with the most severe OCD have significant physical morbidity. Indeed, factors such as renal impairment had almost universally gone unnoticed during the patient's previous psychiatric and physical treatments.

Most of the patients demonstrated severe self-neglect, which in itself seemed to result in some serious health consequences. Many of them did not appear to have received full physical assessment in the recent past.

This study confirms the need to ensure that physical illness is not overlooked in psychiatric patients (5). OCD patients appear to be particularly prone to renal damage and hyperlipidaemia, which may be related to their tendency to restrict fluids and eat erratically. Further studies examining the physical status of less severely ill patients with OCD are indicated.

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References

1. Karno M, Golding JM, Sorenson SB et al. The epidemiology of obsessive-compulsive disorder in five U.S. communities. *Arch Gen Psychiatry* 1988;45:1095-9.
2. Ustun TB, Ayuso-Mateos JL, Chatterji S et al. Global burden of depressive disorders in the year 2000. *Br J Psychiatry* 2004;184:386-92.
3. Boschen MJ, Drummond LM, Pillay A. Treatment of severe, treatment-refractory obsessive-compulsive disorder: a study of inpatient and community treatment. *CNS Spectr* 2008;13:1056-65.
4. Drummond LM. The treatment of severe, chronic, resistant obsessive-compulsive disorder. An evaluation of an in-patient programme using behavioural psychotherapy in combination with other treatments. *Br J Psychiatry* 1993;163:223-9.
5. Maj M. Physical health care in persons with severe mental illness: a public health and ethical priority. *World Psychiatry* 2009;8:1-2.

WPA recommendations for relationships of psychiatrists, health care organizations working in the psychiatric field and psychiatric associations with the pharmaceutical industry

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WPA Standing Committee on Ethics

Psychiatrists, health care organizations working in the psychiatric field and psychiatric associations often have multiple relationships with the pharmaceutical industry in areas including patient care, research, and education. Some of these relationships arise from contact with pharmaceutical representatives who market products, while others derive from industry-sponsored educational activities or research studies. For health care organizations and psychiatric associations, relationships encompass activities conducted within the organizational framework (e.g., teaching and research) as well as those based on the financial relationships of organizational leadership or the organization itself with industry (e.g., stock ownership, licensure of patents). Many benefits can flow from such relationships, including the opportunity for psychiatrists to have input into product development and organizational access to increased resources that can be devoted to the entity's primary missions. However, there is also the possibility that financial and other benefits for psychiatrists, health care organizations working in the psychiatric field and psychiatric associations may negatively affect fidelity to patients, research subjects, and trainees. As has been widely recognized, attention must be given to protecting the role of the physician and the missions of medical organizations from being adversely impacted by these relationships. The following recommendations are offered in that spirit.

PATIENT CARE

In the delivery of patient care, the interests of patients should take primacy over all other considerations. Psychiatrists and health care organizations working in the psychiatric field, therefore, should attempt to prevent influences on clinical decision making arising from relationships with industry that may result in decisions (e.g., the choice of medications to be prescribed) based on other considerations.

Access by pharmaceutical representatives

The pharmaceutical industry communicates directly with physicians and other caregivers through its marketing representatives, who routinely visit physicians' offices and other sites of care. A persuasive body of research suggests that visits from representatives are highly effective in changing physicians' prescribing practices and stimulating requests for expansion of hospital formularies. Often these changes are in the direction of newer and more expensive medications, which may not always be used for appropriate indications. Although many physicians rely on pharmaceutical representatives for information about new products, studies indicate that the information provided may be incomplete or misleading. Representatives may frequent public or patient care areas in the hopes of meeting physicians in informal settings.

Recommendations

Psychiatrists should be aware that the primary role of pharmaceutical representatives is to market medications and other products, and that the information

received from such sources may not be completely objective. Concerns about influence on their prescribing practices may lead some psychiatrists to choose not to meet with pharmaceutical representatives. Psychiatrists who continue such meetings should be aware of the data indicating the likelihood of subtle influences on their behavior, and should never rely on pharmaceutical representatives as a primary source of information about treatments. Pharmaceutical representatives should be required to make appointments to see psychiatrists and should never be involved in patient encounters.

Health care organizations working in the psychiatric field should develop policies that discourage their psychiatrists from meeting with pharmaceutical representatives. Some organizations may want to prohibit such meetings, while others will give their psychiatrists discretion in that regard. In the latter case, if psychiatrists desire meetings, representatives should be limited to fixed appointments and should not be permitted in the facility at other times. Pharmaceutical representatives should never be permitted to be involved in patient encounters, or otherwise to be present in patient care areas.

