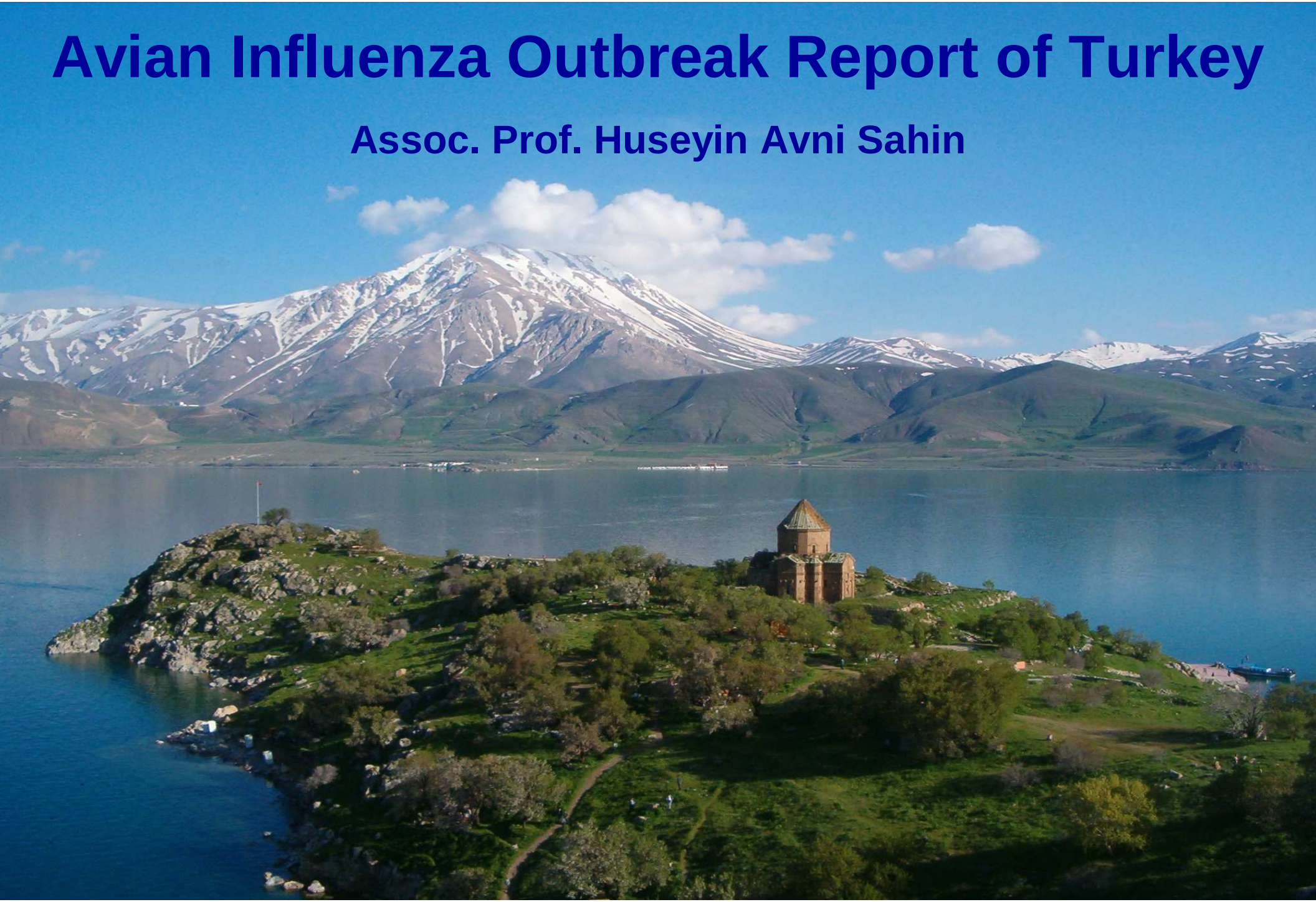
Avian Influenza Outbreak Report of Turkey

Assoc. Prof. Huseyin Avni Sahin



Avian Influenza World Update

Until 16th of Oct 2006 256 human H5N1 infections have been documented by WHO and 151 of them died with a mortality rate of 59%.

