

WHO Chief encouraged by progress, but much more needs to be done



The Director-General of the World Health Organization, Margaret Chan, says important progress has been made in tackling some of Africa's worst health problems over the past decade. But, she says this is no time to cheer, as Africa remains a continent burdened by disease and death.

Margaret Chan has made Africa one of her top priorities since she was elected to be Director-General of the World Health Organization. Although improvements have been made, she says African health remains on the critical list and communicable and non-communicable diseases continue to disable and shorten peoples' lives. Despite this, she notes good progress has been made in tackling diseases such as malaria – the number of malaria deaths among African children being cut in half.

Chan says she was very encouraged by what she saw during a recent visit to Uganda and Tanzania. 'I saw and talked to doctors and nurses first hand, and some of them were actually complaining that they were not getting business because they are seeing fewer

patients coming in for malaria.' Chan says more than 4 million HIV patients in Africa are receiving life-saving drugs to treat their disease. She says such progress was unimaginable 10 years ago. She says for the first time in 60 years, deaths among children under age 5 dropped to below 10 million. This achievement, she says, is thanks to partnerships such as the GAVI Alliance.

The DG says such alliances invested heavily in increasing the coverage of childhood preventable vaccines and in strengthening the distribution systems set up to deliver these vaccines to children. 'Between the period of the year 2000 to 2008, there was a 78% drop in mortality due to measles. This huge success is actually led by countries in Africa.

Unfortunately, WHO Chief Margaret Chan notes some bad news. She says she is deeply touched by the lack of progress in maternal mortality. She says about one and a half million women in Africa and Asia continue to die of problems related to pregnancy and childbirth. Another issue of grave concern is violence against women. She says the abusive treatment of women gets less attention than the more obvious diseases and it must not be ignored.

Technology in focus

The 6th IET International Seminar on 'Appropriate Healthcare Technologies for Developing Countries' AHT2010 will be held, in collaboration with WHO Patient Safety and IPEM, at The Institution of Engineering and Technology (IET), Savoy Place, 2 Savoy Place, London WC2R 0BL on Thursday 13 May 2010. Detailed information on the seminar, including the programme, can be found at www.theiet.org/aht2010

The format of the seminar will be different from AHT seminars of previous years. The event will be launched by Sir Liam Donaldson, Chair, WHO Patient Safety, who will give the Key-

note Speech addressing the question 'Does 'Appropriate' Compromise Patient Safety?' A downloadable Speaker Biography for Sir Liam Donaldson can be found on the website.

There will be a 'Question and Answer' session hosted by the INFRATECH electronic discussion group. The INFRATECH email list is sponsored by WHO and PAHO. For instructions on how to subscribe or unsubscribe to the list please refer to: [_http://infratechonline.net/?page_id=38_](http://infratechonline.net/?page_id=38_)

Those people who are unable to attend the seminar will still be able to view the papers on-line and take part in the Question and Answer Session.

HIV drug compliance associated with lower healthcare costs

High antiretroviral therapy adherence, which has been shown to be a major predictor of HIV disease progression and survival, is now associated with lower healthcare costs, according to researchers at the Johns Hopkins Bloomberg School of Public Health. Researchers examined the effect of antiretroviral therapy adherence on direct healthcare costs and found that antiretroviral therapy improves health outcomes for people infected with HIV, saving a net overall median monthly healthcare cost of US\$85 per patient. The results are featured in the January 5, 2009, issue of the *Annals of Internal Medicine*.

US lifts HIV visa ban

Foreign citizens will no longer be required to take an HIV test during medical examinations for visa purposes and HIV-positive applicants will no longer require waiver processing by the US Department of Homeland Security.

'Though the United States has been a leader worldwide when it comes to ending the stigma of HIV/AIDS, we've been one of only 12 countries who, by their policies, still enable the myth that HIV/AIDS is a threat,' US Department of Health and Human Services Secretary Kathleen Sebelius said in November. 'The ability to travel freely and have access to affordable healthcare should be available to everyone. This change has been a long time coming, and I am pleased it is happening now.'

The change took effect on January 4 following a US ruling in November removing HIV infection from the definition of communicable disease of public health significance.

Swine flu claims first victim in Nigeria

Nigerian health officials are reporting the first swine flu-related death. The Federal Ministry of Health says a 38-year-old woman in Lagos became sick 6 weeks previously and died on January 5. Nigeria's Minister of Health Babatunde Osotimehin said the patient had travelled to the United States 3 months earlier.

Obesity extending to the urban poor



A recent study says the urban poor in sub-Saharan Africa are the latest victims of the obesity epidemic. The study is published in the open access journal *BMC Public Health*.

