

PUBLIC HEALTH LABORATORY

FLUVIEW

Monthly Influenza surveillance report: “July 2009”

(All data are preliminary and may change as more reports are received)

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Synopsis

The proportion of influenza-like illness (ILI) visited hospital (sentinel sites) for the month of July was below 1%; ranging from (0.002% - 0.037%). The positive detection rate by rapid test was 16% and RT-PCR 36% (cumulative). The most common influenza virus circulating in the Bhutanese population influenza A/H3 followed by influenza type B and A/H1. A/H5 is also detected (Data from samples collected till July). Surveillance has also picked up 3 cases of A/H1N1 from 4 confirmed cases. Except one A(H1N1) case all were confirmed as indigenous transmitted cases. Flu outbreaks were also reported from Lhamoi zingkha, Dagana and Patalay, Tserang.

1. Surveillance components

Table No. 1: Selected surveillance components

Region	Sites	Outpatient ILI (%)	% positive for Flu (rapid test)	Influenza subtype (PCR)					Death (I & P)
				A(H1)	A(H3)	A (H1N1)	A un-subtyped	B	
West	Paro hospital	0.002	00	+	+	-		+	0
	Punakha hospital	0.037	00	+	+	-		+	0
	Phuentsholing hospital	0.020	28.00	-	+	-		+	0
	Samtse hospital	0.013	35.00	ND	ND	-		ND	0
	JDWNRH	-	6.00	+	+	+	+	+	0
Central	Gelephu R R hospital	0.002	40.00	+	+	-	+	+	1

	Tserang hospital	Will be reporting from July							
	Trongsa hospital								
East	Mongar R R hospital								
	Trashigang hospital								
	S/Jongkhar hospital	0.005	00	ND	ND	-		ND	0

(+ : Positive, - : Negative, ND: Not done)

2.1 Outpatient ILI surveillance

The rate ILI patient visited hospitals (sites) for the month of July was 0.01%; less by half in comparison to month of May (0.02%). Punakha hospital has reported high ILI rate (0.037%) compare to other sites for the month of July (Figure 1). The most affected age group by seasonal influenza virus is between 6-24 years (Figure 2).

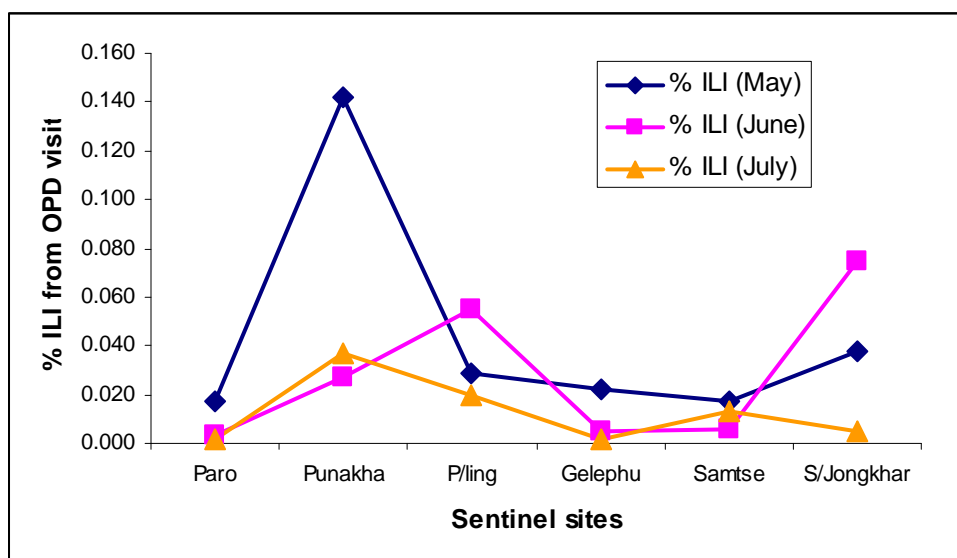


Figure 1: Percentage of OPD visits by patient suffering from Influenza-like Illness (ILI) in each site.

