

International

Britain has highest rates of dangerous superbug in Europe

Britain has the highest proportion of a dangerous 'super-strain' of the hospital bug *Clostridium difficile* in Europe, according to a new study. There are dozens of strains of *C. difficile*, a bug which takes hold in vulnerable hospital patients who have been treated with antibiotics and causes severe diarrhoea and vomiting. It can be fatal. Overuse of antibiotics and poor hygiene are thought to be the cause of the disease spreading. A new Europe-wide study investigated cases of *C. difficile* in a selection of hospitals in 29 countries, examining a particularly dangerous strain called 027. The results, published in *The Lancet*, show that across Europe the 027 strain accounted for just 5% of all *C. difficile* cases, making it only the sixth most common variant. However, in the British hospitals where samples were tested, the rate was at least 25% of *C. difficile* cases. The latest data from the Health Protection Agency show that there are around 25 500 *C. difficile* cases in England per year, meaning that if the pattern were repeated across the country then thousands of patients are suffering the more dangerous strain.

Sugar may kill Ebola virus

New research published in the *Journal of Leukocyte Biology* suggests that a purified form of a product modified from simple sugar molecules can eradicate killer viruses by mobilising white blood cells. When a team of researchers sought to discover how a class of antiviral drugs worked, they looked in an unlikely place: the sugar dish. A new research report suggests that a purified and modified form of a simple sugar chain may stop fast-acting and deadly viruses, such as Ebola, Lassa, or Marburg viruses, in their tracks. This compound, called chlorite-oxidised oxyamylose or COAM, could be a very attractive therapeutic option because not only did this compound enhance the early-stage immune defences in mice, but because of sugar's abundance, it is derived from easily obtainable sources. 'We modified and purified a safe drug from natural sources and discovered how it can protect against deadly virus infections,' said Ghislain Opendakker, a researcher involved in the study from the Laboratory of Immunobiology at the Rega Institute for Medical Research and the University of Leuven in Belgium.

Africa

Male circumcision may cut HIV transmission

The USA ranks high on President Robert Mugabe's enemies list, but at ground level it is leading a war on AIDS that may help save the life of 32-year-old Tineyi Marokwe and hundreds of thousands of other Zimbabweans. The weapon is cheap and

simple: male circumcision, considered a significant reducer of HIV transmission. Its 60% efficacy will boost an anomalous trend in Zimbabwe, where HIV prevalence has dropped from 32% in 1995 to 18% today, a function some researchers believe, of relatively superior education in a sub-Saharan country whose infrastructure and economy have since imploded. They claim that without sufficient education to enable HIV prevention messaging to sink in and 'stick', Zimbabwe's neighbours are at a distinct disadvantage.

In a 10-minute surgical operation, Marokwe recently became one of more than a million Zimbabwean men in the most sexually active age group who are being targeted for circumcision during the next 7 years. Dr Bill Jansen, a senior American adviser with the US Agency for International Development in Zimbabwe, says trials and circumcision pilot programmes in South Africa and East Africa have shown a reduction in HIV infection by 60%. The Zimbabwe programme, begun in May 2009, has carried out 12 000 circumcisions. The US spent R47 million on it in the first year and more money is promised as the programme scales up. So vilified are Western nations by Mugabe that few Zimbabweans realise their continuing aid programmes are the mainstay of humanitarian assistance to the troubled nation. The US is Zimbabwe's biggest aid donor (more than R7 billion since 2002) and the biggest contributor to nationwide modern AIDS clinics that have tested and counselled 2 million people. While Mugabe has done nothing to hinder the programme, some volunteers assigned to explain sexual health issues to the poor have been accused by Mugabe's supporters of abetting a US political agenda and working for the opposition in next year's election. If the programme can circumcise 1.2 million Zimbabwean men by 2017, about 750 000 new HIV infections can be averted, Jansen said. The organisers envisage a future stage for the programme with circumcision at birth. About 10% of Zimbabwean men are circumcised, mainly in tribal ceremonies during early childhood.

SADC plans HIV/AIDS mobile clinics

The Southern African Development Community (SADC) is planning to launch mobile HIV/AIDS clinics along major trade routes in the region, the SA health department says. This was one of the decisions made at a SADC meeting of health ministers held in the Democratic Republic of Congo on 10 and 11 November. Newly appointed Deputy Health Minister Gwen Ramokgopa represented South Africa. 'While a number of countries have instituted border area interventions associated with some mobile groups, these initiatives do not provide for

continuity of services to mobile populations and fail to recognise the HIV and AIDS impacts of mobility on affected communities,' Ramokgopa said.

'The purpose for the launching of mobile HIV clinics along the major trade routes in the region is to begin addressing these challenges.' A total of 32 border sites had been identified for the mobile clinics.

South Africa

KZN health dept welcomes sentence

The KwaZulu-Natal health department has welcomed the sentence given to the man who claimed R658 000 from the KwaZulu-Natal health department for work he never did for it. 'The department welcomes the swift justice meted out to Sibongiseni Gcwensa, of Gcinisa Construction and Cleaning Services, for fraud and theft of more than R650 000,' said health spokesperson Chris Maxon. Durban Commercial Crimes Court Magistrate N Maphumulo found Gcwensa guilty after he pleaded guilty to receiving 13 payments from the department. His 6-year sentence was suspended for 5 years and he was ordered to settle the money he owed the department before the end of November. The court heard that Gcwensa had paid R500 000 back to the department when he was confronted by forensic investigators recently before he was charged. He only owed the department just over R158 000. 'If you fail to pay the money before the end of this month you will be arrested,' Maphumulo told Gcwensa. Maxon said the sentence sent a strong message to 'all those who continue to defraud the state and the department in particular'. In his affidavit, Gcwensa said the money had been deposited into his account by the department 13 times between November 2006 and July 2008.

