

Cholera epidemic envelops coastal slums in West Africa

A fierce cholera epidemic is spreading through the coastal slums of West Africa, killing hundreds, in one of the worst regional outbreaks in years.

Cholera, transmitted through contact with contaminated feces, was made worse this year by an exceptionally heavy rainy season that flooded the sprawling shantytowns in Freetown and Conakry, the capitals of Sierra Leone and neighbouring Guinea.

In both countries, about two-thirds of the population lack toilets, a potentially lethal threat in the rainy season because of the contamination of the water supply. Doctors Without Borders said there had been nearly twice as many cholera cases so far this year as there were in the same period in 2007 in Sierra Leone and Guinea, when it said the area experienced its last major outbreak.

Already, more than 13 000 people suffering from the disease's often fatal symptoms – diarrhea, vomiting and severe dehydration – have been admitted to hospitals in the two nations' capitals, and 250 to 300 have died.

In Sierra Leone, the government declared the cholera outbreak a national



emergency, while aid workers in Guinea said the outbreak was unlikely to have reached its peak yet. Rains have already contributed to cholera deaths in the landlocked nations of Mali and Niger as well, health officials said.

Aid workers said the number of cases of the highly contagious disease continued to increase, particularly in Freetown, where most live in slums and children swim in polluted waters.

There have been more than 11 600 cholera cases in Sierra Leone since January, at least 216 of them fatal. More than 1000 new cases a week are being recorded in Freetown, health officials said. In Guinea, there have been 80 deaths out of 2700 cases so far.

Chemo 'undermines itself' through rogue response

Chemotherapy can undermine itself by causing a rogue response in healthy cells, which could explain why people become resistant. The treatment loses effectiveness for a significant number of patients with secondary cancers.

Writing in *Nature Medicine*, US experts said chemo causes wound-healing cells around tumours to make a protein that helps the cancer resist treatment.

Around 90% of patients with solid cancers, such as breast, prostate, lung and colon, that spread develop resistance to chemotherapy. Treatment is usually given at intervals, so that the body is not overwhelmed by its toxicity. But that allows time for tumour cells to recover and develop resistance.

In this study, researchers at the Fred Hutchinson Cancer Research Center in Seattle looked at fibroblast cells, which normally play a critical role in wound healing and the production of collagen,

the main component of connective tissue such as tendons.

But chemotherapy causes DNA damage that causes the fibroblasts to produce up to 30 times more of a protein called WNT16B than they should. The protein fuels cancer cells to grow and invade surrounding tissue – and to resist chemotherapy.

It was already known that the protein was involved in the development of cancers – but not in treatment resistance. The researchers hope their findings will help find a way to stop this response, and improve the effectiveness of therapy.

Peter Nelson, who led the research, said, 'Cancer therapies are increasingly evolving to be very specific, targeting key molecular engines that drive the cancer rather than more generic vulnerabilities, such as damaging DNA. Our findings indicate that the tumour microenvironment also can influence the success or failure of these more precise therapies.'

Repeat abortions linked to premature birth

The more abortions a woman has before her first child, the more likely she is to give birth prematurely, a study has suggested.

Data from all 300 858 first-time mothers in Finland between 1996 and 2008 were analysed. The study showed women were three times more likely to have a very premature baby, born before 28 weeks, if they had had three or more abortions.

The report was published in the journal *Human Reproduction*.

Eradication of guinea worm disease on track

The World Health Organization is reporting a continuing decline in the number of guinea worm cases. The number dropped from 3190 in 2009 to just under 396 cases during the first 6 months of 2012. Cases of the disease occurred in only four countries in 2011 – Chad, Ethiopia, Mali, and South Sudan.

UNAIDS welcomes approval of antiretroviral drug combination

(UNAIDS has welcomed the announcement by the United States' Food and Drug Administration (FDA) for the use of an antiretroviral drug combination (emtricitabine/tenofovir disoproxil fumarate) to prevent the sexual transmission of HIV for people who do not have HIV, but who are at high risk of being exposed to the virus.

This is the first time that an antiretroviral pill has been approved for use by people who do not have HIV.

Special Envoy for HIV/AIDS appointed

UN Secretary-General Ban Ki-Moon has appointed Asha-Rose Migiro as his Special Envoy for HIV/AIDS in Africa. Ms Migiro served as the UN Deputy Secretary-General from 2007 to 2012; prior to that she served as Tanzania's Minister of Foreign Affairs and International Cooperation from 2006–2007 – the first woman to hold the position since the country's independence.

