

DISEASE WATCH | IN THE NEWS

Urgent help needed in Haiti

The cholera outbreak in Haiti has developed more quickly than expected. By the end of November 2010, the disease had claimed more than 1,600 lives and infected about 70,000 people, 30,000 of whom had been hospitalized. It is feared that the number of cases could reach 200,000 by mid-January 2011 and 400,000 by October 2011, unless immediate measures are taken. For this reason, the United Nations has called on donors to urgently fund new treatment centres, relief supplies and trained personnel. Furthermore, public health experts recently wrote an article in *The New England Journal of Medicine* urging the US government to stockpile cholera vaccines that could be rapidly deployed to any areas in the world at high risk of major outbreaks.

AFP/BBC/N. Eng. J. Med.

EBV makes a bad neighbour

Exosomes are small vesicles that contain proteins and RNAs, and are secreted by various types of eukaryotic cells to manipulate neighbouring cells. A recent article reports that exosomes released from nasopharyngeal carcinoma cells harbouring latent Epstein-Barr virus (EBV) contain signal transduction molecules as well as a viral oncoprotein (LMP1) and several viral-encoded mRNAs and microRNAs. These exosomes can be taken up by fibroblasts, epithelial cells and endothelial cells, in which they activate growth-signalling pathways, indicating that they could manipulate the microenvironment and enhance tumour progression. The authors suggest that other viruses that establish latent or chronic infections might also use exosomes to enhance their persistence.

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The beginning of the end for AIDS?

Several preventive treatments for AIDS have recently shown great promise, such as an HIV vaccine with partially protective effects and a vaginal gel that can reduce HIV infections in women. Moreover, a recent study published in *The New England Journal of Medicine* shows that antiretroviral treatment before exposure can protect against HIV infection. In this multinational study, a combination of two oral antiretroviral drugs, emtricitabine and tenofovir disoproxil fumarate (Truvada; Gilead Sciences), reduced



the risk of HIV infection by 44% in men who have sex with men and transgender women who have sex with men. Furthermore, among those individuals who did not skip any doses, the risk of infection was reduced by 70%. In addition, the global AIDS pandemic seems to have halted and the spread of HIV to be further reduced, according to the United Nations. The number of new infections has decreased by nearly 20% in the past 10 years, deaths are down by nearly 20% compared with 5 years ago, and the total number of people living with HIV is stabilizing. However, new infections have almost tripled in Eastern Europe and Central Asia over the past 9 years, probably owing to the failure of prevention programmes to reach the most at-risk populations.

This progress is still fragile and scientific advances alone may not be enough to bring the pandemic to an end. Thus, recent declarations by Pope Benedict XVI, suggesting that the Catholic Church might allow the use of condoms in special circumstances to help prevent the spread of HIV/AIDS, were received positively in many parts of the world. *N. Eng. J. Med. /WHO/NY Times/Washington Post*

Statins to fight infections

A recent article shows that cholesterol-lowering statins enhance the capacity of phagocytic cells to kill the pathogen *Staphylococcus aureus*. Although — paradoxically — statins inhibited both phagocytosis and oxidative burst, they boosted the production of antibacterial extracellular traps (consisting of chromatin, proteases and antimicrobial peptides) by human and mouse neutrophils, monocytes and macrophages. This effect was linked

to inhibition of the sterol pathway of the phagocytic cells. This study may help us understand why patients receiving statin therapy exhibit a lower incidence of post-operative bacterial infection, although it should be noted that certain statins have antibacterial activity by affecting the biosynthesis of cholesterol-related lipids in bacteria. *The Independent/Cell Host Microbe*

Cheap meningitis vaccine for Africa

An affordable vaccine could help stop the meningitis epidemic that affects Africa every year and killed 25,000 people in 1997. The Serum Institute of India is manufacturing the vaccine, given that major pharmaceutical companies failed to deliver it at an affordable price. The new vaccine, which protects against bacterial meningitis A, is the result of collaboration between the WHO and PATH, a non-profit organisation based in the United States. There is excitement over the possibility that other vaccines could be developed in similar ways, to be used in those parts of the world that cannot afford current treatments. The plan is to launch the meningitis A vaccine in December 2010 in Burkina Faso and vaccinate every person between 1 and 29 years old before the annual epidemic hits sub-Saharan Africa from mid-January to mid-April. *The Guardian/Reuters*

Outbreak news

Q fever. According to an expert panel, the Dutch government failed to mount a timely response to the world's worst outbreak of Q fever, a disease caused by the bacterium *Coxiella burnetii*, which can be transmitted from farm animals to humans. More than 4,000 people have fallen ill since the outbreak began in 2007, and 14 have died. An efficient control programme was not launched until 2009, including compulsory vaccination of goats and sheep and culling of pregnant animals on infected farms. Apparently, the delay in providing an adequate response to the outbreak was at least partially due to discrepancies between the ministries of agriculture and health within the Dutch government. *Science*

In the News was compiled with the assistance of David Ojcius, University of California, Merced, USA. David's links to infectious disease news stories can be accessed on our Twitter page (@NatureRevMicro).