

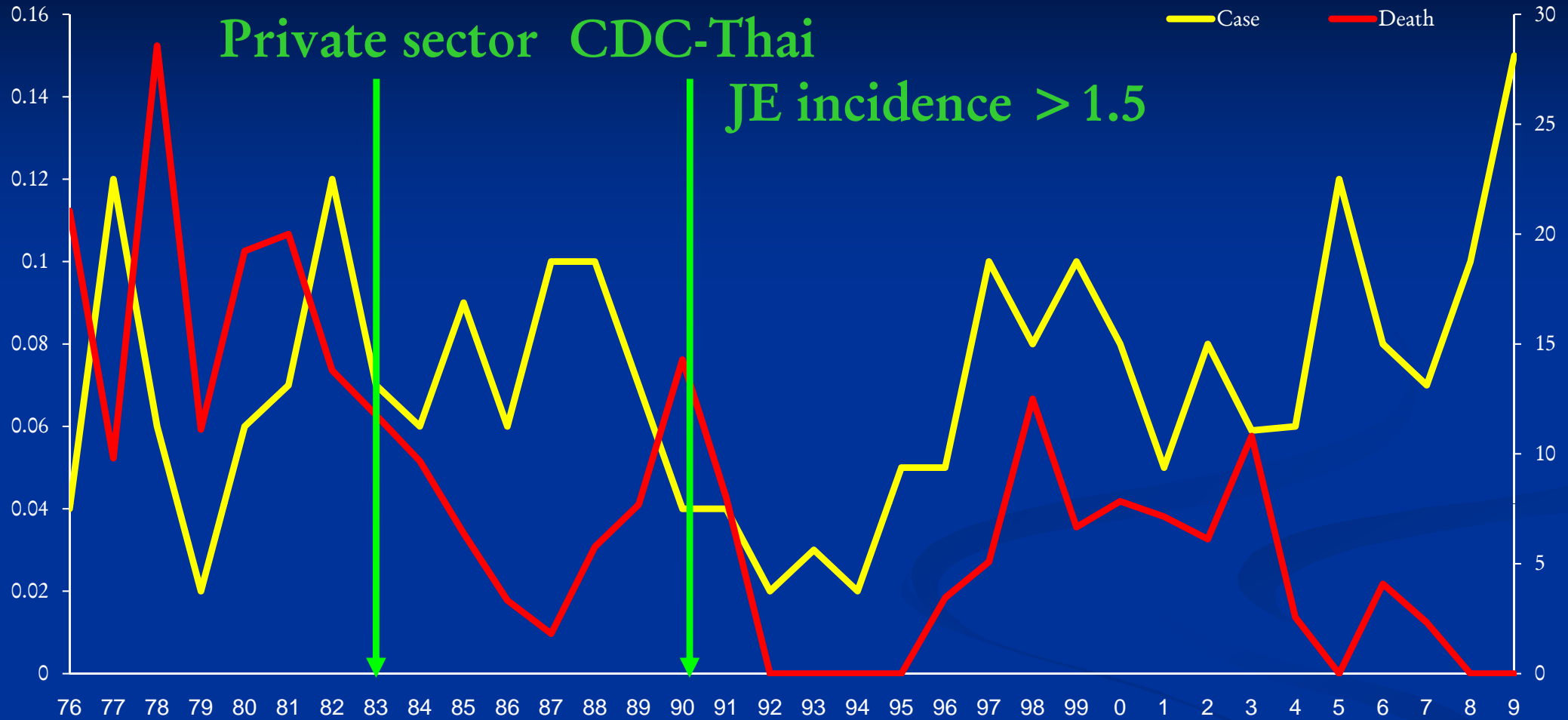
# THE NEGLECTED NICETIES OF A VACCINE PREVENTED MOSQUITO BORNE DISEASE JAPANESE ENCEPHALITIS DISTRIBUTION IN THAILAND

