

## **STATEMENT**

**Prof. Dr. Jochen Süß**  
**Friedrich-Loeffler-Institute Jena, Germany**

### **Epidemiology of TBE**

In the 30 years between 1974 and 2003, TBE morbidity in Europe increased by some 400%. From 2004 to 2006, another considerable increase was seen in some TBE countries, notably the Czech Republic, Germany, Poland, Slovenia, and Switzerland. Next to social, political, ecological, economic, and demographic factors, the climate change, which has created more favorable living conditions for ticks and has resulted in a further spread of tick-borne diseases, is thought to be responsible for this increase.

Registration requirements for TBE cases differ between countries, as does the definition of what is to be considered a case of TBE. In some countries, the disease is not notifiable at all. This varied picture places major challenges on epidemiologists, rendering assessment of the overall situation difficult. Today, TBE is a notifiable disease in 16 European countries (Austria, Czech Republic, Estonia, Finland, Germany, Greece, Hungary, Latvia, Lithuania, Norway, Poland, Russia, Slovak Republic, Slovenia, Sweden, Switzerland). It is not notifiable in Belgium, France, Italy, Portugal, Spain, Denmark (without Bornholm), and the Netherlands.

Between 1990 and 2007, 157,584 cases of TBE were documented in 19 TBE countries with reliable data – an average of 8,755 cases per year. In Europe excluding Russia, 50,486 cases were reported – an average of 2,805 cases annually. Between 1976 and 1989, a total of 38,572 cases had been registered in Europe including Russia – an average of 2,755 cases per year. In Europe excluding Russia, 20,328 cases had been registered – an average of 1,452 cases annually. A comparison of the two time periods shows an increase in the number of registered TBE cases to 318% in Europe and to 193% in Europe excluding Russia.

In 2006, 3,914 cases were reported in Europe (including Russia: 7,424), the highest number since 1995. In 2007, the number of registered cases in Europe decreased sharply to 2,364 (including Russia to 5,462). This is a reduction to 60.4%. This decrease was observed in nearly all European countries (Croatia, Czech Republic, Estonia, Germany, Lithuania, Poland, Russia, Slovak Republic, Slovenia, and Switzerland). Exceptions were Sweden, Norway, and Hungary, where further increases in incidence were observed, and Latvia, where numbers stabilized at the 2006 level.

For some countries (Czech Republic, Germany, Lithuania, Poland, Slovakia, Slovenia and Switzerland), preliminary TBE data for 2008 also show the same relatively low TBE morbidity as in 2007. The reasons for this decrease are unknown. These extreme fluctuations in the morbidity of TBE within 3 years as observed in most European countries can neither be explained on the basis of

weather phenomena only nor by highly sophisticated published models. Even when looking at the epidemiology of TBE between 1976 and 2008 in general, most questions remain unanswered.

Outside Europe, data from China, Japan, Mongolia, Kazakhstan, and South Korea indicate that TBE is endemic in these countries. Taken together, the above data clearly demonstrate the importance of TBE for the individual as well as for the health care systems of countries endemic for TBE.