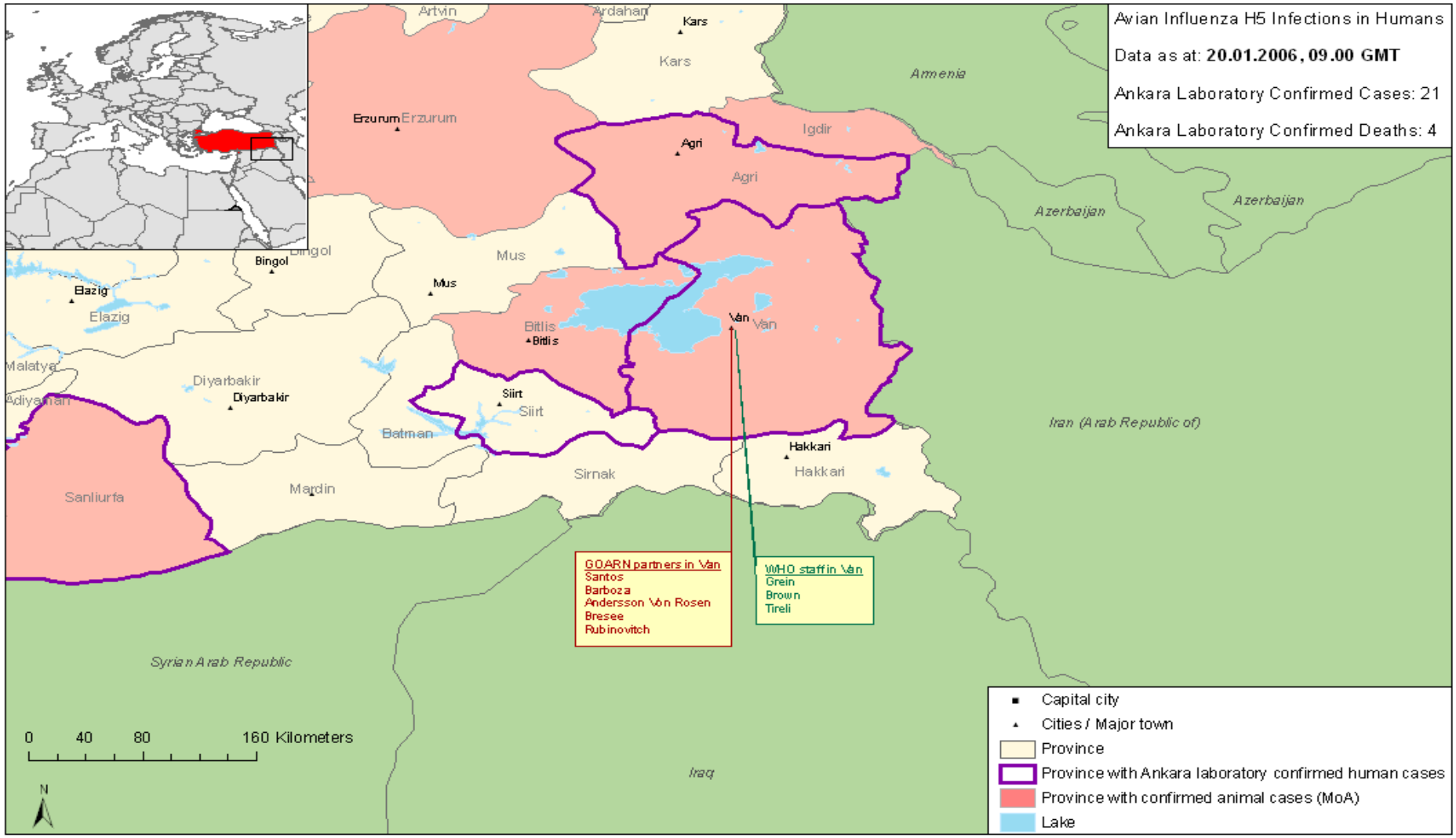
Avian Influenza mortality rates of countries (Updated at 16th Sep 2006)

