

NEWS

“Shocking” AIDS data released in South Africa

AIDS accounted for about a quarter of all deaths in South Africa last year and has become the country's single biggest cause of death, according to a report released by the South African Medical Research Council (MRC) on Oct 16 (see www.mrc.ac.za/home.html). The controversial report projects that, without treatment to prevent the development of AIDS, the number of AIDS deaths is expected to rise within the next decade “to more than double the number of deaths due to all other causes, resulting in 5 to 7 million cumulative AIDS deaths in South Africa by 2010”.

“This report is a chilling reminder of how powerful stereotypes across society have colluded in creating the most explosive epidemic in the history of our country”, states Malegapuru W Makgoba, president of the MRC, in a bluntly worded preface to the report.

The MRC report, which was leaked to the South African media a week earlier, drew thinly veiled criticism from the government. In a joint statement to the press on Oct 11, the government departments of statistics, home affairs, and health attempted to throw doubt on the methodology and interpretation of the study. “At the outset, we would like to say that we view the MRC study as an important contribution to a broader process of establishing mortality rates in this country and particularly the impact of HIV/AIDS on the pattern of deaths”, the government departments stated. “But”, they continued “as experts (including the World Health Organisation) point out, there are inherent problems in measuring AIDS-related deaths, precisely because such deaths are often recorded under other causal categories. Accordingly, scientists are forced to use indirect measurements rather than simply count the numbers—and this is, indeed, the case with the MRC study.”

But the MRC report, *Impact of HIV/AIDS on Adult Mortality in South Africa*, is candid about its limitations. It acknowledges that deciding whether the excess mortality based on what would have been expected based on 1985 mortality rates is due to HIV/AIDS “is obviously difficult in the absence of accurate information as to the cause of death”.

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Funeral of 12-year-old AIDS activist, Nkosi Johnson

The MRC investigators analysed several alternative explanations for the changing patterns in mortality—such as the excess deaths being a result of political vio-

“These shocking results need to galvanise efforts to minimise the devastation of the epidemic”

lence—“and found none of them plausible”, according to the report.

Furthermore, the report presents additional evidence, such as data from the most recent confidential inquiry into maternal deaths and data from Durban cemeteries, to support the hypothesis that AIDS deaths are increasing in the young adult population. The MRC also states that the pattern of mortality rates in South Africa is consistent with those seen in neighbouring Zimbabwe some 8 years earlier. “The pattern of certified AIDS deaths in Zimbabwe is entirely consistent with the excess

deaths being projected in South Africa by the [MRC] model, with the peak in the 25–29 year age group for females and five years later for males, and with a longer ‘tail’ for males (although male deaths exceed female deaths)”, according to the report.

The MRC report draws particular attention to the broader implications of the findings. Notably, the pattern of mortality from natural causes in South Africa has shifted from the old to the young during the past decade, particularly to young women.

Mortality of South African women in the 25–29 year age range in 1999/2000 is estimated at around 3.5 times higher than the rate in 1985. The report also notes the dearth of data on the impact of AIDS on the mortality of children. And, since some provinces are experiencing very different epidemics from the national average, this research must be devolved down to the provincial level as soon as possible.

In a strongly worded introduction to the report, Makgoba states that as a consequence of early erroneous beliefs that AIDS was a disease of homosexuality “many Africans promoted the notion that homosexual practices were ‘unAfrican’, thus sowing the seeds for denial to justify why AIDS would not be prevalent in their communities”. This denial was compounded by stigmatisation, chauvinism, the distortion of scientific evidence, and ignorance, he adds.

He notes several prominent figures who have died of AIDS, including 12-year-old activist Nkosi Johnson, to illustrate that AIDS has affected all sectors and ages of South African society. “As Africa faces the challenges of its renewal or renaissance, there is no greater potential barrier to the attainment of this vision than the spectre of the HIV/AIDS epidemic”, Makgoba warns.

Sarah Ramsay

Molecular help on the horizon for hair loss?

New results on the molecular mechanism behind some rare congenital hair loss disorders may one day help us to understand and combat common types of baldness, says Catherine Thompson (Kennedy Krieger Research Institute and Johns Hopkins University School of Medicine, Baltimore, MD, USA). "We now know that *hairless*, the gene involved in these syndromes, is a transcriptional co-repressor. By determining which genes *hairless* controls, we may discover new therapeutic targets for baldness", she suggests.

Mutations in *hairless* (*hr*) were first recognised in mice 75 years ago but the gene was not cloned until 1994. Then, in 1998, the first evidence of an association between the human orthologue of *hr* and hair loss was reported in the congenital hair disorders alopecia universalis and papular atrichia.