A team of researchers from the African Population and Health Research Center, Nairobi, Kenya employed data from seven African countries to investi-

gate changes in body mass index (BMI) between early 1990s and early 2000s.

Abdhalah Ziraba worked with the team and said in the media release, 'Despite being the least urbanised continent, Africa's population is becoming increasingly urban and its cities are growing at unprecedented rates. In spite of rampant poverty in urban areas, access to cheap foods with a high content of fat and sugar is commonplace.'

The study shows the number of people overweight/obese increased by nearly 35% during the study period.

People who enjoyed a higher socioeconomic status were more likely to be overweight or obese, but the rate of increase in obesity was higher in the poor group.

Ziraba added, 'Given the chronic nature of most diseases associated with obesity and by extension the huge cost of treatment, the prospects look grim for the already under-funded and ill-equipped African healthcare systems unless urgent action is taken.'

Vitamin D's possible role in racial cardiovascular risk

African-Americans are more likely than whites to die of heart attacks, strokes, and other cardiovascular causes. Now, according to *Web MD* intriguing new research suggests that low vitamin D levels may help explain this disparity.

Darker-skinned people produce less vitamin D from the sun than those with lighter skin, and studies show that blacks are far more likely to have lower levels of the vitamin than whites.

Several recent studies also suggest that low levels of vitamin D are associated with an increased risk for heart attack and stroke. In an effort to examine the role of vitamin D in the racial disparity in cardiovascular death, researchers analysed data from a national health and nutrition survey that included more than 15 000 people.

Vitamin D levels were measured at the time the survey was conducted, and the participants were followed for

up to 12 years.

Compared with everyone else in the study, the quarter with the lowest vitamin D levels had a 40% higher risk of dying from heart attacks, strokes, and other heart-related events.

Blacks were 38% more likely to die of cardiovascular causes than non-Hispanic whites, and the researchers concluded that most of this excess was related to their lower vitamin D levels.

The findings suggest, but do not prove, that low vitamin D raises cardiovascular risk, says study researcher Kevin Fiscella, MD, MPH, of the University of Rochester School of Medicine and Dentistry.

Fiscella and co-researcher Peter Franks, MD, of the University of California at Davis, published their study in the January/February issue of the *Annals of Family Medicine*.

'The message is that vitamin D deficiency might be a major contributor to cardiovascular deaths. We really need clinical trials to understand this association.'

1000s could be treated for HIV in Africa if some lab tests dropped

A third more people could be successfully treated for HIV in Africa if expensive lab tests, routinely used for monitoring side-effects, were abandoned, according to the 'Development of Anti-Retroviral Therapy in Africa (DART)' clinical trial funded by the Medical Research Council (MRC).

In the biggest trial of HIV therapy to date in Africa, published in the *Lancet*, 3316 people who had not previously had ART took part. All had severe or advanced HIV infection and had been assessed for ART eligibility using clinical staging and laboratory tests including CD4 cell count. The trial began 6 years ago in Uganda and Zimbabwe when treatment for people with HIV was starting to become more widely available. The report concluded that ART can be delivered safely, without routine laboratory monitoring for toxic effects, but differences in the progression of the disease suggested monitoring CD4-cell count from the second year of treatment. The survival rate in the DART trial is amongst the best reported from any trial, ART programme, or study in Africa.

Professor Diana Gibb, co-principal investigator of the study from the MRC said, 'The survival of people who took part in the trial was remarkable; without treatment only about 10% of HIV-infected African people like those in DART would be expected to survive for five years. In DART, 87% of those receiving treatment without routine blood test monitoring were still alive and well after 5 years, only 3 percentage points less than in the group that had routine blood test monitoring. For health policy-makers in Africa, DART provides evidence that more people could be treated for the same amount of money by not using routine laboratory tests. This would substantially reduce the number of people dying with serious disease due to HIV infection.'

Dr P Mugenyi from the Joint Clinical Research Centre (JCRC) in Uganda said, 'At least 5 million people still need ART treatment urgently. DART results suggest ART can be delivered safely and effectively in remote communities where routine laboratory services are not available.'

Penis microbiome offers clues about circumcision protection against HIV

Changes to the penis microbiome following circumcision may help protect against the transmission of HIV and other diseases, according to a paper appearing online in *PLoS ONE*.

A team of researchers from the US and Uganda catalogued the microbes found on the penises of a dozen HIV-negative men from Africa before and after circumcision. Their findings suggest circumcision alters the penis microbiome – in particular, decreasing the representation of bacteria from anaerobic bacterial families, including those apparently involved in inflammatory processes.