Country	WHO reported laboratory confirmed cases	Deaths	Mortality Rate (%)
Cambodia	6	6	100.0
Indonesia	72	55	71.4
Thailand	25	17	68.0
China	21	14	66.7
Iraq	3	2	66.7
Azerbaijan	8	5	62.5
Viet Nam	93	42	45.1
Egypt	15	6	40.0
Turkey	12	4	33.3
Djibouti	1	0	0
Total	256	151	59

Yearly death rates of WHO confirmed Avian Influenza cases

Year	WHO reported laboratory confirmed cases	Deaths	Death Rate (%)
2003	4	4	100
2004	46	32	70
2005	97	42	43
2006 (Until 16th Sep 2006)	109	73	67
Total	256	151	59

RESTRICTED: Turkey, Avian Influenza H5 Infections in Humans, 20.01.2006. Van Region and Surrounds.



World Health Organization

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: WHO, OIE, MoA, MoH.
Map Production: Public Health Mapping and GIS
Communicable Diseases (CDS),
World Health Organization.

Chronology of Events

- ✓ **Turkey, which lies on the path of migratory birds, has suffered of two Avian Influenza outbreaks in the last three months of year 2005.**

- ✓ **October 5→ The first case of H5N1 was detected at a farm in the village of Kiziksa, near the Bird Sanctuary National Park in Manyas when some 1,800 domestic birds died.**
- ✓ **December 9 → Turkish Ministry of Agriculture officials said that it had eliminated Avian Influenza in the region, after being tested thousands of samples and culling around 10,000 birds.**

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- Later on in Aralik, eastern province of Igdir, the strain has been identified as H5 type but authorities were conducting further tests and also had sent samples to the World Health Organization for more tests.
- The Turkish Ministry of Agriculture reported that some dead chickens had been tested positive for an H5 variant of Avian Influenza, and part of the eastern town had been put under quarantine.

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- ✓ **31 December → Children were referred to our hospital with high fever, cough, sore throat and gingival bleeding after seven days of treatment by antibiotics and antipyretics with no recovery.**
- ✓ **The patients were examined and were admitted to our clinics in the last day of year 2005.**

- ✓ **Samples were taken and sent to Ankara for confirmation of Avian Influenza.**
- ✓ **Provincial Health Authorities was also informed on the same day.**
- ✓ **WHO Resources and Guidelines were used for the management of Avian Influenza suspected cases.**

- ✓ **1 January → Tamiflu was supplied and given to patients and necessary directives were given by the Governor of Van to the related authorities.**
- ✓ **As a precaution the transport of any poultry into or out of the district were forbidden. Security forces, along with teams of Ministry of Agriculture, were checking entrances and exits.**

- ✓ **5 January → Health Minister announced that first two cases of human H5N1 virus detected in the samples that were send by our team.**
- ✓ **Two clinics were reserved and isolated for Avian Influenza cases.**
- ✓ **All the shifts were reinforced. All the patients were accepted without being asked for payment.**