Meals

Pharmaceutical representatives sometimes offer meals to physicians and their staff, and to the staff of clinics and hospital wards. These meals provide opportunities for informal interaction with physicians, distribution of marketing materials, and another way of ingratiating the representative to the organization. As such, they represent a mechanism to further influence physicians' prescribing decisions.

Recommendations

Psychiatrists should forego offers of meals from pharmaceutical companies for themselves and for their staff members.

Health care organizations working in the psychiatric field should develop policies prohibiting acceptance of meals sponsored by pharmaceutical companies on the organizational premises.

Gifts, including materials carrying logos

Pharmaceutical companies frequently distribute materials with their names and logos and those of the brands that they are promoting. Like all advertising, these items are intended as regular reminders to physicians about the companies' drugs. In general, these are low value items such as pens, pads of paper, wall clocks and the like, but they are designed to be placed in prominent places in physicians' offices and clinic areas. Beyond the promotional impact, there is reason to believe that these small gifts may induce instincts of reciprocity on the part of recipients, who may desire to reciprocate with a favor to the gift-giver. Both phenomena can result in medication choices being made on other bases than patients' best interests. Presence of these items can also raise doubts in patients' minds as to the grounds on which physicians' treatment decisions are being made.

Recommendations

Psychiatrists should not accept gifts from pharmaceutical companies, and should insure that logoed items carrying companies' logos do not appear in patient care areas.

Health care organizations working in the psychiatric field should adopt policies that discourage psychiatrists and other staff from accepting gifts from pharmaceutical companies. Items carrying logos of pharmaceutical companies should never appear in patient care areas.

Samples

Marketing representatives often distribute medication samples as a technique to encourage adoption of new medications. In some cases, samples may represent the only access that indigent patients have to medications. Sometimes, however, samples may be offered as a mechanism for getting patients started on a medication that will subsequently be paid for by an insurance plan or directly by the patient. Distribution of samples has been shown to have an effect on physicians' prescribing decisions. Physicians whose patients rely on samples may face pressure to maintain positive relationships with the pharmaceutical representatives who supply them.

Recommendations

Psychiatrists should be aware of the reasons why pharmaceutical companies may distribute samples. If they continue to accept medication samples, they should do so only for patients who would otherwise be unable to have access to medications.

Health care organizations working in the psychiatric field that desire to continue accepting samples should develop mechanisms for central receipt and distribution (e.g., in a hospital or clinic pharmacy) to ensure that individual psychiatrists do not feel pressured by the receipt of samples for their patients to prescribe medications recommended by pharmaceutical representatives.

Formularies

Many hospitals and clinics maintain formularies, i.e., lists of medications that will be kept in the institutional pharmacy and that can be ordered for patients. Decisions about which medications should be listed in organizational formularies should be made on the basis of their utility for patient care, taking into account limitations on resources. These choices can have significant financial implications for pharmaceutical companies, which may try to influence the decisions.

Recommendation

Health care organizations working in the psychiatric field should develop policies prohibiting persons with financial relationships with pharmaceutical companies from serving on institutional formulary committees.

RESEARCH

Physicians and medical organizations, and less commonly professional associations, that conduct research play critical roles in advancing medical knowledge. In many parts of the world, a substantial proportion of funding for clinical research comes from industry, which has an interest in demonstrating the efficacy of its products. Industry-funded research can yield valid and important results, so long as its integrity is protected from adverse influence. Preservation of public trust in the integrity of the research process is critical to maintaining public support and funding for the research enterprise. When investigators, organizations or associations have relationships with industry, concerns can arise about the independence and objectivity of the research they pursue.

