

## Fighting bird flu with RFID technology

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The fear of bird flu or Avian Influenza epidemic in Indonesia is recently escalating to an alarming level for most Indonesians. People are anxious about the possibility of virus transmission from human to human that may create an epidemic, or even a pandemic.

The first known case of human infection was recorded in Hong Kong in 1997, when Avian influenza A (H5N1) infected both poultry and humans.

At that time, the authorities managed to kill about 1.5 million of chickens to contain the bird flu outbreak. After that, several other similar cases were reported across Asia, including China, Thailand, Vietnam and Indonesia.

Even though it's too late for Indonesia to start a national pandemic preparedness plan to control the bird flu outbreak, as suggested by World Health Organization (WHO), it would be better to do it late than never.

Through some lessons were learned during Severe Acute Respiratory Syndrome (SARS) and Highly Pathogenic Avian Influenza (HPAI) outbreaks, WHO suggests a preparedness checklist to prevent or minimize human morbidity and mortality, social disruption and economic consequences. *(Source: WHO checklist for influenza pandemic preparedness planning - WHO/CDS/CSR/GIP/2005.4, Department of Communicable Disease, Surveillance and Response, Global Influenza Programme, World Health Organization)*

The checklist, which is intended to be comprehensive, contains several elements, such as: preparing for emergency, surveillance, case investigation and treatment, and preventing spread of disease in the community.

For the element of surveillance, technology such as RFID (Radio Frequency Identification) could be very useful.

RFID is a wireless automatic identification technology that has been around for many years. The technology can be used to track livestock, including poultry, as well as human beings.

Due to its promising capability in livestock tracking, the Thai government recently considered the adoption of RFID technology for its poultry identification program in connection with the bird flu outbreak.

One of the advantages in using RFID is the ability to track the movement of livestock or human beings without interrupting any normal activities. The tracking data can be fed automatically to any database systems for further analysis. In the event of any emergency situation it would be possible to trace back the history stored in a database.

In 2003, a scenario of applying an RFID-based tracking system during the SARS outbreak was demonstrated in two Singapore hospitals. During the trial, the movement of people in the hospitals can be recorded.

If the government can use the RFID technology, it is hoped that the technology can provide a quick response in fighting the bird flu outbreak.