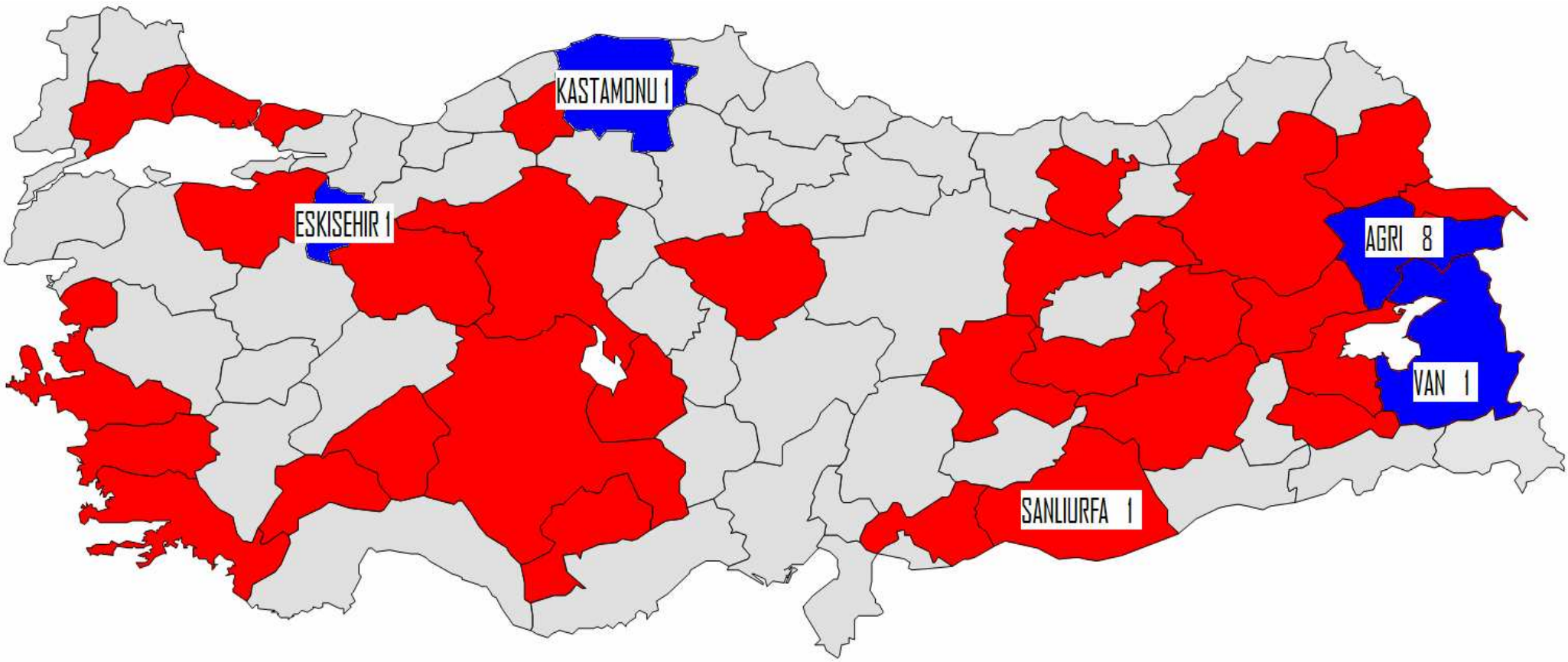
- ✓ **Health Ministry acted promptly and supplied the necessary Tamiflu, PPEs and mechanical ventilators for possible use.**
- ✓ **7 January → WHO confirmed first two cases of human H5N1 disease. (UK Laboratory)**
- ✓ **9 January → WHO team arrived to Van. Ministry of Health announced 5 more cases including outside of Eastern Turkey.**

- ✓ **9-13 January: All Other cases later confirmed to have H5N1 infection admitted to Van or Erzurum Reference Hospitals between these days.**
- ✓ **602 cases admitted YYURH in terms of avian influenza suspicion during AI epidemic.**
- ✓ **147 patients were hospitalized**

- ✓ **21 human cases of H5N1 avian influenza infection were confirmed by laboratory tests by the Turkish Ministry of Health, of which 12 were confirmed by WHO.**
- ✓ **165 patients were followed under prophylaxis as out patient.**
- ✓ **Avian Influenza was not suspected in 290 persons after initial evaluation**
- ✓ **Confirmed case ratio was 1.66% compared to all applications.**

- ✓ **Of these 21 cases 10 of them were followed at YYURH and 4 of them died. The other 11 cases were detected in other regions and none of them died.**
- ✓ **Of these 12 WHO confirmed cases 8 of them were followed at YYURH. The other 4 cases were detected in Kastamonu, Dogubayezit, Eskisehir and Sanliurfa**

