

## Risk increases as H5N1 splits in three

Avian influenza H5N1 is now present in the three continents that make up most of the world's population and is evolving differently. This represents multiple new opportunities for avian influenza (H5N1) to evolve into a human pandemic strain.

"To better understand the ecology and epidemiology of the highly pathogenic avian influenza virus in its transcontinental spread, Steven L. Salzberg et al. sequenced and analyzed the complete genomes of 36 recent influenza A (H5N1) viruses collected from birds in Europe, northern Africa, and south-eastern Asia. Their findings *Genome Analysis Linking Recent European and African Influenza (H5N1) Viruses* are published in the May edition of *Emerging Infectious Diseases*.

These sequences, among the 1st complete genomes of influenza (H5N1) viruses outside Asia, clearly depict the lineages now infecting wild and domestic birds in Europe and Africa and show the relationships among these isolates and other strains affecting both birds and humans. The isolates fall into 3 distinct lineages, one of which contains all known non-Asian isolates. This new Euro-African lineage, which was the cause of several fatal human infections in Egypt and Iraq in 2006, has been introduced at least 3 times into the European-African region and has split into 3 distinct, independently evolving sub lineages. One isolate provides evidence that 2 of these sub lineages have recently reassorted."

The first cases of human infection with highly pathogenic avian influenza (HPAI) strain H5N1 occurred in Hong Kong in 1997; it was brought under control by massive culling of the chicken population. An antigenically distinct strain emerged in 2002, in the same location, and has since spread to hundreds of millions of birds and a growing number of humans. To April 2007, 291 human cases have been reported, resulting in 172 deaths. In late 2005 - early 2006, HPAI (H5N1) was detected for the first time in birds in eastern Europe, the Middle East, and northern Africa. Human cases were reported beginning in January 2006 in Egypt, Iraq, Turkey, Djibouti, and Azerbaijan.

The 36 new isolates reported by Salzberg et al. greatly expand the amount of whole-genome sequence data available from recent avian influenza (H5N1) isolates. Before their project, GenBank contained only 5 other complete genomes from Europe for the 2004–2006 period, and it contained no whole genomes from the Middle East or northern Africa. Their analysis showed several new findings. First, all European, Middle Eastern, and African samples fall into a clade that is distinct from other contemporary Asian clades, all of which share common ancestry with the original 1997 Hong Kong strain.

A **clade** is defined as a taxonomic group of organisms consisting of a single common ancestor and all the descendants of that ancestor. Any such group is considered to be a monophyletic group of organisms, and can be represented by both a phylogenetic analysis, as in a tree diagram, or by a cladogram, or simply as a taxonomic reference

Phylogenetic trees built on each of the 8 segments show a consistent picture of 3 lineages. Two of the clades contain exclusively Vietnamese isolates; The remaining 22 isolates all fall into a third, clearly distinct clade, labeled EMA, which comprises samples from Europe, the Middle East, and Africa. Trees for the other 7 segments display a similar topology, with clades V1, V2, and EMA clearly separated in each case. Analyses of all available complete influenza (H5N1) genomes and of 589 HA sequences placed the EMA clade as distinct from the major clades circulating in People's Republic of China, Indonesia, and Southeast Asia.

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The evolutionary relationships provide clear evidence that 3 distinct clades, labelled EMA [European-Middle Eastern-African] 1-3, are circulating in the European and African region. These clades clearly share a common ancestor in Asia. The 3 clades may represent separate introductions or, alternatively, a single introduction from Asia into Russia, Europe, or another Western site that has subsequently evolved into 3 lineages. More data will be required to pinpoint when and where the 3 clades split apart. All previously reported European and Middle Eastern isolates belong to EMA-1.

The study results show that EMA-2 has spread to Europe and that EMA-3 has spread to both Europe and the Middle East. These results agree in part with a recent study that reported 3 distinct introductions of influenza (H5N1) into Nigeria. EMA viruses isolated from humans are thus quite distinct from the recent large clusters of human cases in Indonesia and China, which fall into separate clades containing none of the study samples. The EMA isolates are also distinct from other human cases in Southeast Asia, which fall into the clades (V1 and V2) containing the study's Vietnamese samples.

