Summary of exposure data for human cases of H5N1 in Indonesia

Wilfried Purba, DVM
Ministry of Health, Republic of Indonesia

H5N1 situation in humans (1)

- Geographic Distribution:
  - 12 provinces out of 33 have confirmed AI cases, where 47 districts from 484 have reported human cases.
  - However, in the last 6 months, only 5 of the 12 affected provinces reported cases.
  - All cases reported from Java, Sumatera, Sulawesi & Bali Is.

- Age & Sex
  - All confirmed cases of avian influenza are < 50 years of age, except for one 67yo female. A large proportion of cases (33%) are children <14 years of age.
  - The mean age of cases is 20 years, the range is 18 months to 67 years.
  - The male to female case ratio is 1:1.

- Virus clade in Indonesia: Genotype Z, Clade 2.1, no mutations suggestive of increased affinity for human infection.
• Overall 81% case fatality rate: high. Reasons inconclusive but late treatment with Oseltamivir likely to be a factor.
• Epicurve indicates ongoing exposure of humans to virus in Indonesia.
• Systematically, more cases detected in January every year (wet season).

Affected Area in Poultry (2003-2007) &
Human Cases in Indonesia (Jun 2005 - August 2008)
Surveillance and data collection (1)

- Two systems exist for H5N1 surveillance
  - **Passive hospital-based**: finds many cases but late.

  - **Active District Surveillance Officers**: respond to animal outbreaks to initiate active case finding. Cases have not been detected through this system yet, but the system has enabled earlier access to treatment (2 versus 4 days).

- Human epidemiological and exposure data
  - **Zoonosis Control and Surveillance Subdirectorates** at CDC-MoH investigate all cases and suspect clusters. Data are collected and analyzed by these teams.

  - **Tools used**: GIS-mapping, STATA and Excel for analysis. Feedback of info is done through daily ministerial updates re new cases in AI system & confirmed cases reported to WHO (per IHR).

Occupational risk factors

- **Health Care Worker**: 1.1%
- **Housewife/Maid**: 25, 18%
- **Non-poultry Farmer**: 3, 2%
- **Non-farm Occupation**: 33, 24%
- **Food Handler**: 3, 2%
- **Wet Market Worker**: 3, 2%
- **Poultry/Poultry product Handler**: 9, 7%
- **Full-time Student (≥ 14)**: 21, 15%
- **Child (< 14)**: 39, 29%
- **Occupational exposure = 11% of cases**

44% cases are young: reflect underlying population trends
Exposure risk factors

- **Inconclusive**, 23, 17%
- **Visited wet market**, 3, 2%
- **Healthy poultry in neighborhood**, 16, 12%
- **Poultry deaths in neighborhood**, 36, 26%
- **H5N1-positive poultry in neighborhood**, 3, 2%
- **Slaughtered sick birds**, 12, 9%
- **Handled sick/dead poultry**, 23, 17%
- **Poultry deaths in home**, 14, 10%
- **Handled poultry faeces**, 1, 1%
- **Handled poultry products**, 4, 3%
- **Handled poultry products**, 4, 3%
- **H5N1-positive poultry at home**, 2, 1%
- **Poultry deaths in home**, 14, 10%
- **Poultry deaths in home**, 14, 10%
- **Visited wet market**, 3, 2%

**Classification of exposure risk factors**

- **Blue**: direct contact with (or handled) sick or H5N1 infected birds
- **Yellow**: exposed to environment with sick or H5N1 infected birds
- **Red**: Inconclusive/unknown despite extensive investigation (including where h2h could not be ruled out).

Strict definitions used to enable monitoring of impact of:
- Environmental/neighbourhood contamination
- Risk communication on behaviour (eg is proportion of “direct” exposure such as slaughtering sick birds decreasing over time)
Animal Health & Public Health
Findings & Collaborations

• Outbreaks ongoing in poultry – environmental contamination & human infection.

• Successful MoA-MoH collaboration. E.g. Recent market study found 43% of markets in greater Jakarta region contaminated with H5N1 virus (n=83 markets).

• Risk communication messages and campaign has improved knowledge about AI but has not resulted in behaviour change (2008 evaluation conducted by Nat’l Committee /UNICEF).

• Role of district surveillance officers (DSO) critical to coordinate with Agriculture counterparts: early info re outbreaks, follow up of lab findings, clear responsibilities.

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Further info re case exposures: