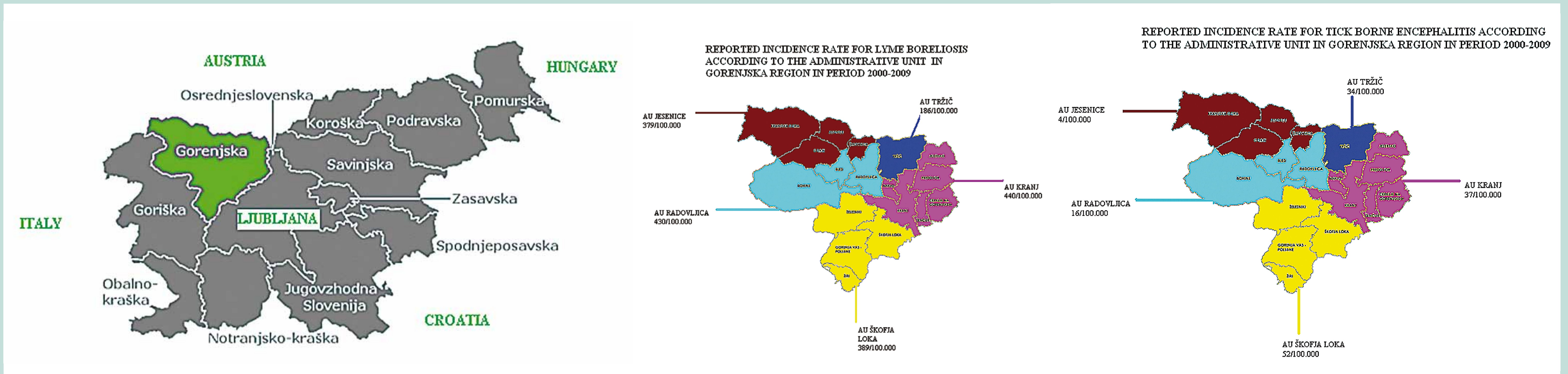


Epidemiological surveillance of tick-transmitted diseases in Gorenjska region



ZAVOD ZA ZDRAVSTVENO VARSTVO
K R A N J

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Background

A large part of Slovenia is endemic for lyme boreliosis (LB) and tick borne encephalitis (TBE). Region Gorenjska is north - western part of Slovenia with 200.000 inhabitants near the border with Italy and Austria. Diseases transmitted by ticks in region are more common than in other parts of Slovenia and are important public health issue.

