



Surveillance of Lyme Borreliosis in Poland during 1999-2008: trends in clinical presentation and diagnosis

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Background

- Lyme borreliosis (LB) is mandatory notifiable in Poland since 1998.
- Epidemiologic surveillance of LB in Poland is based on routine, passive reporting by physicians.
- Case definition was implemented in 2005, compatible with European Union Concerted Action on Lyme Borreliosis (EUCALB) case definitions.
- The aim of the study was to assess the clinical presentation and diagnostic features of cases reported to the routine surveillance system in Poland during 1999-2008.

Material and Methods

- Case report forms filled by public health officers for each notified case were used.
- The Polish case definition criteria were used to classify reported cases.

Box. Case definition used in Poland during 2005-2008

Possible case: not applicable

Probable case: Clinically compatible with a late phase syndrome of Lyme borreliosis, AND exclusion of other aetiology

Confirmed case: Erythema migrans (no need of laboratory confirmation), OR case clinically compatible with a late phase syndrome of Lyme borreliosis, AND valid laboratory confirmation*, OR isolation of *Borrelia spirochete* from clinical specimen.

* laboratory criteria based on criteria proposed by EUCALB

Results

- During 1999-2008, 41,724 LB cases were notified, with almost 10-fold incidence increase from 892 cases (incidence 2.31 per 100,000) in 1999 to 8,255 cases (21.7) in 2008 (Fig. 1 and 2).

Fig. 1. Cases of Lyme Borreliosis registered in Poland, 1999-2008.