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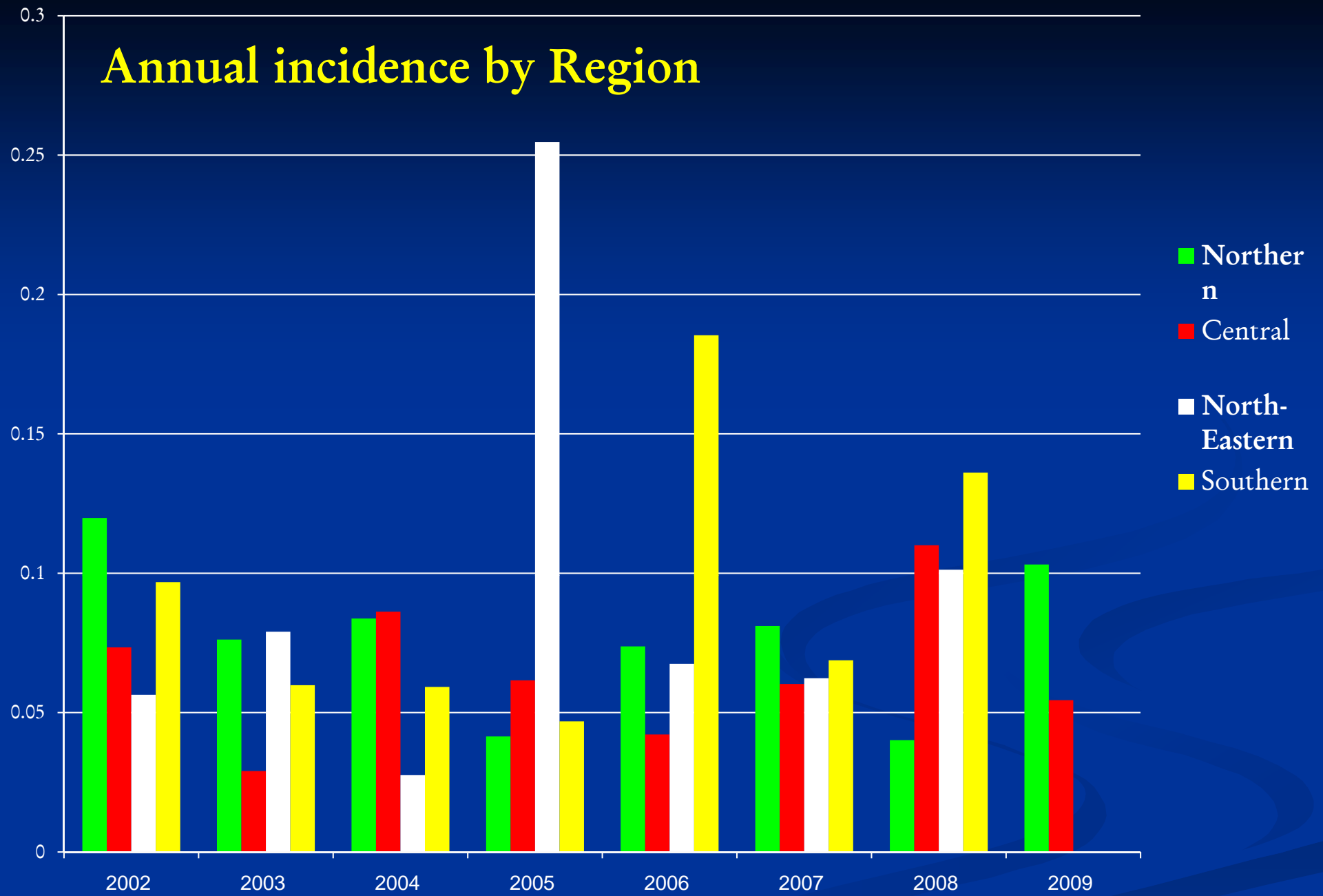
