

## Accessible public-health education: a potential growth area?

We were pleased to see that the December 2007 issue of the *Bulletin of the World Health Organization* featured the important topic of public-health education. In particular, we welcome the attention given to the urgent priority of producing public-health professionals in Africa, a somewhat neglected aspect of the continent's documented health human resource crisis.<sup>1</sup>

We would like to augment the interesting – if challenging – information presented from the AfriHealth study, which reports on data collected between late 2001 and mid-2003. In particular, we would like to report on subsequent successful developments in distance-learning, which IJsselmuiden et al. note as "... rare, as is on-the-job ... training".<sup>1</sup>

Since 2000, the School of Public Health (SOPH) at the University of the Western Cape in South Africa has provided three levels of postgraduate public-health training (Table 1) through a combination of home-produced text-led distance learning materials and optional in-class instruction. Similarly, Makerere University's School of Public Health (MUSPH) in Uganda has been providing in-class public-health training at Masters Degree level since 1994, which was later supplemented with a home-produced text-led distance learning option starting in 2004. In addition to an early collaboration between SOPH and Flinders University in southern Australia in developing a distance learning programme, SOPH and MUSPH have more recently developed a collaborative relationship to further develop their distance learning programmes.

SOPH now offers 22 courses by distance learning, whereas MUSPH offers 21 courses through the in-class option, as well as through the distance learning option. The courses offered at the two schools cover themes such as health research, quantitative and qualitative methods, health systems and information management, health promotion, health human resources,

maternal and child health and nutrition, and communicable and non-communicable diseases. Materials are written in an activity-led interactive format and applied to common practical problems frequently encountered by managers and practitioners.

Since commencement of the distance learning option, SOPH's reach into Africa has expanded dramatically, with almost 300 students from 15 countries now enrolled and able to undertake studies without having to leave their job or country. Completion rates at SOPH have improved dramatically since 2004 as systems problems are ironed out and the experience base grows. Completion for all students who should have completed the training programmes by the end of 2007 stood at 57% ( $n = 234$ ) for the Postgraduate Certificate in Public Health (Table 1), 72% ( $n = 260$ ) for the Postgraduate Diploma in Public Health, and 57% ( $n = 120$ ) for the Masters in Public Health. These completion rates must be viewed in light of the fact that they have been calculated as the proportion of students who had completed the qualification by the end of 2007, relative to the number of students expected to have completed the qualification by that time. While some of these stu-

dents who have not yet completed may indeed drop out, our experience is that they constitute a minority.

At MUSPH where the distance learning option started in 2004, the student body now stands at approximately 170, based primarily within the east African region, but with the potential to reach further into Africa. The first cohort of 49 students admitted in 2004 should all have completed by the end of 2007. Seven students (17%) were able to complete on time, and most of the remaining 35 students are currently in their final stages of completion. The rest of the students enrolled after 2004 have not yet reached completion for this 3-year training programme. The overall dropout rate by end of 2007 stood at 9.3%. This is much lower than the expected 40% dropout rate that has been documented through research, as being characteristic of distance learning programmes.<sup>2</sup>

Key to the success of the distance learning programmes at SOPH and MUSPH is the opportunity for health professionals to study at Masters level while remaining in post. This is essential to reducing the cost of study for mature working professionals, as well as sustaining the health services. In addition, the programmes offered at

Table 1. Completion rates by training programme

Institution	Qualification	Composition	Duration	Completion rate by end of 2007 <sup>a</sup>
School of Public Health, University of the Western Cape	Postgraduate Certificate in Public Health	6 compulsory 20 credit modules	2 years	57% ( $n = 234$ )
	Postgraduate Diploma in Public Health	6 × 20 credit modules constituting 75% of the coursework; 3 compulsory modules; 3 elective modules.	2 years	72% ( $n = 260$ )
	Masters in Public Health	1 × 20 credit elective; 1 research methodology module.	2 years	57% ( $n = 120$ )
School of Public Health, Makerere University	Masters in Public Health	21 course modules, plus dissertation by research	3 years	17% ( $n = 49$ )

<sup>a</sup> Completion rate calculated as the proportion of students who had completed the qualification by the end of 2007, relative to the number of students expected to have completed by the end of 2007.

the two schools have remained responsive to the students' learning context needs by retaining a text-led mode of distance learning amidst strong pressure to switch to web-based learning. Surveys we have conducted indicate that only about 30% of our students are able to access the internet reliably for lengthy periods, making web-led learning at this stage possible for only a minority of African health and allied professionals. The web, however, remains a valuable support mechanism for our programmes, and its potential is regularly trialled and monitored and will be more fully developed when the context allows. So far SOPH has been able to offer two electives as CD-based options and one as a web-based course for those who have such access.