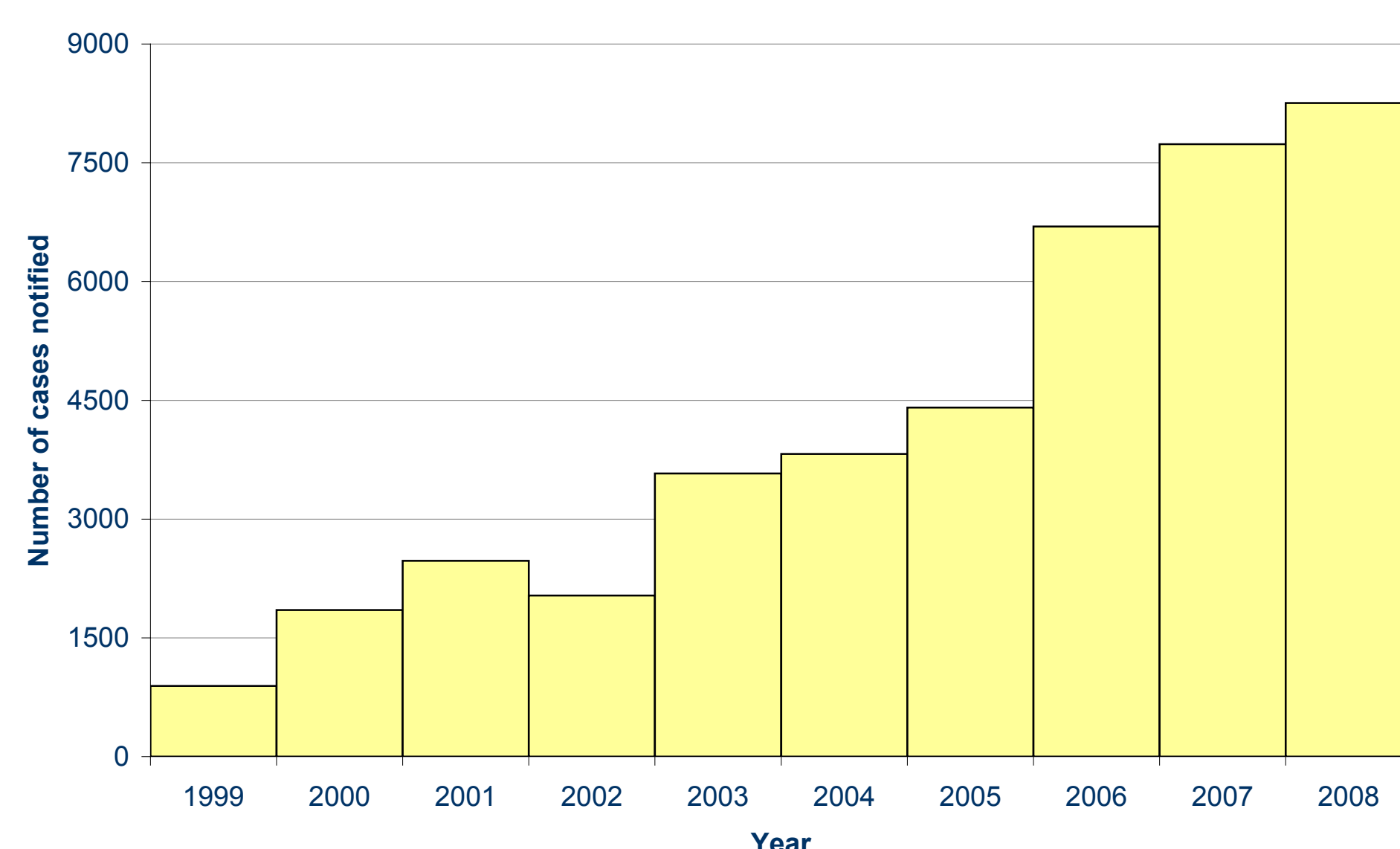
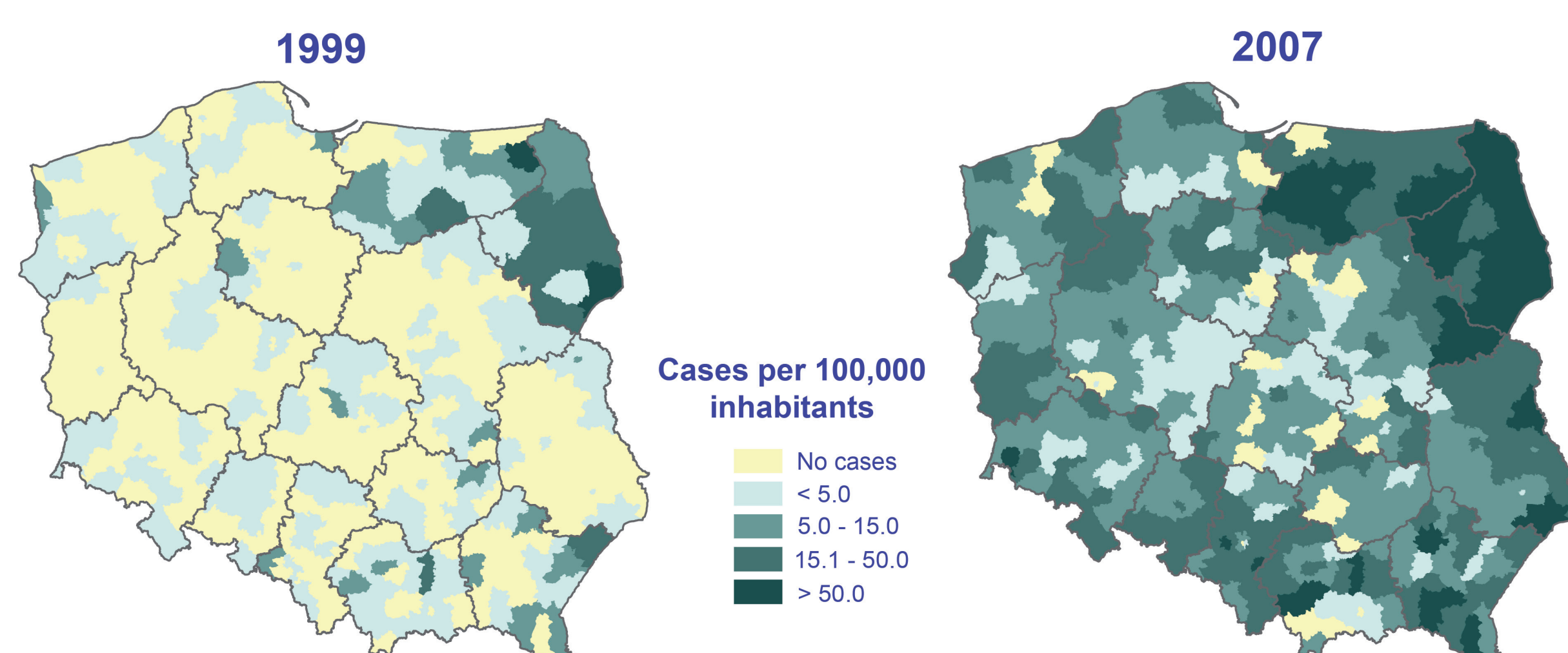