The influenza (H5N1) viruses isolated in Europe, the Middle East, and Africa show a close relationship, despite the fact that they were collected from a widely dispersed geographic region, including Côte d'Ivoire, Nigeria, Niger, Sudan, Egypt, Afghanistan, Iran, Slovenia, Croatia, and Italy. The shared line-

age of the viruses suggests a single genetic source for introduction of influenza (H5N1) into western Europe and northern and western Africa.

The broad dispersal of these isolates throughout these countries during a relatively short period, coupled with weak biosecurity standards in place in most rural areas, implicates human-related movement of live poultry and poultry commodities as the source of introduction of influenza (H5N1) into some of these countries. The virus' presence in wild birds leaves open the alternative possibility that migratory birds may have been the primary source, with secondary spread possibly caused by human-related activities.

The presence of all 3 EMA sublineages in the same geographic region creates ample opportunities for reassortment. Isolate A/chicken/Nigeria/1047-62/2006 is the most recent of the Nigerian isolates, consistent with the hypothesis that this reassortant was generated in Africa. Salzberg et al. say additional surveillance will be necessary to determine if this reassortant strain spreads further in the avian popula-

tion and to assess its ability to infect mammals.

The emergence of 3 (or more) sub-strains from the EMA clade represents multiple new opportunities for avian influenza (H5N1) to evolve into a human pandemic strain. In contrast to strains circulating in Southeast Asia, EMA viruses are derived from a progenitor that has the PB2 627K mutation. These viruses are expected to have enhanced replication characteristics in mammals, and indeed the spread of EMA has coincided with the rapid appearance of cases in mammals—including humans in Turkey, Egypt, Iraq, and Djibouti, and cats in Germany, Austria, and Iraq. #



H5N1 is turning into a modern day Hydra. Which head will reassort into a human strain?

## Thousands doing unpaid overtime

Nearly three-quarters of NHS workers in England are regularly doing overtime, much of it unpaid, according to the annual Healthcare Commission staff survey of more than 128,000 staff in 326 English trusts.

Fifty-seven per cent of acute trust staff and 59 per cent of primary care trust workers said they regularly worked unpaid overtime. Judging by e-mail traffic, the figure would be little different in New Zealand and many other countries.

The proportion of NHS staff who said they were satisfied with their jobs has

dropped across all types of trust compared with previous years. Sixty-eight per cent of staff in acute trusts expressed satisfaction with their job (down from 69 per cent), three-quarters of PCT staff were satisfied (down from 77 per cent), and 56 per cent of ambulance trust staff were satisfied (down from 58 per cent).

The proportion of staff reporting violence or abuse from patients or their relatives has remained steady - at 31 per cent compared with 30 per cent last year.

Less than half (45 per cent) of staff questioned said that they believed patients were the top priority for their trust and only 39 per cent thought they would be happy with the standard of care at their trust if they were a patient.

NHS Employers deputy director Alastair Henderson said, "We need to work hard locally and nationally to make sure the NHS remains a place people want to work."

And wherever we work, we would say Hear hear to that!! #

## Destruction and Mayhem in Mogadishu

Mogadishu's worst fighting for 16 years has killed at least 1,300 people since February, locals say, and turned parts of the shell-shattered coastal city into a ghost town. The United Nations has accused all sides in the Somalia conflict of breaking humanitarian law by indiscriminately firing on civilian areas in Mogadishu. U.N. spokeswoman Stephanie Bunker said the rate of displacement in Somalia over the past three months was worse than Iraq in the same period.

Some 350,000 people have fled Mogadishu since February, more than a third of its one million population. "In that one time frame, more people have been displaced inside Somalia than any place else in the world and that includes Iraq, Darfur...and Sri Lanka," she told the BBC.