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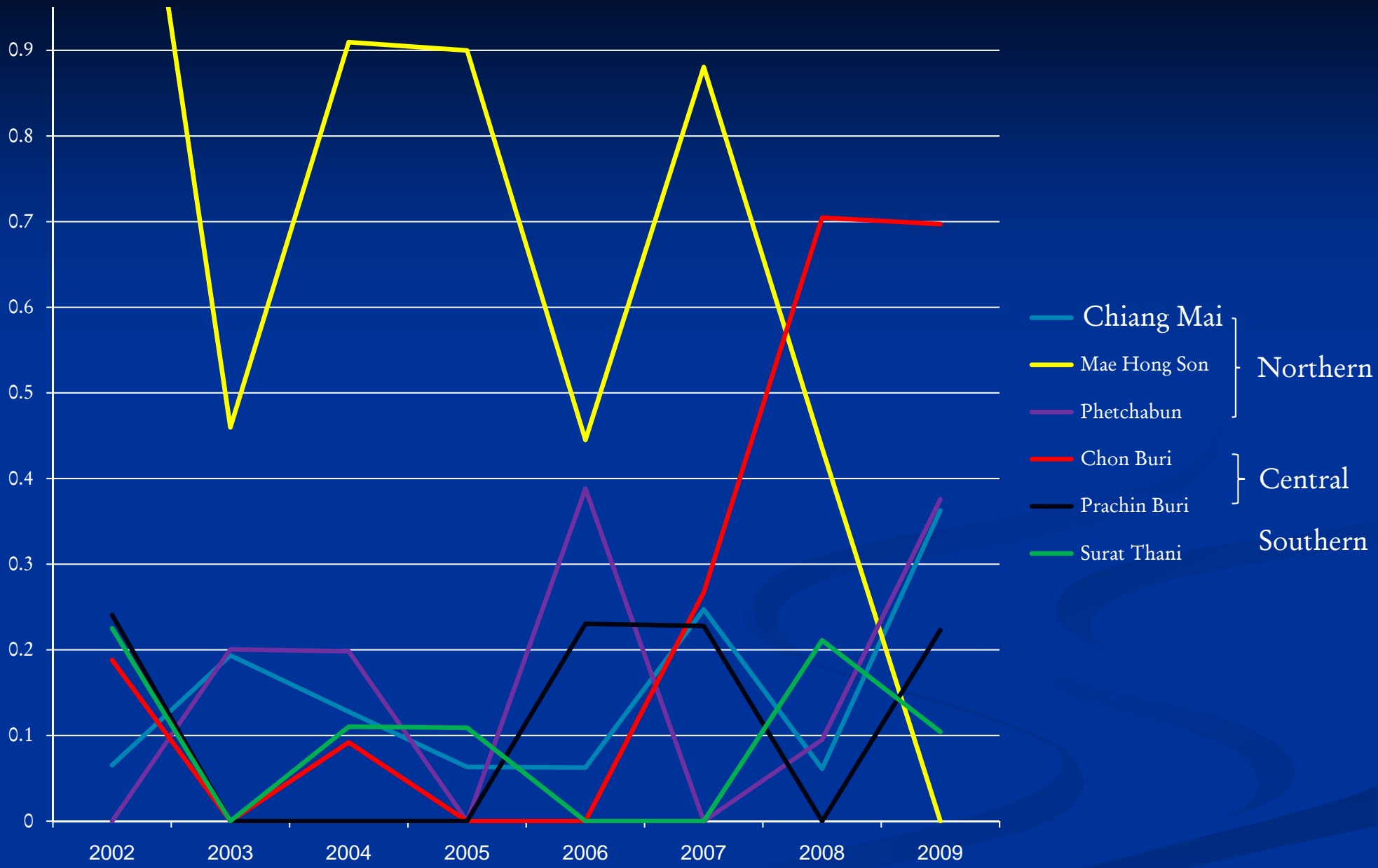