The programmes at the two schools are, we believe, innovative in several ways: the multidisciplinary curricula cater for a wide range of health professionals working at different levels of the public-health system; as far as possible, they are open-learning systems, allowing students to proceed at their own pace according to the time they have available. The development of applied research skills is given high priority, as is public-health professional development involving students in exploring a wide range of transformative strategies to address key problems facing public-health services in a developing country context. Aside from the pressure of combining work and study, students gain considerably from this pedagogical model, which facilitates the immediate application of theoretical concepts and models to their situations in the work arena.<sup>3-5</sup>

We believe that the only way in which Africa (and indeed other "developing" continents) can successfully address the human resource crisis, especially in public health, is by dramatically expanding access while simultaneously preserving quality service provision. Financially accessible distance learning provision, applied to practical public-health problems, offers such a possibility. ■

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## Estimation of global visual impairment due to uncorrected refractive error

The paper by Resnikoff et al.<sup>1</sup> on the global magnitude of visual impairment caused by uncorrected refractive error published in the *Bulletin of the World Health Organization* in January 2008 does not refer to our previous publication<sup>2</sup> on the same topic in *BMC Medicine* that precedes their paper by about two years and is readily available in the public domain. The reason for this is unclear as our paper clearly shows up in a PubMed® search for both "blindness" and "visual impairment". In addition, the global estimates of blindness and visual impairment due to uncorrected refractive error made in our paper are known to the blindness community as they were presented at the World Ophthalmology Congress at Sao Paulo in February 2006. It is therefore surprising that Resnikoff et al. did not follow the usual norm of referring to previously published relevant literature. While there are differences in the inclusion criteria for studies in our paper and that of Resnikoff et al., with our paper using stricter criteria leading to fewer qualifying studies, and there were differences in the estimates of blindness and visual impairment due to uncorrected

refractive error in the two papers, these should not be reasons for not referring to previously published work.

We estimated that globally there were 5 million persons who were blind due to uncorrected refractive error with distance vision worse than 3/60 in the better eye (plausible range 4–6 million), while Resnikoff et al. estimated this to be 8.2 million. Of particular note is that a large proportion of the estimate by Resnikoff et al. is due to the number in India, estimated as 3.15 million persons more than 50 years old who were blind due to uncorrected refractive error, which is 46% of their global estimate of 6.88 million for this age group. This is implausibly high and seems to have been influenced by data from a multistate survey done in India by Murthy et al., which reported that 5.34% persons older than 50 years had presenting visual acuity worse than 3/60 in the better eye which dropped to 3.37% with best correction, suggesting a very high improvement of 37% with refractive correction.<sup>3</sup> The estimate by Resnikoff et al. for India seems to be a direct application of this 1.97% absolute improvement to the approximate 160 million persons aged more than 50 years old in India in 2004 (in order to arrive at 3.15 million persons blind due to uncorrected refractive error in this age group). However, the paper by Murthy et al. also mentions that a fifth of the blindness was due to uncorrected or poorly corrected refractive error, which was for blindness worse than 6/60. Presumably this proportion would be lower for blindness worse than 3/60. This is at odds with the 37% blindness worse than 3/60 due to refractive error that could be derived from the data presented for improvement with refractive correction, which was apparently used in the estimate by Resnikoff et al., indicating that methodological issues related to these data and calculations need to be looked into carefully.

Our estimate for the number of persons in India who are blind due to uncorrected refractive error was less than half that made by Resnikoff et al.<sup>1,2</sup> Undoubtedly our estimates could be refined with further availability of data

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but we believe that the global estimate of 8.2 million blind persons due to uncorrected refractive error by Resnikoff et al. is an overestimate, largely due to the inclusion of an implausibly high estimate for India. While on the one hand we should not overlook blindness due to uncorrected refractive error as it can be addressed relatively easily, on the other hand we should be careful not to swing the pendulum in the other direction by overestimating it. Related to this issue, we have also published a proposal for revision of the definitions of blindness and visual impairment in the International Statistical Classification of Diseases that would take into account the inclusion of refractive error as a cause of blindness and visual impairment.<sup>4</sup> ■

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### Author reply to: *Estimation of global visual impairment due to uncorrected refractive error*

In response to the letter by L Dandona & R Dandona,<sup>1</sup> we would like to point

out that the study to which they refer (*BMC Medicine* 2006;4:6) – certainly a useful study in its own right – was not included in the references of our own paper as it informed neither the approach we took to our analysis nor the geographical scope of our work. Our study included data sources for all age groups from 68 surveys in 31 countries, chosen with epidemiological criteria different from those used by L Dandona & R Dandona, who derived their global estimates from nine surveys in eight countries. Our work presents an age-specific algorithm developed for missing data.