"*Hairless* is expressed in both the skin and in developing brain", says

Thompson, "and like many people we wanted to know the function of the *hairless* protein but its sequence gave us few clues". Thompson and her colleagues now report that *hairless* is a transcriptional co-repressor for thyroid hormone receptors. "Hairless aids transcriptional repression by the thyroid hormone receptor", explains Thompson (*Genes Dev* 2001; 15: 2687-701). Thus, when *hairless* is mutated, it seems likely that the repression of gene expression by the thyroid hormone receptor is disrupted and that specific genes are misexpressed, leading to hair loss. Thompson admits that she has little idea of what these downstream genes are at present, but says that her team hopes to identify them by examining likely candidates and by analysing gene expression patterns

in normal mice and in mice with *hr* mutations.

"This is an elegant and convincing piece of work", comments Angela Christiano (Columbia University, NY, USA), "and in principle, understanding the function of any gene involved in hair biology could lay the foundation for a better understanding of hair diseases in general". However, both Christiano and Thompson note that to understand common forms of baldness, we

will probably need to identify a larger number of genes acting in concert, not just a single gene. So for now, it seems, covering up the bald patches or gracefully accepting their advent remain among the best responses to a thinning thatch.

Jane Bradbury

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Science Photo Library

New hope for baldness

New theory on the cause of Huntington's disease

US researchers have cast doubt on a popular theory about the pathogenesis of Huntington's disease in a new study published this week. The "toxic peptide theory" suggests that the mutant huntingtin protein is more sensitive to proteolytic "clipping" than the normal huntingtin protein, and that toxicity is caused by accumulation of fragments of the mutant protein in the cytoplasm and nucleus. "But the problem with the toxic peptide theory is that no-one had shown that the clipping event occurs in vivo or in humans", comments senior author Cynthia McMurray (Mayo Clinic and Foundation, Rochester, MN, USA).

McMurray and colleague Roy Dyer tested this theory by evaluating huntingtin in extracts from affected regions of Huntington's and control brains, using an antibody specific for the expanded portion of the mutant huntingtin protein. They identified small cleavage fragments in human brain. "But rather than the clipping event generating toxicity, we found the opposite—the mutant protein resisted clipping", explains McMurray. "The fragments arose from normal processing of the good protein, not from the mutant protein."

The researchers found that the full-length mutant protein caused

aggregation of cellular components, including the normal huntingtin protein. Aggregation of these proteins is toxic and can lead to cellular dysfunction (*Nat Genet* 2001; DOI 10.1038/ng745). The researchers found that slow proteolytic processing of the mutant protein did occur, but McMurray suggests that this may occur as a late event in the pathophysiology of the Huntington's disease.

According to Scott Zeitlin (University of Virginia School of Medicine, Charlottesville, VA, USA), these findings have implications for the design of new treatments for Huntington's disease. "It is still an open question whether or not aggregates are directly toxic, or they are an effort by the cell to sequester a toxic protein. This study suggests that aggregation and sequestration may be the primary event in Huntington's disease pathogenesis. Thus, efforts to accelerate the turnover of mutant huntingtin, or inhibit aggregate formation, may be critical. Caspase inhibitors may only delay progression if proteolytic cleavage of mutant huntingtin is not the primary event in pathogenesis. A combination of both kinds of therapy may be necessary."

Helen Friskish

News in brief

Older patients and hypertension

US researchers have recommended aggressive treatment of hypertension in adults older than 60 years who have a high risk of cardiovascular disease. The investigators determined the risk of future cardiac events in 4453 participants of the Systolic Hypertension in the Elderly Program. They found that treatment of high-risk older adults was four times more effective at preventing myocardial infarction, stroke, and heart failure than treating those with lower levels of risk (*Circulation* 2001; 104: 1923-26).

Heart disease diagnoses

Men in the UK are just as likely to be diagnosed with heart disease as they were 20 years ago. In a survey of almost 8000 men aged 40-59, the researchers found that the likelihood of experiencing symptoms of angina decreased by 4 per cent per year, and the rate of myocardial infarction also decreased, but diagnoses of coronary artery disease did not change between 1978 and 1996 (*Heart* 2001; 86: 499-505).

Vitamins reduce risk of vision loss from macular degeneration

A supplement containing antioxidants and zinc can delay the progression of intermediate age-related macular degeneration and reduce the risk of vision loss, report US researchers. "It's not a cure, it's not for everyone, but it certainly has given hope to many people who previously would not have had any treatment at all", enthuses Emily Chew of the US National Eye Institute (Bethesda, MD, USA). "The key is to have patients get a dilated eye exam so they know what the status of their retina really is and see whether they need this concoction."

