

ARE WE READY FOR THE NEXT FLU PANDEMIC?

What Is an Influenza Pandemic?

A pandemic is a global disease outbreak. An influenza pandemic occurs when a new influenza A virus emerges for which there is little or no immunity in the human population, begins to cause serious illness and then spreads easily person-to-person worldwide.

Historically, the 20th century saw 3 pandemics of influenza:

- 1918 influenza pandemic caused at least 675,000 U.S. deaths and up to 50 million deaths worldwide
- 1957 influenza pandemic caused at least 70,000 U.S. deaths and 1-2 million deaths worldwide
- 1968 influenza pandemic caused about 34,000 U.S. deaths and 700,000 deaths worldwide

Characteristics and challenges of a pandemic Rapid Worldwide Spread

- When a pandemic influenza virus emerges, its global spread is considered inevitable.
- Preparedness activities should assume that the entire world population would be susceptible.
- Countries might, through measures such as border closures and travel restrictions, delay arrival of the virus, but cannot stop it.

Health Care Systems Overloaded

- Most people have little or no immunity to a pandemic virus. Infection and illness rates soar. A substantial percentage of the world's population will require some form of medical care.
- Nations unlikely to have the staff, facilities, equipment and hospital beds needed to cope with large numbers of people who suddenly fall ill.
- Death rates are high, largely determined by four factors: the number of people who become infected, the virulence of the virus, the underlying characteristics and vulnerability of affected populations and the effectiveness of preventive measures.
- Past pandemics have spread globally in two and sometimes three waves.

Medical Supplies Inadequate

- The need for vaccine is likely to outstrip supply.
- The need for antiviral drugs is also likely to be inadequate early in a pandemic.
- A pandemic can create a shortage of hospital beds, ventilators and other supplies. Surge capacity at non-traditional sites such as schools may be created to cope with demand
- Difficult decisions will need to be made regarding who gets antiviral drugs and vaccines.

Economic and Social Disruption

- Travel bans, closings of schools and businesses and cancellations of events could have major impact on communities and citizens.
- Care for sick family members and fear of exposure can result in significant worker absenteeism.

Communications and Information are Critical Components of Pandemic Response

Education and outreach are critical to preparing for a pandemic. Understanding what a pandemic is, what needs to be done at all levels to prepare for pandemic influenza, and what could happen during a pandemic helps us make informed decisions both as individuals and as a nation.

Avian Influenza Viruses

Avian (bird) flu is caused by influenza A viruses that occur naturally among birds. There are different subtypes of these viruses because of changes in certain proteins (hemagglutinin [HA] and neuraminidase [NA]) on the surface of the influenza A virus and the way the proteins combine. Each combination represents a different subtype.

All known subtypes of influenza A viruses can be found in birds. The avian flu currently of concern is the H5N1 subtype.

Avian Influenza in Birds



Wild birds worldwide carry avian influenza viruses in their intestines, but usually do not get sick from them. Avian influenza is very contagious among birds and can make some domesticated birds, including chickens, ducks, and turkeys, very sick and kill them.

Infected birds shed influenza virus in their saliva, nasal secretions, and feces. Domesticated birds may become infected with avian influenza virus through direct contact with infected waterfowl or other infected poultry, or through contact with surfaces (such as dirt or cages) or materials (such as water or feed) that have been contaminated with the virus.

Avian influenza infection in domestic poultry causes two main forms of disease that are distinguished by low and high extremes of virulence. The "low pathogenic" form may go undetected and usually causes only mild symptoms (such as ruffled feathers and a drop in egg production). However, the highly pathogenic form spreads more rapidly through flocks of poultry. This form may cause disease that affects multiple internal organs and has a mortality rate that can reach 90-100%, often within 48 hours. It is the highly pathogenic form of H5N1 that concerns scientists..

Human Infection with Avian Influenza Viruses

"Human influenza virus" usually refers to those subtypes that spread widely among humans. There are only four known A subtypes of influenza viruses (H1N1, H1N2, H3N2, and H7N2) currently circulating among humans. It is likely that some genetic parts of current human influenza A viruses originally came from birds. Influenza A viruses are constantly changing, and other strains might adapt over time to infect and spread among humans.

The risk from avian influenza is generally low to most people, because the viruses do not usually infect humans. H5N1 is one of the few avian influenza viruses to have crossed the species barrier to infect humans, and it is the most deadly of those that have crossed the barrier. Most cases of H5N1 influenza infection in humans have resulted from contact with infected poultry (e.g., domesticated chicken, ducks, and turkeys) or surfaces contaminated with secretion/excretions from infected birds.

So far, the spread of H5N1 virus from person to person has been limited and has not continued beyond one person. Nonetheless, because all influenza viruses have the ability to change, scientists are concerned that H5N1 virus one day could be able to infect humans and spread easily from one person to another.

In the current outbreaks in Asia, Europe, and Africa, more than half of those infected with the H5N1 virus have died. Most cases have occurred in previously healthy children and young adults. However, it is possible that the only cases currently being reported are those in the most severely ill people, and that the full range of illness caused by the H5N1 virus has not yet been defined.

