

Q&A: Advice about Swine flu

Swine flu has killed more than 140 people worldwide, mostly in north and central America.

Experts are scrambling to create a protective vaccine amid concerns that a global pandemic, affecting millions of people, is inevitable. What is swine flu? Swine flu is a respiratory disease, caused by a strain of the influenza type A virus known as H1N1. H1N1 is the same strain which causes seasonal outbreaks of flu in humans on a regular basis. But this latest version of H1N1 is different: it contains genetic material that is typically found in strains of the virus that affect humans, birds and swine. Flu viruses have the ability to swap genetic components with each other, when they come into close contact in the same host. In this case pigs are thought to have provided the ideal "melting pot" to create the new strain. But although the strain may have originated in pigs, it is now a wholly human disease. It can be spread from person to person by coughing and sneezing. How dangerous is it? Symptoms of swine flu in humans appear to be similar to those produced by standard, seasonal flu. These include fever, cough, sore throat, body aches, chills and fatigue. It is worth remembering that seasonal flu often poses a serious threat to public health: each year it kills 250,000 - 500,000 around the world. So far, most cases of swine flu around the world appear to be mild, albeit with diarrhoea more common than it is with seasonal flu. However, by the second week in June more than 130 people had died after being infected with the virus. The World Health Organization says that so far most people who develop symptoms of infection have not needed drugs to make a full recovery. The US Centers for Disease Control and Prevention (CDC) estimates that around 2.5% of people who are infected with the virus require hospital treatment. However, providing an accurate estimate is difficult as many cases of swine flu have not been detected. In the US, the authorities estimate that as many as 19 out of 20 cases will not be officially diagnosed. How worried should people be? When any new strain of flu emerges that acquires the ability to pass from person to person, it is monitored very closely in case it has the potential to spark a global epidemic, or pandemic. The World Health Organization has warned that swine flu is likely to trigger a global pandemic. This is defined as widespread community transmission of the virus in at least two major zones of the world. However, experts say it is still too early to accurately assess the situation fully. Currently, they say the world is closer to a flu pandemic than at any point since 1968 - upgrading the threat from four to five on a six-point scale following a meeting on 29 April. This means all governments have to mobilise their pandemic flu plans. Experts say the virus is likely to infect one in every three people who are exposed to it. In comparison standard seasonal flu infects around one person in ten. Nobody knows the full potential impact of a pandemic, but experts have warned that it could cost millions of lives worldwide. The Spanish flu pandemic, which began in 1918, and was also caused by an H1N1 strain, killed millions of people. WHO chief Margaret Chan has said the present situation is different to that of 1918. Certainly, the Spanish flu pandemic occurred at a time when antibiotics were not available to treat symptoms, and when countries were struggling to cope with the fall out from a debilitating war. There is hope that, as humans are often exposed to forms of H1N1 through seasonal flu, our immune systems may have something of a head start in fighting infection. However, the fact that many of the victims are in the 20-45 age group does point to something unusual. Normal, seasonal flu tends to affect the elderly disproportionately. Is Mexico different? The high death toll in Mexico - where the virus at present seems to be producing much more severe symptoms, and has claimed more than 100 lives - suggests there may be unusual factors coming into play there. Some experts have suggested the possibility that other, unrelated viruses may also be circulating in Mexico, making symptoms worse. Alternatively, it may be that people infected by the virus sought help at a later stage, and had to rely on a healthcare system which was not geared up to deal with the problem. It had been suggested that the form of swine flu circulating in Mexico might be subtly different from elsewhere. But analysis by the CDC has found no variation in the genetic make up of samples of the virus taken from different parts of the world. Can the virus be contained? The virus has clearly established itself across the world and most experts believe that, in the era of readily available air travel, containment it cannot be contained. The World Health Organization says that restricting flights will have little effect. It argues that screening of passengers is also unlikely to have much impact, as symptoms may not be apparent in many infected people. Can it be treated? Two drugs commonly used to treat flu, Tamiflu and Relenza, are effective at treating infection. However, the drugs must be administered at an early stage to be effective. Use of these drugs may also make it less likely that infected people will pass the virus on to others. The UK Government already has a stockpile of Tamiflu, ordered as a precaution against a pandemic. However, there is concern that if too many people start taking anti-virals as a precaution, it could raise the risk of the virus developing resistance, reducing the drugs' effectiveness. What about a vaccine? It is unclear how effective currently available flu vaccines would be at offering protection against the new strain, as it is genetically distinct from other flu strains. A new bespoke vaccine is being worked on by scientists around the world, but it may take months to perfect it, and manufacture enough supplies to meet what could be huge demand. There is also another potential problem: if production of a swine flu vaccine is stepped up this would reduce capacity to manufacture supplies of vaccine against standard seasonal flu, still a serious illness, and potential killer. Therefore national governments, and the World Health Organization, have a tricky balance to strike. A vaccine was used to protect humans from a version of swine flu in the US in 1976. However, it caused serious side effects, including an estimated 500 cases of Guillain-Barré syndrome. There were more deaths from the vaccine than the outbreak. But modern vaccines have a very good safety record. What should I do to stay safe? Anyone with flu-like symptoms who might have been in contact with the swine virus - such as those living or travelling in the areas of Mexico that have been affected - should seek medical advice. But patients are being asked not to go into GP surgeries in order to minimise the risk of spreading the disease to others. Instead, they should stay at home and call their healthcare provider for advice. What measures can I take to prevent infection? Avoid close contact with people who appear unwell and who have fever and cough. General infection control practices and good hygiene can help to reduce transmission of all viruses, including the human swine influenza. This includes covering your nose and mouth when coughing or sneezing, using a tissue when possible and disposing of it