Chew and colleagues in the multicentre Age-Related Eye Disease Study Research Group evaluated 3640 people aged 55 to 80 for signs of age-related macular degeneration. Participants randomly received either 80 mg zinc, with copper added to prevent associated copper deficiency; an antioxidant combination of 500 mg vitamin C, 400 IU vitamin E, and 15 mg β -carotene; zinc (with copper) and the antioxidants; or placebo.

After about 6 years, people with no

age-related macular degeneration or early stages—a few small or medium-sized drusen in one or both eyes and no vision loss—showed no benefit from supplementation. But participants with intermediate

on cataract development (*Arch Ophthalmol* 2001; 119: 1417–35, 1439–52, 1533–4; more details available on the National Eye Institute website, www.nei.nih.gov/amd).

"Critics might say the intervention is too expensive, or that we're treating too many people, but I don't think so", asserts Chew, noting that the study will continue for another 5 years to see if the results hold true over time. "If you're going to save a quarter of a million people in the USA from going blind over the next 5 years, that's a pretty significant saving."

On the other hand, "the concern is that everybody will say, 'if the supplement is good for this, it must be good for that, and we should all take it. That's a worry because these are high doses; it's not just a run-of-the-mill multivitamin'", warns Chew. "We don't know what the long-term effects are or what drug interactions it may have. People shouldn't take it as a panacea."

Marilynn Larkin

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National Eye Institute

Loss of vision with age-related macular degeneration

disease—many medium-sized drusen or one or more large drusen in one or both eyes—did benefit from the supplements. The zinc and antioxidant combination reduced the risk of developing advanced disease by 25% and the risk of central vision loss by 19%; zinc alone reduced the risk of advanced disease by about 21% and the risk of vision loss by about 11%; antioxidants alone reduced the risk of advanced disease by about 17% and the risk of vision loss by about 10%.

A separate analysis showed that the supplements had no effect

US criteria may reduce unnecessary spine radiography in trauma patients

US researchers have devised new criteria that could reduce the use of cervical spine (C-spine) radiography. Currently only 2% of the C-spine radiographs done on blunt trauma patients with potential cervical spine injury are positive—which means that 98% of radiographs of this type could be avoided. "The problem is that deciding which patients require C-spine radiograms and which do not can be very difficult because of the potentially disabling nature of a spinal injury", says lead author Ian Stiell (University of Ottawa, Ontario, Canada).

Stiell and colleagues did a

prospective cohort study of 8924 adults, mean age 37 years, who presented with blunt trauma to the head and neck. All patients had stable vital signs and were fully conscious and alert. Each patient was analysed for 20 standardised clinical findings before C-spine radiography. No criteria were used to decide whether individual patients received a radiograph; this was done according to the judgment of the treating physician (*JAMA* 2001; 286: 1841–48).

151 patients (1.7%) had significant spinal injury, such as fracture, dislocation or ligamentous instability. When the results from the

standardised findings were correlated with the outcome of the C-spine radiograph, a set of criteria evolved, termed the Canadian C-spine rule (see panel). Cross validation showed that the rule has 100% sensitivity (95% CI 98–100%) and 42.5% specificity (95% CI 40–44%).

"The Canadian C-Spine rule is a highly sensitive decision rule for use of C-spine radiography in alert and stable trauma patients", comments Stiell. Richard Daffner (Allegheny General Hospital, Pittsburgh, PA, USA) writes in an accompanying editorial that "the Canadian C-spine rule appears comparable to the NEXUS [National Emergency X-Radiography Utilization] study in being able to identify patients who need radiography, but appears more effective in determining which patients can be managed without radiography". The NEXUS criteria were recently shown to have a sensitivity of 99.6% and a specificity of 12.9% (*N Engl J Med* 2000; 343: 94–99).

Kathryn Senior

The Canadian C-spine rule consists of three major questions:

- Are there any high-risk factors that mandate radiography? (For example: 65 years of age or older; patient presents with abnormal sensations in their extremities; the mechanism of injury was dangerous, such as a motor vehicle collision that included a rollover, ejection or was high speed; or the patient was on a motorised recreational vehicle or a bicycle.)
- Are there any low-risk factors that would allow safe assessment of a range of motion? (Being involved in simple rear-end collisions, patient able to sit up in emergency department, patient ambulatory at any time since injury, delayed onset of neck pain and absence of midline neck tenderness.)
- Is the patient able to rotate their neck 45 degrees to the left or to the right?

No closure in sight for the 10/90 health-research gap

Eleven years ago, the Commission on Health Research for Development presented a landmark report, *Health Research—Essential Link to Equity*, at the Nobel Conference in Stockholm, Sweden. The Commission had undertaken a survey of health research worldwide. Based on the Commission's findings, the term "the 10/90 gap" was coined to convey the striking discrepancy identified between the size of disease burden and the allocation of health research funding.