Disclosure, review, and management of relationships with industry of psychiatrists, health care organizations working in the psychiatric field and psychiatric associations

Psychiatrists, health care organizations working in the psychiatric field and psychiatric associations may have financial relationships with industry that call into question the objectivity with which they and their employees conduct research on products in which the pharmaceutical industry has an interest. For psychiatric associations, this concern extends to development of practice guidelines and similar documents based on existing research. Psychiatrists' relationships may include lecture fees, consultancies, service on advisory boards, and equity interests in companies. Or-

ganizational relationships may include industry gifts to the organization, licensure of patents, and industry funding for clinical, research, or educational endeavors. A subcategory of organizational relationships involves financial interests that the organization's leaders may have in pharmaceutical companies, e.g., stock ownership, receipt of honoraria, etc. Insulating the research enterprise from possible negative effects of industry relationships with investigators begins with transparency about those relationships. Investigators should bear the burden of disclosing their financial relationships with the pharmaceutical industry to their institutions, while the organizations and associations themselves are responsible for developing and implementing plans to avoid and manage potential conflicts. In general, the more closely a psychiatrist's or an organization's research activity relates to its financial interest (e.g., research on a compound licensed to industry for which the psychiatrist is a consultant or the organization owns the patent), the stronger the need for management of potential conflicts. Management approaches can include avoiding relationships with industry during the conduct of a research study, creating buffers between those responsible for an organization's finances and those conducting the research, and external review of research findings to insure their validity.

Recommendations

Psychiatrists with more than a minimal financial relationship with a pharmaceutical company (excluding grant or contract support for the research itself) in general should not engage in research involving that company's products. In those uncommon instances in which an exception may be appropriate, organizationally based investigators should seek review by their institution's conflict of interests committee. Investigators who are not organizationally based should identify an appropriate conflict of interests committee that would be willing to review their situation.

Health care organizations working

in the psychiatric field that conduct research should establish an institutional conflict of interest committee to review potential studies for which an organizational relationship with industry exists. The committee should have the authority to develop and implement appropriate management strategies to protect the integrity of the research from organizational pressures. Organizations should also develop policies requiring disclosure of investigators' financial relationships with industry. An individual conflict of interests committee (which could be the same committee that reviews institutional conflicts) should be established to review and manage investigators' financial relationships.

Psychiatric associations that conduct research should follow the recommendations for health care organizations. In addition, associations that produce practice guidelines and similar documents should apply these approaches to the relationships with industry of members and consultants who serve on the committees that develop these resources.

Disclosure of institutional- and investigator-industry relationships to research subjects

Research subjects may find an institution's or investigator's relationships with the pharmaceutical industry to be material to their decision as to whether to participate in a research study. Studies suggest that research subjects desire to receive this information about investigators in particular. At least in some cases, this information will affect their participation decisions. Moreover, transparency of this sort may play an important role in preserving public trust in the conduct of research.

Recommendations

Psychiatrists engaged in research should affirmatively disclose the existence and nature of their relationships with industry to potential research subjects.

Health care organizations working

in the psychiatric field and psychiatric associations should develop policies requiring investigators to disclose the existence and nature of organizational and investigator relationships with industry to potential research subjects.

The written informed consent form is a useful vehicle for these disclosures.

Contracts with industry to fund research

As noted above, the pharmaceutical industry provides a substantial proportion of funding for clinical research in many parts of the world today. Typically, this funding comes in the form of contracts with medical organizations where the research will be performed, but industry may contract directly with individual physicians. At times, provisions in these contracts have restricted the ability of investigators to publish the data they collect, allowing companies to control the presentation of results. Suppression of unfavorable findings has led to significant distortions in the medical literature, resulting in the risk of less-than-optimal treatments being chosen for patients.

Recommendations

Psychiatrists should avoid entering into research contracts with industry that contain provisions allowing the company to restrict publication of research findings or giving the company the right to control how the findings are presented. Health care organizations working in the psychiatric field and psychiatric associations should develop policies that preclude organizational involvement in such research.

EDUCATION

Physicians, medical organizations, and professional associations are often involved in the education of students in medical, nursing, and other health professional programs, the training of house officers and other staff, and the provision of continuing education for physicians,

nurses and other professions. Pharmaceutical companies may provide support for undergraduate and graduate medical and other health professional education, and are often heavily involved in supporting continuing education programs for physicians. This involvement has raised concerns about the objectivity of the information presented with industry funding, which may be designed to shed a favorable light on the funder's products. Exposure to industry-controlled continuing education programs has been shown to have a direct effect on the prescription practices of trainees and practicing physicians.

Industry-controlled educational presentations

Pharmaceutical companies may have direct control over presentations to medical audiences when those presentations are made by their employees or when they provide the content and funding for a presentation by a non-employee. Given industry interests in selling their products, such presentations are not likely to meet medical standards for objective and valid information.

Recommendations

Psychiatrists should avoid participating – as speakers or attendees – in educational presentations in which the speaker does not directly control the content of the presentation.