Those involved say such changes may help explain the apparent circumcision-related decreases in the risk of HIV and other sexually transmitted diseases, such as herpes simplex virus or human papillomavirus, observed in past studies.

'This study clearly shows that male circumcision markedly reduces genital colonisation with anaerobic bacteria in men,' senior author Ronald Gray, an epidemiologist at Johns Hopkins University's Bloomberg School of Public Health, said in a statement. 'These bacteria, which cannot grow in the presence of oxygen, have been implicated in inflammation and a number of infections affecting both men and women.'

In 2001, Gray and his team reported in the *Lancet* that circumcision decreases HIV risk. And other studies support the notion that circumcision may not only decrease the risk of HIV in men but may also decrease the chance that their partners will get bacterial vaginosis infections. Several explanations have been proposed for this apparent protection. And now researchers have come up with another, suggesting microbial changes have a role in this process.

'Our randomised trials have shown that male circumcision prevents HIV infection in men and protects their female partners from vaginal infections, especially bacterial vaginosis,' Gray said. 'It is possible that the virtual elimination of anaerobic bacteria by circumcision contributes to these ben-

efits of the procedure.'

For the current study, Gray and colleagues assessed the penis microbial communities from 12 Ugandan men before circumcision and up to a year after. All of the men included in the study were between the ages of 15 and 49 years old and were HIV-negative at the time of enrollment.

The team found 42 different bacterial families in the samples tested. But while some of these families were represented both before and after circumcision, such as bacteria from the Pseudomonadaceae family, others were specific to samples taken from uncircumcised or circumcised men.

For instance, prior to circumcision, the researchers reported, anaerobic bacteria belonging to the Clostridiales and Prevotellaceae families were commonly found in the penis microbiome. Among the representatives from these families: species implicated in past studies of bacterial vaginosis and microbes thought to promote inflammation of the genital mucosa.

In contrast, the levels of anaerobic bacteria decreased in samples taken after circumcision. The overall abundance and heterogeneity of penis-associated microbes also shifted after circumcision. The researchers detected bacteria from 38 families in the pre-circumcision samples, compared with 36 families in samples taken post-circumcision.

The new findings suggest the presence of more aerobic bacterial species and absence of some anaerobes may offer some protection against HIV and other sexually transmitted infections, though other factors – such as decreased mucosal tissue exposure to vaginal secretion and thickening of inner foreskin tissue – also seem to contribute.

'These potential explanations are not mutually exclusive and may work in concert to reduce HIV risk,' co-lead author Lance Price, director of the Translational Genomics Research Institute's Center for Metagenomics and Human Health, said in a statement.

Maternal and newborn health initiative in Ethiopia

UN agencies and Ethiopian health officials have developed a comprehensive 2-year work plan to boost maternal and newborn health and survival in Ethiopia.

The work plan focuses on both immediate and long-term interventions and involves increasing demand, access and utilisation of quality maternal and newborn health services, as well as improving the quality of these services.

In addition, it focuses on strengthening monitoring, and evaluation of these services, and improving managerial and institutional capacity, advocacy, and partnerships to encourage increased political and financial commitment.

The plan was developed during last month's visit to Ethiopia of UN Health 4 (H4), a joint effort by UNICEF, the World Health Organization the UN Population Fund and the World Bank to support countries in improving maternal and newborn health and saving the lives of mothers and babies.

'There is a demonstrated link between a mother's health and the health and welfare of her children, particularly newborns,' UNICEF stated in a news release. 'Lowering a mother's risk of mortality directly improves her baby's prospects for survival.'

Recent estimates indicate that that Ethiopia has a lifetime maternal mortality risk of 1 in 27 and an under-5 mortality risk of more than 1 in 10.

UNICEF also noted that about half of all global maternal deaths annually occur in sub-Saharan Africa, as do deaths among children under 5.

Since 1990, the number of estimated annual global maternal deaths has remained around 500 000, while the absolute number of child deaths in 2008 declined to an estimated 8.8 million from 12.5 million in 1990, the base line year for the global anti-poverty targets known as the Millennium Development Goals (MDGs).

The MDG 5 target is to reduce by three quarters the maternal mortality ratio, while the MDG 4 target is to reduce by two thirds the under-5 mortality rate.

Use of the SIGN nail in trauma surgery

With the transition from pedestrian to motorised transportation, road traffic accidents (RTAs) are on the increase on the continent with injuries from RTAs surpassing AIDS, TB, and Malaria combined in the DALY (Disability Adjusted Life Years).