Diana Fund's delight as partner wins Red Ribbon award

The Diana, Princess of Wales Memorial Fund in the UK was delighted in July as its long-term partner, the Kenya Hospice and Palliative Care Association (KEHPCA), won a Red Ribbon Award at the XIX International AIDS Conference in Washington, USA.

The Red Ribbon Award is designed to honour and celebrate community-based organisations for their outstanding initiatives that show leadership in reducing the spread and impact of AIDS. The 10 winners were chosen from over 1400 nominees from around the world via a selection process led by civil society.

KEHPCA received an award in the *Treatment, care and support* category, which recognises pioneering work to improve access to antiretroviral therapy, essential care, and support for people living with HIV, their families, loved ones and dependents, including services to limit TB deaths among people living with HIV.

Olivia Dix, Head of the Palliative Care Initiative, who attended the XIX International AIDS Conference on behalf of the Fund, said:

'We couldn't be more delighted to see KEHPCA receive a Red Ribbon



Award, and it is richly deserved. Dr Zippy Ali and the team at KEHPCA work tirelessly to ensure that palliative care – a holistic approach to health-care that provides relief from pain and symptoms, and emphasises quality of life for patients and their families – is integrated into the Kenya health system and available to all who need it.

KEHPCA has been immensely successful in raising the profile of palliative care and the needs of people with life-limiting illnesses in Kenya and internationally, and we can all learn from its inspiring leadership and approach. This award recognises the vital role KEHPCA is playing in ensuring that those living with HIV/AIDS and other life-limiting illnesses are free from pain and receive the essential care and support they deserve.'

Ebola in Uganda: update

The Ministry of Health of Uganda is continuing to work with partners to control the outbreak of Ebola haemorrhagic fever in Kibaale district. The national and district task forces are also meeting daily to coordinate the response to the outbreak.

As we went to press, 24 probable and confirmed cases including 16 deaths had been reported.

All contacts of probable and confirmed cases are followed up daily for 21 days and monitored for any possible signs or symptoms of illness. More than 70% of the 408 listed contacts have completed 21 days of follow-up without developing any symptoms.

With the support of WHO and other partners, the Ministry of Health has established and equipped an isolation facility at Mulago National referral hospital in Kampala, in anticipation of

receiving suspected cases from other districts.

Social mobilisation teams comprised of Red Cross volunteers and village health teams have reached most of the villages and households in the most affected sub-counties in Kibaale district. Information, Education and Communication (IEC) materials are being distributed alongside the broadcast of health awareness messages. A team has begun conducting ecological studies in Kibaale district to try to understand the likely source and route of transmission of the outbreak.

Countries sharing borders with Uganda are taking steps to enhance surveillance for Ebola. At the time of this update, none of them have reported any confirmed cases related to the Uganda outbreak. WHO does not recommend that any travel or trade restrictions are applied to Uganda.

Healthy timing and spacing of pregnancies protects mother and baby

Women must time and space their pregnancies to save themselves from maternal-related deaths, says a USAID senior technical adviser. Delaying the first pregnancy to at least 18 years, but not after 35 years, child spacing of at least 2 years, and not too many children for each mother reduces the risk of loss of lives, said Mrs Maureen Norton at a Health Community Conference in Arusha, Tanzania, recently.

China probes 'gutter oil in medicine' claims

Chinese officials have told pharmaceutical firms to check their suppliers after claims that some have used 'gutter oil' to make antibiotics

Officials are looking into firms that reportedly use the cheaper gutter oil rather than the more expensive soy bean oil in the production process.

Gutter oil is reprocessed kitchen waste dredged from restaurant drains.

The government said it would release its findings soon, without giving further details.

West African Safety, Health, Environment and Quality conference held in Accra

The second West African Safety, Health, Environment and Quality (WASHEQ) Conference, has been held in Accra with a call on management of institutions to adopt deliberate policies to ensure accident free environment for workers.

Mr Richard Adu Darko, Executive Secretary of the WASHEQ Foundation, organisers of the event, said actions that promoted work place safety allowed for the achievement of organisational goals and inured to the long-term benefit of the institutions.

The West Africa SHEQ's Conference and Exhibition is an annual gathering of stakeholders in the area of occupational safety and health across industries to deliberate and learn best practices in HSE (health, safety and environment), to help reduce workplace accidents.

Study of anti-AIDS vagina ring begins in Africa

Thousands of women in Africa can volunteer for major new research to see if inserting a vaginal ring coated with an anti-AIDS drug could protect them from HIV infection, US scientists have announced.

Giving women tools to protect themselves when their partners won't use a condom is crucial for battling the epidemic. Women already make up half of the 34.2 million people worldwide living with HIV – 60% of them in Africa.