10/90 indicates that only an estimated 10% of the world's health resources—currently estimated to be at least US\$73.5 billion—are used for research into 90% of the world's health problems. The 1990 Commission focused the wider health community's attention on this imbalance and on the potential of research as a development tool. The Commission recommended that at least 2% of national health expenditures in less-developed countries should be allocated to health research and capacity building.

One of the results of the Commission's work was the creation in 1997 of the Geneva-based Global Forum for Health Research, a "network of networks" whose aim is to catalyse action to reduce, and eventually eradicate, the 10/90 gap. At the annual meeting of the forum in Geneva during Oct 9–12, few, if any, were under the illusion that the 10/90 gap has seen any reduction in the past 11 years. Indeed, a report by the forum that was released during the meeting, *Monitoring Financial Flows for Health Research* (www.global-healthforum.org), concluded that while total health research funding has increased somewhat in the past decade, the fundamental global imbalance in allocation of resources "remains practically the same as in 1990".

But this general lack of enthusiasm on the part of developing countries and donor nations alike to take on the challenge has not dimmed the vision of those who continue to see health research as a key to development and the pursuit of equity. The general feeling seems to be that, while hard cash has yet to materialise, there is a growing acceptance that developing nations must have the capacity to investigate and decide on their own health priorities.

"I truly believe that we are living in a time of extraordinary change", said

WHO's David Nabarro who was representing Director-General, Gro Harlem Brundtland, in reference to an increasing acceptance outside the health community that health is a "prerequisite for security, economic

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Panos Pictures

Building research capacity is key

growth, and sustainable futures". At the same time, he noted, there is more acceptance within the health establishment that the "reality of health decisions for poor people are not well understood".

Walter Fust, director-general of the Swiss Agency for Development and Cooperation, spoke for many. "[W]hile it is considered essential to have malaria prophylaxis and treatment available for tourists", Fust said, "why should those men, women, and children in developing countries who need it most be left without any effective and affordable treatment?" He continued: "Without progress in

"The G7 are strong on rhetoric but weak on putting their money where their mouth is"

health and development, there will be no global security, and industrialised countries will in turn be confronted with all the negative consequences of man-made disasters."

The Prime Minister of Mozambique, Pascoal Mocumbi, endorsed that view when asking those attending the meeting to reflect on the "crisis of human security for hundreds of millions of people around the world, which is long enduring but largely silent . . . the crisis of ill health and the costs of providing basic health care". Speaking as a policy maker, Mocumbi pointed out the difficulties involved in making hard choices between competing demands in a resource-poor country. But, he noted, "Well-designed research—not only biomedical but also socio-economic, behavioural, and political

—can help us enormously".

A former obstetrician, Mocumbi noted that his country's rates of maternal mortality (600–1000 per 100 000 and infant mortality (145.7 per 1000 live births) are among the highest in the world, and life expectancy is expected to drop to 36 years by 2010 as a result of HIV/AIDS. Despite these and other burdens, Mozambique has invested its limited resources in the development of key institutions including last year's creation of a Ministry of Higher Education, Science, and Technology, which has as one of its tasks the promotion of collaboration with external research partners.

Andrew Kitua, director general of Tanzania's National Institute for Medical Research, supported the view that developing nations cannot afford not to strengthen their research infrastructure if they want to see economic progress. And Mariam Mwaffisi, Permanent Secretary of Tanzania's Ministry of Health, concurred: "a sickly population cannot participate in development", she said. "Developing countries must be active and equal partners in research to solve their own problems, for example in tropical diseases, and they must have a voice in channelling the funds allocated to them", she added.

Regarding the generally poor levels of development aid from the industrialised world, Richard Feachem, director of the Institute for Global Health in San Francisco, USA stated bluntly: "The G7 are strong on rhetoric but weak on putting their money where their mouth is, but if all donor countries met the UN target of 0.7% of GNP [gross national product], an extra \$125 billion would be raised."

Feachem noted that a report by the Commission on Macroeconomics and Health commissioned by WHO on global public goods will be published in December. The Commission, of which Feachem is a member, will recommend that donor agencies, which currently give \$6 billion for health should increase their spending to \$22 billion in 2007 and to \$30 billion by 2015. Similarly, the Commission will recommend that developing countries should increase their spending on health by 1% of GNP by 2007 and by 2% by 2015. "These are not pie-in-the-sky targets either—they're do-able", he said.

Sarah Ramsay

TOKYO Mercury poisoning victims could increase by 20 000

New research into Minamata disease suggests that Japan's worst case of industrial pollution may have affected tens of thousands more people than previously believed. The study by doctors at Kumamoto University School of Medicine indicates that mercury poisoning—the cause of Minamata disease—causes far more damage to the brain and nervous system and at far lower doses than the government has been willing to recognise.