For the past 10 years, a small not-for-profit company in Southern Washington State, USA has been addressing this concern in ensuing orthopaedic trauma surgery by manufacturing 18 000 (in 2009) SIGN nails. So far, 45 000 fracture patients have been treated with SIGN nails which are provided free (with annual in-house workshops in the USA) to developing nations' orthopaedic surgeons, with the proviso that programmes upload pre-and post-op X-rays to the SIGN database.

Dr Edmund Eliezer with the Muhimbili Orthopaedic Institute in Dar es Salaam, Tanzania started the programme in November 2008 and has reported 350 cases to the SIGN database. 'Wound healing has been very good with few numbers of infections,' he says.

Typically measuring 280 mm to 350 mm range for tibia fractures and 300 mm to 380 mm for femur fractures, this solid steel nail is attached to what is called a L-handle, once the nail is inserted into the bone (while still attached to the L-handle), the targeting arm is attached to the other side of the L-handle outside the leg.

At each end of the targeting arm are holes that line up with the slots in the nail (which is now inside the bone

canal). A cannula is inserted into the holes of the targeting arm to reach to the leg. A drill guide is inserted into the cannula. A hole is drilled into the leg and through the bone. The hole will line up with the slots in the nail (attached to the L-handle as is the targeting arm). Screws are then inserted through the bone, into the nail, and out the other side of the bone (though they do not protrude through the skin). The screws keep the nail in place and prevent it from sliding or slipping. This method of insertion has been devised to work in a surgery without C-arm assistance.

Among some of the challenges faced by surgeons is the task of convincing fracture patients to forego traditional bone setters, and instead, get injuries treated through modern orthopaedic means. In May 2009, Dr Duong Bunn of Cambodia reports persuading a 60-year old male with a fractured hip to forego a traditional bone setter and remain at Kossamak Hospital in Phnom Penh to be treated with modern orthopaedic surgery.

'We operated using a SIGN nail,' says Dr Bunn. 'Now he can sit and move his leg. We are very happy.'



UNICEF hails South Africa's new strategy for tackling HIV/AIDS

The United Nations Children's Fund has applauded the big leap taken by the South African government towards achieving universal access to treatment for HIV for the country's women and children living with the virus.

Among the momentous and historic decisions announced by President Jacob Zuma on World AIDS Day (1st December 2009), were the expansion of access to antiretroviral treatments and preventing new infections among children.

'The government of South Africa has demonstrated an unprecedented leadership, vision and compassion for its children and their future welfare,' said Aida Girma, UNICEF's South Africa Representative. 'By tackling the HIV pandemic head on, the country will prevent new HIV infections, contribute to the reduction of under-5 mortality and also prevent more children from being orphaned.'

UNICEF said that South Africa's adoption of new HIV treatment guidelines issued by WHO and making such services available at all health facilities demonstrates the country's commitment to normalising the virus as an integral part of primary health care services to save lives and avert new infections.

The new measures build on efforts already under way in South Africa to expand access to prevention of mother-to-child transmissions (PMTCT) to all women living with HIV and AIDS, increase the availability of early infant diagnosis and provide treatment to HIV-positive children.

Coverage of PMTCT has already soared from 15% in 2004 to 73% last year, while paediatric treatment has increased to reach nearly two-thirds of the some 94 000 children in need at the end of 2008.

However, most infants are not tested for the virus before 6 weeks and many lose their lives undiagnosed and untreated. Infants' chances of survival will rise dramatically thanks to South Africa's announcement to start treatment for all babies living with HIV/AIDS, regardless of their CD count, provided that access to early infant diagnosis is improved, UNICEF said.

Mali acts against fake drugs

A device introduced by Swiss researchers to Mali will detect bogus or sub-standard medicine within minutes, say researchers.

The capillary electrophoresis technology, using thin wires hooked to electrodes to analyse a medicine's chemical properties, will weaken Mali's growing counterfeit medicine market, which most often targets patients with life-threatening diseases such as malaria, tuberculosis, and HIV/AIDS.

Until now, Mali's national health laboratory used a chemical analysis that was cumbersome and costly; the new device takes 10 minutes. Mali's lab will use the device to analyse antibiotics amoxicillin and clotrimazole, prescribed for diarrhoea and ear infections; the HIV therapy of lamivudine, zidovudine and nevirapine; anti-malarial quinidine; and the antibiotic rifampicin, to treat tuberculosis and leprosy.

Counterfeit drug sales worldwide will reach \$75 billion in 2010, an increase of more than 90% since 1995.

Global Fund moves to improve practical efficiencies

The Global Fund is taking action to minimise the risk of treatment disruptions arising from interruptions in its financing and from weaknesses in country-level procurement and supply management (PSM) systems.

