Although the UDBHR technically has no legal authority, it is not unusual for such statements to become incorporated in national legislation and court rulings
to Los Angeles has priority over the interests of society to protect itself from an ensuing epidemic that could potentially kill millions of people. That's ludicrous." He expects that policy-makers in the developed world will ignore the UDBHR, but contends that problems could emerge in the developing world.
Serra, however, does not see any major roadblocks for clinical research put forward by Article 4. "Declarations cannot exhaustively cover all possibilities," she said. And Article 27 foresees that domestic laws can overrule the Declaration's principles in the interest of public health or the protection of rights and freedoms, ten Have pointed out.
Overall, however, ten Have believes that the UDBHR is "a helpful instrument to call attention to bioethics". Advocates of bioethics in underdeveloped countries can push for change, he said, pointing out that many of their governments have already endorsed the Declaration. According to Serra, many critics are overlooking the potential good that could come from the Declaration: "The UDBHR has the stature of a UNESCO document, a fact that, by itself, gives weight, importance and respect. Despite a few shortcomings, the UDBHR will help states to establish guidelines, and help people to reflect about ethical values. This shall contribute to a better world."

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inflammatory diseases, autoimmune diseases and cancer, and whether stress reduction can extend patients’ lives. One recent study, for example, found that CBT could help to reduce viral load in HIV-positive men treated with highly active antiretroviral therapy. Researchers attributed the improvement to changes in depressed mood (Antoni et al., 2006). Depression itself is under study for possible links to a range of inflammatory diseases; several studies show it to be an emerging risk factor for heart disease (Sundquist et al., 2005; Nemeroff et al., 1998).

A n example of how far mind–body medicine has come over the past three decades is the success story of Dean Ornish, Clinical Professor of Medicine at the University of California, San Francisco (CA, USA), and founder, President, and Director of the Preventive Medicine Research Institute (Sausalito, CA, USA). When he claimed in the early 1980s that heart disease could be prevented and even reversed with ‘lifestyle changes’—a combination of a very low-fat vegetarian diet, meditation or yoga, moderate exercise, stress management and social support—he was not treated seriously by mainstream medicine until studies confirmed its efficacy (Ornish et al., 1983; Gould et al., 1992; Ornish, 1998). Today, Ornish’s programme has been adopted in many mainstream cardiovascular clinics throughout the USA, and he continues to research whether his programme can help prevent heart disease in patients with type 2 diabetes, as well as halt the progression of prostate cancer (Ornish et al., 2005).

An increasing number of US medical schools and centres now have departments devoted to mind–body research and some also to mind–body treatment, including Harvard University (Cambridge, MA), Columbia University (New York, NY), University of California, Los Angeles, and the University of Pittsburgh (PA). This now-interdisciplinary research field, which also includes behavioural medicine, is often called psychoneuroimmunology or psychoneuroendocrinology, and “incorporates ideas, belief systems, hopes, and desires as well as biochemistry, physiology, and anatomy,” according to Ray (2004).

Several factors have driven this steady growth: most prominent is patients’ increasing interest in self-care, wellness and alternative medicine, and their concomitant dissatisfaction with the success of allopathic medicine in preventing and treating chronic illnesses. The consumer demand for and use of complementary and alternative medicine has also prompted the US government to become involved. In 1992, under pressure from consumers and with the help of Ohio Congressman Tom Harkin, an alternative medicine enthusiast, Congress mandated the National Institutes of Health (NIH; Bethesda, MD, USA) to open an Office of Alternative Medicine (OAM) and gave it a US$2 million budget (Young, 1998). “Not everyone at NIH was happy about this,” commented Theodore Brown, historian of medicine at the University of Rochester (NY, USA). But consumer demand was enthusiastic: when OAM was founded, more than one-third of Americans said that they used relaxation techniques and imagery, biofeedback and hypnosis, and more than 50% used prayer as a complementary or alternative therapy (Eisenberg et al., 1993).

Since 1992, government funding has increased markedly. In 2005, the NIH’s National Center for Complementary and Alternative Medicine (NCCAM; Bethesda, MD) funded more than 1,200 projects at about 260 institutions. Since 2000, its efforts have focused on understanding the mechanisms of action of various mind–body therapies, including the placebo effect. In its new five-year strategic plan, Director Stephen Straus designated additional funding for mind–body research into a range of diseases, including an ongoing clinical trial that is examining the use of meditation for weight loss, health and well-being enhancement in obese men and women. Overall, NCCAM’s 2006 budget is US$122.7 million, with
An increasing number of US medical schools and centres now have departments devoted to mind–body research and some also to mind–body treatment...
...mind–body medicine provides one aspect—self-care—of a three-legged model of medicine, which also includes pharmacology and surgery

a six-fold increase in these cytokines over the controls,” said Glaser.

The research of Bruce McEwen, head of the neuroendocrinology lab at Rockefeller University (New York, NY, USA) has also shown that stress hormones have dual effects on the brain—protective in the short term, but damaging in the long term by impairing nerve cells in certain areas of the brain. He developed the concept of allostatic load—damaging changes that can accumulate in response to stress because the overexposure to neural, endocrine and immune stress mediators has adverse effects on various organ systems.

Chronic activation of stress responses by the hypothalamic–pituitary–adrenal axis and the sympathetic–adrenal–medullary axis leads to a permanent overproduction of glucocorticoid hormones and catecholamines (adrenaline and noradrenaline). Immune modulation by pituitary and adrenal hormones occurs through two pathways: directly by binding hormones to receptors, or indirectly by inducing the deregulation of cytokines, such as tumour necrosis factor (TNF) and interferon-γ (Glaser & Kiecolt-Glaser, 2005).

One example of a direct modulation of the immune system is the fact that various immune cells are sensitive to glucocorticoid hormones through cell surface receptors. The same receptors bind cortisol, which has a role in wound healing. Glucocorticoid hormones also interfere with NF-kB, which regulates cytokine production. Adrenergic receptors induce transcription of genes that encode for cytokines; these changes in gene activity can lead to a deregulation of immune functions (Padgett & Glaser, 2003).

Other studies have shown that depression and anxiety increase the production of the cytokines IL-6 and TNF-α, which have a pro-inflammatory effect that has been linked to cardiovascular disease, arthritis, type 2 diabetes, osteoporosis and some cancers (Raison et al, 2006). Despite such accumulating evidence, medicine has not moved much beyond the biomedical model, according to David Eisenberg, Director of the Osher Institute at Harvard Medical School. He attributes this to the fact that practitioners are not exposed to the evidence supporting the biopsychosocial model.

Despite considerable evidence of efficacy in treating coronary artery disease, headaches, insomnia, incontinence, chronic lower-back pain and cancer symptoms, in their recent review of the mind–body medical literature Eisenberg and co-authors stated that, “Additional research is required to clarify the relative efficacy of different mind–body therapies, factors (such as specific patient characteristics) that might predict more or less successful outcomes, and mechanisms of action” (Astin et al, 2003). The Institute of Medicine (Washington, DC, USA) has now urged NCCAM to continue an evidence-based approach to verify NCCAM’s claims (Institute of Medicine, 2005). And the growth in the number of dedicated institutes and centres—such as NCCAM, the Cousins Center for Psychoneuroimmunology at UCLA, Harvard’s Osher Institute, and Stanford’s Psychosocial Treatment Laboratory—is testament to a growing body of evidence-based research and studies. All of this might help mind–body medicine to escape its negative association with alternative medicine, Benson hopes: “We’re not ‘alternative’ because we’re empirically based.”

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