

## 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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## References

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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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