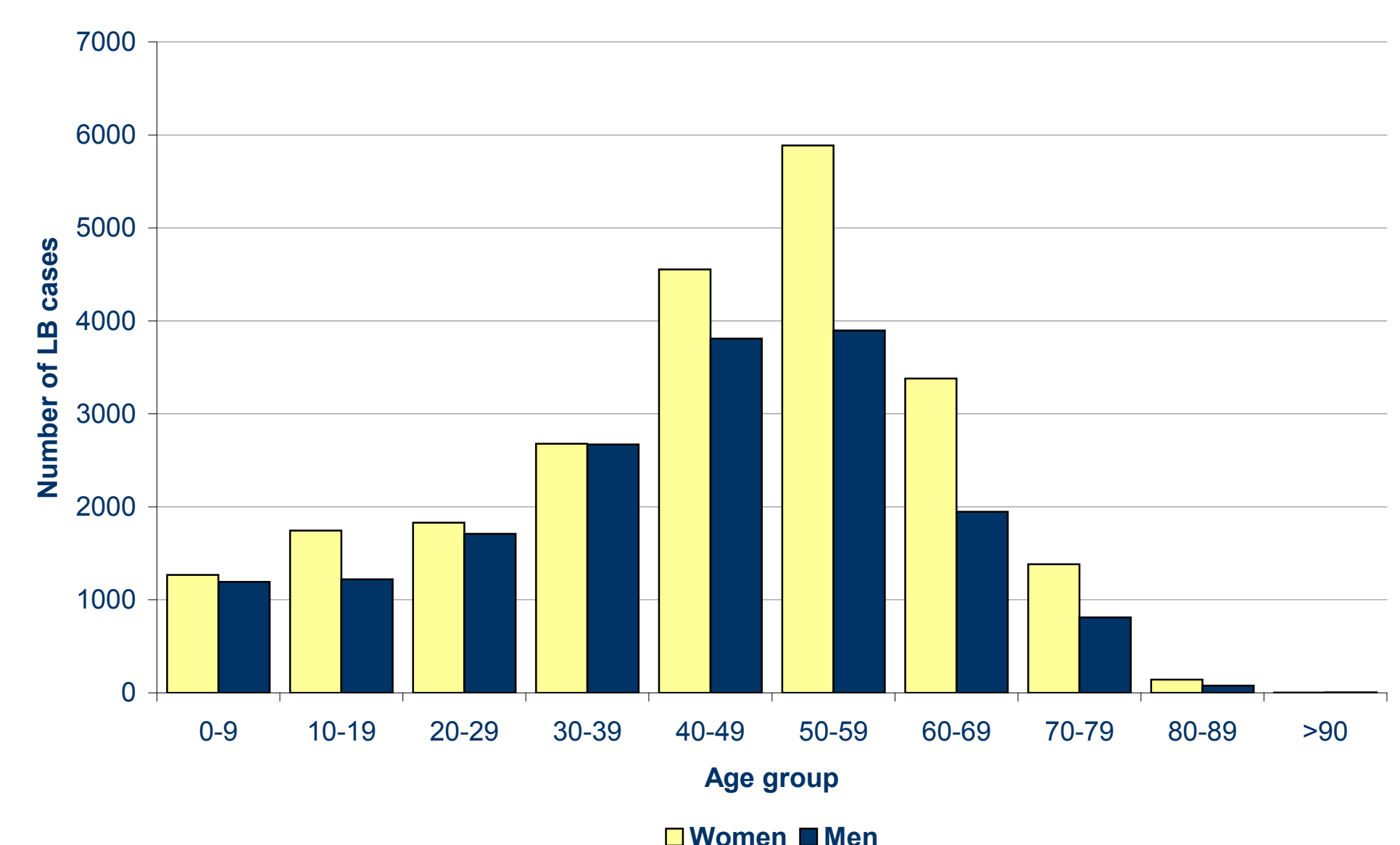


