News

New organization to promote African health research

WHO/TDR/Stone

A research officer carrying out a chequer-board titration for human IFN-ELISA at the Kenya Medical Research Institute, Nairobi.

A pan-African forum has been launched to promote health research for development in Africa. It will also strengthen the continent's voice in setting and implementing the global health research agenda.

The African Health Research Forum (AfHR) was inaugurated in the presence of more than 700 health researchers attending the sixth annual conference of the Geneva-based Global Forum for Health Research, in Arusha, United Republic of Tanzania, in November last year.

The AfHR will be headed by Professor Raphael Owor, a pathologist, currently president of the Uganda National Health Research Forum (UNHRO), and will be managed by a steering and executive committee representing the whole of Africa. The body will include policy-makers and "selected" nongovernmental organizations, and will divide into sub-regional chapters along the lines of the existing Francophone Health Research Network.

According to William Macharia, Associate Professor of Paediatrics at the University of Nairobi and one of the architects of the Forum, 42 networks and organizations have been contacted as potential members of the new research body. "While it is too soon to know what the overall response will be throughout Africa, it has been encouraging so far," says Macharia.

The steering committee has proposed a three-year programme of activities. Three flagship projects will involve research ethics, leadership development, and a communication system for sharing research information throughout Africa. The AfHR will also investigate existing national health research systems, and the state of North–South collaboration.

The Vice-President of the United Republic of Tanzania, Dr Ali Mohammed Shein, hailed the initiative saying, "Research will have more impact if nations and regional groupings can create better functional networks for concerted action." The new research body would go a long way towards ensuring that Africa's voice "is heard loud and clear at the global level, allowing us to take part in shaping the global health research agenda," Shein told participants. Without such a forum, Africa would find it difficult to fight for an equitable share of global resources, he said.

So far, however, the new forum itself has received no substantial funding. "We are living from hand to mouth" said Professor Owor. Initial seed funding — mainly for committee meetings — came from the Ottawa-based International Development Research Centre (IDRC) and the Council on Health Research for Development (COHRED). The amount so far donated is about US$ 100 000.

However, Professor Rose Leke, Associate Professor of Parasitology and Immunology at the University of Yaoundé medical school, Cameroon, and a member of the AfHR steering committee is optimistic. "There are many agencies willing to fund quality proposals. African scientists must come up with proposals worth funding," she said.

AfHR officials also hope that African governments will endorse the Forum next year in Harare, Zimbabwe, during the WHO-organized African ministers of health meeting. "They will be asked to lobby the Africa Union (AU) to set up a health research desk within its administrative structure," said Dr Mohammed Said Abdullah of the National Health Research and Development Centre, Kenya, who will oversee the ethics and training components of AfHR's programme. "We want governments in this continent to put a certain amount of money into health research through the AU." If the Forum became an organ of the AU, it might attract an annual budget.

As for the Forum's activities, Abdullah said they would help to give health researchers in Africa ownership of their work.

"Often researchers from the North come to Africa to collect blood and human tissue. If there is a major invention based on these materials, they take all the credit, forgetting all other players from the South," he observed. "An international code of research ethics and rules will be designed by AfHR to enhance understanding of such collaboration," Abdullah said. "Even the ordinary man or woman needs to be educated that he or she cannot be coerced to donate blood or tissue for research."

Professor Leke observed that most African countries lacked ethics committees that were capable of accurately

and competently interpreting WHO's international guidelines on health research.

"In the absence of such committees, it becomes difficult for countries to uphold and enforce research ethics, either for their home researchers or outsiders," said Leke. "This forum will ensure that African countries establish competent ethic committees capable of facing the challenges of our times". She added that health researchers needed rigorous and continuous training on the ethical issues they were likely to encounter in the course of their work.

For example, most African women would seek consent from their husbands before submitting to being subjects of any kind of research. "This is something researchers ought to know. In such circumstances, they should beware of coercion to obtain information," said Leke.

Other members of the steering committee of AfHR include Dr Mutuma Mugambi (Secretary), Dr Sama Martyn (Vice Chairman) and the head of the Essential National Health Research, Cameroon, and Dr Andrew Kitua, the Director-General, National Institutes of Medical Research, United Republic of Tanzania. ■

James Njoroge, *Arusha*

In South Africa HIV infection is decreasing, safe sex increasing

South Africans have made substantial changes to their sexual behaviour and fewer people are living with HIV than was previously estimated, according to results from the biggest household HIV/AIDS study ever undertaken in the country.

The independent study was commissioned by former president Nelson Mandela, and is based on a representative sample of almost 10 000 people, 8840 of whom consented to anonymous HIV saliva tests.