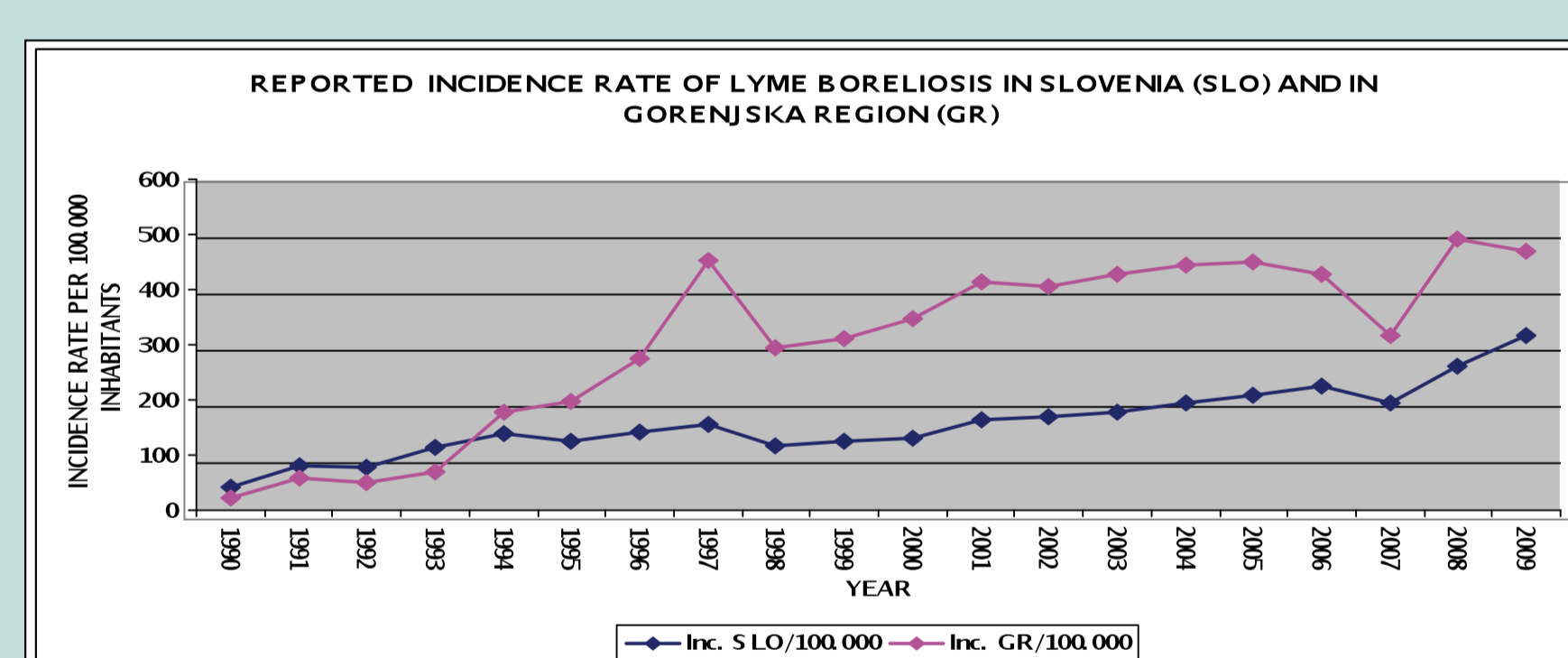
Methods

Lyme boreliosis (LB) and tick borne encephalitis (TBE) are mandatory reported in Slovenia. We collected data from regular epidemiological surveillance of communicable disease in region and made descriptive epidemiological study for the period from 1990-2009.

Results

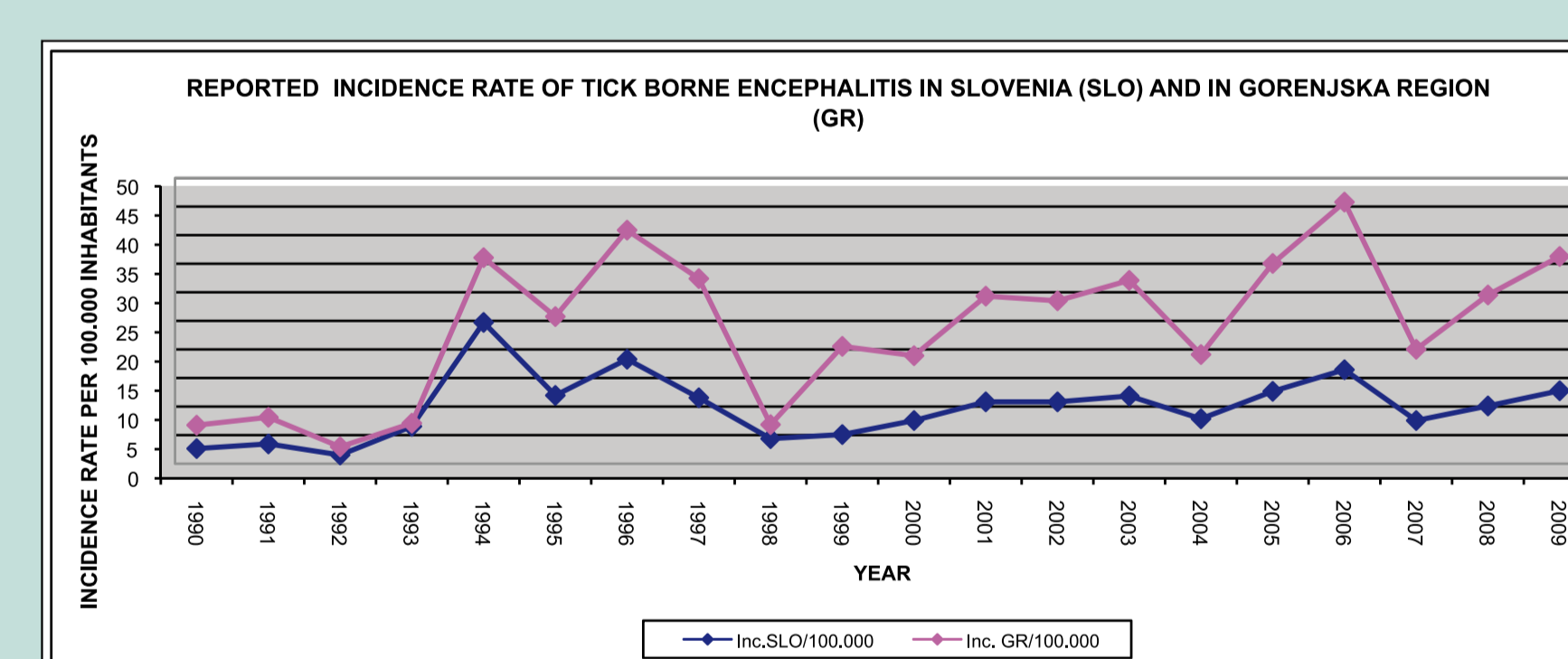
- **Lyme boreliosis (LB)** represented 93% of diseases transmitted by ticks in region. The vast majority of cases were reported as the early form of the disease (erythema migrans), only as clinical diagnose.
- **Tick borne encephalitis (TBE)** represented 7% of the reported diseases transmitted by ticks. All reported cases of TBE had severe form with central nervous involvement and were all hospitalized and all were laboratory confirmed.
- LB and KME have a **seasonal variation**; most applications were in June and July.