Health care organizations working in the psychiatric field and psychiatric associations should develop policies that preclude educational presentations in which the speaker does not directly control the content of the presentation on their premises, at their meetings, or with their sponsorship.

Industry-funded educational presentations

Pharmaceutical companies may offer funding to physicians, medical organizations, and professional associations

to produce educational programs on particular topics, involving identified speakers, and with specified target audiences. Acceptance of these terms presents a significant risk that such presentations will not meet generally accepted standards for objectivity.

Recommendations

Psychiatrists should not accept funding from the pharmaceutical industry for educational presentations unless they have control over the topic and content of their presentations.

Health care organizations working in the psychiatric field and psychiatric associations should develop policies that prohibit receipt of funds from industry for educational programs conditioned on industry designation of topics, speakers, or target audiences. Industry funding for education should come in the form of unrestricted grants, with the stipulation that the organization or association shall have complete control of topics, speakers, and audiences. Funding for such programs should be provided to the organization or association or to one of its administrative divisions, not directly to a member of its staff. Pharmaceutical marketing materials should not be distributed at educational presentations.

Education on relationships with industry

Physicians should be aware of the positive and negative aspects of relationships with industry, and medical organizations and professional associations can play an important role in educating trainees and physician staff members on these issues. Such education can permit trainees and physicians to determine their own conduct in relation to industry in an informed manner.

Recommendation

Psychiatrists should seek out and health care organizations working in the psychiatric field and psychiatric associations should develop educational

programs on how to avoid or manage problems that can arise from relationships with the pharmaceutical industry. Such programs should emphasize data on the nature and positive and negative effects of relationships with industry.

Issues specific to psychiatric associations

In addition to the recommendations above, the unique role of professional associations in formulating standards – including ethical standards – and providing education to members raise additional issues that should be considered.

Recommendations

Psychiatric associations should seek to minimize reliance on industry support of their activities. Public disclosure should be made of all industry support, and association leaders should disclose their relationships with industry on at least an annual basis. Institutional conflict of interests committees should consider strategies for managing or eliminating conflicts that may arise from organizational or individual relationships with industry. Psychiatric associations should not participate in marketing activities on behalf of pharmaceutical companies, including endorsement of commercial products. Finally, psychiatric associations have a responsibility to develop guidelines for their members regarding members' relationships with industry.

When organizing national or international conferences or congresses, psychiatric associations can accept support from industry, but should make reasonable efforts to seek sponsorship from multiple sources. All commercial support should be openly disclosed to attendees. Psychiatric associations should identify the topics, content, and presenters at their meetings independent of influence from pharmaceutical and other companies, and insure that they meet appropriate guidelines for continuing medical education. Satellite symposia should be held to identical standards as presentations that are part of the official program. Psychiatric associations

should place limits on exhibits and exhibitor conduct to insure that the tone of the exhibit area is professional in nature.

Health care organizations working in

the psychiatric field and psychiatric associations should establish a process to develop and implement guidelines regulating organizational relationships with

industry, consistent with the recommendations above.

Activities of the WPA Early Career Psychiatrists Council: the Action Plan is in progress

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The WPA Early Career Psychiatrists Council, whose members have been nominated by the WPA Member Societies according to the WPA Action Plan 2008-2011 (1,2), started its activities at the end of 2009 (3). In about one year, the Council has carried out several activities, which are reported in the following paragraphs.

The three sets of slides of the WPA Programme on Depression and Physical Diseases have been translated in several languages and adapted to various national contexts. In particular, the slides on depression and diabetes have been translated in 14 languages (Azeri, Bosnian, Croatian, Czech, Estonian, French, German, Indonesian, Italian, Portuguese, Romanian, Russian, Spanish and Swedish). These slides are now available on the WPA website (www.wpanet.org).

A survey on psychotherapy training and practice in Europe has been completed. The results indicate that training in psychotherapy, although mandatory in almost all European countries, takes place in a very diverse way throughout Europe. Both the content of the training (e.g., the techniques which are taught) and the structure (e.g., supervision, number of patients to be treated, etc.) are extremely different. Anyway, early career psychiatrists seem to be confident in treating patients using their psychotherapeutic skills. The results of this survey are going to be presented at the WPA Thematic Conference in Istanbul in June 2011.

The Council has developed, in collaboration with the WPA Headquarters,

a specific section of the WPA website, which will include information about the activities of the Council as well as other materials (papers, documents, announcements of meetings or publications, reports about personal professional experiences), which may be of interest to early career psychiatrists worldwide.