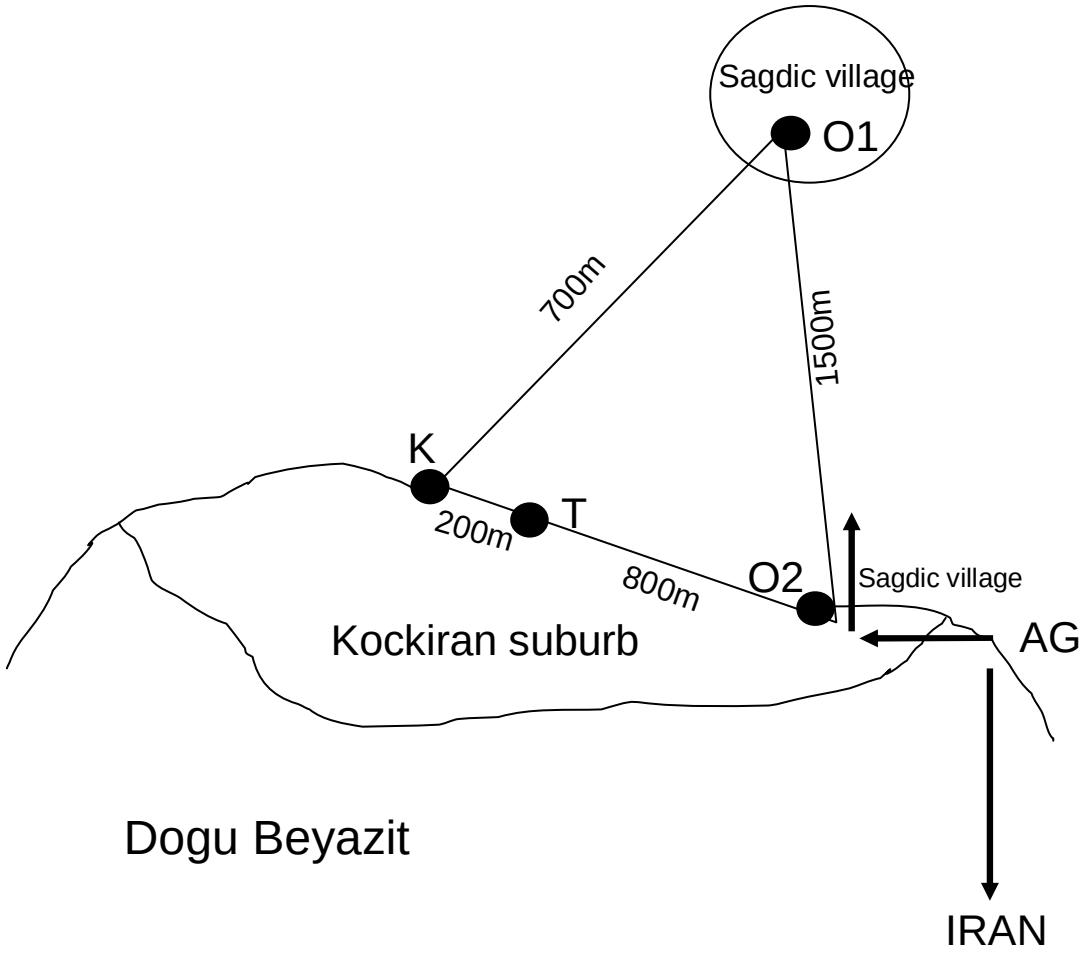
Distribution of Avian Influenza cases in Turkey: (Red: Animal, Blue: human AI H5n1 cases)



Epidemiology of Outbreak

- ✓ 11 confirmed Avian Influenza cases A(H5N1)occurred among persons in Van and Agri Province.
- ✓ The cases occurred in two clusters
  - ✓1 in Dogubayazit: Four families whom lived in close proximity→ 200 to 1500 m
  - ✓1 in Van: Two cousins living in neighboring houses.