Thousands of homeless have sought shelter in surrounding town and villages, sleeping under trees or out in the open, vulnerable to disease and armed thugs. The United Nations said refugees were being charged for sitting under shade of trees by people who owned land along the road between Mogadishu and Afgooye, some 30 km (19 miles) west. U.N. children's agency UNICEF "deplored" on Friday the shelling of the SOS hospital in Mogadishu. It said fighting was keeping it from reaching hundreds of civilians there.

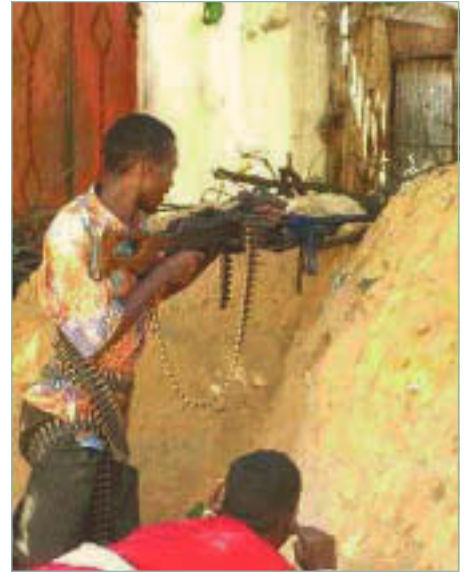
Despite Somali Prime Minister Ali Mohamed Gedi declaring significant gains in the government's nine-day offensive to end resistance by a group of Islamist fighters, foreign jihadists and some clansmen, many Somalis, undergoing a refugee exodus worse than Iraq in recent months, were sceptical the war was winding down.

There was no respite for medical

workers struggling with little or no supplies to patch up the wounded, many ferried to overflowing hospitals in wheelbarrows and donkey carts. Trapped by fighting, several women gave birth in an improvised maternity ward -- a grass hut under a tree. In the last three days, a midwife named Asha Hamari has delivered six babies," resident Abukar Al Badri told Reuters.

Meanwhile, gunmen plundered computers and bags of sugar from a Coca Cola plant in Mogadishu during a lull in fighting between allied Somali-Ethiopian troops and insurgents. The unidentified group, who were wearing uniforms, commandeered 12 trucks to drive away the booty seized in the overnight looting spree that took place after the plant was shelled, local Coca Cola manager Bashir Mohamed Araye said. "Our offices were broken into and all computers looted. We had supplies of sugar that were supposed to last the whole year -- they were also looted," added the manager of the Somali-owned franchise in a smart and modern compound in Mogadishu.

The United States and European Union have criticised the Somali government and its Ethiopian military allies for obstructing aid flows. Somali and Ethiopian officials have angrily dismissed those allegations. The European Union made public a letter from its aid chief Louis Michel to Somali President Abdullahi Yusuf complaining about mistreatment of refugees. "There is confirmed evidence



(top) An Islamist fighter fires bullets towards Ethiopian soldiers from a bunker in northern Mogadishu on April 26. Ethiopian tanks supporting the Somali government pounded insurgent positions in Mogadishu and Somalia's prime minister declared significant gains after a nine-day offensive.

(lower) Somali insurgents patrol the streets of northern Mogadishu



that these displaced persons are being subjected to systematic looting, extortion and rape by uniformed troops," he wrote. Both militia and "unreasonable administrative obstacles" imposed by the government were holding up aid, Michel added. #

### Cyberspace Birds and Bees

A little boy goes to his father and asks "Daddy, how was I born?" The father answers: "Well son, I guess one day you will need to find out anyway! Your Mom and I first got together in a chat room on Yahoo.

Then I set up a date via e-mail with your Mom and we met at a cyber-cafe. We sneaked into a secluded room, where your mother agreed to a download from my hard drive.

As soon as I was ready to upload, we discovered that neither one of us had used a firewall, and since it was too late

to hit the delete button, nine months later a little Pop-Up appeared that said: "You've got male!"