The findings—released on Oct 15—upset official attempts to draw a line under the environmental disaster, which first struck more than 50 years ago, and gives hope to plaintiffs who are fighting in the courts for legal recognition of their suffering.

Minamata, a picturesque city in Kyushu—the southernmost of Japan's four main islands—has become synonymous with a severe neurological disorder caused by ingesting seafood or seawater polluted with mercury. The disease was recognised—but initially covered up—in the 1950s after Chisso Corporation, a chemical manufacturer, pumped tonnes of mercury compounds into Minamata Bay in the Shiranui sea.

More than 900 people died in agony. Many babies in the area were born with deformed limbs. Thousands continue to have spasms, blurred vision, and slurred speech. The government, which was reluctant to rule against a major corporation at a time when Japan placed a priority on economic growth, did not acknowledge

Chisso's responsibility until 1968—12 years after one of the company's doctors noticed the dangers. It was not until 1996 that the government offered victims a modest settlement that paid out about US\$2500 in damages from Chisso and \$200 a month in medical expenses from state funds.

A year later the governor of Kumamoto prefecture declared Minamata Bay clear of pollution and ordered the lifting of a 2 km net that separated fish in the bay from those in the open sea. This was supposed to have been a symbol of the city putting the past behind it, but the medical and legal problems of Minamata disease have refused to go away.

Opponents have long argued that

the government has too narrow a definition of Minamata disease. Until now, the health ministry has certified 2265 victims of whom 1435 have died. Another 17 128 have applied for recognition. The latest findings

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Memorial for the victims of Minamata disease

provide evidence for their claims, as well as for tens of thousands who have not come forward.

Shigeo Ekino of Kumamoto University School of Medicine led the research, which concluded that harmful concentrations of mercury remained in the Shiranui sea until 1970—10 years longer than previously believed. It also found that low doses of mercury caused more damage than thought, which means that far more people than previously estimated may have eaten fish contaminated with harmful concentrations of mercury.

Ekino compared the discrimination thresholds of tongues, lips, thumbs, and forefingers of a control group and residents of Ooura, a town on the opposite shore from Minamata on the Shiranui sea. The

Ooura group were exposed to low-level doses of methyl mercury poisoning (about 17.3 parts per million as measured in terms of mercury in their hair) from 1950 to 1970.

He found that methyl mercury poisoning causes widespread damage to the cerebral cortex, rather than the type of peripheral nerve disorder recognised by the government. Further studies by colleagues showed that Minamata victims have a loss of granular neurons in the cerebral cortex, which would account for the damage to the senses of sight, hearing, smell, taste, and touch.

Based on these findings, Ekino said the number of victims could easily grow by 20 000 if all the residents

living on the coast of the Shiranui sea were taken into account.

Plaintiffs' groups say the figure could grow even higher. "The government has set 50 parts per million as the level at which mercury detected in the hair poses health risks to humans, but this study and others done overseas suggest that a level of just 10 parts per million causes congenital effects. Extrapolating from this the number of victims could reach two million", said Youichi Tani, a campaigner of Minamata victims' rights since 1970.

Ekino is reluctant to endorse such a high figure, but he has called on the government to take the initiative in finding how many people may have been affected. "The problem is that the government has not launched a detailed epidemiological study. They are afraid of looking into the wider area", he said. Environment agency officials responsible for Minamata disease were unavailable for comment.

The government currently requires people with symptoms of mercury poisoning to come forward and claim compensation. This procedure has been criticised because many victims are reluctant to speak out about their condition for fear of discrimination—a lingering social side-effect of the disease. Victims were initially ostracised because of the groundless fear of contagion. They were later attacked for being greedy in seeking compensation and prolonging the city's shame in a series of court battles.

In the most recent of these, Ekino successfully argued that the definition of Minamata disease must be widened to include damage to the cerebral cortex. Partly as a result, in May the Osaka High Court ordered the government to recognise the claims of a group of patients who had been refused certification. The environment agency has appealed the judgement to the Supreme Court.

Such legal feuds are the last thing that Minamata's officials want. Since the lifting of the nets, Minamata has been trying to re-invent and re-unite itself as a centre of global antipollution studies. This week, it hosts scientists from around the world at an international mercury-poisoning conference. Given the latest study and the ongoing court battle, delegates may feel that the city's own healing process is far from complete.

Jonathan Watts

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Caring for the survivors of Uganda's Ebola epidemic one year on

Sixty of 257 people who survived the world's largest reported epidemic of Ebola haemorrhagic fever in Uganda 1 year ago are still suffering from complications of the disease.

According to Paul Onek, director of health services in the northern district of Gulu that was hardest hit by the epidemic, the complications include abdominal pains, loss of vision, loss of hearing, impotence, bleeding, psychological problems, and general weakness. A specialist clinic in Gulu is providing support and symptomatic treatment. "About 25% of the survivors still report to the clinic. We started by having as high as 50%. The number has gone down", he said.

