

GUEST EDITORIAL

Land of promise: challenges and opportunities for research in South Africa

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No national data exist on the prevalence of mental disorders in South Africa (SA); however, in the most recent national population census (2001) 0.6% of South Africans reported that they suffered from a mental disability lasting at least 6 months, which prevented carrying out daily activities independently or participating fully in educational, economic or social activities.¹ The National Burden of Disease study, the first study of its kind to be undertaken in the country, found that mental disorders were the 13th leading cause of disability and accounted for 2% of all DALYs (disability adjusted life years).² Unlike the Global Burden of Disease study, the South African study did not include the category of 'neuropsychiatric conditions'. Had this category been included, mental and nervous system disorders *combined* would rank as the *second* most burdensome of all medical conditions after HIV/AIDS. While it is a common knowledge that research in psychiatry is essential if we are to effectively design/implement treatment interventions and optimize service delivery, huge discrepancies continue to exist between the magnitude of disease burden and the allocation of funding. In SA, the situation is well described in the expression 'the 10/90 gap' (less than 10% of health research funding worldwide allocated to diseases and conditions responsible for 90% of the global burden).³

Psychiatrists have, over the years, remained a relatively scarce skills resource in a country that spans an area of roughly over a million square kilometers, has nine provinces, and 44.8 million inhabitants. As at 30 June 2004, 539 psychiatrists (two-thirds of whom are male) were registered with the Health Professions Council of South Africa. However, only 60% of those registered are currently practicing in the country. Of note, Black psychiatrists number less than 3% in a country whose population is primarily (79%) Black.^{1,4} Many who complete their academic training either leave the country or are absorbed into the private sector, driven in large part by powerful financial incentives and better working conditions. For psychiatrists who work in tertiary academic hospitals, the pressure of clinical service delivery usually takes precedence over (and often precludes) involvement in research. Few of the eight academic departments of psychiatry in the country have a strong tradition of, or commitment to, research.

There are very few postqualification and junior faculty research fellowships available, and those in existence are mostly short-term and non-sustainable. Major sources of research funding (national government and international donors) also tend to be short-term and limit the number of research trainees that can be recruited and retained.

Despite the National Health Department's proclaimed policy to deliver mental health care as part of the package of primary health services, psychiatric services are to a large extent overburdened and remain inaccessible to large portion of the population. Discriminatory mental health care based on socio-economic status (referred to by one medical colleague as 'informal medical apartheid') is becoming all the more evident with the recent emergence of new health-care maintenance schemes. Further, compared with other medical disciplines, psychiatry is afforded a lower priority status in terms of the country's health-care expenditure and this is especially true of mental health research initiatives. There have been many other obstacles to research. Although the rich cultural diversity of the country provides opportunities for epidemiological and sociocultural research, cultural differences are invariably linked with difficulties in applying predominantly Western diagnostic conventions and research tools in predominantly Black communities. Foreigners to the country are often surprised when they learn that English is, in fact, the fifth commonest home language and that African languages are far more widely spoken. Many psychiatrists are not competent in the vernacular of their patients, making recourse to translators and interpreters for research unavoidable and costly. Since the end of apartheid, SA has become a competitive site for clinical trials research. Nevertheless, there have been few investigator-initiated trials and few effectiveness studies of pharmacotherapy or psychotherapy. This is in part due to the lack of local funding available to conduct large-scale and resource-intensive studies. Another challenge is the fairly limited access to research technologies, such as functional imaging techniques. It may come as a surprise that none of the tertiary academic centers currently boasts functional magnetic resonance imaging and positron emission tomographic facilities, in the main owing to their high acquisition cost.

Yet, there are important opportunities. The unique homogenous gene pools that exist here are an important resource for psychiatric genetics. Genetic