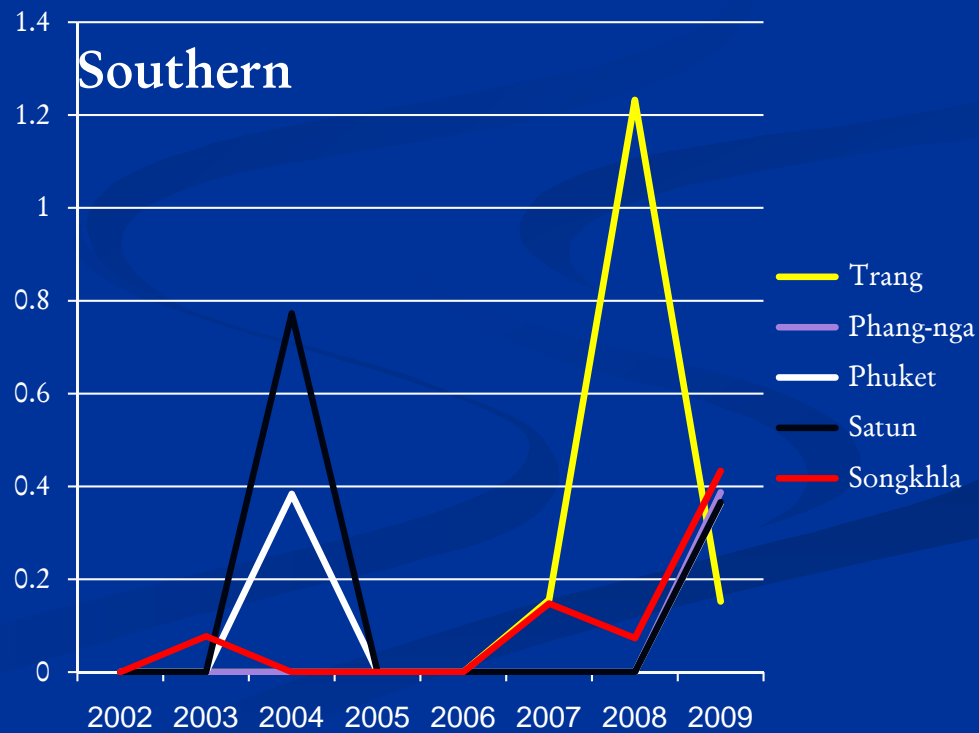
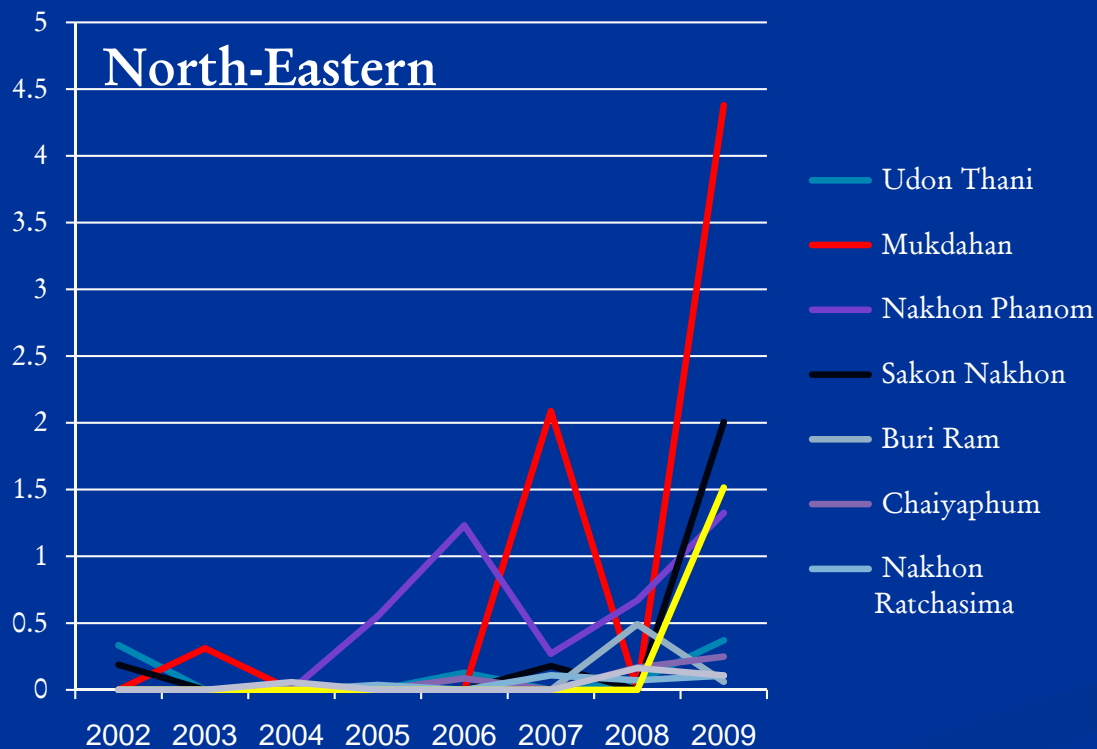
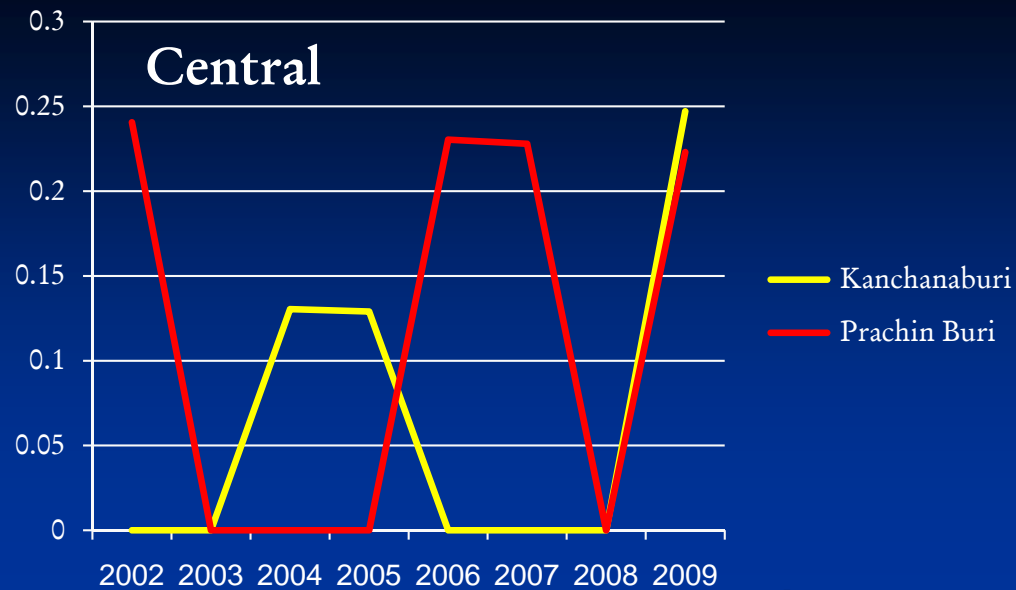
