

## SITUATION OF HUMAN PLAGUE IN 3 PROVINCES OF DAC LAC, GIA LAI AND KON TUM

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### Introduction

Plague is one of three epidemic diseases still subject to the International Health Regulation and notifiable to the World Health Organization. Plague reached Vietnam during the 3<sup>rd</sup> pandemic in 1988 and remains endemicity in many regions of this country. In recent years, human plague has occurred in some regions of Center of Vietnam and in the Western of Central Highland, of which provinces of Dac Lac and Gia Lai are the highest incidence.

The applications of health measures have almost removed the threat of large epidemics of human plague, but in these provinces where the disease is endemic; the risk of human plague is still considerable.

This report has reviewed and assessed the situation of the plague in Tay Nguyen area since 1988 to permit the institution of appropriate surveillance and control measures of plague in Tay Nguyen plateau region.

### Human plague situations

*Number of cases of plague by province and year, 1988-2003*

**Table 1.** Incidence of cases from plague in Taynguyen area, 1988-2003

Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Dac Lac	2171	427	799	344	236	372	112	51	13	108	47	157	23	9	5	0
Gia Lai	441	320	116	68	109	171	259	97	199	89	35	39	15	3	4	0
Kon Tum					4	5	7	2	2	1	0	0	0	0	0	0
Total	2612	747	915	412	349	548	378	150	214	198	82	196	38	12	9	0



Note: Gia Lai-Kon Tum province was divided into Gia Lai province and Kon Tum province in 1992.

6880 suspected cases of plague had occurred from 1988 to 2003. Number of human plague reduced markedly. During 1988 to 1992, there are averages of 1007 cases per year. Since 1993 to 1997, an averages of 297,6 cases per year and from 1998 to 2002, we have observed a decreasing number of cases of human plague (67,4 cases per year). In the year 2003, no cases of human plague were recorded.


*Distribution of human plague by district and year*

Dac Lac province

**Table 2.** Geographical condensation in province of Dac Lac by district, 1988-2003









Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
B M T																
Ea Hleo																
KRong Bong																
Chu Jut																
Ea Soup																
CuMnga																
Krong Buk																
Krong Nang																
Ea Kar																
Ma Drac																
Dac Mil																
Krong No																
Krong Ana																
Lak																
DacRLap																
N <sub>o</sub> of district	15	10	11	8	10	9	11	7	3	2	2	1	1	1	1	0




Note:  District with human plague.

Kon Tum province



















































































Table 3. Geographical condensation in Kon Tum province by district, 1992-2003


Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Kon Tum town												
Dac To district												
Sa Thay district												
Total	3	2	1	1	1	1	0	0	0	0	0	0

Note:  District with human plague.

Gia Lai province

Table 3. Geographical condensation in Gia Lai province by district, 1988-2003

Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Plei Ku																
Mang Yang																
Dac Doa																
An Khe																
A Jun Pa																
Chu Sue																
Chu Pah																
Chu Prong																
K Bang																
Duc Co																
Ia Grai																
KRongPa																
Total	9	10	9	8	6	7	8	7	8	6	5	3	1	1	1	

Note:  District with human plague.

Mang Yang district was divided into Mang Yang and Dac Doa district in 1999.



Analysis of human plague from 1988 to 2002 by district in the western of central highland shows that plague has been successfully controlled. Numbers of district reporting cases of plague have decreased. During 5 years (1988-1992), there are 20.2 districts per year recording human plague, reducing to 13.8 districts per year during next 5 years (1993-1997) and there are 3.4 districts recording cases of plague in the last 5 year. In the year 2003, Taynguyen area did not recorded human plague.

## Conclusion

In the last 15 years, geographical condensation with human plague is mark in Taynguyen area. Number of human plague reduced.

From 1988 to 1992, human plague were recorded in 20.2 districts per year with an average of 1007 cases per year, during next 5 year (1993-1997) cases of plague were recorded with 13.8 districts/year with an average of 297.6 cases per year and in the last 5 years (1998-2002), human plague were observed in only 3.4 districts per year with an average of 67.4 cases per year.

In the year 2003, no cases of human plague were recorded.

## References

1. Dennis D.T. *Plague manual: Epidemiology, Distribution, Surveillance and Control*. WHO/CDS/CSR/EDC/99.2.
2. Dang Tuan Dat and Pham Van Hau. *Plague: Epidemiology, surveillance and Control*. Hanoi Medical Publishers 2003.
3. Nguyen Van Hieu. Plague. In: *Epidemiology of international quarantine infectious diseases*. Hanoi Medical publisher.