studies have focused mainly on schizophrenia, obsessive-compulsive disorder, and Alzheimer's disease in two unique population groups: the Afrikaner and the Xhosa populations. The Afrikaner population are immigrants of Dutch, German, and French origins who have expanded in relative genetic isolation with few founder genes and consequently a much higher frequency of certain rare disorders (eg variegate porphyria). In contrast, the Xhosa form part of an indigenous group who descended from the Nguni clan of people, and who migrated in the early 1600s from southern Zaire to the eastern Cape region. Although along their migration there was some intermixing with the indigenous Khoisan people (Bushmen and Hottentot), this group has also remained fairly genetically isolated across generations. Some remarkable genetic observations have been made. For example, through genealogical investigation in a sample of Afrikaner patients with schizophrenia, it has been proposed that almost 90% of all Afrikaner schizophrenia probands are descendants from a single couple who had immigrated about 12 generations previously. Moreover, the same research group has suggested on the basis of a genomewide scan the presence of a novel susceptibility locus on chromosome 1 in Afrikaners with schizophrenia.⁵ In a genetic study of OCD in Afrikaners, our group did not find, a significant relationship between certain candidate serotonin and dopamine genes and an increased susceptibility to OCD.⁶ In the Xhosa, there has been the discovery of a genetic mutation in early-onset Alzheimer's disease in one large family.⁷ Prior to this finding, genetically determined Alzheimer's was thought not to occur in Africans on the continent.

While SA forms part of the developing world, there is a history of, and infrastructure for, research. Opportunities include the potential for industry-sponsored and privately sponsored research and medication effectiveness studies that may be particularly important in the developing world context, where psychotherapeutic interventions are often costly and not widely available. In addition, given the particular kinds of trauma experienced in SA opportunities exist for investigating gene-environment interactions in this field. Studies of the intersection between HIV/AIDS, other infectious diseases, and psychiatric disorders are crucial and population laboratories can be useful in this regard.

In terms of output, it is fair to say that the quantity and quality of research outputs by South African-based authors is on the rise. An early analysis of South African publications spanning a 31-year period (1966-1997) noted that of all the articles falling under the umbrella of psychiatric research ($n=927$), the largest number were review articles and few authors wrote more than one paper. Further, over half of all articles appeared in general medical journals rather than specialist publications.⁸ However, a more recent search of the more than 300 MEDLINE articles published in the last 5 years by South Africans

indicates that considerably more authors are publishing multiple papers, with a sizeable number appearing in high-impact international journals. As compared with earlier outputs, there are also significantly more publications covering RCTs and treatment outcome studies.

Finally, it is reassuring that NIH and Fogarty grants to SA have substantially increased providing a useful opportunity for work in South Africa. These have been primarily focused on HIV/AIDS. European Union grant mechanisms are also increasingly being utilized to study some of the unique sociopolitical contributions to mental disorder. Within academic institutions and the national Department of Health there seems to be a greater commitment to making mental health research more of a priority and to building sustainable collaborations with both African and international researchers. Given the lack of resources, it would seem particularly important to forge these links. It is a common knowledge that building research capacity requires a long-term investment in individual researchers. A climate conducive to research could be promoted by incorporating more extensive instruction in research methodology into the core curriculum of undergraduate and postgraduate psychiatry training programs. A review of existing mental health research initiatives by the Health Systems Trust in 2000 noted that South African published mental health research was mostly descriptive or analytic in nature with little focus on priority areas (eg epidemiology of HIV/AIDS, child and adolescent mental health, violence and trauma, and human rights issues). Arguably, psychiatric research needs to be more priority-driven for the community that is served. In this endeavor, research in the country would certainly benefit if funding agencies, such as the Medical Research Council and National Research Foundation, commit themselves to devoting more resources to mental health and substance abuse research initiatives.

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References

- 1 Statistics South Africa. *Census 2001*. www.statssa.gov.za 2003.
- 2 Bradshaw D, Groenewald P, Laubscher R, Nannan N, Nojilana B, Norman R *et al*. www.mrc.ac.za/bod/bod.htm.
- 3 Global Forum for Health Research 2004. *10/90 Report on Health Research 2003-2004*; www.globalforumhealth.org.
- 4 Health Professions Council of South Africa. www.hpcs.co.za.
- 5 Abecasis GR, Burt RA, Hall D, Bochum S, Doheny KF, Lundy SL *et al*. *Am J Hum Genet* 2004; **74**: 403-416.
- 6 Hemmings SM, Kinnear CJ, Niehaus DJ, Moolman-Smook JC, Lochner C, Knowles JA *et al*. *Eur Neuropsychopharmacol* 2003; **13**: 93-98.
- 7 Heckmann JM, Low W, de Villiers C, Rutherford S, Vorster A, Rao H *et al*. *Brain* 2004; **127**: 133-142.
- 8 Fourie J, Flisher AJ, Emsley RA, Stein DJ. *Curationis* 2001; **24**: 9-11.