An estimated 4.5 million people — 11.4% of the population over the age of two — are HIV-positive, which is lower than the government's estimate of 4.75 million people, and much lower than UNAIDS estimates based on data from antenatal clinics.

The latest UNAIDS fact sheets do note a decline, however, reporting that "for pregnant women under 20, [South Africa's] HIV prevalence rates fell to 15% in 2001 (down from 21% in 1998). This, along with the drop in syphilis rates among pregnant women attending antenatal clinics (down to 2.8% in 2001, from 11% four years earlier) suggests that awareness campaigns and prevention programmes are bearing fruit. A major challenge now is to sustain and build on such tentative success".

The Mandela study also found that since a health department survey was made in 1998, many more people have been practising safer sex.

"We found that the number of women who had no current sexual partner had increased, and condom use had increased significantly," said Olive Shisana, principal investigator for the study. "For example, for women aged 15–49, condom use at last sexual intercourse has more than tripled, from 8% in 1998 to 29% in the present study, and amongst women aged 20–24 it has increased from 14% to 47%."

Young people (aged 15–24) were most likely to use condoms: among those sexually active, 57% of males and 46% of females had used a condom the last time they had sex. Over 90% of youths and adults also said that they could get a condom if they needed one — mostly through the Department of Health's free condom programme at public clinics and hospitals.

Among 15–24 year-olds only 56% of males and 58% of females had previously had sex, and there were very low levels of partner turnover. Of those who were sexually active, 85% reported that they had had only one partner in the past year. For adults aged 25–49, the rate was 93%.

Nearly half of all males and over a third of females over 15 years of age reported that they had changed their behaviour as a result of HIV/AIDS. Steps taken included staying faithful to one partner, condom use, sexual abstinence and reducing the number of sexual partners. The survey found that African women aged 25–29 who lived in informal settlements were most at risk of HIV infection, but it also clearly showed that everyone could be affected.

The infection rate among whites was unexpectedly high, at 6.2%. This is considerably higher than in countries with predominantly white populations such as the US, Australia and France, where prevalence amongst whites is less than 1%. HIV prevalence amongst Africans was highest (12.9%). This can be explained by historical factors, such as labour migration and relocation. In addition, more African people live in informal settlements, which had the highest HIV prevalence of all household types (21.3%). Coloured (mixed race) prevalence was 6.1% and among Indians 1.6%.

Prevalence among children aged 2–14 years was unexpectedly high at 5.6%. Shisana said more research was needed to determine the causes of this, though sexual abuse and unsafe injections could be among them. Females accounted for 12.8% of those testing HIV-positive, and males 9.5%. Among those aged 15–24, 12% of females and 6% of males tested positive.

At a briefing to release the report, Mr Mandela appealed for prevention efforts to be increased. "What is important is what we do on the ground to ensure that people understand how HIV is contracted and how to deal with it," he said. "We have to smash the perception that if you enter a house where people have AIDS, you will contract the virus," he added. ■

Kerry Cullinan, *Durban*

Drug companies should cut prices for developing countries, says G8 report

Key pharmaceuticals should be sold to developing countries at much lower prices than they command in the richer parts of the world, says a British-led report on global access to medicines.

The report of the UK Working Group on Increasing Access to Essential Medicines in the Developing World, chaired by Britain's International Development Secretary, Clare Short, was commissioned by the G8 group of the world's richest countries, and involved UK drugs companies as well as developing countries in the lengthy negotiations leading to its publication. The companies involved have effectively "signed up" to its conclusions, but US companies, which dominate the world market in pharmaceuticals, were notable absentees.

The report should now go before the next G8 summit in France in June, if the French Government, which will chair the meeting, agrees to put it on the agenda. Its reception by the

assembled governments will then decide the future of its proposals.

Tony Blair, the British Prime Minister, discussed the report at 10 Downing Street, London, last November, at a working breakfast with WHO's Director-General, Dr Gro Harlem Brundtland; the Ugandan High Commissioner, Professor George Kirya; Chris Viehbacher of GlaxoSmithKline; other pharmaceutical industry leaders; and representatives of the European Commission and charitable foundations.

Although Clare Short's spokeswoman described the breakfast as "private", it is clear that the main issue was how to implement the report's recommendations. According to the report itself, while Europe is more or less on board, the US position is less clear. "The European Commission has laid much of the groundwork for this agenda in Europe through their Plan for Action," the report states, "resulting in a European Parliament Resolution. Further work will need to be done to secure the commitment of European governments and industry to work in partnership on this agenda. Working with the US Government and gaining their support will be particularly critical given the importance and size of the US Industry. Continued dialogue directly with US Industry may be a promising way forward. There may be scope for tabling this agenda through regional and global industry associations".