May we also point out a misinterpretation of our findings in this letter with regard to India. According to the estimated presenting and best-corrected blindness (visual acuity < 6/60) for people aged 50 years and older in 15 Indian states reported by Murthy et al.,<sup>2</sup> the reduction of visual impairment after correction is 42% and not one-fifth. The authors themselves point this out by saying that “the blindness load could be nearly halved by correction”.

We agree with L Dandona & R Dandona's emphasis on the need for new definitions. This issue has been extensively discussed since a consultation on refractive errors held by WHO in 2000. The International Council of Ophthalmology adopted a resolution in 2002, followed in 2003 by a WHO consultation on the development of standards for characterization of visual loss and visual functioning, which led to significant changes in definitions and categorizations.<sup>3</sup> These have been subsequently integrated into the revision of the 10th International Classification of Diseases. ■

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### Country ownership and vertical programmes in health, health information and health research

In the March 2008 issue, the *Bulletin of the World Health Organization* published two related items on the complex issue of ownership of health information in international health programmes and on the “vertical versus horizontal” nature of the health programmes responsible for generating this information.<sup>1,2</sup>

The first is an editorial by Sanjoy Bhattacharya of the Wellcome Trust, which highlights (once again) the divide between protagonists of vertical and horizontal health programmes, and makes a call for “adaptive verticality” to optimize the potential of international health programmes to integrate with primary health care systems in low-income countries and strengthen these in the process.<sup>1</sup> The second is a news item: an interview with Sally Stansfield of the Health Metrics Network in which she calls for country-ownership of health information and for “vertical” health programmes to integrate with and strengthen national health information systems. These she argues should become the source of information for improved public-health decision-making and, at the same time, for information needed by donors and by specific (“vertical”) health programmes.<sup>2</sup>

The problems raised by Bhattacharya and Stansfield are not confined to the health sector nor to health information. On the contrary, the issue of ownership of data and the practice of vertical programming is, in many ways, far worse in the domain of health research. In most low- and middle-income countries, foreign-funded initiatives determine national health research agendas, even in countries in which governments contribute substantially to supporting national health

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research systems, institutions and personnel. As a result, research activities in many low- and middle-income countries reflect more closely foreign and global health research priorities than the research needs of the countries in which research is being conducted. As externally funded research is virtually monopolised by HIV/AIDS, tuberculosis and malaria,<sup>3</sup> little if any funding or research capacity is left to deal with other diseases, conditions or the improvement of health systems, let alone for research with a more expanded goal of social and economic development (i.e. “research for health”).

The concept of “responsible vertical programming”<sup>4</sup> defines a health research programme as “responsible” if it “succeeds in building the capacity of a country’s researchers and the national research system – in the process of achieving its own research goals”. It sets out some practical steps that decision-makers in countries and in research programmes can take to increase the synergy between national research capacity and research programme implementation.

Countries have to take responsibility to put in place and resource a basic national health research system that provides mechanisms for research governance, identifies national priorities and formulates and implements a policy framework to enhance the effectiveness of the national research effort.

Vertical programmes have to realize that their research cannot be conducted in isolation from national contexts and that their contributions to the research infrastructure from which they benefit will enhance research output and quality in the future. They can do this by ensuring that – as a minimum – activities align with, rather than fragment, national research system needs and by investing in equitable partnerships that strengthen the capacities of national researchers, research institutions and research systems.

It is clear that health system strengthening needs both information and research. Stated in another way, national health information systems and national health research systems are key tools in generating the evidence needed to guide health and health sys-

tem improvement in low- and middle-income countries, just as they are in high-income countries.

“Responsible vertical programming” is about supporting long-term sustainable development as the primary objective of all development interventions in low- and middle-income countries. At the same time, we agree with Bhattacharya in acknowledging that there is still much to be learned about how best to integrate “vertical” and “horizontal” programmes. What is not in any doubt, however, is that strengthening of national research and information systems should be a key component of (large) health and health research programmes. ■

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### **Integrating cervical cancer prevention in HIV/AIDS treatment and care programmes**

Peckham and Hann’s call for integrating cervical cancer prevention as part of broader sexual and reproductive health prevention services<sup>1</sup> is especially relevant to sub-Saharan Africa where both cervical cancer and sexually transmitted infections, especially HIV/AIDS, are widely prevalent.

