

From the Editor's desk

By Kamaldeep Bhui

Is medical illness a myth?

The National Institute of Health's (NIH's) emphasis on mental illness as a brain disorder has transformed psychiatric research and attitudes towards mental illness. Despite the departure of the Director of the National Institute of Mental Health, Thomas Insel, to join Google Life Sciences (http://www.nih.gov/about/director/09152015_statement_insel.htm), the move away from symptom-based diagnoses in favour of more neuroscientific rationales for diagnosis is necessary and likely to be sustained. The absence of demonstrable organic pathology in mental illnesses motivated the NIH programmes, yet essentially all behaviours and adaptations to context will have physiological correlates; Google and other software and technology companies may well offer better and more powerful methods for assessing pathophysiology and making diagnoses in the future. Such shifts in diagnostic practice require much disciplined research, and seem to not obviate the need for compassionate, caring and emotionally intelligent clinicians who are able to contain and negotiate meanings and experiences, and transform conversations and care packages to positive outcomes for patients.

The urge to classify and define mental illnesses on the basis of brain connections has seen the emergence of the new science of connectomics (<http://www.neuroscienceblueprint.nih.gov/connectome/>). Such subjects are beginning to be taught in medical schools and in postgraduate curricula but we must see them take a prominent position in the education of future doctors and scientists. Connectomics, genomics, and molecular medicine can all influence the development of new medications and treatments that might target under- or overactive brain networks. This brave new world seems in marked contrast to that in the UK, where the National Institute of Health Research (NIHR), for example, proposes that all commissioned research must demonstrate patient impact within a 3- to 5-year timeframe, to minimise the translational gap and shorten the very long timescales in which a new concept becomes an effective intervention in routine health care. The emphasis is less on neuroscience and more on complex care packages and processes, novel therapeutic interventions involving communications and devices, but most importantly, the impact in routine clinical practice must be a realisable aspiration. The one exception to this trend is for dementia, where there is a desperate need for both biological and molecular knowledge, to advance the possibility of effective preventive interventions; alongside these better methods of diagnosis, effective practice and policies are needed. For example, in this issue of the *BJPsych*, Abdul-Hamid *et al* (pp. 440–443; discussed in an editorial by Warner, pp. 375–376) demonstrate that services specifically designed for the elderly are more likely to reduce the levels of unmet need; Koponen *et al* (pp. 444–449) warn of the rapid escalation in prescriptions of antipsychotics following a diagnosis of Alzheimer's disease. Remarkably, Topiwala *et al* (pp. 435–439) offer some hope of premorbid socioeconomic status and IQ offering resiliency against hippocampal atrophy as a marker of cognitive impairment, so linking brain pathology with early environmental and educational experiences.

Although diagnostic classifications such as DSM (IV and 5) and ICD (10 and 11) are imperfect and contested, they remain the best available, and are still a practical aid for clinicians to

formulate and construct a package of effective interventions. Yet, diagnostic frameworks are challenged for promoting medicalisation of ordinary behaviours, for not being culturally competent, and then there are the well-established criticisms of diagnosis-based psychiatric practice as inhumane and unscientific by considering mental illnesses to be medical illness.¹ Szasz does not deny the existence of 'conditions' that psychiatrists call mental illnesses, or the suffering and distress experienced by patients, but objects to classifications as if these 'conditions' are medical diseases.¹ The protection of liberty and autonomy, the minimisation of coercive practices, and challenging the medicalisation of everyday behaviours are welcome and major contributions by Szasz to psychiatric practice. However, the absence of brain pathology in the formulation of a myth of mental illness is now open to revision. Depression, obsessive-compulsive disorders, schizophrenia, autism are all now being investigated and showing evidence of significant brain pathology, although a more nuanced developmental, life-course and biosocial explanation is emerging rather than a dichotomous explanation that attracts a polemical discourse.² Evidence such as this may compel existing commissioners and policy makers to not overlook mental illness and public global public mental health as a priority.³ Stigma is often blamed for such omissions (see Mehta *et al*, pp. 377–384), but even stigma cannot explain the extent of the omission on a global scale.³

Certainly, lifestyles including balanced nutrition and activity levels, poverty, social status and marginalisation, conflict, adversity, stigma all contribute to the future risk of mental illness, as does persistent disability following exposure to violence, abuse, and poor social support and parenting. The same can be said of cardiovascular disease and cancer, which also show income gradients in terms of incidence and treatment.⁴ Should we propose that physical illnesses are not diseases just because the sources of risk and protection invoke lifestyle, social distress, nutrition and risk behaviours? The most important public mental health interventions attend to protection against violence, education, parenting, nutrition, risky lifestyles, alcohol and smoking, income inequality and employment, leisure and purpose.^{5–7} These interventions are likely to reduce mortality and morbidity for all medical illnesses, although Marmot's notion of proportionate universalism will need recognition when offered to people with severe and enduring mental illnesses.⁸ For example, those with diabetes and schizophrenia have a higher mortality and more vascular complications that people with diabetes alone (see Wu *et al*, pp. 450–457).