Most of the survivors have become poorer because they can no longer work as much as before they became ill. Some are unable to perform simple exercises such as riding a bicycle.

The first case of Ebola haemorrhagic fever in Uganda was reported on Oct 8, 2000. Laboratory tests at the National Institute of Virology in South Africa, a WHO reference laboratory, confirmed Ebola virus infection on Oct 15. Uganda was finally declared free of Ebola on Feb 27 this year, after 42 days had elapsed without any new cases.

16 health workers, including Matthew Lukwiya who alerted the world to the epidemic, died after con-

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Gulu district was worst affected

tracting the disease while treating patients. However, the government has not yet paid compensation to the health workers' families. Director-general of health services, Francis Omaswa, blames the delay on budgetary constraints. "Ebola came in the middle of the financial year and it [compensation] was not on the budget", he said. He added that the ministry responsible for labour has now budgeted for compensation this financial year and that the bereaved families will be paid the equivalent of 5 years' salaries of the deceased health workers. 11 health workers who survived will be paid according to dam-

ages suffered. "It is not something we want to go back on. We have been making promises", Omaswa said.

Ebola left 500 orphans in Uganda, a country already burdened by 1.7 million AIDS orphans. Onek said the Ebola orphans aged up to 18 years old live in their homes with the support of their closest relatives. They have no other source of support.

But it is not all bad news. Omaswa noted that hospitals that were involved in the Ebola haemorrhagic fever epidemic now have improved infrastructures, and all have had improvements made to wards. In addition, Lacor Hospital in Gulu, run by missionaries, has a new laundry and ward and Gulu Government Hospital has a new laboratory.

Sam Okware, who chaired the national Ebola task force, said Ugandan scientists were following up survivors in partnership with US and German colleagues. Okware said the index case and source of the Ebola epidemic have not yet been established, and surveillance continues. "The environment is still the same. We don't know why it came. So we think it may take its natural cycle", he said.

Charles Wendo

UK moves to tackle scientific fraud

A national panel to detect and deal with scientific fraud was one step closer to instigation this week, as experts met in London to discuss practical solutions to combat fraud in the UK. The meeting was called by members of the Committee on Publication Ethics (COPE), set up by editors of leading medical journals, in a continuation of their campaign to tackle fraud in scientific and medical research.

Although there has been much discussion on a proposed system to address scientific fraud in the UK, cases of which are thought to occur regularly, the British medical establishment has so far been criticised for its lack of decisive action. In the absence of a formal mechanism in place to investigate and deal with issues as they arise, many cases go undetected. Furthermore, because it is currently the role of the employing institution to investigate cases, individuals are often not prevented from seeking employment elsewhere. A

national panel, with real powers to detect and respond to potential fraud, would go a long way to addressing these problems.

"This is a critical development", said George Alberti, president of the Royal College of Physicians, who referred to the current approach to prevent, detect, and deal with scientific fraud as "shambolic". He highlighted the need to promote education and training among the research community, focusing on younger scientists in medical schools and scientific institutions. The panel, he added, should be independent, capable of a rapid response in dealing with potential cases, and should have a proactive role rather than merely an advisory one. Ultimately, it should involve all sectors, including industry, legal bodies, and the national health service.

"Although serious research fraud is extremely rare", said Mike Farthing the COPE chairman, "our sense is that there is a problem in the

UK". Examples include falsifying of results, unethical treatment, and biased reporting. The General Medical Council (GMC) have been involved in a number of investigations. In one high-profile case last year, Anjan Kumar Banjeree, a researcher at King's College Hospital, London, was found guilty by the GMC of falsifying data in his research into Crohn's disease. Cases of fraud have increased in the past few years.

"Wherever there is human activity there is misconduct", said Richard Smith, editor of the *British Medical Journal*, who reaffirmed that scientific fraud is an international problem and suggested we look to Scandinavia and the US who have had such bodies in place for years. "Yet whatever we set up in Britain", he added, "it won't be a question of copying other countries, but instead learning from them".

Sally Hargreaves

Spain closes the door on embryonic stem cell research

On Oct 3 the Spanish parliament voted against a proposal by the opposition Socialist party to allow the use of embryonic stem cells from “spare” embryos from in-vitro fertilisation treatment.

The Socialists wanted the government to modify a 1988 law on assisted human reproduction (see *Lancet* 2001; 358: 480), which says that embryo-related research is a serious offence. But the Socialist party says that a legal loophole allows embryonic stem cell research. However the proposal was rejected because “the government must first create an Advisory Committee on Ethics of Scientific and Technological Research” and because “we are aware that [40 000] spare embryos have not been

destroyed so future research projects are not at risk”, said a government spokesman.