The vaginal ring would have to be inserted just once a month for ongoing protection. The work marks an attempt at 'the next generation of women-focused prevention tools,' said Dr Carl Dieffenbach of the US National Institutes of Health in announcing the new research at the International AIDS Conference in Washington in July.

'We need options that fit readily into women's lives,' added Dr Sharon Hillier of the University of Pittsburgh and the Microbicide Trials Network, which is conducting the new NIH-funded study.

Developed by the non-profit International Partnership for Microbicides, the silicone ring contains an anti-AIDS drug named Dapivirine, which slowly oozes out into the surrounding vaginal tissue. Unlike vaginal rings sold today, the experimental ring does not contain birth control – for now, the focus only is on HIV prevention.

Early-stage studies suggested the ring could work, and women said they liked

using it better than a gel, said Dr Saidi Kapiga of the London School of Hygiene and Tropical Medicine. Large studies are now needed to prove it.

The NIH-funded study, named ASPIRE, will enroll nearly 3500 women in Malawi, South Africa, Uganda, Zambia, and Zimbabwe. They will receive either a Dapivirine-containing vaginal ring or an identical-looking drug-free ring, to be inserted once a month for a year.

The goal is to see if using the ring lowers women's risk of HIV infection by at least 60%. The first women in Uganda have already been enrolled. A smaller ring study of 1650 women got underway recently in South Africa and aims to enroll in Rwanda and Malawi.

Vaginal-based protection should cause fewer side-effects than pills, and early-stage studies of the ring found no problems, said International Partnership for Microbicides chief executive Zeda Rosenberg. Also, animal studies show no sign that the ring would harm a fetus if a woman became pregnant while using it.

The first study to find even partial success with a microbicide used a vaginal gel made with the widely used AIDS drug Tenofovir. Earlier-stage research is under way to develop a variety of gels, vaginal films, and vaginal rings containing that and other drugs, Rosenberg said. Eventually, she said, a goal is for a combination ring that offers both HIV protection and birth control.

NYU College of Nursing to support Rwandan health system redevelopment

The New York University College of Nursing (NYUCN) has joined a consortium of nursing, medical, and public health colleges to assist the government of Rwanda in dramatically rebuilding its healthcare system over the next 7 years. The pioneering programme, Human Resources for Health (HRH), is led by Rwanda's Ministry of Health and facilitated with the support of the Clinton Health Access Initiative (CHAI). NYUCN will be on the ground floor as one of a handful of colleges of nursing enlisted to contribute to this expansive goal.

HRH's ambitious 7-year schedule will seek to address Rwanda's criti-

cal shortage of medical, nursing, and dental workers; poor quality of health professions education; inadequate infrastructure; and inadequate management of health facilities. NYUCN will be sending 12 nurse mentors and educators to Rwanda for the academic 2012–2013 year.

Funding for the project to the Rwandan government comes from the US Government (including: PEPFAR, USAID and CDC) and the Global Fund to Fight AIDS, Tuberculosis and Malaria. Former President Bill Clinton was instrumental in the development of this programme. NYUCN is one of 13 top US educational institutions chosen as part of this unprecedented educational consortium to meet the challenges to quality healthcare in Rwanda.

High levels of DDT in breast milk in South Africa

The highest levels ever of DDT in breast milk have been measured in mothers living in malaria-stricken villages in South Africa. The values lie well over the limits set by the World Health Organization – in one case over 300 times the level allowed in cow's milk.

In an article, published in *Environmental Pollution*, the researchers report on a study of DDT levels in breast milk from nursing mothers in four villages, of which three are afflicted by malaria. DDT has been used continuously in these three villages for more than 60 years. The spray treatment takes place a couple of times a year and is carried out by specially trained and equipped staff.

Coconut oil fights tooth decay

Scientists have found that when coconut oil is treated with digestive enzymes it becomes a powerful killer of mouth bugs. The bacteria it attacks include *Streptococcus mutans*, an acid-producing microbe that is a major cause of tooth decay.

Researchers were following up earlier work which showed that partially digested milk made *S. mutans* less likely to stick to tooth enamel.

Further studies will look at how coconut oil interacts with the bacteria at the molecular level, and what other microbe strains and yeasts it may combat.

The findings were presented at the Autumn meeting of the Society for General Microbiology at the UK's University of Warwick.

Glass shape alters people's drinking speed

The shape of your glass is probably the last thing on your mind when you are having a drink.

However, researchers at the University of Bristol, in the UK believe the shape of drinks glasses affects the at which people drink.

Their study, published in the journal *PLoS ONE*, suggests people drink more quickly out of curved glasses than straight ones.