The *BJPsych* welcomes original research that improves our knowledge of the connectomics of mental illness. These original contributions must present, for a general psychiatric audience, the specific proposed network model and the wider impacts on levels of activity and synchrony of activity across brain connections, and the definitive implications for diagnosis and treatment. It is difficult to prove causation rather than correlations, so studies with triangulated or more corroborative evidence are encouraged. Such deliberations reawaken the debate about psychiatry as a brain science. In this issue, Crossley *et al* (pp. 429–434) and an editorial by David & Nicholson (pp. 373–374) re-examine the proposed divide between neurology and psychiatry, questioning not whether psychiatry is a brain disorder, but which parts of the brain are affected in psychiatric and neurological illness; they conclude that the basal ganglia, insula, sensorimotor and temporal cortex showed greater impairment in neurological disorders, whereas the cingulate, medial frontal, superior frontal and occipital cortex showed greater impairment in psychiatric disorders. Mayer *et al* (pp. 420–428) locate the possible source of behavioural symptoms in people with

schizophrenia to hyperactivation within auditory, sensorimotor and posterior parietal cortex, rather than to the cognitive control network.

Further elegant experiments attempt to improve our knowledge of hallucinations and the role of empathy in people vulnerable to psychosis (see Derntl *et al*, pp.407–413, Rayner *et al*, pp. 414–419). And the extent of cortical folding on magnetic resonance imaging seems to correlate with disability associated with schizophrenia (Guo *et al*, pp.458–459), offering a potential biomarker. New evidence shows that conduct disorders and callous unconcern show gradients by income inequality, proposing pathways that might be remedied especially among middle-income families (Piotrowska *et al*, pp.385–391). Callous–unemotional traits (Carter Leno *et al*, pp.392–399) are more common in autism spectrum disorder than expected and are associated with specific impairment in fear recognition but not with theory of mind or cognitive flexibility. In contrast, Grove *et al* (pp.400–406) propose that measures of empathy, systematising and autistic traits can be used to define subgroups of autism.

Much psychiatric practice includes judgement about risk; this indeed is perhaps what fuels the concerns about coercion and compulsory treatment, as other areas of medical practice do not have separate legislation to enforce treatment. Foster (pp.371–372) argues for a personalised approach to risk assessment that does not rely on checklists and measures with poor psychometric properties, but on individual care planning and the best knowledge

of the individual person's biography, experiences and world view. It seems that despite the anticipated advances in connectomics, as Foster outlines, 'Suicide prevention [and by implication other care practices] for people with mental illness warrants an evidence-based approach to service design as well as clinical practice', thus recognising the need for both the NIHR and NIH visions of research priorities.

- 1 Buchanan-Barker P, Barker P. The convenient myth of Thomas Szasz. *J Psychiatric Ment Health Nurs* 2009; **16**: 87–95.
- 2 Insel TR. Faulty circuits. *Scientific American* 2010; **302**: 44–51.
- 3 Hyman SE. The unconscionable gap between what we know and what we do. *Science Translat Med* 2014; **6**: 253cm9.
- 4 Newton JN, Briggs AD, Murray CJ, Dicker D, Foreman KJ, Wang H, et al. Changes in health in England, with analysis by English regions and areas of deprivation, 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013. *Lancet* 15 Sep 2015 (doi: 10.1016/S0140-6736(15)00196-8).
- 5 Forsman AK, Wahlbeck K, Aaro LE, Alonso J, Barry MM, Brunn M, et al. Research priorities for public mental health in Europe: recommendations of the ROAMER project. *Eur J Public Health* 2015; **25**: 249–54.
- 6 Campion J, Bhugra D, Bailey S, Marmot M. Inequality and mental disorders: opportunities for action. *Lancet* 2013; **382**: 183–4.
- 7 Royal College of Psychiatrists. *No Health without Public Mental Health: The Case for Action* (Position Statement PS4/2010). Royal College of Psychiatrists, 2010.
- 8 Allen J, Balfour R, Bell R, Marmot M. Social determinants of mental health. *Int Rev Psychiatry* 2014; **26**: 392–407.