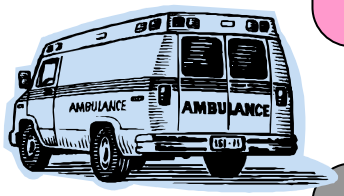
Family clusters



Legend

K= Kocygit famıly; confirmed cases MAK*, HK*, FK*
T= Tunc family; confirmed case YT
O1= first Ozcan famıly; confırmed cases AO, YO
O2= second Ozcan famıly; confrmed cases FO* MO
*died

Health Sector Infrastructure for AI Response



YYURH

District Hospitals

Poly Clinics

Private Practitioners

Traditional Healers

Van University Hospital

- Provincial referral hospital (3 m pop) designated for AI.
- 550 beds general hospital occupied at 70-75% capacity with emergency department.
- Over 1,000 staff

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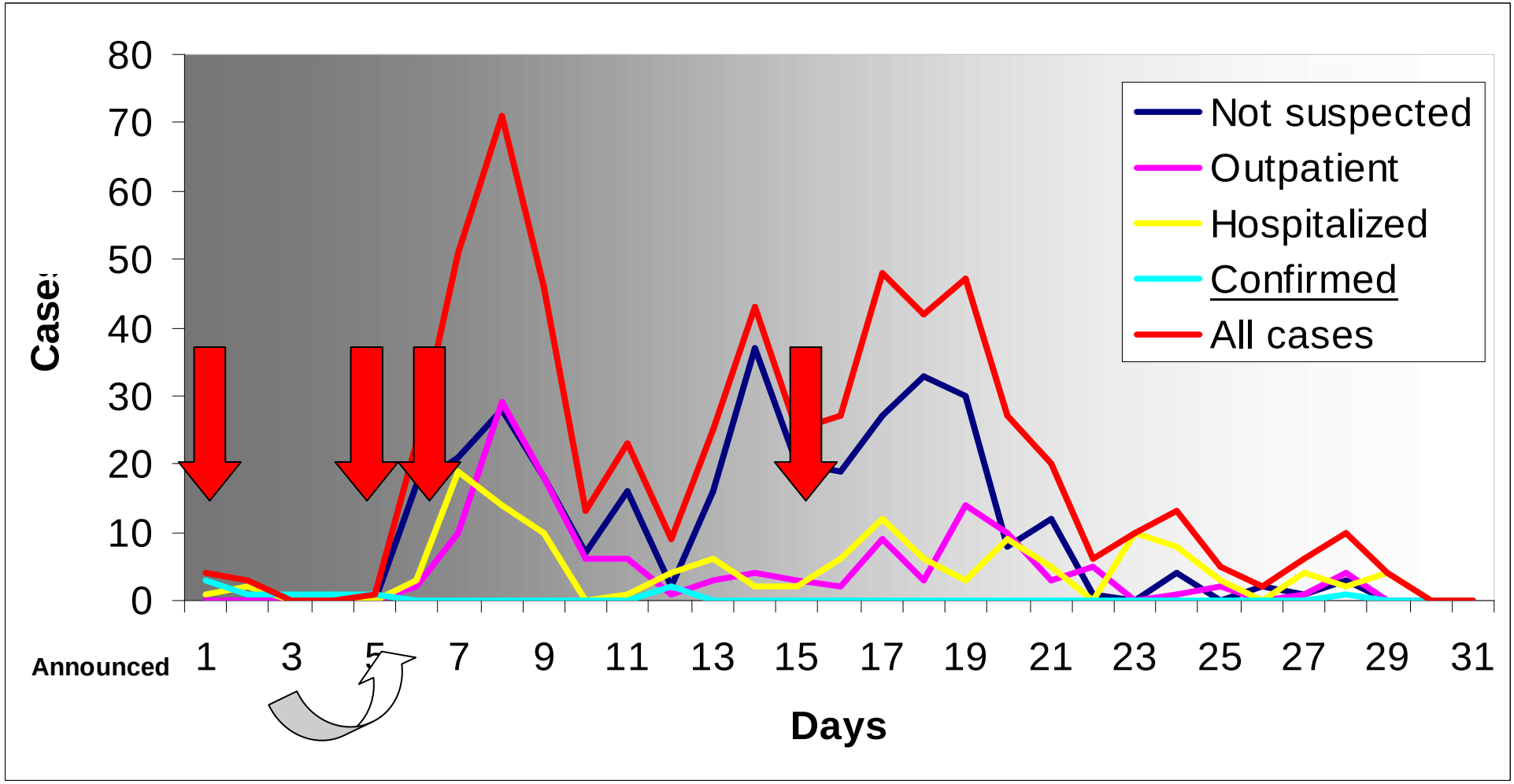
Treatment Criteria