Symptoms of avian influenza in humans have ranged from typical human influenza-like symptoms (e.g., fever, cough, sore throat, and muscle aches) to eye infections, pneumonia, severe respiratory diseases (such as acute respiratory distress), and other severe and life-threatening complications. The symptoms of avian influenza may depend on which virus caused the infection.

Because these viruses do not commonly infect humans, there is little or no immune protection against them in the human population. If H5N1 virus were to gain the capacity to spread easily from person to person, a pandemic (worldwide outbreak of disease) could begin. No one can predict when a pandemic might occur. However, experts from around the world are watching the H5N1 situation very closely and are preparing for the possibility that the virus may begin to spread more easily and widely from person to person.

Education and outreach are critical to preparing for a pandemic. Understanding what a pandemic is, what needs to be done at all levels to prepare for pandemic influenza, and what could happen during a pandemic helps us make informed decisions both as individuals and as a nation.

Preventive Measures To Reduce Cross Contamination

LEGIONELLA-X RANGE OF DISINFECTANTS

99.9999% KILLING EFFICIENCY



The Legionella-X range of disinfectants contain twin-chain quaternary ammonium compound. This powerful antimicrobial formula has been laboratory tested to kills 99.9999% of common bacteria and viruses such as escherichia coli, salmonella typhimurium, staphylococcus aureus and streptococcus faecalis. The twin-chain quaternary ammonium compound is also effective against the following:

Bacteria

- Pseudomonas aeruginosa
- Staphylococcus aureus
- Salmonella choleraesuis
- Acinetobactella calcoaceticus
- Bordetella brochiseptica
- Chlamydia psittaci
- Enterobacter aerogenes
- Enterobacter cloacae
- Enterobacter faecalis
- Escherichia coli
- Fusobacterium necrophorum
- Klebsiella pneumoniae
- Legionella pneumoniae
- Listeria monocytogenes
- Pasturella multocida
- Proteus mirabilis
- Salmonella enteritidis
- Salmonella typhi
- Salmonella typhimurium
- Serratia marcescens
- Shigella flexneri
- Shigella sonnei
- Staphylococcus epidermidis
- Streptococcus faecalis
- Streptococcus pyogenes

Viruses

- HIV-1 (AIDS Virus)
- Herpes Simples 1 & 2
- Influenza A/Hong Kong
- H5N1
- Rubella
- Vaccinia
- Respiratory syncytial virus
- Transmissible gastroenteritis virus
- Adenovirus type 4
- Infectious Bovine
- Rhinotracheitis
- Pseudorabies
- Canine Distemper
- Feline picornavirus
- Feline leukemia
- Rabies
- Avian bronchitis

Fungi

- Trichophyton mentagrophytes
- Candida albicans
- Aspergillus niger (Mold & Mildew)

TEST REPORT FROM SINGAPORE GENERAL HOSPITAL

TEST REPORT FROM PSB CORPORATION

All Legionella-X products are tested by reputable third party laboratories and issued with North Atlantic Treaty Organisation (NATO) Master Cross-Reference List stock numbers. Legionella-X products do not contain triclosan, an anti-biotic chlorphenol and pesticide commonly found in anti-bacterial soaps and cleaners and which is molecularly similar to some of the most toxic chemicals.

LEGIONELLA-X DISINFECTANTS

Hospital Grade Disinfectants



LEGIONELLA-X is a
anti-bacterial Air
Freshener



VIRAL-SPRAY is a non-
greasy insect repellent
made from natural
ingredients to ward off
insects.



VIRAL-SCRUB
Disinfectant Floor
Cleaner



VIRAL-FREE
Multi-Purpose
Disinfectant &
Cleaner



Viral-Rub
Anti-Bacterial Hand
Gel



VIRAL-OFF
Waterless
Hand
Disinfectant



ODOUR-OFF
Disinfects and
deodorizes feet
and shoes



GREASE-CUTTER
Anti-Bacterial
Oven Stain
Remover



HD-MIRACLE
Anti-Bacterial
Heavy Stain
Remover

Magna

Headquarters & Far East Office:

Magna International Pte Ltd

Blk 9005, Tampines Street 93,
#02-242 Tampines Industrial Park A,

Singapore 528839.

Tel (65) 6788-1228

Fax (65) 6785-1497

Email magnaintl@pacific.net.sg

Website <http://www.magnachem.com.sg>

North America Office:

No. 15 Bowman Avenue
Matheson, Ontario P0K 1N0
Canada

Tel 705-273-3353

Fax 705-273-3352

Email magna@ntl.sympatico.ca

The details of our products are given completely free of undertaking. Since their application lies outside our control, we cannot accept any liability for the results. User shall determine the suitability of the product for its intended use, and user assumes all risk and liability whatsoever in connection therewith.

Copyright 2007 Magna International Pte Ltd. Legionella-X is the registered trademark of Magna International Pte Ltd in Singapore and/or other countries.