Yesterday's killer nukes save lives today

South Africa has transformed apartheid-era nuclear weapons into a tool for detecting cancer and heart disease, with a new technology that could ease global worries about nuclear arms trafficking. After voluntarily dismantling its weapons programme, the leftover nuclear fuel was used to produce medical isotopes used by doctors for imaging technology. South Africa is one of the world's top three producers of molybdenum-99, better known as moly, used in 80% of the 50 million nuclear medical procedures performed globally each year. Normally, moly is created with the same type of uranium as used to make nuclear arms, creating a headache for efforts to corral weapons-grade uranium. But a new technique designed by the South African Nuclear Energy Corporation (Necsa) allows scientists to create moly using low-enriched uranium, rather than the highly enriched type needed for bombs.

State failing the rural mentally disabled

With disappointment etched on her face, Nokwanda Ncetani held her grandson's hand all the way back home after failing to see doctors for the umpteenth time in Idutywa. The old woman and 11-year-old boy left their Ketty Village home just before 7h00 that day, arriving at the Health District offices just after 10h00. There they were told there were already too many people registered for consultation. 'They told us to come back on the first Monday of December. I do not know how to make sure we are here on time because there is no transport out of our area,' Ncetani said. She and dozens of hopeful patients and relatives go to the offices with the hope of being seen by the team of State mental health practitioners, who take their clinic there once a month. Ncetani and others arrived too late for registration. She has been trying to get grandson Bongo assessed by mental health doctors for years, if just to get him diagnosed and given a disability grant. She said her grandson appeared to have a learning disability and had been a slow developer. 'That he is unable to attend school gives me sleepless nights. All I want is for the doctors to assess and diagnose him so that I can apply for a disability grant to put him into a special school.'

Sewage flow 'may affect bathers' health'

Carefree bathers frolicking in South African beaches this summer may be oblivious to the deteriorating water quality along the coastline. But Blue Flag programme manager Alison Kelly, whose task it is to ensure that

the country's Blue Flag beaches comply with international standards, believes the change in water quality during the past 10 years may be related to poor waste water management systems. 'In the past 10 years we have seen a trend which indicates that water quality is deteriorating along the coastline. We believe that it is related to the issue of inadequate infrastructure,' she said. Sewage pollution at bathing beaches has been a growing concern in the past 5 years but little information on the effects on swimmers is available. A 1993 study titled 'Bather morbidity from recreational exposure to the sea' found that the symptom rates for gastrointestinal, respiratory and skin effects were substantially higher among swimmers than non-swimmers at a beach in Western Cape. Swimmers experienced higher frequencies of diarrhoea, vomiting, breathing problems and skin rashes.

Nurses loot the poor and the state

The Eastern Cape Health Department is clamping down on corrupt officials looting the province's health coffers of millions of rands. Last month eight nurses appeared in the Mthatha Magistrate's Court for allegedly stealing medicine worth about R150 000 from the Nelson Mandela Academic Hospital.

Eastern Cape health spokesman Sizwe Kupelo said more arrests were imminent, adding, 'it is inhumane for these nurses, who are supposed to look after the poor, actually stealing from them and looting from the state'. The eight were charged with 'theft by false pretence amounting to fraud and misrepresentation of schedule V medication'.

They were out on R1 500 bail each and were due to appear in court again on 14 December. The elite fraud and corruption police squad, the Hawks, arrived unannounced at Nelson Mandela Academic Hospital just after 10h00 and arrested two nurses, followed by another six at their homes around Mthatha that afternoon.

Doctors to fight back

The National Education, Health and Allied Workers' Union (Nehawu) last month threatened to bring hospitals to a standstill if government did not drastically improve security. This came after an on-duty female doctor was gang-raped at the Pelonomi Hospital in Bloemfontein. In 2007, a medical student was raped at the Chris Hani Baragwanath Hospital, and a paramedic was raped while on duty in Johannesburg in March 2010. The South African Medical Association's Public Sector Chairperson, Dr Phophi Ramathuba, said that as female doctors 'we do not choose to find ourselves in the corridors doing ward rounds at 3 am. Most of our members have indicated that it is probably time to stop providing overtime services,' she warned. Nehawu's Sizwe Pamla said government must take responsibility. 'It is an issue that we have been raising for a number of years. We are going to have campaigns around this, where we will shut down hospitals and health institutions if this issue is not addressed,' she added. The SA health department said it is reviewing security at state hospitals.

CHRIS BATEMAN

SINGLE SUTURE

Dengue defence

Mosquitoes infected with bacteria that stop them transmitting the dengue virus will be released into the wild next year.

Some 100 million people in the tropics get dengue fever each year and 40 000 are killed by it. The virus's range is expanding and France recently reported its first locally acquired cases.

Scott O'Neill and colleagues of the University of Queensland in Brisbane, Australia, have found a fruit fly bacterium *Wolbachia* that infects *Aedes* mosquitoes and makes them less able to carry the dengue virus. It also halves their lifespan, which is crucial as only insects over a certain age transmit the disease.

Wolbachia is passed on through the eggs of infected females, so only descendants of the released mosquitoes will carry it, O'Neill says. But dengue-free descendants should rapidly dominate, as *Wolbachia*-infected females have a competitive advantage, i.e. they can reproduce with infected or wild males, and wild females cannot.

Infected mosquitoes will be released in Australia and Vietnam.

New Scientist, 9 October 2010, p. 6.