

# Telepsychiatry in Commonwealth Africa – a first step

**Maurice Mars**

Mental health is but one of many health problems facing Africa. The burden of disease in Africa is great, its people are poor and there is an extreme shortage of health professionals. Like most specialties, there is a shortage of psychiatrists in sub-Saharan Africa, and those requiring mental health services, especially in rural areas, are underserved.<sup>1</sup> Mental health needs are not being met and the mental health treatment gap continues to grow.

One solution is to increase the number of psychiatrists and psychiatric nurses and to shift some tasks to community workers, but it is often forgotten that when there is a shortage of doctors there is also a shortage of doctors to train doctors.<sup>2</sup> While the number of medical schools in Africa has almost doubled over the past ten years this has merely spread the already limited teaching capacity more thinly. What is needed are innovative, affordable and sustainable solutions to improve access to quality mental health care and provide education and training for more health professionals in mental health.

Telepsychiatry, the practice of psychiatry over distance using information and communication technology (ICT), has been shown to improve access to scarce specialist skills and reduce the need for patients or psychiatrists to travel to either seek or provide care. International, cross-border practice of telepsychiatry can also provide support and services to countries with few psychiatrists. Judicious use of ICT has also facilitated ongoing education and professional development of doctors, nurses and allied health workers in mental health.

Telepsychiatry is not new. Dr Cecil Wittson of the Nebraska Psychiatric Institute used CCTV for psychiatry education in 1955, and psychiatry consultations between general practitioners and specialists at two centres 180 km apart was a reality by 1964. A later generation of psychiatrists were early adopters of the next wave of video-conferenced telepsychiatry that began in the early 1990s. Telepsychiatry is now one of the most widely used forms of telemedicine after radiology and pathology.<sup>3</sup>

## What is the state of telepsychiatry in the Commonwealth?

The Commonwealth is a microcosm of the global disparity in mental health resources. Australia, Canada, New Zealand and the United Kingdom have on average 12.8 psychiatrists per 100,000 people. In contrast, 17 Commonwealth countries in Africa have fewer than 0.5 psychiatrists per 100,000 people.<sup>1</sup> A literature review on the term 'telepsychiatry' found 460 papers from 33 countries, only six of which are in the Commonwealth: Australia (47 papers), Canada (35), the United Kingdom (26), New Zealand (3), South Africa (8) and India (5). Activities in India and

South Africa are still at fledgling level and report individual endeavours.

The low uptake of telepsychiatry in less developed countries is not specific to the specialty. It reflects the greater problem of slow adoption of e-health in general in the developing world, although the need is great. If we are to improve mental healthcare delivery through telepsychiatry we need to understand the obstacles and barriers to e-health, and more particularly telemedicine implementation, uptake and integration into routine clinical service in the developing world.

## Why is telemedicine uptake low in sub-Saharan Africa?

Telemedicine by definition requires relatively sophisticated information and communication infrastructure, which is not always in place, expensive to install and maintain, does not always reach the rural areas where it is required, and is vulnerable during civil unrest or war. Electricity supply is unreliable in many places and power fluctuations damage electronic equipment. Even relatively simple, email-based telemedicine is not always easy or affordable in rural areas.

Fixed telephone penetration in sub-Saharan Africa is less than 1.5 per cent, and without fixed phone lines internet access is difficult. It is not surprising that internet penetration in Africa is low at approximately 16% of the population. The relative costs of telephony, internet and broadband access are also high. Despite the new undersea cables that have been laid for both the east and west coasts of Africa, bringing substantial bandwidth to the continent, the cost of connectivity remains out of the reach of many people.<sup>1,4</sup> Worryingly, recent data from the International Telecommunications Union would suggest that the digital divide between the developed and developing world is widening and that Africa is falling behind the rest of the developing World.

It is unlikely that there is a doctor who has not practised telemedicine, albeit unknowingly, as the use of the telephone to seek or give medical advice meets the definition of telemedicine. Mobile telephone penetration in Africa is growing rapidly and is now in the region of 53 per cent, although this figure is inflated as some people have more than one mobile phone and/or more than one SIM card.<sup>4</sup> m-Health, or mobile health, is the buzzword, with m-health seen as the new way of facilitating provision of telemedicine services. The widespread use of smartphones and applications is some way off for Africa. Call costs are high, and currently there is reluctance among rural patients to use mobile phones for non-emergency medical services. The use of smartphones for mental healthcare delivery is still being researched.