Fig.2. Lyme Borreliosis in 1999 and 2007 Incidence per 100 000 in districts .



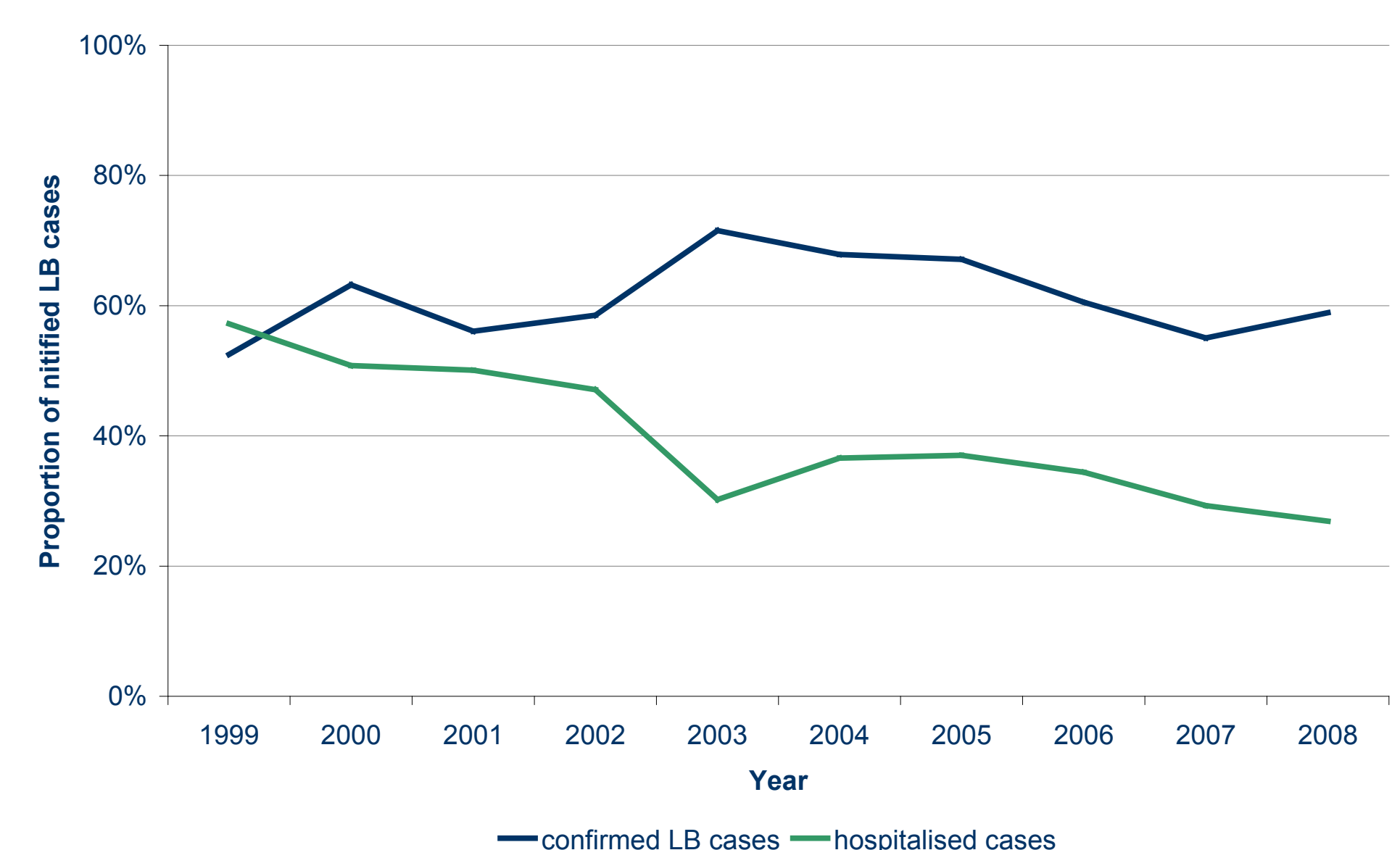
- Of 40,220 case reports analysed, 56.9% cases were among females, and 45.1% were among persons aged 40-59 years (Fig.3).

Fig.3. LB cases by age group and sex, Poland, 1999-2008 (n = 40,220).



- The most commonly reported clinical forms were erythema migrans (EM) (22,706 cases, 56.5%), early neuroborreliosis (2,342 cases, 5.8%), Lyme arthritis (1,002 cases, 2.5%), Lyme carditis (357 cases, 0.9%), and acrodermatitis chronica atrophicans (48 cases, 0.1%).
- Overall, 61.1% reported cases met clinical and laboratory criteria of the Polish case definition.
- The proportion of confirmed cases increased from 53% in 1999 to 72% in 2003, and then decreased to 59% in 2008 (Fig. 4) - consistent with the trend in proportion of diagnosed EM cases.
- The proportion of LB cases hospitalised decreased from 57% in 1999 to 27% in 2008 (Fig.4).

Fig.4. Proportion of notified confirmed and hospitalised LB cases by year, Poland, 1999-2008.



Conclusions

- The present preliminary analysis of 10-year surveillance LB database confirms limited reliability of mandatory notification system in its early implementation phase.
- Sensitivity of LB surveillance has improved during 1999-2008.
- The possible reasons for this improvement are:
 - * ameliorating performance of LB surveillance system,
 - * increased knowledge among physicians and patients on the disease,
 - * implementation of case definitions,
 - * biological reasons for LB increase