promptly. It is also important to wash your hands frequently with soap and water to reduce the spread of the virus from your hands to face or to other people and cleaning hard surfaces like door handles frequently using a normal cleaning product. In Mexico masks have been handed out to the general public, but experts are sceptical about how useful this is. May it take some time for a pandemic to strike? Possibly. The flu virus tends to thrive in cooler conditions, and to struggle in warmer weather. The initial cases have developed right at the tail end of the winter flu season in the northern hemisphere, so it is possible that the number of infections may only begin to accelerate once the weather turns colder in the autumn. However, the southern hemisphere is about to enter its winter season and it is possible that the virus will take hold there first. Is it safe to eat pig meat? Yes. There is no evidence that swine flu can be transmitted through eating meat from infected animals. Experts are also stressing that this is now a disease which is being passed between people. The World Organisation for Animal Health said culling pigs, as Egypt has done, was therefore "inappropriate" as a measure to stop swine flu spreading. It added there was no evidence of infection in pigs, nor of humans acquiring infection directly from pigs. What about bird flu? The strain of bird flu which has caused scores of human deaths in South East Asia in recent years is a different strain to that responsible for the current outbreak of swine flu. The latest form of swine flu is a new type of the H1N1 strain, while bird, or avian flu, is H5N1. Experts fear H5N1 holds the potential to trigger a pandemic because of its ability to mutate rapidly. However, it has so far remained very much a disease of birds. Those humans who have been infected have, without exception, worked closely with birds, and cases of human-to-human transmission are extremely rare. There is no suggestion that H5N1 has gained the ability to pass easily from person to person. Where can I get further advice? Further information and advice on swine flu can be found at websites of leading health and research organisations around the world. The World Health Organisation gives background information on the virus. The UK's government services website is carrying regularly updated health and travel information. The Health Protection Agency advises the public about what to do if returning from an affected area. NHS Choices outlines how swine flu is different from other flu. The European Centre for Disease Prevention and Control is another good source of information. The US government's Centers for Disease Control and Prevention is counting the number of cases in the US. You can also track the spread of swine flu reports using unofficial sources. Google is mapping search term data as an indicator of flu activity both across the US down to state level and in Mexico. Healthmaps maps viruses using news reports. Social media guide Mashable lists a range of ways to track the virus. Information and links to useful websites are being shared on Twitter, the micro-blogging service, while social networking website Facebook is tracking swine flu discussion amongst users.