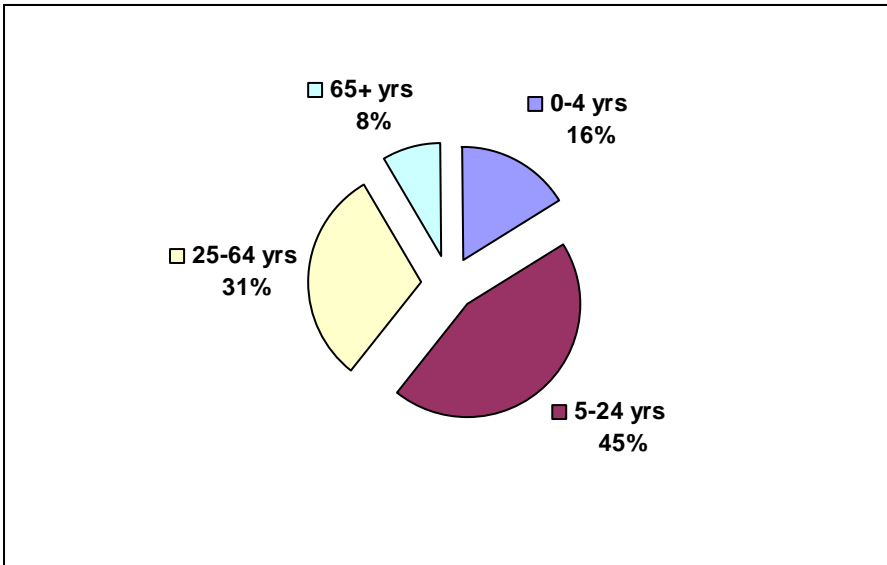


Figure 2: Age distribution among ILI cases

2.2 Virology surveillance

Rapid test kit result showed presence of both influenza A & B virus type circulating in the population. The overall positive rate detected by rapid test for the month of June was 16% from which 15 % was influenza A and rest were negative (the positive rate of each site is given in Table # 2). The RT-PCR showed influenza A/H3 as most common circulating influenza virus followed by influenza type B and A subtype H1 (the positive rate of each site is given in Table # 3). RT-PCR data shown in the table is the cumulative data available till date). Influenza A/H5 subtype has also been detected in Gelephu which has also epidemic potential in human.