The Council has organized a Regular Symposium for the 15th World Congress of Psychiatry to be held in Buenos Aires, Argentina, in September 2011, on "New challenges and new solutions for early career psychiatrists: the role of the World Psychiatric Association". Moreover, scientific symposia and international conferences have been organized by members of the Council in Vilnius, Lithuania (coordinator: M. Bendix, Sweden), Riccione, Italy (coordinator: A. Fiorillo, Italy), Cairo, Egypt (coordinator: H. Elkholy, Egypt) and St. Petersburg, Russia (coordinator: Y. Kochetkov, Russia). In particular, the special workshop organized in Cairo, in collaboration with the Early Career Psychiatrists Section of the Egyptian Psychiatric Association, during the January 2011 WPA Regional Meeting, has been very successful in terms of participation and contents.

Among the activities planned by the Council for the year 2011 are a survey on

career choice after training in psychiatry, carried out in Europe I zone countries and coordinated by F. Riese (Switzerland), C. Oakley (UK), M. Bendix (Sweden) and P. Piir (Estonia); a paper on stigmatization of people with mental disorders and of psychiatrists, produced by the Asia/Australasia components, and papers on psychiatric training worldwide and on choosing psychiatry as a career, coordinated by the America and Africa/Middle East components, respectively. The translation of the slides of the WPA Programme on Depression and Physical Diseases will continue, especially in the Asia/Australasia area, and the Council will contribute to the section on public education of the WPA website.

The first personal meeting of the Council will take place on September 20 in Buenos Aires, during the 15th World Congress of Psychiatry.

References

1. Maj M. The WPA Action Plan 2008-2011. *World Psychiatry* 2008;7:129-30.
2. Maj M. The WPA Action Plan is in progress. *World Psychiatry* 2009;8:65-6.
3. Fiorillo A, Lattova Z, Brahmhatt P et al. The Action Plan 2010 of the WPA Early Career Psychiatrists Council. *World Psychiatry* 2010;9:63-4.

The 15th World Congress of Psychiatry and recent WPA activities

The complete scientific programme of the 15th World Congress of Psychiatry, to be held in Buenos Aires (Argentina) from 18 to 22 September 2011, is now

available on the Congress website (www.wpa-argentina2011.com.ar). The Association is proud of the outstanding quality of the programme, including 24 Keynote

Lectures, 15 Core Symposia, 111 Regular Symposia and Workshops (selected from over 500 submissions), 58 Symposia and Workshops organized by WPA Scientific Sections, 14 Symposia and Workshops organized by WPA Zones, 8 Special Sessions, 28 Oral Communication Sessions, 5 Poster Sessions, in addition to the Spanish/Portuguese Track and the Sponsored Events. On March 31, about 4,500 paid registrations had been already received, and more than 10,000 participants are expected. The official language of the Congress will be English, but simultaneous translation into Spanish and Portuguese will be available for Keynote Lectures, Core Symposia, Special Sessions and selected Regular, Section and Zonal Symposia. An extremely attractive programme of tours for Congress participants and accompanying persons has been organized.

The WPA is collaborating with the World Health Organization (WHO) in several activities, including the development of the chapter on mental and behavioural disorders of the ICD-11 (see 1). W. Gaebel, chairperson of the WPA Section on Schizophrenia, is leading the ICD-11 Working Group on Psychotic Disorders; M. Maj, WPA President, is leading the Working Group on Mood and Anxiety Disorders; P. Tyrer, Officer of the WPA Section on Personality Disorder, is leading the Working Group on Personality Disorders; L. Salvador Carulla, Officer of the WPA Section on Psychiatry of Intellectual Disability, is leading the Working Group on Intellectual Disabilities. The WPA President is member of the ICD-11 International Advisory Group, whose first report appears in this issue of *World Psychiatry* (2), along with the results of the WPA-WHO Global Survey of Psychiatrists' Attitudes Towards Mental Disorders Classification (3).

The WPA is actively contributing to the international effort to mitigate the mental health consequences of major natural disasters. A series of train-the-trainers workshops is being conducted in several regions (see 4). The WPA collaborated with the WHO in recruiting trained psychiatrists to serve in Haiti (5) and is now collaborating with the Japanese Society of Psychiatry and Neurology

in dealing with the mental health consequences of the nuclear component of the disaster which struck Japan.