According to Dr Brundtland, improving access to medicines will not be easy. "It is a complex struggle where governments, a range of actors in the private sector, and civil society all play important roles".

On the company side, John Patterson of AstraZeneca, commented: "this is a many-faceted challenge and needs the best efforts of all of us, in partnership, to make an impact. Companies are committed to making their contribution ... by providing more and better medicines so that they can be accessed more easily by patients in the developing world, without undermining the ability of industry to operate in the developed world."

Chris Viehbacher said "GlaxoSmithKline welcomes this Report." He claimed that his company already offered "sustainable, not-for-profit preferential prices for our antiretrovirals and antimalarials to a wide range of customers in all the least developed countries and all of sub-Saharan Africa — a total of 63 countries". But increasing the scope of preferential pricing "requires a sustainable framework, incorporating ... barriers against diversion of product. [This report] is a very useful step towards meeting these needs."

The full report is available from: URL: www.dfid.gov.uk/Pubs/files/access_to_medicines_report28.11.pdf ■

Robert Walgate, *Bulletin*

Vaccine against cervical cancer passes "proof of principle"

A recombinant vaccine against the human sexually-transmitted papillomavirus type HPV-16, which is thought to cause as many as half of all cervical cancers, has been shown to prevent long-term HPV-16 infections in a trial with 2400 young women.

This Merck vaccine is the first of what may be several candidates for a vaccine against HPV infections, some prophylactic and some therapeutic, but it has come through with flying colours. Although the trial was designed to measure HPV infection and not cancer, which occurs with only a small percentage of infections, it may prove significant that nine women in the placebo (unvaccinated) group developed clinical lesions — the beginning of cancer — but none did so in the vaccinated group (*New England Journal of Medicine* 2002;347:1645-51).

Sonia Pagliusi of the WHO Initative for Vaccine Research told the *Bulletin* "This is a very interesting vaccine for developing countries as they have 80% of the world's cervical cancer. And they have few other options. They can do the Pap [smear test, requiring cytological observations] but it's not very effective — it's not working. People take the test, but follow-up is difficult".

According to Andreas Ullrich, who works on national cancer control planning issues at WHO, "Cervical cancer is a high priority: it's first or second in developing countries, among all cancers."

Pagliusi added: "This is the first proof of principle of an HPV vaccine in humans. But it is important to know if the result is relevant to the disease". So it will be necessary to do larger trials measuring the effect of the vaccine on precancerous lesions. "HPV is not like HIV — it's only a small percentage of infections that go on to cause cancer."

Moreover, there are 15 high-risk HPV viruses. Type 16 causes 50% of cases of cervical cancer. Type 18 causes an additional 10–15%; then Types 31, 33, 45 and others account for another 5% or so. An ideal vaccine should cover several virus types. "But the object of this trial was a proof of principle, which would be more difficult to show with the other viruses because they are relatively rare. You'd need even bigger trials to get a statistical result" said Pagliusi.

Vaccines are the most cost-effective interventions to prevent life-threatening infections "And we hope we will need to vaccinate only once in a woman's lifetime, before they become sexually active — with a three-shot course like HepB" said Pagliusi.

The Merck HPV vaccine is based on the same principle as HepB: a recombinant capsid protein. The trial has so far only measured protection for 1.5 years. But it is a great beginning. ■

Robert Walgate, *Bulletin*

Peru tries vinegar against cervical cancer

Women in the isolated Amazon jungle region of San Martín in Peru are participating in a research programme to prevent cervical cancer, which kills an unusually large number of women in that country — some 40 per 100 000 women per year compared to just over 9 per 100 000 per year in North America, according to figures from WHO's International Agency for Research on Cancer.

Under the programme the women in San Martín, many of them small farmers who live far from the nearest health post, are being diagnosed and treated for precancerous lesions in one visit, rather than having to return at a later time to learn the results of the usual Pap smear test. Before the programme began, only 23% of the women with abnormal Pap smear tests had received follow-up treatment in San Martín, according to a survey done before the screening and treatment programme began.

The programme is sponsored by the Pan American Health Organization and the national and departmental health

ministries, with financing from the Bill and Melinda Gates Foundation through the Alliance for Cervical Cancer Prevention.

Midwives are being trained to perform a gynaecological examination and screen women with an experimental method known as Visual Inspection with Acetic Acid (VIA), that is, vinegar. Application of the vinegar causes suspicious lesions to appear white with clear borders.

If such a lesion shows up, a physician performs a second VIA test under magnification. If the existence of abnormal cells is confirmed, the women are offered a biopsy and immediate treatment with cryotherapy, the freezing of the lesions.