LYME BORELIOSIS EPIDEMIOLOGY

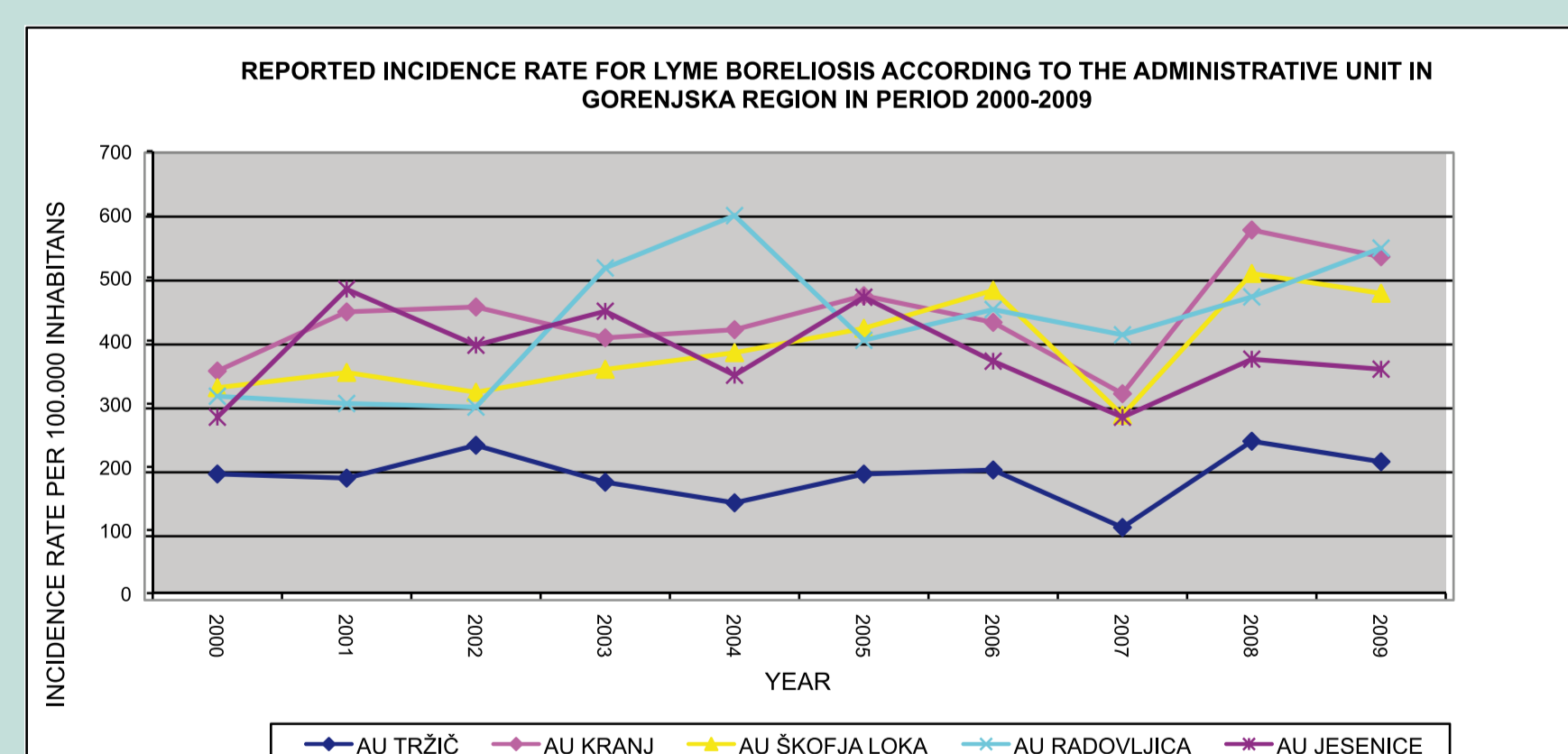


The average reported annual incidence rate for **lyme boreliosis (LB)** in period 1990-1999 was 191 per 100.000 inhabitants in Gorenjska region and 111 per 100.000 inhabitants in Slovenia. The average reported annual incidence rate for lyme boreliosis (LB) in the period 2000-2009 was 419 per 100.000 inhabitants, the average annual incidence in Slovenia was 204 per 100.000 inhabitants.

