

References

1. Soriano V, Puoti M, Sulkowski M, Mauss S, Cacoub P, Cargnel A, *et al.* **Care of patients with hepatitis C and HIV-coinfection. Updated recommendations from the HCV-HIV International Panel.** *AIDS* 2004; **18**:1–12.
2. Perronne C, Carrat F, Bani-Sadr F, Pol S, Rosenthal E, Lunel F, *et al.* **Final results of ANRS HCO2-Ribavirin: a randomized controlled trial of pegylated interferon- α 2b + ribavirin versus interferon- α 2b + ribavirin for the initial treatment of chronic hepatitis C in HIV-coinfected patients.** In: *11th Conference on Retroviruses and Opportunistic Infections*. San Francisco, 2004 [Abstract 117LB].
3. Cargnel A, Angeli E, Mainini A, Gubertini G, Giorgi R, Orlando G, *et al.* **Pegylated interferon alpha-2b plus ribavirin versus pegylated interferon alpha-2b for chronic hepatitis C in HIV+ patients.** In: *Program and Abstracts of the Digestive Disease Week*. Orlando, FL, 17–22 May 2003 [Abstract T1206].
4. Torriani F, Rockstroh J, Rodriguez-Torres M, Lisen E, Gonzalez J, Lazzarin A, *et al.* **Final results of APRICOT: a randomized partially blinded international trial evaluating peg-interferon- α 2a + ribavirin versus interferon- α 2a + ribavirin in the treatment of HCV in HIV/HCV-coinfection.** In: *11th Conference on Retroviruses and Opportunistic Infections*. San Francisco, 2004 [Abstract 112].
5. Chung R, Andersen J, Volberding P, Robbins G, Liu T, Sherman K, *et al.* **A randomized controlled trial of peg-interferon- α 2a + ribavirin versus interferon- α 2a + ribavirin for chronic hepatitis C virus infection in HIV-coinfected persons: follow-up results of ACTG A5071.** In: *11th Conference on Retroviruses and Opportunistic Infections*. San Francisco, 2004 [Abstract 110].

Human resources in scaling up HIV/AIDS programmes: just a killer assumption or in need of new paradigms?

In the countries hardest hit by HIV/AIDS, the pandemic's onslaught on the health workforce institutes a vicious circle that puts the health services under ever greater pressure. Unfortunately, these services have little reserves left and chronic deficiencies regarding training, recruitment and retention in the medical professions, unequal distribution and poor skill mix strain their performance. With the international agencies now bankrolling the scaling up of antiretroviral therapy and the price of drugs dropping continuously, the health workforce stands to make or break any programme.

Thyolo district in Malawi provides a sobering reality check. With an estimated adult HIV prevalence of 20%, close to 50 000 adults and children out of an estimated population of 475 000 inhabitants were presumed to be seropositive in 2003 and 7000 individuals were suffering from AIDS and opportunistic infections [1,2]. Besides a mission hospital with eight dispensaries, there is a Ministry of Health district hospital with nine health centres. In August 2003, the Ministry of Health staff consisted of six clinical officers, two registered nurses and 21 enrolled nurses. Médecins Sans Frontières – Luxembourg supports a highly active antiretroviral therapy pilot project among other activities and employs two (expatriate) doctors, three clinical officers and 14 nurses, some of whom were recruited in neighbouring districts. At the end of 2003, 8 months after the start, 385 patients were on antiretroviral treatment in Thyolo district (A. Chantulo, personal communication). This represents an annual uptake capacity of approximately 600 new patients. In this setting, the 'perfect' programme, treating all AIDS patients, would have an annual uptake of approximately 7000 patients, accompanied by a corresponding increase in staff. However, this scenario does not even consider the need to provide preventative interventions, or to take care of the other unabated health problems such as malaria, tuberculosis and reproductive

health, with which the health services have to deal on a permanent basis.

Two fundamental issues are therefore emerging. The short-term priority is to adapt the health service delivery and organization to make the best use of current resources, for example by considering the integration of antiretroviral therapy care in existing tuberculosis directly observed therapy programmes [3]. Basically, new delivery models should allow for the delegation of tasks to lesser-qualified health workers and lay persons, supervised by the increasingly scarce professionals.

However, the long-term priority is to institute effective human resource policies to train and retain the required health workers. In Malawi, where the vacancy rate in public health services is estimated to be approximately 60%, simply topping up the public servants' salaries and hiring some expatriate professionals will not do to fill in chronic and structural deficits.