In this issue of *World Psychiatry*, we publish the fourth guidance paper produced by the WPA, dealing with the protection and promotion of mental health in children of persons with severe mental disorders (6). Three guidance papers have been published in previous issues of the journal (7-9) and are available in several languages on the WPA website (www.wpanet.org).

This issue of the journal also hosts the second part of the WPA educational module on physical illness in patients with severe mental illness (10). The first part, published in the February 2011 issue of the journal (11), is available on the WPA website. The website also hosts the three sets of WPA slides on depression and physical diseases, now available in 17 different languages.

Further WPA documents available on the website include the template for undergraduate and post-graduate psychiatric education (12), the recommendations on best practices in working with service users and family carers (13), the educational programme on depression, the report on the survey on reducing the treatment gap for mental disorders (14), and reports on research projects and on fellowships for early career psychiatrists supported by the WPA (see 15,16).

The WPA produces periodically press releases on topics relevant to mental health. Among those which have resulted in a wide media coverage, are the releases focusing on two papers published in *World Psychiatry*: the report on the Iraq Mental Health Survey (17), covered in articles appearing in the *International Herald Tribune*, the *New York Times* and the *Washington Post*, and the paper on income-related inequalities in the prevalence of depression and suicide behaviour (18), covered in an article in *USA Today*.

References

1. Maj M. WPA-WHO collaborative activities 2009-2011. *World Psychiatry* 2009;8:129-30.
2. International Advisory Group for the Revision of ICD-10 Mental and Behavioural

Disorders. A conceptual framework for the revision of the ICD-10 classification of mental and behavioural disorders. *World Psychiatry* 2011;10:86-92.

3. Reed GM, Correia JM, Esparza P et al. The WPA-WHO Global Survey of Psychiatrists' Attitudes Towards Mental Disorders Classification. *World Psychiatry* 2011;10:118-31.
4. van Ommeren M, Jones L, Mears J. Orienting psychiatrists to working in emergencies: a WPA-WHO workshop. *World Psychiatry* 2010;9:121-2.
5. Ravenscroft K. My experience in Haiti: a brief report. *World Psychiatry* 2010;9:191-2.
6. Brockington I, Chandra P, Dubowitz H et al. WPA guidance on the protection and promotion of mental health in children of persons with severe mental disorders. *World Psychiatry* 2011;10:132-7.
7. Thornicroft G, Alem A, Dos Santos RA et al. WPA guidance on steps, obstacles and mistakes to avoid in the implementation of community mental health care. *World Psychiatry* 2010;9:67-77.
8. Sartorius N, Gaebel W, Cleveland HR et al. WPA guidance on how to combat stigmatization of psychiatry and psychiatrists. *World Psychiatry* 2010;9:131-44.
9. Bhugra D, Gupta S, Bhui K et al. WPA guidance on mental health and mental health care in migrants. *World Psychiatry* 2011; 10:2-10.
10. De Hert M, Cohen D, Bobes J et al. Physical illness in patients with severe mental disorders. II. Barriers to care, monitoring and treatment guidelines, plus recommendations at the system and individual level. *World Psychiatry* 2011;10:138-51.
11. De Hert M, Correll CU, Bobes J et al. Physical illness in patients with severe mental disorders. I. Prevalence, impact of medications and disparities in health care. *World Psychiatry* 2011;10:52-77.
12. Tasman A. Update on WPA Education Programs, 2009. *World Psychiatry* 2009;8:190-1.
13. Herrman H. WPA Project on Partnerships for Best Practices in Working with Service Users and Carers. *World Psychiatry* 2010;9: 127-8.
14. Patel V, Maj M, Flisher AJ et al. Reducing the treatment gap for mental disorders: a WPA survey. *World Psychiatry* 2010;9:169-76.
15. Maj M. The WPA Action Plan 2008-2011. *World Psychiatry* 2008;7:129-30.
16. Maj M. The WPA Action Plan is in progress. *World Psychiatry* 2009;8:65-6.
17. Alhasnawi S, Sadik S, Rasheed M et al. The prevalence and correlates of DSM-IV disorders in the Iraq Mental Health Survey (IMHS). *World Psychiatry* 2009;8:97-109.
18. Hong J, Knapp M, McGuire A. Income-related inequalities in the prevalence of depression and suicidal behavior: a 10-year trend following economic crisis. *World Psychiatry* 2011;10:40-4.

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