

## From the Editor's desk

By Kamaldeep Bhui

**Mind and body conversation at the heart of medicine**

The training of doctors is under review following publication of the 'Shape of Training Review' by Professor Greenaway ([www.shapeoftraining.co.uk/](http://www.shapeoftraining.co.uk/)). There is a need to balance doctors with generalist *v.* specialist skills, but the risk of shortening the length of training and removing provisional registration is causing some concern about patient safety, especially at a time when clinical decisions are becoming more complex and scientific advances are flourishing ([www.gmc-uk.org/news/26114.asp](http://www.gmc-uk.org/news/26114.asp); [www.bbc.co.uk/news/health-31048279](http://www.bbc.co.uk/news/health-31048279)). The ability to marshal evidence and guidelines has never been more in need; thankfully, there is recognition that clinical academics are a vital part of medicine and that academic career pathways also need to be strengthened.

Teaching psychiatry to medical students is known to be essential to produce doctors that can communicate, empathise, listen and be alert to the links between mind and body.<sup>1</sup> All doctors need to recognise common psychiatric disorders, given their high prevalence in hospital, primary care and community settings. We are failing to attract students to psychiatry,<sup>2</sup> yet the need for and potential impact of psychiatrists, in the UK at least, has never been greater.<sup>3</sup> The importance of and exposure to psychiatry teaching at medical school is a key determinant of choosing a career in psychiatry.<sup>4</sup> A rounded medical school curriculum should provide not only physiological maps of how the body is represented in brain cortex, but also an appreciation of how the mind maps onto the body and the brain, and the power of emotions to influence health and an individual's interactions with the wider world.<sup>5</sup>

Understanding the nature, source and impact of emotions is vital in neuroscience and applied psychiatric research<sup>6</sup> but more generally in medicine<sup>7</sup> and ethical clinical decision-making.<sup>8</sup> More research is needed on normative mechanisms of emotional expression, and symptom formation when these mechanisms fail. Emotions can be considered relevant at the level of sociocultural relations, mind–body relations and brain structure and function.

Alan Roland's book *In Search of Self in India and Japan* provides case studies and anthropological research on how the 'relational self' and emotional expressions fundamentally differ across nations.<sup>9</sup> In the 'sociocentric' societies of East and South Asia a more hierarchical family structure and a deeply hidden inner core of emotions are described as protecting against intimacy, transparency and ego permeability when contrasted with White Americans. This sociocentric self is said to foster more harmonious family and societal relationships, and independent research does show better public health, especially in areas of poverty and material deprivation.<sup>10,11</sup> Social and family support, regardless of the nature of the self, may be more important in suicide prevention,<sup>12</sup> even in a sociocentric Japanese society where stigma may lead to isolation.<sup>13</sup> Milner *et al's* systematic review (pp.184–190) examines communications and support through 'letters, green cards, telephone calls and postcards'; there is little evidence that these prevent self-harm and suicide. Hatcher *et al's* Zelen trial of problem-solving therapy and regular postcards (pp.229–236) also had negative findings due, perhaps, to a lack of engagement with the therapy.

A significant body of research locates emotional pathologies to specific brain regions. For example, this issue of the *BJPsych* includes intriguing studies of patterns of cortical activation in

mental illness (see Fonzo *et al*, pp.206–215; Regenbogen *et al*, pp.198–205).

Yet, just as the body is mapped onto the brain, emotions are perceived to emanate not from the brain or even the head, but in the somatosensory system as a whole, as a culturally universal categorical somatotopic map; each emotion is experienced in characteristic body areas in a reliable and predictable fashion.<sup>14</sup>

Many studies illustrate that emotions can affect the course of physical illness, including cardiovascular disease,<sup>15</sup> cancer<sup>16</sup> and immune and blood-related disorders.<sup>17</sup> Loss of T-lymphocytes can have a negative impact on emotional well-being and cognition; the digestive system and gut micro-organisms may be implicated.<sup>18,19</sup> Indeed, the gut has been labeled the 'second brain', with suggestions that we ought to pay more attention to 'gut feelings'.<sup>20</sup>

Accordingly, studies of social, body and mind traumas reveal substantial emotional disturbance and symptoms of psychiatric illness. Any hypothesised mechanism must link the social world, and all its turmoil, with biology and the mind. Upthegrove and colleagues (pp.191–197) show linkages between childhood traumatic experiences and the likelihood of experiencing hallucinations in later life, but contrary to previous studies<sup>21</sup> the risk of psychosis in general was not elevated. Barker *et al's* editorial (pp.177–180) elegantly lays out a number of potential mechanisms by which trauma leads to symptoms of psychiatric illness through elaborate feedback mechanisms that include the HPA axis, NMDA glutamate receptors and regulation of BDNF expression and DNA methylation responses to trauma. Checknita *et al* (pp.216–222) show that an epigenetic mechanism, trauma-invoked hypermethylation of MAO promoter, can lead to serotonergic dysregulation associated with antisocial personality disorder.

As we become more refined in identifying biological mechanisms, so we must improve our classification systems. Nelson *et al* (pp.237–244) show that post-deployment mild traumatic brain injury is more often found in those with inconsistent accounts of experiences of head injury and trauma. And Forbes *et al* (pp.245–251) interrogate ICD-11 diagnostic criteria, suggesting that alternative classifications better fit patient data and indicate a higher prevalence of post-traumatic stress disorder.

We need more doctors, generalists and specialists. Psychiatrists are trained to work within integrated social settings, community services, primary care and hospital and very specialist medical services. They deploy the fullest range of social, psychological and biological evidence, and are skilled at stitching together diverse bodies of evidence from the medical humanities, ethics, arts, as well as the neurosciences and clinical medicine. Research in psychiatric disorders and interventions to prevent and treat mental illness is flourishing. Future doctors will need to embrace and excel at psychiatric research and clinical practice, and a range of non-specialist medical and leadership skills. The priority given to psychiatry on the medical school curriculum and in the training of doctors warrants a progressive reevaluation, especially the place of research in evidence-based practice that is safe, humane and person-centred.<sup>22</sup>

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