## The Solomon earthquake: One month on

Here in New Zealand we have all but forgotten the Solomon Island earthquake on April 2<sup>nd</sup>. Once the threat of a tsunami passed we quickly relegated the event to an "over there out of mind" incident. That's a pity, particularly at a time when we are trying to work out how we might put together health support teams to disasters in Oceania.

New Zealand humanitarian teams, including Red Cross and ADRA, are on the ground providing much needed help. Rosemarie North, a New Zealand Red Cross information and media liaison officer, reports.

All over the Solomon Islands, which suffered an earthquake and tsunami on 2 April, people are seeing strange events. As travellers approach Lengana village on Simbo Island, children on the shore appear to walk on water. They are clearly no longer on land, but they do not sink under the surface. The earthquake, which measured 7.6 on the Richter scale, forced land down near Lengana village. The concrete jetty remains about 50 centimetres below the water at high tide.

At Buri village on neighbouring Ranongga Island, Henrick Joseph, a father of three, says the morning of 2 April began oddly. "Normally the children go out early to swim but that day they didn't. That was a blessing. Things were strange." Young men out fishing in a dugout canoe decided to turn back when they noticed something troubling about the ocean currents.

That Monday, the geography of their island changed profoundly. Large stretches of the green western coastline of Ranongga Island were slashed with red, where landslides carved into hillsides. Further north, the earthquake lifted hundreds of metres of coral reef by up to three metres, killing the delicate organism. Buri village used to be built around a bay containing a rich and colourful coral reef that attracted fish.

Today, after three tsunamis and a violent earthquake, the reef lies drying and dead in the sun, a crunching graveyard of bleached bone-like forms that har-

bour rotting crabs, fish and seaweed. Long cracks have appeared in the hillside where Buri's houses perch. "We're still watching the sea," says teacher Rickson Dick. "We are wondering what will happen next."

Villagers, who are still living high in the bush, an hour's walk from their village, wonder what the strange events mean. Many people in Buri believe the disasters, which claimed approximately 30 lives in the Solomon Islands, fulfil a Bible prophesy of disasters before the end of the world.

In the midst of the strange portents, people are keen to get on with their lives. Buri headmaster Redross Piokera says villagers are asking for tarpaulins so they can build temporary shelters nearer their former homes. As a result of the disaster and recurring tremors, no one in the 700-strong village has been brave enough to return home except to fetch essentials. Even if their homes are undamaged, they would rather sleep under canvas outside. However they would rather be near their old homes so they can fetch what they need, tend their vegetable gardens and keep up normal community life.

A Red Cross team visited Buri to assess people's needs and deliver water containers, rice, biscuits and noodles. During an earlier visit, they provided tarpaulins and in future, they hope to supply tools and materials to help people rebuild their homes.

And here is a story of survival to make you feel good. Epakera Neubery was kicking around a football with some friends on the morning the earthquake struck Mondo village. The boys were playing on a field next to the church, high above the ocean. When the ball rolled towards the edge of the field, 12 year old Epakera followed it.

At that moment, an earthquake struck. Red soil slid off the hilltops, taking trees and shrubs with it. The quake jolted the village and broke off the edge of the football field, which crashed into the ocean, more than 20 metres below. Epakera disappeared from view. Buried alive, he cried for a while. Then, thinking he was already dead, he lost consciousness.

Meanwhile, his mother, Lovelyn Neubery, had gathered up her three other sons and raced up through the steep village to a large, flat field at the top. When the danger seemed to have passed, she searched for Epakera.



Earthquake or wave—the trail of destruction looks the same



"He was buried, so I had no hope," she says. After three hours of searching, a villager spotted five toes poking out of a pile of mud at the base of the cliff. Neighbours dragged out the boy, who, miraculously, had only minor scratches and bruises to show for his ordeal. #

## Afghan refugees denied health services

Up to 50,000 internally displaced persons (IDPs) in the Zhari Dasht camp in the southern Afghan province of Kandahar have been denied health services for almost one month after the abduction of five health workers in the province. Doctors have since refused to travel on the dangerous roads leading there.

