



Avian Influenza: Critical Program Issues

- While the spread of avian influenza (H5N1) virus from person-to-person is currently rare and unsustainable, H5N1 continues to pose a significant threat to public health and economies worldwide.
- All evidence to date indicates that close contact with dead or sick birds is the principal source of human infection with H5N1.
- Key protective practices endorsed by international agencies include washing (proper hygiene), separating chickens/birds, reporting dead or sick chickens/birds, and cooking poultry properly.
- Strategic AI communication can effectively increase awareness of AI risks, means of transmission, and promote sustained behavior change when carefully delivered.

Background on Topic

Since December 2003, highly pathogenic avian influenza (HPAI) H5N1 has infected and killed millions of poultry and wild birds across Asia, Europe, the Near East and parts of Africa. Also known as 'bird flu' and avian influenza (AI), HPAI H5N1 is endemic to several regions of the world and has demonstrated transmissibility to humans. While the spread of H5N1 virus from person-to-person is currently rare and unsustainable, H5N1 continues to pose a significant threat to public health and economies worldwide. Avian flu is any virus that infects wild birds¹ or domestic poultry² and may be highly pathogenic³ (HPAI) or low pathogenic (LPAI). HPAI, or "high path" AI, spreads rapidly and is often fatal to chickens and turkeys.

While thousands of bird flu viruses are in circulation at any given time and do not immediately threaten human populations, HPAI H5N1 is an exception. H5N1 has caused 357 severe human disease cases and 223 deaths as of January 29, 2008. H5N1 crossed the species barrier to humans in 1997 and 2003 (Hong Kong) and since December 2003 worldwide. Another concern with H5N1 is its potential to instigate another influenza pandemic. So far, the virus has met all prerequisites for a pandemic save one: the ability to spread efficiently and sustainably among humans. Most scientists agree that another pandemic is inevitable; however, whether it is with H5N1 remains to be determined.

Close contact with dead or sick birds is the principal source of human infection with H5N1. Particularly high-risk behaviors include the slaughtering, de-feathering, butchering and preparation of infected birds for consumption. In nearly one quarter of reported cases, the exact source of exposure is unclear, leading many to believe that environment-to-human transmission is likely. Exposure to chicken feces by children playing in a poultry area and exposure to infected water bodies are two concerning potential sources.

Programmatic Considerations

Vaccines and antivirals are important considerations for AI prevention and response. Some antiviral drugs, notably oseltamivir (commercially known as Tamiflu®), may reduce the duration of viral replication and improve prospects of survival, if administered within 48 hours following symptom onset; however, efficacy is not fully known. Evidence of resistance is also emerging⁴. Comprehensive clinical studies demonstrating effectiveness against H5N1 have not been conducted. While efforts to produce a pre-pandemic vaccine for humans effective against avian influenza A (H5N1) viruses are ongoing, few H5N1 vaccines are currently available for human use. A vaccine produced by Sanofi is currently licensed in the United States and trials are underway for additional human H5N1 vaccines that may be licensed in the U.S. and abroad. Vaccine and antiviral availability, distribution, ethics and access issues must all be considered carefully on a country-basis in planning for AI response and pandemic preparedness.

Prioritizing AI prevention and response in resource-poor settings can be challenging. It may be advantageous to position AI as a 'dual' or 'triple benefit' program. AI can be a catalyst to improving national hygiene improvement programs for example, targeted at mediation of sanitation-based diseases. Such 'readiness' for one type of public health threat can translate into tangible improvements in overall public health infrastructure. It may be beneficial to identify other local communicable disease threats in addition to avian flu, assess shared H5N1 transmission routes (e.g. typhoid fever, hepatitis A, diarrhea), and tackle both simultaneously. Another option is to integrate AI risk communication into existing national- and community-based risk communication



Global Health Technical Briefs

frameworks. By preparing communities, districts, and countries to identify and properly respond to animal and human outbreaks, a country will be better prepared for other emergencies including, but not limited to, a pandemic.

Lessons Learned

- **Strategic communication** increasingly plays a role in effective AI prevention and response. Communication can be employed through national level advocacy, educating the media on AI issues, mass media, community mobilization and interpersonal communication and counseling. Several countries are now executing multilevel communication programs to increase awareness of AI risks, means of transmission, and promote protective practices.
- **“Threat-efficacy”** models applied to AI may lead to more effective results by producing a better understanding of local threat perceptions, attitudes toward AI behaviors, and efficacy/ability to act.
- **“Warning fatigue”** may pose a risk communication challenge, if too many messages are disseminated with an alarming tone. As audiences repeatedly anticipate a still unrealized “next pandemic” this may lead to reduced vigilance and preparation despite the very real nature of the threat.
- **AI protective practices** such as “Wash, Report, Separate, Cook”⁵ need to be considered on a country-basis. Some behaviors may not be immediately attainable given local resources and barriers to change, such as lack of soap or insufficient funds to cage. More complex behaviors are best dealt with at the community-level through interpersonal communication. Behaviors that can jointly benefit AI and other related hygiene diseases should be promoted through mass media channels to improve the general health competence of these audiences.
- **Information sharing** should be immediate, consistent, and transparent. The international AI planning community is growing rapidly and relies critically on lessons learned and best practices. New information is made available on a daily basis. It is important that AI experts continue to publish, present, and teach new findings. Leveraging the Internet for information sharing is advisable.
- **Political commitment** is essential. Many desired behaviors are contingent on central level support and ongoing political engagement. Given multiple competing priorities in resource-poor settings, political commitment to AI may not exist. Proper compensation policies for farmers however must be in place to incentivize reporting. Effective communication channels likewise must exist for proper reporting, culling and response. AI presents unique opportunities for governments to improve public health infrastructure, services and overall health by investing in the issue. AI can be easily tackled as a dual or triple benefit program, or positioned as an ‘*a la mode*’ issue to generate positive publicity for leaders.

References:

¹ E.g. ducks, gulls, and shorebirds

² E.g. chickens, turkeys, ducks, and geese

³ Pathogenicity refers to the ability of the virus to produce disease.

⁴ http://www.upmc-biosecurity.org/website/biosecurity_briefing/archive/avian_pandemic_flu/content/2007/2007-08-10-studyh5n1showinginincreasedresistance.html

⁵ See <http://www.unicef.org/avianflu/index.html> for more information.

Other technical briefs can be found at: www.maqweb.org/techbriefs/

Last Revised: 2/21/08

Produced in association with The Maximizing Access and Quality Initiative

Designed and produced by: The INFO Project at the Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs. Published with support from the United States Agency for International Development (USAID), Global, GH/PRH/PEC, under the terms of Grant No. GPH-A-00-02-00003-00.



USAID
FROM THE AMERICAN PEOPLE