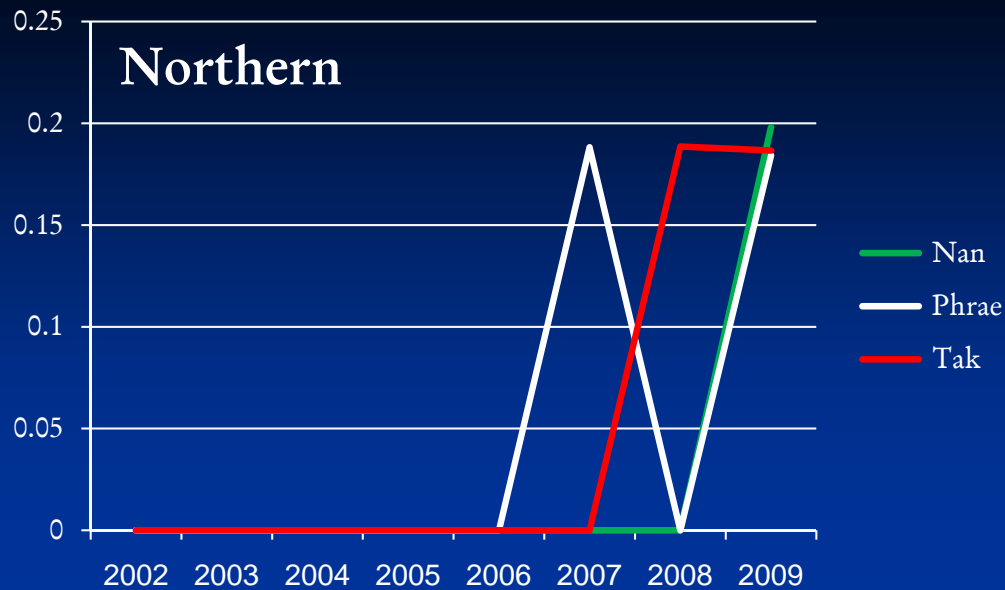
# Japanese Encephalitis Incidence (/100,000 pop) in Thailand, 1976-2009