"When our children were sick, we were taking them to the doctors and the doctors were examining them and then giving prescriptions. But after the doctors were abducted, there is nothing left; no facilities and no treatment," said Ghulam Mohammad, a displaced person originally from Maimana, a town in northern Afghanistan.

Five Afghan health workers; a doctor, three nurses and their driver, working for the provincial health department were abducted in Kandahar's Zherai district on their way to the camp on 27 March this year, department officials in Kandahar said.

They said the abductors were Taliban fighters and that Taliban representatives have contacted a brother of one of the health workers seeking negotiations with senior government officials in Kandahar. They want Taliban prisoners to be released in return for the health workers.

In the meantime, Zhari Dasht IDPs

have to make a one-hour car journey to Kandahar for medical assistance - but for many that is not an option. "We are poor people and we can't afford to take our sick to Kandahar city. We don't have the money to pay for transportation," said Ghani, an IDP living in the camp. Many of the Zhari Dasht IDPs have lived there for at least five years and are ethnic Pashtuns from the north of Afghanistan who fled drought, ethnic tension and land disputes there.

According to the Ministry of Public Health, lack of health services for camp residents will continue. "If the security of our health workers is not ensured, then we cannot put more health workers at risk and we won't be able to send more doctors to the camp," said Dr Abdullah Fahim, the ministry spokesman in Kabul.

But with the summer heat arriving, health risks will rise, Fahim warned. "Diseases - including diarrhoea, hepatitis and cholera - could spread because of drinking polluted water, the great amount of garbage and dusty days," he said.

Dr Abdi Momin, medical officer with the World Health Organization (WHO), says they, too, are con-

cerned. "So far, thank God, there have not been any outbreaks of diseases. [But] we are concerned about outbreaks of seasonal diseases such as diarrhoea," Momin said. He said WHO is talking to other UN agencies and NGOs to find a way to resume health services in the camp.

Meanwhile, officials are calling on the abductors to release the health workers. "If those brothers who have abducted the doctors hear my voice, I ask that they release them because these people are doctors. They can be your doctors and our doctors - doctors serve all the people of a community," Haji M. Nabi Safi, head of the Department for Refugees and Repatriation in Kandahar, said. "These doctors did not have links to any political party." #



Afghan refugee students chant slogans during a protest rally in Islamabad on April 28. Protesters, including women and children, demanded peace and democracy in their war-ravaged country.

## Love Your Heart: A New Resource for Women

A must read for women who want to show their hearts some love, "The Healthy Heart Handbook for Women" is an invaluable and easy-to-use resource every woman should read from cover to cover. A full-color, 122-page booklet from "The Heart Truth" campaign, it is packed with the latest information on preventing and controlling the risk factors for heart disease -- the No.1 killer of women.

"The Healthy Heart Handbook for Women" a publication of the National Heart, Lung, and Blood Institute (NHLBI) of the National Institutes of Health, contains new information on women and heart disease and offers practical suggestions for reducing the risk of heart-related problems. The handbook also describes the warning signs of heart attack and how to get help quickly.

Since nearly one in four women die from heart disease, it is critical to know that high

blood pressure, high cholesterol, diabetes, smoking or being overweight are all major risk factors. The handbook is filled with good advice on reducing those risk factors, including new tips on following a nutritious eating plan, tailoring a physical activity program to particular goals, and getting the whole family involved in heart healthy living.

Most women think they know if they are at risk of a heart attack, but in reality some risk factors like high blood pressure or high blood cholesterol go undetected because they don't have obvious signs or symptoms. Simple steps like taking the What's Your Risk? quiz and knowing the appropriate questions to ask your doctor can help you take action to protect your heart health.