The hard decisions governing the human resource policies in the health sector are taken not in the Ministry of Health, but in the Public Service Commission and the Ministry of Finance. Through their aid programmes, international agencies are also important actors. Poverty reduction strategy papers are a good indicator of the importance given to the health workforce by both governments and international actors. Disappointingly, a review of the poverty reduction strategy papers – heavily indebted poor countries initiative in six selected African countries showed that in the best case the human resource crisis is merely acknowledged, and that an in-depth analysis of the issue and how it relates to civil service conditions is conspicuously absent [4]. A recent World Bank review came to the same conclusions [5]. In south-eastern Africa, where entire societies are in a process of what De Waal called social involution of a scale probably

unprecedented in human history [6], this silence is deafening. What we need are paradigm shifts and approaches that used to be politically correct in other times and now urgently need to be reconsidered.

On a macro level, the opportunities offered by poverty reduction strategy papers need to be maximally exploited and should include a human resource development plan that rallies all the stakeholders. Recruitment ceilings imposed by structural adjustment programmes and similar donor-imposed conditions need to be lifted, whereas the global initiatives such as the global fund should actively seek to contribute to the expansion and stabilization of the health workforce. Simultaneously, approaches to expatriate technical assistance that used to be 'developmentally' sound in past conditions now simply reduce the effectiveness of international aid. In high prevalence countries, the autonomous sustainability of programmes can no longer be a constraining condition. Importing health professionals from countries with excess capacity for clinical and managerial roles is a short-term priority, if the funding flow is not to exceed the absorption capacity. All the while, innovative service delivery models need to be developed, whereby the challenge is to think outside the box of the pilot setting.

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References

1. Teck R. **TB and antiretroviral treatment experience in Thyolo district, Malawi Southern Region.** URL: www.who.int/gtb/TBHIV/montreux_june03/presentations/wed/rteck_arvmalawi.ppt, Accessed 23 March 2004. WHO; 2003.
2. Buhendwa L, Ascurra O, and the Thyolo home-based care team and continuum care clinic team. **Community home based care for people living with HIV/AIDS/TB, Thyolo District, Malawi.** Thyolo District Health Services and Médecins Sans Frontières, Luxembourg; 2003. pp. 1–26.
3. Abdool Karim S, Abdool Karim Q, Friedland G, Lalloo U, El Sadr W. **Implementing antiretroviral therapy in resource-constrained settings: opportunities and challenges in integrating HIV and tuberculosis care.** *AIDS* 2004; **18**:975–979.
4. Health Systems Resource Centre, DFID. **A review of the human resource content of PRSP and HIPC documentation in 6 selected African countries.** DFID Health Systems Resource Centre; 2003.
5. Elmendorf AE, Nesbitt RA. **Health workforce issues in HIPC and PRSP documentation of African countries.** Draft. 2003.
6. Chen L. **Mobilizing health and finance to dampen disease and build systems.** In: *Keynote Address to Second Consultation Commission on Macroeconomics and Health.* World Health Organization, Geneva, 29 October 2003.

Addressing the educational void during the antiretroviral therapy rollout

There are 40 million HIV-infected individuals globally [1], the majority of whom live in developing countries where, until recently, antiretroviral therapy (ART) was not available. With the global push to improve access to drugs in the developing world, ART is becoming a reality. The current challenge becomes how to deliver ART effectively because misuse will have drastic consequences.

The Moi University Faculty of Health Sciences (MUFHS) is one of two medical schools in Kenya (population of 32 million; estimated HIV prevalence rate 15%) [2]. MUFHS has, since its inception, been partnered with US institutions (Indiana University School of Medicine and Brown Medical School) to foster collaborative medical exchange programmes. The collaboration responded to the HIV epidemic with the

formation of the Academic Model for the Prevention and Treatment of HIV/AIDS (AMPATH). Using the AMPATH blueprint, MUFHS opened its first HIV treatment clinic with philanthropic donations in December 2001, with a modest goal to treat 50 patients. From this beginning, additional programmes developed: three HIV clinics at affiliated rural health centers, a core laboratory (capable of measuring CD4 cell counts and viral loads), a prevention of mother-to-child transmission programme leading to a mother-to-child transmission-plus grant (Mailman School of Public Health, Columbia University). Currently, over 2000 patients receive care at AMPATH HIV clinics; 50% are on ART.

The MUFHS faculty recognized early that personnel represented a critical component of the infrastructure.