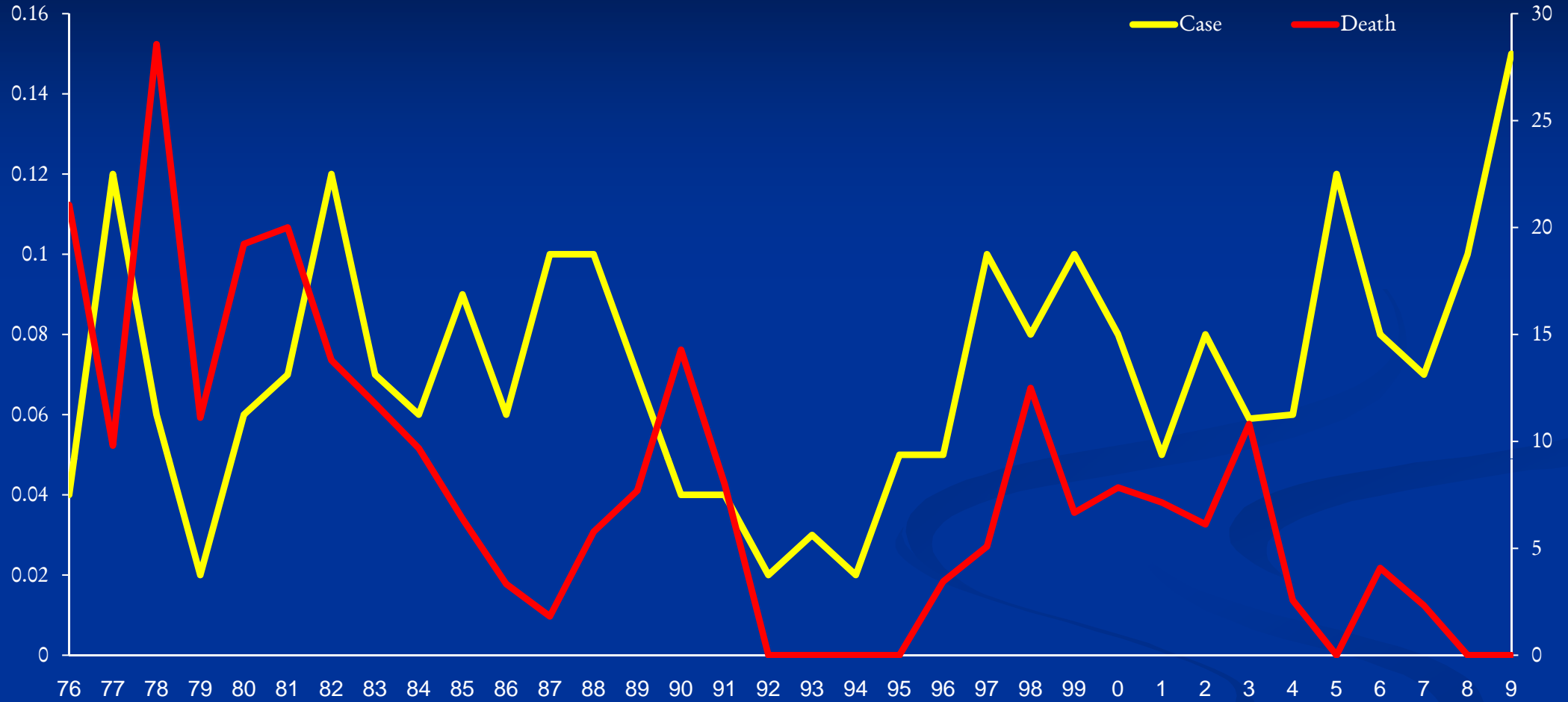
# Annual incidence by Region



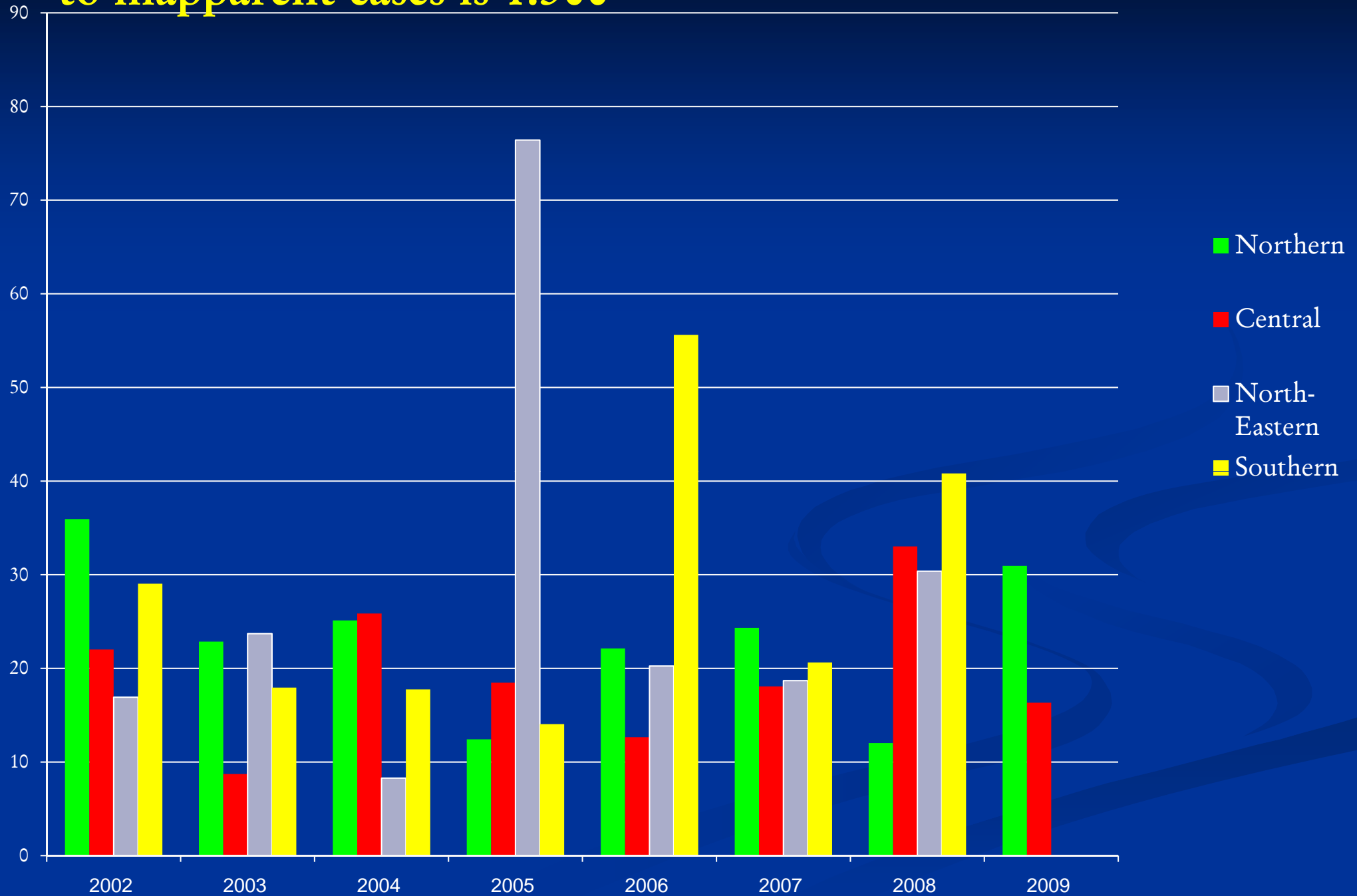




# Annual incidence Assuming the ratio of Apparent to inapparent cases 1:300



# Annual incidence by Region Assuming the ratio of Apparent to inapparent cases is 1:300





## In Thailand

1993 to 1998:

500–700 cases of Viral encephalitis/year and about 34 JE cases/Y was confirmed by serological dx. *J Health Sci. 9 (2000), 342–348*

2002 to 2004

1,453 cases of Viral encephalitis, 155 were confirmed JE by serological test. *Jpn. J. Infect. Dis. 58(2005), 294–296*

dengue and JE viruses co-circulate

among DEN patients 9% of 177 serum, anti-JE IgM (+);  
JE patients 13% of 99 serum and 13% of 37 CSF, anti-DEN IgM (+). *J of clinical Virology 42 (2008) 75–77*

This study

2007, in Nakhon Pathom