Case	Signs and symptoms	Treatment
Probable	Recent history of contact with sick or dead poultry, or contact of a patient + mild respiratory symptom(s) (Cough, sore throat, severe myalgia, malaise, headache, runny nose) but no fever	Oseltamivir prophylaxis (75mg/day) at home for 7 days
Possible	Recent history of contact with sick or dead poultry, or contact of a patient + fever (History of abrupt onset of fever or feverish at appearance (fever □38□ axillary) which can not be explained by other causes) or other symptoms of influenza-like illness (Symptoms such as headache, general fatigue, generalized myalgia)	Hospitalisation in the isolation ward + oseltamivir treatment (75mg b.i.d. for 5 days or until the resolution of symptoms. Patients younger than 15 years old will receive 1/2 dose of adult therapy by splitting capsules.)
Highly probable	Possible case + radiological findings in chest X-ray or respiratory failure	Admission in isolation ward + oseltamivir treatment. If a radiological change is positive who has exposure history, with or without fever, the case will be admitted and treated by oseltamivir.
Confirmed	Cases with laboratory confirmation	Admission in isolation ward and oseltamivir treatment

Mean Stay of Hospitalization

CASE	N	Minimum Stay (Day)	Maximum Stay (Day)	Mean Stay (Day)	Std. Deviation
Contact with the poultry with the signs and symptoms of AI	137	1	19	4.96	2.75
Confirmed Cases	10	1	25	12.2	9.6

Daily Applications to YYURH



- First peak was seen soon after the announcement of the disease and deaths attributed to AI in national and local media.
- The second peak was seen after announcement of the highly probable cases resisted to apply to health facilities in national media.
- Third peak was seen after fourth death announced in media.

Mean Ages of Cases

CASE	Mean Age	N
No contact with the poultry with no signs and symptoms of AI	19.7	290
Contact with the poultry with no signs and symptoms of AI	18.3	165
Contact with the poultry with the signs and symptoms of AI	14.1	137
Confirmed Cases	10.4	10

Summary of Case Series of 5N1tyturkey105ha

Family No Initials	Location	Age	Gender	Clinical Onset Date	Hospital Entry Date	Tamiflu Date	Period between Clinical onset to Oseltamivir onset	Outcome
F1-MK	DB- Agri	14	M	23	31	1	9	Died 1 Jan
F1-FK	DB- Agri	15	F	23	31	1	9	Died 5 Jan
F1-HK	DB- Agri	12	F	23	31	1	9	Died 6 Jan
F2-FO	DB- Agri	16	F	4	11	11	7	Died 15 Jan
F2-MO	DB- Agri	5	M	4	11	11	7	Survived
F3-YT	DB- Agri	5	M	29	1	1	3	Survived
F4-AO	DB- Agri	9	F	31	3	4	4	Survived
F4-YO	DB- Agri	3	M	1	3	4	4	Survived
F5-SM	Van	8	F	2	2	4	3	Survived
F5-NM	Van	18	F	4	5	5	1	Survived

Treatment Waiting Period

Confirmed Cases	Mean treatment waiting period (day)
All	5.4
Dead	8.5
Survived	3.3

Conclusion

- ✓ After our painful experience we now know that the prospect of an influenza pandemic is real and National pandemic preparedness is a must.
- ✓ Avian influenza is a transnational threat requiring an internationally coordinated response.
- ✓ All countries need to work on a long term strategy depending on country priorities, specific pandemic response goals and resources