Details of what the Global Fund is doing and is planning are contained in a report prepared for the Portfolio and Implementation Committee of the Board in September 2009. The report is entitled, *Preventing Drug Stock-Outs and Treatment Disruptions in the Global Fund-Supported Programs*.

The Fund has identified a number of risk factors relevant to the occurrence of stock-outs. These factors include:

- low capacity of Principal Recipients (PRs) in stock management and forecasting;
- poor state of medical warehouses;
- non-transparent procurement processes;
- the non-timely submission of Progress Updates and Disbursement Requests (PU/DRs) by the PR;
- disbursement delays; and
- weak coordination between PRs and other in-country stakeholders.

However, the Global Fund says that a thorough analysis of the root causes and consequences of stock-outs is hindered by the fact that there is no systematic collection and monitoring of relevant information. In fact, the information systems used for the early identification of stock-outs are unsystematic and largely informal.

The Global Fund says that it 'is working to ensure a greater compliance' with current reporting requirements. Under current Fund policy, disbursements should be withheld in cases where the PR has not fully reported on health product purchases. The Global Fund also says that in early 2010, it will introduce 'country profiles,' which will describe in-country systems for the management of pharmaceutical and health products, and assist in the identification of critical weaknesses related to PSM systems. The country profiles will replace the current PSM Plans for all active grants.

The Global Fund Secretariat will work with CCMs to enhance their role

in responding to potential treatment interruptions. A CCM Dashboard, currently being developed, will assist CCMs in identifying and following up on actual and potential problems with grant implementation, including stock-outs. More capable CCMs will be encouraged to develop 1-year plans on monitoring and preventing stock-outs. Finally, where there are stock-out risks, the Secretariat will encourage PRs and CCMs to explore potential sources of funding to ensure treatment continuity.

The Secretariat will also work with partners to address key risks of stock-outs, with the emphasis being placed on building PR capacity to detect and prevent stock-outs. In its report, the Global Fund acknowledges that its interaction with partners on issues of treatment disruption has been insufficient. The Secretariat is already in discussions with partner organisations concerning a possible joint response to preventing and mitigating drug stock-outs.

Meanwhile, a review by the Global Fund's Inspector General of the Fund's grants to Uganda, 4 years after the Fund temporarily suspended five grants worth \$213 million due to financial mismanagement, has concluded that the Fund should continue to use Uganda's Ministry of Financial Planning and Economic Development (MoFPED) as Principal Recipient (PR).

The Office of the Inspector General (OIG) took this position in its *Follow up review of the Global Fund grants to Uganda*, despite acknowledging severe limitations in the ability of MoFPED and its designated implementer, the Ministry of Health (MOH), to allocate, disburse and account for funds to hospitals and health centres, particularly outside the capital and particularly when dealing with HIV/AIDS. In general, this review emphasised the positive side of the situation and expressed tentative confidence that a proposed Long Term Institutional Arrangement (LTIA) with the government will be able to deal with these weaknesses. But the conclusions also appear to indicate a degree of unease over the ability of the PR to effectively use and protect Global Fund investments in Uganda.

Drug firm boost to malaria fight

Pharmaceutical company GlaxoSmith-Kline (GSK) is to reveal previously confidential data on thousands of potential anti-malaria compounds.

In addition to this, the company is to pump millions into an 'Open Lab' for independent research teams.

The company has 13 500 molecules which have been tested against the parasite which causes malaria.

One expert said more sharing of data could trigger advances like those that came from the human genome project.

The way in which pharmaceutical firms guard the secrets of their drugs and research has long been cited as an obstacle to disease research.

The latest announcement by GSK chief executive Andrew Witty, follows an earlier decision to set up a 'patent pool' where information about patented drugs could be shared. In a speech in New York, he said that it was important to 'earn the trust' of society. 'The measures we have announced today are characterised by a determination to be more flexible, open and willing to learn. GSK has the capability to make a difference and a genuine appetite to change the landscape of healthcare for the world's poorest people,' he said.

The data in question is the result of a year's effort by GSK scientists to study a disease which still claims almost a million lives a year, mainly in sub-Saharan Africa.

The company holds a 'library' of millions of different molecules, and each of these was tested against the Plasmodium parasite which causes malaria. The result was 13 500 which appeared to have an effect on it, although extensive further research would be needed to narrow down this list into those most likely to succeed as new drugs.

Dr Mallika Kaviratne, from the Malaria Consortium, a not-for-profit organisation, said it could boost access to medicines for developing countries, as resistance to existing drugs was an important issue. She added, 'The release of 13 500 molecules made to the public is very important – we have nothing else in the pipeline – and new drugs need to be developed, but they're expensive.'