Featured highlights from "The Healthy Heart Handbook for Women" include:

- Questions to Ask Your Doctor
- Heart Attack Risk Quiz
- ABCs of Diabetes
- Five Aids for Quitting Smoking
- Heart Attack Risk Table
- Stories of real women's experience with heart disease

The handbook also provides information about healthy eating to reduce heart disease risk, including a sample eating plan and a chart on how to properly read a nutrition label.

"The Healthy Heart Handbook" is available online at [#](http://email.nhlbihin.net/product2.asp?sku=07-2720)

## Town water supply contaminated: 93 treated at hospitals

Clean potable water is one of the staples of our life we take for granted – until things go wrong. Usually, the problem is with source contamination or a break in the reticulation network. Water treatment plants are usually safe points in the system.

On April 26<sup>th</sup>, Spencer, a town of 12,000 near Boston, Massachusetts, ground to a halt when a malfunction at the town's water treatment plant released noxious chemicals into the water supply. At least 93 people were treated at hospitals and authorities ordered residents not to drink, cook, or bathe with tap water.

Police began receiving calls at about 6:30 a.m. from residents who had showered and reported skin irritation and moderate burns. Most of the calls came from the downtown area of Spencer. By 6:30 p.m., at least 37 people had been treated at St. Vincent Hospital in Worcester, and at least 56 people were treated on two campuses at the UMass Memorial Medical Centre, officials said.

Dennis Irish, a spokesman for St. Vincent Hospital, said that 13 patients there were decontaminated for sodium hydroxide and that one man with chest pains. Most of the patients received treatment for the equivalent of first-degree sunburns and for swallowing the chemicals. Three of the patients, treated were children, including a 15-month-old who had ingested the chemicals, Irish said.

At UMass Memorial, most people arrived with a complaint of a sore throat and irritation to the skin around their mouth, said Francis Renzi, a professor of emergency medicine at UMass Memorial. The youngest patient there was 8 weeks old. By 7 p.m., nine patients remained at the UMass hospitals and 11 at St. Vincent. "I would say there doesn't seem to be any evidence of widespread, significant illness from this exposure," Renzi said.

Scott Blodgett, 34, took a shower around 8 a.m. before leaving for work. About a half hour later, he noticed one of his legs began to itch. He didn't think about it until a cousin called

about two hours later to tell him about the contaminated water. "It's like a bad sunburn that really itches," he said. He ended up at St. Elizabeth's Medical Centre in Worcester, where he was treated and released. "It's been a real inconvenience," Blodgett said.

The Boston Globe reported that the excess chemicals could cause ulcers in the esophagus and were potentially lethal if swallowed in large amounts. It noted a similar mishap occurred in Ipswich, Massachusetts in November 2005

Officials believe the contamination occurred overnight when a plant malfunction released too much sodium hydroxide, also known as lye, into the drinking water supply. Sodium hydroxide is routinely put into water to reduce acidity and limit pipe corrosion.

Residents were advised to discard any liquids or foods made with town water up to two days earlier. The flushing of the chemicals from the water supply was expected to take at least a day to be followed by extensive environmental testing.

Spencer town administrator Carter Terenzini would not theorize how the malfunction occurred. "We're working on moving forward, not looking backward right now," he said. Terenzini said the town would not add sodium hydroxide to its water supply until after an independent review by state environmental officials.

Terenzini said about 200 volunteers helped town officials to spread the word to schools, nursing homes, restaurants, and day-care centres and to go door to door with leaflets to ensure that residents stopped using the water. Spencer lacked a reverse 911 system,



Firefighters aid a mother and child after they were treated at a Fire Station following the water malfunction in Spencer.

making it more difficult to get out the word.

Terenzini said the town bought 14,000 gallons of bottled water from distributors around the state, much of which was dropped off at the local fire station and other distribution centres, where residents waited in lines for a case or two. They had to show a valid driver's license or registration proving they lived in the town. "It's not all that bad, just a little inconvenient," said Laura Tingley, one resident in line. "Things happen. Life goes on."