Jaime Lissavetzky, spokesman for the Socialist’s Science Commission said that the health and science ministries have totally contradictory positions on embryonic stem cell research. On Sept 26 the science minister Ana Birulés told the parliament that permission for such research could be sought in special circumstances. The next day, the state secretary of the science ministry Ramón Marimón told the senate that “research on embryonic cells is permitted” and that some projects had federal funding.

Meanwhile on Oct 10, the health minister Celia Villalobos told the senate that “there is no scientific and

ethical consensus [among the National Commission of Assisted Reproduction members (CNRA)] to modify the 1988 law. She also noted that CNRA would meet to discuss the future of 40 000 embryos currently stored in Spain. Current laws set a 5-year period from harvesting to using an embryo but there are no clear rules about what happens after the deadline expires.

Jesús Avila, a stem cell researcher at the Centre of Molecular Biology in Madrid, says that most laboratories are purchasing cells from the 64 lines established by the US government (see *Lancet* 2001; 358: 899). Anne McLaren, a researcher at Wellcome’s Cancer Research Campaign Institute, University of Cambridge, UK, and a member of the Human Fertilisation and Embryology Authority, says that “other European countries seem to be moving in the opposite direction”.

However European supporters of such research may come up against the European Commission (EC), which has made it clear that its programme for 2002–06 will fund adult and not embryonic stem cell work.

Xavier Bosch

The Netherlands approves embryonic stem cell research

On Oct 9, after 1 year of discussion, the Dutch Parliament voted in favour of a new law that will allow researchers to use embryos that are left over from in-vitro fertilisation (IVF) procedures. These embryos may also be used for embryonic stem cell work. The new legislation stipulates that researchers must only use spare embryos from IVF treatment and the law forbids the production of embryos solely for research purposes. All research on embryos will only allowed after informed consent has been taken from the embryo donor. Furthermore a central national committee must approve all research. Finally, the law explicitly forbids cloning of humans, embryo manipulation for sex selection procedures, and experiments that try to combine human and animal embryos. *Wim Weber*

Asia Pacific ministers forge closer links to tackle HIV/AIDS

Australian ministers took the lead in organising regional initiatives to combat HIV/AIDS at the 6th international congress on AIDS in the Asia Pacific in Melbourne, Australia, on Oct 5–10. The Congress held an unprecedented meeting of Ministers from the Asia Pacific, sponsored by Australia’s Foreign Minister, Alexander Downer, to consider ways ahead to combat HIV/AIDS.

A key feature of the Congress was the interaction between many senior ministers and HIV-infected patients and their advocates. This was graphically demonstrated by the Nepalese Health Minister sitting on the ground discussing matters with Nepalese people living with HIV/AIDS in a way that had not happened in their own country.

In a communiqué to the Congress, Ministers acknowledged a Statement of Commitment on HIV/AIDS of the First Ladies of the Asia Pacific region, which noted that the empowerment of women

was essential for reducing their vulnerability to HIV/AIDS. Ministers called for an integrated approach to tackling the disease including harm reduction. They noted the fundamental importance of the full realisation of human rights and that the presence of stigma, silence, denial, gender inequality, and inadequate legislative frameworks limited the abilities of countries to combat the epidemic. They further acknowledged the joint efforts of countries and international organisations in the region to investigate ways of reducing the price of pharmaceutical drugs.

Ministers were determined to engage people living with or at risk of infection by HIV/AIDS, and to promote their inclusion in decisions that affect them and to foster their reintegration into the community. Ministers also agreed to establish an Asia Pacific Leadership Forum on HIV/AIDS with support from Australia. The Forum is to serve as a network for

regional coordination and collaboration and to provide training for senior political advisers. Australia is also to provide financial support for the recently established Coalition of Asia Pacific Regional Networks on HIV/AIDS, made up of seven community-based networks.

Australia offered, upon request, to provide assistance to governments in the region to draft legislation to facilitate cost-effective access to essential HIV/AIDS drugs, consistent with international trade agreements.

This offer may not be taken up given that Australia has recently sided with the USA and not the developing world—including countries in the region—in debates concerning draft ministerial statements on the Agreement on Trade Related Aspects of Intellectual Property. Ministers will meet again in 2 years time in Australia.

Bebe Loff, Stephen Cordner

UN pleads for break in bombing in Afghanistan

United Nations High Commissioner for Human Rights (UNHCR) Mary Robinson has warned that the crisis in war-ravaged Afghanistan could turn into “a humanitarian disaster on the same scale” as was seen in Rwanda’s civil war where nearly 800 000 people were killed or died from disease and malnutrition in the mid-1990s.