- The detection of anti-JE IgM in serum & CSF of viral encephalitis cases confirmed 5 JE cases.
- Thus, local health authorities carried out an entomological survey in the houses of JE patients, as well as DEN and JE serological among inhabitants living within 3–5 kms.
- 206 serum samples were collected at 3 different geographically located districts, Nakhon Chaisi, Kampangsang, Muang.

# Results

- *Recent flavivirus infection was diagnosed for any individual with an IgM result  $>40$  units.*
- *A ratio of dengue IgM to JE IgM  $<0.91$  defined an JEV infection.*
- *A ratio of dengue IgM to JE IgM  $>1.1$  defined an DENV infection.*
- *A ratio of dengue IgM to JE IgM  $<1.1$  and  $>0.91$  defined an unknown flavivirus infection.*

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Case ID	JE	DEN	Ratio*	Conclusion
NP-02	0.161	0.597	3.708	DENV
NP-03	0.321	0.611	1.903	DENV
NP-11	0.697	0.057	0.081	JEV
NP-20	0.044	0.618	14.045	DENV
NP-23	1.176	0.042	0.036	JEV
NP-38	0.139	0.733	5.273	DENV
NP-44	0.138	0.723	5.239	DENV
NP-46	0.954	0.691	0.724	JEV
NP-48	0.307	0.726	2.365	DENV
NP-49	0.991	1.569	1.583	DENV
NP-63	0.566	0.015	0.027	JEV
NP-88	0.526	0.06	0.114	JEV
NP-160	0.85	0.025	0.029	JEV
NP-163	0.106	0.608	5.736	DENV
NP-179	0.082	0.638	7.780	DENV

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JE cases ID

NP-11	60	Y	N
23	42		N
46	16		N



Mosquito species  
*Culex vishnui*  
*Cx. tritaeniorhynchus*  
*Cx. gelidus*  
*Cx. quinquefasciatus*  
*Aedes aegypti*

## JE cases ID

NP-63	71	N
88	38	N
160	13	Y (1997)



Mosquito species  
*Cx. tritaeniorhynchus*  
*Cx. gelidus*  
*Cx. quinquefasciatus*  
*Cx. fuscocephala*