Picture: Zoey Heath/Commonwealth Photographic Awards

*Telemedicine, including cross-border, can mitigate workforce and skills gaps*

Telemedicine can assist in overcoming the shortage of doctors but it should be remembered that most telemedicine activities add additional steps to the normal work flow, increasing the load for already overworked doctors at both the send and receive sites. It is not unusual for doctors to say, “It’s a nice idea but I am not going to do it,” or “It’s too much work”.<sup>5</sup> The harsh reality is that if there are too few doctors in a country to manage the existing burden of disease, telemedicine will not help unless it provides access to additional human resources. Africa is, and will be, dependent on international support for telemedicine, and cross-border, international telemedicine will assist in overcoming the shortage of doctors. While acting locally, countries need to think globally, to harness the capacity of, among others, the Commonwealth and the African diaspora. Governments and regulators need to formulate legislation and ethical guidelines that enable both local and international telemedicine and not impede it, while at the same time protecting both patients and the professionals. What is needed is an international e-health convention on international cross-border telemedicine.<sup>6</sup>

### **An African telepsychiatry experience**

The introduction of telepsychiatry has been investigated in the South African province of KwaZulu-Natal. Approximately 8.5 million people are dependent on public sector mental health

services. In terms of the Mental Health Care Act, 50 regional and district hospitals in the province are designated to perform 72-hour observations on involuntary and assisted mental healthcare users. Only eight of these hospitals employ a psychiatrist, and approximately 70 per cent of hospital managers feel they do not have the necessary medical and nursing staff to provide the required services. This shortfall is meant to be met by psychiatrists in the academic referral units undertaking ‘outreach visits’ to these hospitals to offer clinical support and education.<sup>7</sup> This is often sporadic or absent.

To improve services, two solutions were explored, the introduction of telepsychiatry and tele-education in mental health. The province is fortunate to have a relatively well-developed video-conferencing network, and the local medical school has over ten years experience in tele-education.<sup>8</sup> Two psychiatrists were identified as champions and underwent training in the use of the video-conferencing equipment and consulting by video conference. They started by introducing the concept during outreach visits and then seeing patients at follow-up, by video conference. One psychiatrist has fully embraced this and now conducts weekly telepsychiatry sessions with the rural hospitals that refer to his hospital, undertaking both primary diagnostic consultations and follow-up sessions.<sup>9</sup> The doctors responsible for the patients at the referral site participate in the consultations and see this as a valuable

learning experience. This service has been running for over a year and it is hoped that the model will attract other psychiatrists to telepsychiatry.

Evidence-based, clinical, technical and operational guidelines for the practice of telepsychiatry were developed to ensure a level and quality of care. These were subsequently endorsed by the South African College of Psychiatry. Development of guidelines is difficult for new tele-practitioners, and so the guidelines of the American Telemedicine Association were adapted, with their consent, to meet local conditions. These have since been published and are available for further adaptation by other countries.<sup>10</sup>

Seven to eight hours of video-conferenced teaching a week was introduced for trainee psychiatrists, enabling them to stay at their respective hospitals, obviating the need to travel up to 240 km. For the designated hospitals, it was not possible to standardise 'lecture' times, so as an alternative to video-conferencing, a set of key lectures were filmed, saved to DVD and sent to hospitals to use at suitable times. Various methods, including video-conferencing, telephone calls and email, have been tried to allow interactivity.<sup>9</sup>

The use of telepsychiatry to address the plight of offenders awaiting assessment of adjudicative competence, which can take over a year, is currently being explored. Use of video-conferencing in prisons will also open the opportunity for general forensic psychiatry, which has proved successful in other countries.

## The way forward

The concept of telemedicine is appealing to policy-makers. It offers the opportunity to overcome the 'tyranny of distance' by affording rural patients access to services, especially scarce specialist skills, reducing patients' need to travel for care, and supporting doctors and nurses in rural communities. But decision-makers are in a difficult position. With approximately 40 per cent of people in sub-Saharan Africa living on less than US\$1 per day, purchasing power parity, and a median age of 18 years, tax bases are low.<sup>11</sup> Do the benefits of telemedicine – be they socio-economic, economic or improvements in health indicators – justify the opportunity costs? Expenditure of limited health budgets has to be prioritised. There is unfortunately little sound economic evidence of the benefits of telemedicine and even less that can be generalised to the developing world.

We need to work towards international service models that will enable services such as telepsychiatry to be provided in the developing world by the developed world. The need is great.

## Endnotes

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