“Are we going to preside over deaths from starvation of hundreds of thousands—maybe millions—of people this winter because we didn’t use the window of opportunity before winter closes?” Robinson asked. She argued that the Sept 11 “attacks were acts of individuals, and should not bring about retribution against one people, or one religion”. With winter just 4 weeks away, “an estimated 7.5 million people are at risk from starvation unless food and humanitarian assistance reaches them”, she noted.

Although the World Food Programme (WFP) has resumed food supplies into Afghanistan by truck, suppliers and aid workers are facing regular interruption from US and UK bombing raids and troop movements. Currently Afghanistan has only 9000 tonnes of wheat stocks and another 50 000 tonnes are needed to feed 7.5 million Afghans this winter. Since Sept 25, the WFP has shipped only 14 814 tonnes of aid.

100 000 children will die from preventable diseases, including diarrhoea and pneumonia, this winter if immediate preventive measures are not taken, said Eric Laroche, a UNICEF representative for Afghanistan. “Almost 300 000 Afghan children already die each year, largely of preventable causes”, he noted.

Alarming high rates of malnutrition among Afghan children have decreased their chances of survival. Their desperate situation will be compounded by the harsh winter that will close in during the next few weeks. They “go bare-footed and lack adequate clothing against the coming cold. If nothing is done to alleviate their plight, these children will freeze to death within weeks”, Laroche added.

Oxfam also called on Pakistan and Iran to speed up their preparation of campsites for refugees. UNHCR is presently in a dispute with Pakistan’s government over its proposals for 100 Afghan refugee campsites, with

discussions focused on the location of the sites, accessibility, and security. Pakistan insists that “new camps be built in remote tribal areas along the Afghan border. But these sites don’t have water and are insecure”, said Jennifer Clark of UNHCR.

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Afghans pick up rations dropped by US planes

The UN agency has complained that donors had given only one third of the US\$36 million needed for its operations in Afghanistan. These financial concerns come as many aid operations remain severely disrupted as a result of the anti-US demonstrations throughout Pakistan.

“These are the worst security incidents the United Nations has ever experienced in Pakistan”, said UNHCR spokesperson Peter Kessler. For example a consignment of medicines from the International Federation of the Red Cross and Red Crescent (IFRC) in Pakistan could not leave for Afghanistan because of insecurity in Pakistan, according to Andrei Neacsu, a spokesperson for the international charity.

The protests have become more violent following reports that hundreds of Afghan civilians were killed by recent US air strikes. On Oct 10, an entire village near Jalalabad was reduced to rubble after a US bombing raid. Eyewitnesses told *The Lancet* that they had seen 30 fresh graves in the village the day after the raid and that the inhabitants were nomads with no links to the Taliban. Bodies are still being dug from the rubble of mud houses and the Taliban claim the death toll is more than 200. On Oct 11 the USA admitted that the village had been hit by mistake.

According to media reports, the US and UK warplanes continue to drop cluster bombs whose use has been condemned by several groups including the International Committee of the Red Cross (ICRC). In September last year, the

ICRC called for a ban on cluster bombs because such weapons cause massive indiscriminate destruction.

Furthermore *The New York Times* reported that “area munitions” dropped by US warplanes contain mines. The Washington-based Human Rights Watch warned last week that the USA should not use antipersonnel landmines in Afghanistan, which is already one of the most heavily mined countries in the world. Estimates suggest that there are at least ten million landmines in the country. “The United States should not be making it worse. Landmines are indiscriminate weapons that will still kill civilians even if the Taliban is ousted”, warned Joost Hiltermann, a spokesperson for Human Rights Watch.

The group also called on the USA to “take extra care not to drop food into areas that have been mined”. But despite such concerns and condemnation from aid groups, including Oxfam and Médecins Sans Frontières, random US food drops continue. “They might take attention off the far more vital need to get the land convoys scaled up. They [the food drops] are highly dangerous in a country with 750 square kilometres of uncharted minefields. Dropping 37 500 meals per night in a country where 5.5 million people are starving is a drop in the ocean, expensive, and inadequate”, said Oxfam’s spokesperson, Sam Barratt. He added that “these items may not be suitable for the malnourished. Afghans will not know whether the food has been prepared in accordance to their Islamic belief”.

Meanwhile the ICRC condemned the US bombing of its Kabul warehouse that contained wheat, blankets, and other relief materials on Oct 16. The ICRC warned that the incident “definitely will hamper” its operations. “The damaged building which is 2 km away from Kabul’s airport had been clearly marked with our flags and had even been pointed out to the US officials before the strikes started”, Mario Musa, an ICRC’s spokesperson told *The Lancet*. This is the third “reported incident” in which US warplanes have hit aid agency property. For example last week, four workers were killed when a missile hit the offices of a UN mine clearing agency.

Khahir Ahmad