The town also delivered drinking water to those who couldn't make it to the station. Residents with wells, which were unaffected, were expecting relatives and friends to show up to take showers. Electronic signs at the town line warned people not to use town water, forcing residents and businesses to scramble for a replacement source.

Linda Faucher, owner of Spencer Flower and Gift Shop by Linda on Main Street, normally goes through 45 gallons of water a day to keep cut flowers fresh. Thursday was Secretary's Day, a busy day for the shop, and Faucher had to rely on nine 1-gallon tubs she bought at a grocery store in town. To heat water for her cut flowers, Faucher used her coffee maker. "We improvised," she said. "It was painstaking, but we coped. #

## Second WHO consultation on clinical aspects of human infection with avian influenza

In March, Antalya, Turkey, hosted the WHO's second consultation meeting on the clinical aspects of human infection with avian influenza A(H5N1) virus. Since the last meeting in Hanoi, in May 2005, eight new countries have reported human infections with avian influenza. Clinicians, epidemiologists, virologists and public health specialists from the countries with human cases, and experts in pulmonary medicine, critical care, and influenza attended the meeting to share their experiences.

Participants agreed that standardizing care and promptly sharing clinical and treatment information are critically important to understanding the disease in humans and to improving clinical management. Observations and experiences, including unpublished data, were shared by participants during the consultation.

Several meeting conclusions regarding management of patients with H5N1 illness support and expand [current](#)

### [WHO guidance.](#)

- Experiences with early oseltamivir treatment suggest its usefulness in reducing H5N1-associated mortality. In addition, evidence of prolonged H5N1 virus replication indicates that treatment is warranted even with late presentation.
- Modified regimens of oseltamivir treatment, including two-fold higher dosage, longer duration and possibly combination therapy with amantadine may be considered on a case by case basis, especially in patients with pneumonia or progressive disease.
- Corticosteroid therapy has failed so far to show effectiveness, and prolonged or high dose corticosteroids can result in serious adverse events in H5N1 patients, including opportunistic infection.
- Antibiotic prophylaxis should not be used. When pneumonia

is present, antibiotic treatment is appropriate initially for community-acquired pneumonia according to published evidence-based guidelines.

- Therapy for H5N1-associated ARDS should be based upon published evidence-based guidelines for sepsis-associated ARDS, specifically including lung protective mechanical ventilation with low tidal volume

The observations from the meeting are to be published in greater detail, as an updated WHO guidance on H5N1 clinical management followed by a meeting summary in the form of peer-reviewed article in the scientific literature. #

## Surprising Patterns of Influenza Spread in South America and Tropics

Researchers studying influenza transmission patterns in the Southern Hemisphere and in tropical areas, specifically Brazil, uncovered the unexpected finding that each season influenza travels from low populated regions near the equator to the more populated centers.

With human avian influenza cases concentrated in warm weather mostly tropical countries, this finding may point the way towards how that will evolve.

In their paper, "Seasonality of Influenza in Brazil: A Traveling Wave from the Amazon to the Subtropics," to be published in the *American Journal of Epidemiology*, the researchers document the seasonal spread of influenza viruses and seasonal mortality patterns associated with influenza across Brazil. The interest in Brazil arises because the country covers a range of latitudes and crosses several regions, including tropi-

cal and sub-tropical climates.

"This study contributes to the understanding of the role of tropical regions in the global circulation of influenza. It has direct implications for public health by offering guidance for the timing of delivery and composition of influenza vaccines," said Dr. Mark Miller, a co-author and Associate Director for Research at the Fogarty International Centre (FIC).

Brazilian investigators worked with colleagues at FIC and the U. S. National Institute of Allergy and Infectious Diseases (NIAID) in revealing the unexpected spatial transmission patterns in the annual seasonality of influenza across a large area of the South American continent.

Brazil is nearly the same size as the United States. However, most of Brazil's territory lies in the tropical belt. This aspect makes the study valuable since less is known about the circula-

tion of influenza viruses at these latitudes and how epidemics bridge and annually alternate between both hemispheres following the winter seasons.

