

Summary of exposure data for human cases of H5N1 in Indonesia

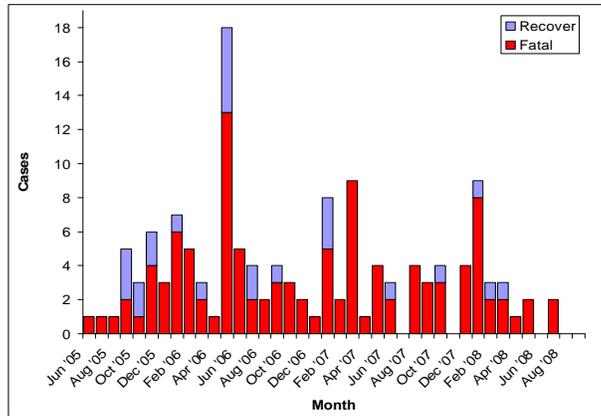
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H5N1 situation in humans (1)

- 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.

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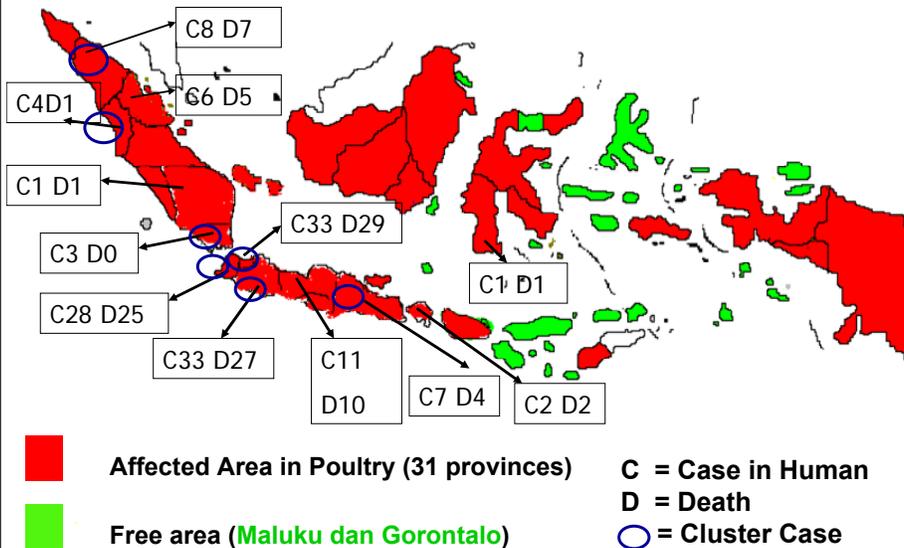
Epicurve of H5N1 cases



- 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)

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Affected Area in Poultry (2003-2007) & Human Cases in Indonesia (Jun 2005 - August 2008)

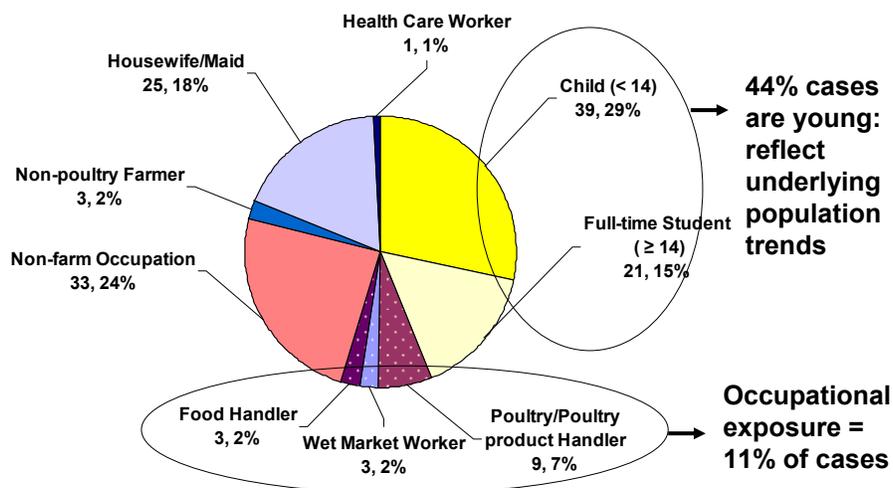


Surveillance and data collection (1)

- 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).

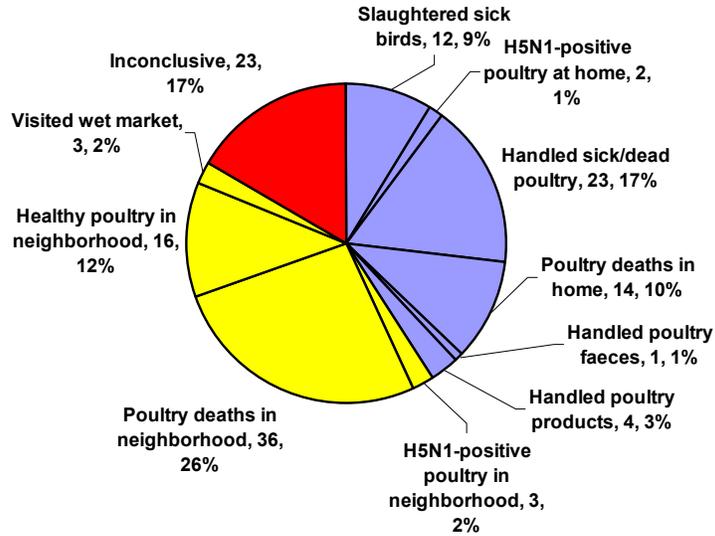
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Occupational risk factors



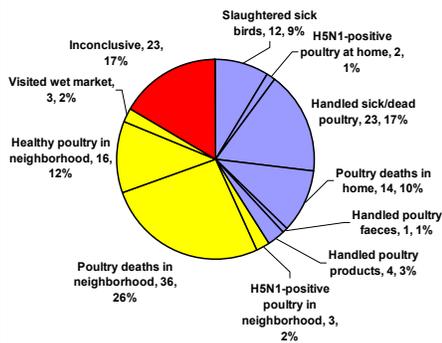
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Exposure risk factors



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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)

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RISK FACTORS



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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Acknowledgements:

- Zoonosis Subdirector, DG DC/EH, Ministry of Health
- National Institutes for Health Research & Development, Ministry of Health
- WHO Indonesia

Further info re case exposures:

- Kandun I, Tresnaningsih E, Purba W, Lee V, Samaan G et al. Factors associated with case fatality of human H5N1 virus infections in Indonesia: a case series. Lancet. Published online 14 August 2008

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