Carbon monoxide's damaging role in heart rhythm found

The way that even low levels of carbon monoxide can be fatal, by disrupting the heart's rhythm, has been unravelled by researchers in Leeds, UK. They found that levels common in heavy traffic could affect the way the heart resets itself after every beat.

Their study in the *American Journal of Respiratory and Critical Care Medicine* showed a common angina drug may reverse the effect.

Carbon monoxide is produced by faulty boilers, cigarettes, and car exhausts. It is deadly at high levels as it 'shoulder-barges' oxygen out of the blood, meaning less is transported around the body. However, studies have suggested that even low levels, such as that found in built-up cities with lots of traffic, may also damage the heart.

The University of Leeds research team found that the gas kept sodium channels, which are important for controlling the heartbeat, open for longer. Disrupting the sodium channels can disrupt the heart's rhythm, leading to cardiac arrhythmia, which can be fatal.

In collaboration with researchers in France they tested an angina drug – which also affects the sodium channels – on rats.

Prof Chris Peers, from the University of Leeds, said, 'It was very exciting for us. When we monitored rats exposed to levels of carbon monoxide similar to heavy pollution, they had the same heart problems and we could reverse them. At the moment no one knows how to treat this. We're saying look there's a drug on the shelf that might be able to help. Of course it needs clinical trials, but we believe it is a great start.'

Dr Helene Wilson, a research advisor at the British Heart Foundation, said, 'This study is a good example of research being used to better understand the underlying causes of an abnormal heart rhythm and in this case it has uncovered the ability of an old drug to perform a new trick. Carbon monoxide poisoning is tragically common but hopefully these promising results can be replicated in people so that it saves lives in the future.'

Global Fund results show broad gains against HIV

The Global Fund to Fight AIDS, Tuberculosis and Malaria recently announced new results that show a significant increase in treatment of HIV and in the prevention of mother-to-child transmission of HIV.

The results show that 3.6 million people living with HIV are now receiving anti-retroviral treatment under programmes backed by the Global Fund, an increase of 600 000 since the end of 2010. Overall, 8.7 million lives have been saved by programmes supported by the Global Fund since the organisation was formed in 2002. The results include data up until June, 2012.

The success in expanding treatment for HIV in developing countries has been achieved by effective efforts by health workers in countries with a high disease burden, the commitment of donors, and reduction in the cost of drugs, among other factors. A

year's supply of first-line anti-retroviral drugs costs today less than US\$100 per person for the least expensive regimen recommended by the WHO, from more than \$10 000 in 2000.

By mid-2012, the results show an increase in the number of pregnant women living with HIV who have received a complete course of antiretroviral treatment under programmes supported by the Global Fund to 1.5 million.

The results also show that the number of HIV testing and counselling sessions provided by Global Fund-supported programmes rose by 43% in the 18 months since December 2010 to 210 million.

Massive strides have also been made in the fight against malaria, with 115 million insecticide-treated bed-nets distributed in the past 18 months alone taking the total number of nets distributed to 270 million. The number of cases of malaria treated has risen by more than half in the same period to 260 million.

Young cannabis users risk lower IQ

Young people who smoke cannabis for years run the risk of a significant and irreversible reduction in their IQ, research suggests.

The findings come from a study of around 1000 people in New Zealand. An international team found those who started using cannabis below the age of 18 – while their brains were still developing – suffered a drop in IQ.

Chocolate may protect the brain from stroke

A study following more than 37 000 Swedish men showed those eating the most chocolate were the least likely to have a stroke. It follows on from other studies that have suggested eating chocolate can improve the health of the heart.

Everyone taking part in the study was asked about their eating habits and their health was monitored for a decade. They were split into four groups based on the amount of chocolate, with the bottom group eating, on average, no chocolate each week and the top group having 63g (2.2oz).

Comparing the top and bottom groups showed those eating the most chocolate were 17% less likely to have a stroke during the study, published in the journal *Neurology*.

UNICEF commends Ghana for reducing stunted growth among children

Dr Iyabode Olusanmi, UNICEF Representative in Ghana, has commended the country for its efforts in working to reduce stunted growth among children.

'In Africa, very few countries have made progress on stunting and Ghana is considered as one of the few with notable progress,' she said.

Dr Olusanmi, speaking during the closing of a 3-day conference on stunted growth among children, called on African leaders to show more commitment towards the health of children to show that more progress was possible in Africa.

The conference which attracted participants from Ghana, Sierra Leone, and Liberia was sponsored by the UNICEF as part of its efforts in helping to achieve the MDG targets on child mortality.