Given the range of latitude encompassed by Brazil which crosses both the equatorial and the southern tropic lines and using sophisticated mathematical analytical tools, the researchers studied the mortality data of influenza and pneumonia from two decades, together with laboratory confirmed data from recent years.

Both sets of independent data sources converged to show that, surprisingly, in Brazil influenza epidemics do not spread from where the highest human population densities are found, but rather from the equator towards more populous regions of the Southeast and South of Brazil. #

# HEMNZ Bulletin

The HEMNZ Bulletin is published monthly by the St John Emergency Management Unit for all those interested in emergency management in health care settings

Articles and comment on emergency management issues are welcomed

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Check out our Web site at  
[www.hemnz.org.nz](http://www.hemnz.org.nz)

## Editor's soapbox



Two earthquakes this weekend emphasised the way our perceptions of emergency events is coloured by our experience and environment. People fled their homes as a 4.3 earthquake under the English Channel shook south east England. Chimneys and masonry crumbled as houses swayed; emergency services were out in force and shelters were set up for those forced from their homes. The event made the evening news, even on the other side of the globe and the event was one those who experienced it will no doubt remember for the rest of their lives.

Meanwhile, the Solomon Islands experienced another quake. This 5.4 event was a tiddler compared to their bigger shake and tsunami at the beginning of the month. A few houses that survived that earlier event collapsed and this time there was no tsunami. Other than that, the event passed almost unnoticed and for those who experienced it this quake will be forgotten in the memories of the April 2 event.

In fact the big story from the Solomon's was the finding of a World War II torpedo boat, still packed with explosives, pushed out of its watery grave by the April 2 earthquake. So, just like the emergency services in Kent, those in the Solomon Islands have a new and unexpected emergency to cope with. And it is the unexpected that so often makes an event an emergency. This is a useful reminder as we become buried deeper in our planning for an expected influenza pandemic event.

Bruce Parkes

## Up coming Events

10 - 11 May 2007  
**Understanding and Managing Earthquake Hazards**  
Avalon, Lower Hutt  
Cost: \$600 + GST  
More information from  
[www.naturalhazards.net.nz/courses](http://www.naturalhazards.net.nz/courses)

10 - 11 May 2007  
**Improving the Delivery of Emergency Care: sharing the lessons learnt**  
Carlton Crest Hotel, Brisbane  
Cost: A\$595 before 26 April  
More information from  
[www.changechampions.com.au](http://www.changechampions.com.au)

13 - 16 May 2007  
**15th World Congress on Disaster and Emergency Medicine**  
Amsterdam, Netherlands  
Cost: EUR €760.00  
More information from [www.wcdem2007.org](http://www.wcdem2007.org)

19 - 22 June 2007  
**13th International Congress on Infectious Diseases**  
Kuala Lumpur, Malaysia  
More information from  
[www.isid.org/13th\\_icid/index.shtml](http://www.isid.org/13th_icid/index.shtml)

## Vacancy for Emergency Management Advisor

St John now has a vacancy for an Emergency Management Advisor based in the upper North Island to facilitate business continuity and emergency planning both internally in St John and across the range of public and private healthcare facilities. While an Auckland base is preferred, other locations will be considered.

This position will suit someone with current experience working within a healthcare organisation; or with an emergency management background. The position requires travel throughout the North Island. From time to time there will be a requirement to work on weekends and evenings and be available for emergency call outs.

A successful candidate will be competent with all Microsoft Office applications; have good written and oral communication skills; and be able to work alone without close collegial support

Do you have the necessary drive, commitment and confidence to operate autonomously, while utilising your strong relationship building and communication skills to effectively contribute to healthcare emergency planning. If so, contact Bruce Parkes at [bruce.parkes@stjohn.org.nz](mailto:bruce.parkes@stjohn.org.nz) for more information and a job description.

Applications close on Friday May 11<sup>th</sup>