Over the past decade, successful HIV/AIDS care and treatment programmes have been instituted in over a dozen hardest-hit sub-Saharan African countries, largely through bilateral

and multilateral programmes like the United States President’s Emergency Plan for AIDS Relief (PEPFAR) and the Global Fund to Fight AIDS, Tuberculosis and Malaria.<sup>2</sup> HIV-infected women are at heightened risk for pre-invasive and invasive neoplasia of the cervix.<sup>3,4</sup> HIV/AIDS care and treatment programmes thus provide an ideal platform to integrate cervical cancer prevention activities in countries which face a dual burden of both AIDS and cervical cancer, an AIDS-defining disease. With steady donor support over the past 5 years, these programmes are slowly but steadily contributing to the development of health-care service delivery capacity in emerging nations by establishing infrastructures, training the health-care work force, and tackling complex and challenging problems in implementation and scale-up.<sup>5</sup>

Limited access to cervical cancer prevention services, the usual circumstance for women in low-resource environments, serves as a counterforce to the life-prolonging potential of increased access to affordable antiretroviral therapy. Cervical cancer prevention strategies that use visual inspection with acetic acid (VIA) and same-visit cryotherapy (“see-and-treat”) are cost-effective alternatives to cytology-based screening programmes. These procedures can be performed by nurses and other non-physician health-care workers and allow screening and treatment to be linked to the same clinic visit. Our experience in Zambia has shown that VIA-based prevention services that are nested within the context of antiretroviral therapy programmes allow early detection of cervical cancer in high-risk HIV-infected women in a cost-effective way.<sup>6,7</sup> It also allows opportunities for the provision of broader gynaecologic and other health care for women. Eventual integration of low-cost, rapid screening tests for detecting human papillomavirus within VIA-based screening services will additionally increase programmatic efficiency. When cervical cancer prevention services are offered to HIV-infected women in a venue attended by non-HIV-infected women, a scalable intervention is established that can reach out to all women regardless of HIV status.

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Horizontal and diagonal collaborations between agencies and individuals focusing on HIV/AIDS care and cancer prevention could open new vistas for expanding availability of care for women at risk of one or both of these conditions, thereby ensuring wider programme impact. The conjoint contributions of such collaborations may be larger than the sum of their parts. ■

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## Evaluation of the WHO Assessment Instrument for Mental Health Systems

We read with interest the recent paper by Hamid et al. on the WHO Assessment Instrument for Mental Health Systems (WHO-AIMS),<sup>1</sup> an instrument that we are pleased to have developed and that fills a major gap in this field.<sup>2,3</sup> We thank the authors for their interest and their mostly positive appraisal of WHO-AIMS.

We would like to note that the primary objective of the WHO-AIMS project is to enable countries to generate information on the strengths and weaknesses of their mental health system to facilitate improvement of services. Through a WHO-AIMS assessment, countries are enabled to develop information-based mental health plans with clear baseline information and targets, and to monitor progress in implementing reform policies.

Given the objective of the project, the WHO-AIMS instrument has been designed to be used by a local team for comprehensive assessment of the country's mental health system (or an assessment of a region within the country). A complete assessment using WHO-AIMS usually takes 3 to 6 months and involves an iterative process of checking and triangulating data between the local team and the ministry of health (which is the source of many critical elements of the assessment). This work is carried out with continuous and substantial technical support from WHO headquarters, regional and country offices. The final report is jointly published by the WHO country office and the ministry of health. WHO has now published WHO-AIMS assessments on 36 countries (available at: [http://www.who.int/mental\\_health/who\\_aims\\_country\\_reports/en/index.html](http://www.who.int/mental_health/who_aims_country_reports/en/index.html)).

Though the Hamid et al. paper does not provide details of the method-

ology followed in collection of WHO-AIMS data, it appears that the authors were not able to use the recommended WHO-AIMS method.<sup>4</sup> Also, the paper gives data for just a few indicators out of 155 included in the instrument. In view of these limitations, we believe that this paper provides a less than adequate basis for evaluation of this instrument.

WHO will soon publish a report on available WHO-AIMS data from a large number of countries. This report is likely to provide a more adequate basis to evaluate this instrument. ■

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