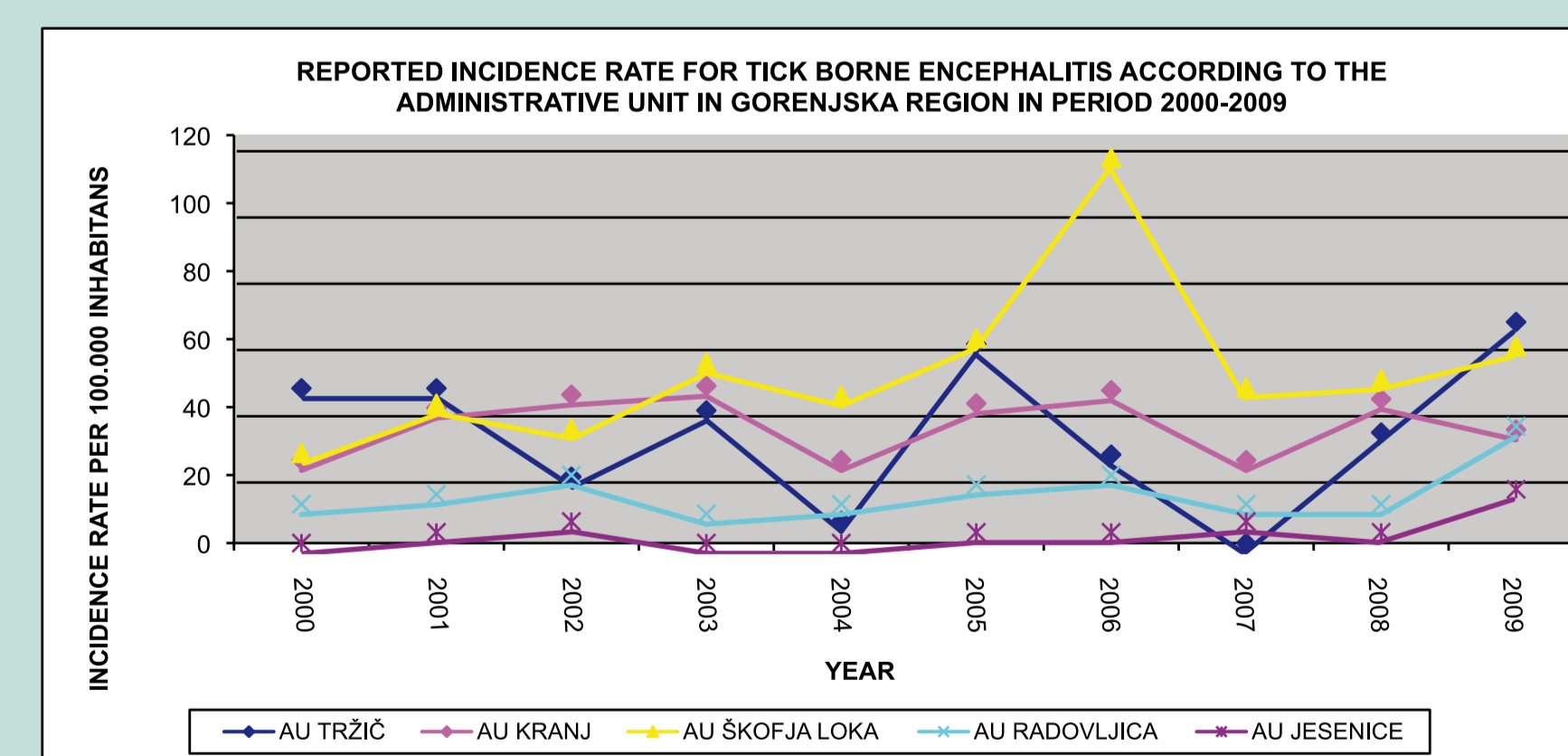
TICK BORNE ENCEPHALITIS EPIDEMIOLOGY



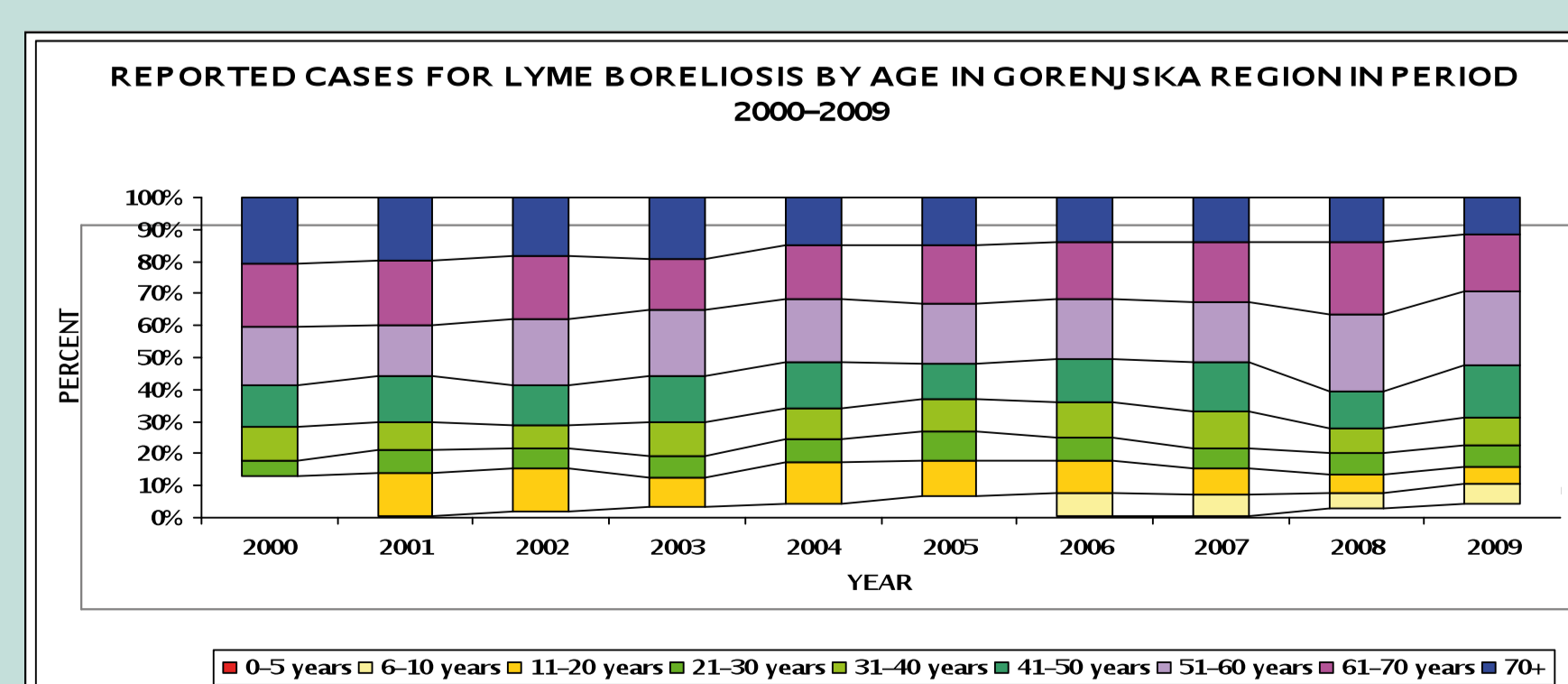
The average reported annual incidence rate for **tick borne encephalitis (TBE)** in Gorenjska region in period 1990-1999 was 21 per 100.000 inhabitants and 11 per 100.000 inhabitants in Slovenia. The average annual incidence rate of reported cases for tick borne encephalitis (TBE) in Gorenjska region in period 2000 - 2009 (31 per 100.000 inhabitants) was significantly higher than the average annual incidence in Slovenia (13 per 100.000 inhabitants).