A research study conducted on women aged between 25 and 55 years in Zimbabwe and published in *The Lancet* (1999;353:869-73) showed that the VIA screening method detected "about 77% of all abnormal tissue, about the same rate achieved with Pap smears according to Silvia Robles, programme coordinator for noncommunicable diseases at the Pan American Health Organization (PAHO) in Washington. Robles told the *Bulletin* the number of false positives is somewhat higher than with a Pap smear, which has a relatively low sensitivity. She added that a false positive is better than a false negative in these cases.

Robles said the programme in Peru is designed to determine if this screening and treatment method will work under "real life conditions" in developing countries, where transportation is difficult, money for expensive equipment is scarce, and there are frequent changes of government.

More than 160 community leaders and government workers have been trained to teach women about cervical cancer and encourage them to participate in the programme. The equipment used is portable and the health workers can take it by river to women who live far from the nearest health post.

Since the women can be treated the same day they are screened, it is expected that more women will get treatment than would have if they had to return to the health post to learn the results of a Pap smear. Marie Andrée Diouf, Director of PAHO in Peru, said the programme, which began in 2000, is already a success. "It is saving many women's lives," she said.

In Geneva Sonia Pagliusi of the WHO Initiative for Vaccine Research told the *Bulletin* she considered VIA to be "a new method still under evaluation — it's in the research stage in India, comparing different methodologies. It's promising but not yet proven. WHO has no formal recommendation to use it." ■

Terri Shaw, *Lima*

Is breast cancer linked to smoking?

Women who begin smoking during the five years after their first menstruation were 70% more likely to develop breast cancer than non-smokers, according to a study by Canadian researchers (*Lancet* 2002;360:1044-9) which hit headlines around the world.

Derek Yach, WHO's Executive Director of Noncommunicable Diseases and Mental Health, called the Canadian study "important", but stressed that additional work is needed to confirm a definitive link between smoking and breast cancer. "If [the link] proves to be real," says Yach, "the breast cancer issue would be additional motivation to quit smoking."

While the link between smoking and maladies such as heart disease, stroke and lung cancer is well proven, relating breast cancer to tobacco has been more elusive. Some studies have suggested a positive link, others found no relationship, and a few have suggested that smoking has a protective effect, Yach said.

In the current study, a team of researchers led by epidemiologist Pierre Band, now at Health Canada, evaluated the risk on the basis of the biology and physiology of human breast development. Breast tissue only fully develops after a full-term pregnancy. Until then, the immature cells are more susceptible to environmental carcinogens, such as those in cigarette smoke, he argued.

The team analysed the responses to a health questionnaire answered by more than 2000 women living in British Columbia, about half of whom had been diagnosed with breast cancer. The researchers found that women who began smoking in the five years after their first period were 1.7 times more likely to develop premenopausal breast cancer than non-smokers.

For women who smoked heavily but had never been pregnant, and thus whose beasts never fully matured, the risk of pre-menopausal breast cancer jumped more than sevenfold, this study suggested, no matter when the women took up the habit.

Breast tissue before the first menstruation may be even more vulnerable, according to studies of breast cancer among Japanese women who survived atomic bomb blasts. Too few women in the Canadian study began smoking at very young ages for the researchers to evaluate the risk, "but it is possible that smoking before the first occurrence of menstruation would even be more detrimental," Band says.

The study also found evidence of the controversial protective effect that tobacco appears to have *against* breast cancer in women past their reproductive years. Women who began smoking after a first full-term pregnancy (so their breast tissue had matured) and had gained weight since their teen years halved their risk of developing *post*-menopausal breast cancer compared to women who never smoked but had gained weight. *Post*-menopausal breast cancer is associated with obesity, and scientists think the biochemical reaction that converts the hormone androgen to estrogen, the female hormone associated with breast cancer, occurs in fat tissue. Smoking inhibits the reaction, Band explains.

The findings are worrying in light of recent statistics that indicate smoking among young people and women is on the rise. With information from 43 countries to date, the Global Youth Tobacco Survey estimates that 20% of children between 13 and 15 years of age smoke worldwide, while in some countries the figure jumps to more than 60%. Nearly a quarter of the young smokers lit up their first cigarette before age 10. And in some countries, including Denmark, Germany and the United States, young (14–19 year-old) women who smoke outnumber the young men who do.

The Tobacco Free Initiative programme at WHO reports that rates of breast cancer have been "eerily tracking" the increase in female smoking during the past several decades. According to the International Agency for Research on Cancer, more than 1 million women worldwide were diagnosed with breast cancer in 2000. About half of those cases occurred in less developed countries. ■

Charlene Crabb, *Paris*