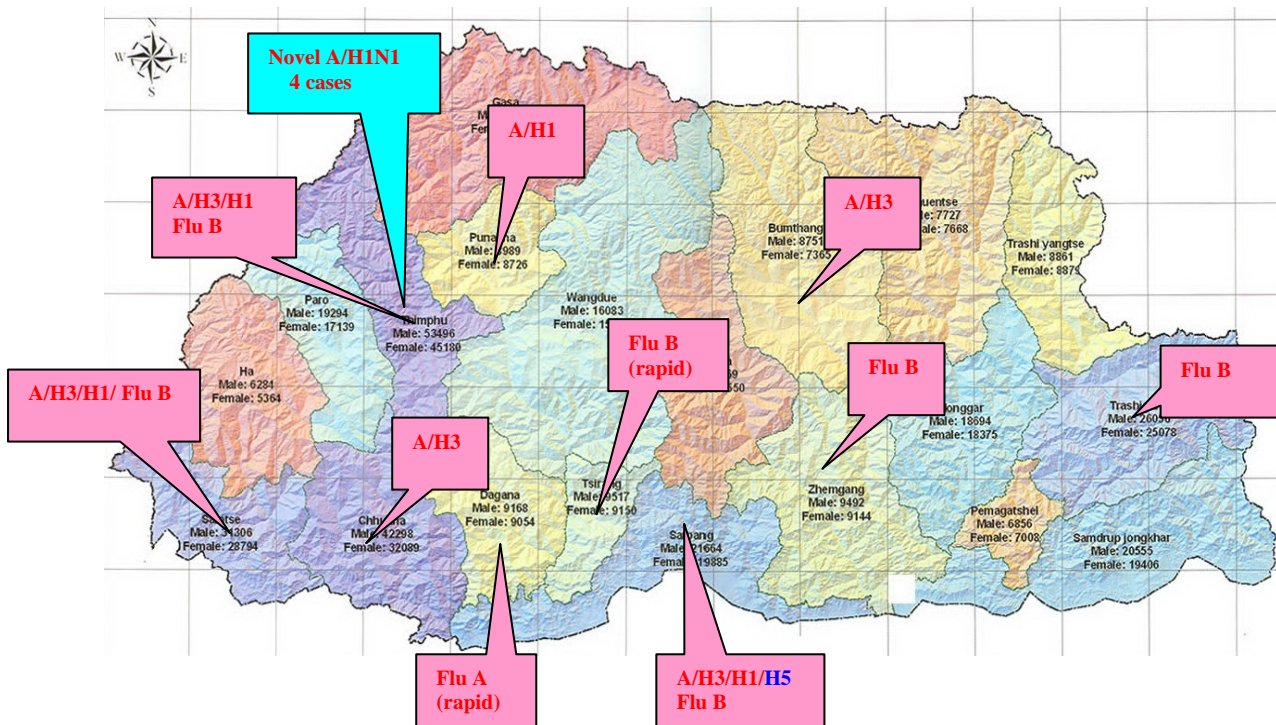


Figure 3: Geographical distribution of influenza virus and subtypes by RT-PCR till date

Table No. 2: Influenza virus type

Hospital	Total sample collected and tested	Rapid Result			
		Flu A	Flu B	Flu A B	% POSITIVE
Paro	4	00	00	00	00
Punakha	0	0	0	0	00
Phuntsholing	7	02	00	00	28.00
Samtse	46	16	00	00	35.00
JDWNRH	116	07	00	00	6.00
Gelephu	10	04	0	00	40.00
Tserang	-	-	-	-	-
Trongsa	-	-	-	-	-
Mongar R R	-	-	-	-	-
Trashigang	-	-	-	-	-
Samdrupjongkhar	2	0	0	0	00

Note: 1st August till today (12th) – Total - 242, Flu A -1 and Flu B-1 (Rapid test)

Table No. 3: Influenza virus subtyping by RT-PCR

Hospital	Total sample collected and tested	Influenza Subtype (%)				
		A(H1)	A(H3)	A(H1N1)	A(unsu typed)	B
Paro	52	7.6% (4)	28.8% (15)	0	0	3.8% (2)
Punakha	25	48% (12)	24% (6)	0	0	8% (2)
P/ling	12	0	50% (6)	0	0	0
Samtse	Not possible to ship samples to PHL due to transportation problem at the moment					
JDWNRH	349	3.7% (13)	15% (53)	1.14% (4)	1.14% (4)	6.3% (22)
Gelephu R R	163	6.7% (11)	25% (41)	0	0	26% (43)
Tserang	Will be included from July					
Trongsa						
Mongar R R						
Trashigang						
Samdrup Jongkhar	Not possible to ship samples to PHL due to transportation problem at the moment					

(Note: Report received sent to AFRIMS till July 2009)

2.3 Influenza Outbreaks

Lhamoi zinkha has reported ARI outbreak on 30th July 2008. Team was sent from PHL to investigate outbreak. Total 81 samples were collected and tested by rapid test kit from which 29 samples tested positive for flu A (34%). Samples have been sent to AFRIMS for subtype characterization.

There was also an outbreak reported on 5th August in Patalay school in Tserang. Laboratory technician was sent to test samples by hospital. Out of 17 samples collected and tested, 11 samples were Flu B (65%).

Table No. 4: Rapid test results from outbreak samples

Places	Total samples collected	Positive (QuickView)	
		Flu A	Flu B
Lhamozingkha	85	29	0
Patalay	17	0	11

References

1. CDC flu surveillance report