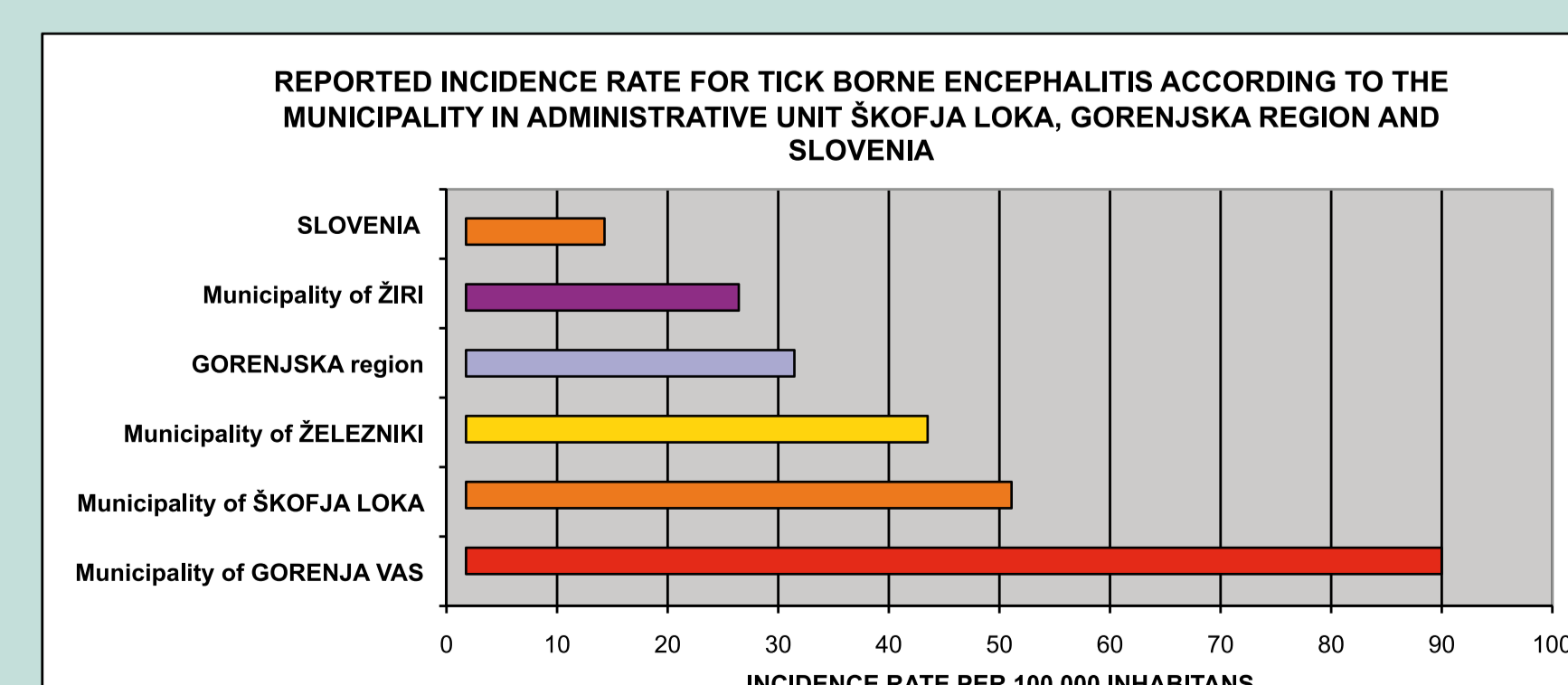
The highest incidence rate was in the year 2004 in AU Radovljica (598 per 100.000 inhabitants) and the lowest in 2007 in AU Tržič (104 per 100.000 inhabitants).



Incidence rates in eastern parts of region (34-52 per 100.000 inhabitants) were much higher than in the western parts (4-16 per 100.000 inhabitants). The highest incidence rate was in the year 2006 in AU Škofja Loka (113 per 100.000 inhabitants).



LB occurred in all age group, but two third of LB cases were in age group older than 40 years. There was no reported case among small children in age group from 0-5 years, in period 2000-2004, in 2005 there was just one case, 4 cases in 2006, 3 cases in 2007, 27 cases in 2008 and 39 cases in 2009.



The highest incidence rate for tick borne encephalitis was in Municipality of Gorenja vas (93 per 100.000 inhabitants) and Municipality of Škofja Loka (52 per 100.000 inhabitants) in AU Škofja Loka.

Conclusions

Diseases transmitted by ticks in region are more common than in other parts of Slovenia and are important public health issue. Regional Public Health Institute Kranj has taken efforts toward better public awareness of diseases transmitted by ticks. We have informed general public, politicians, decision makers, health workers and other groups with preventive measures against ticks and benefits of vaccination against tick borne encephalitis.