

Measles surveillance performance in Poland in 1999-2006

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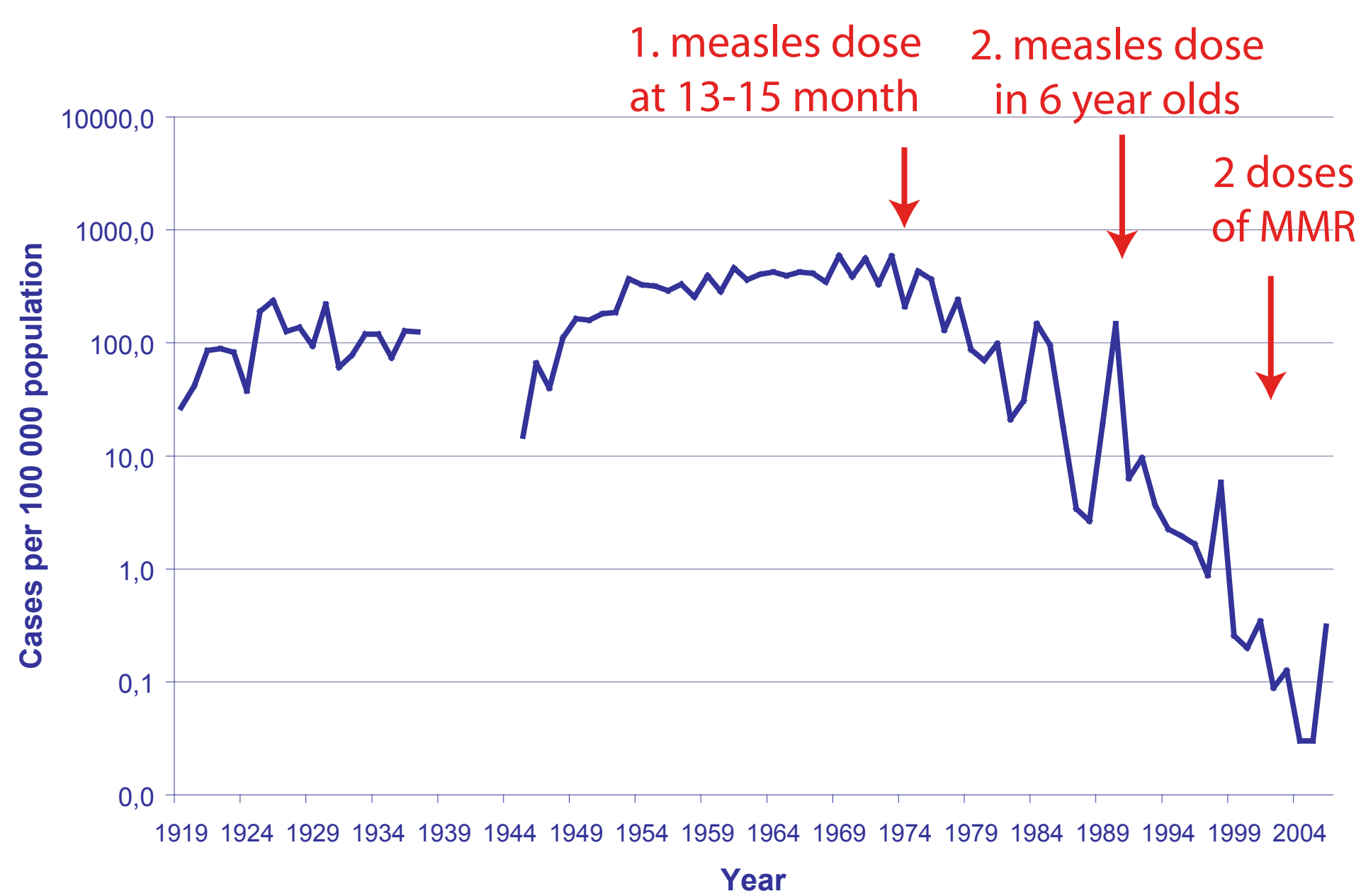
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Background

- Implementation of two doses of measles vaccine led to substantial reduction of measles incidence in Poland in 1975-2006 (Fig. 1).

Figure 1. Cases of measles per 100 000 population, Poland, 1919-2006.



- Individual reporting of measles suspect cases with required confirmation of each case by IgM testing was implemented in 1999.
- The aim of this study was to assess the performance of measles surveillance.

Material and Methods

- Individual reports summarizing investigation of each case in 1999-2006 were used.
- Available information was described, and the completeness and timeliness of reporting was assessed.

Results

- In 1999-2006, a total of 902 measles suspect cases were reported.
- The number of cases varied in the studied period, from 44 cases (incidence 0.12 per 100,000) in 2004 to 290 cases (0.76) in 2006 (Fig. 2).

Figure 2. Suspect measles cases by year, Poland, 1999-2006.

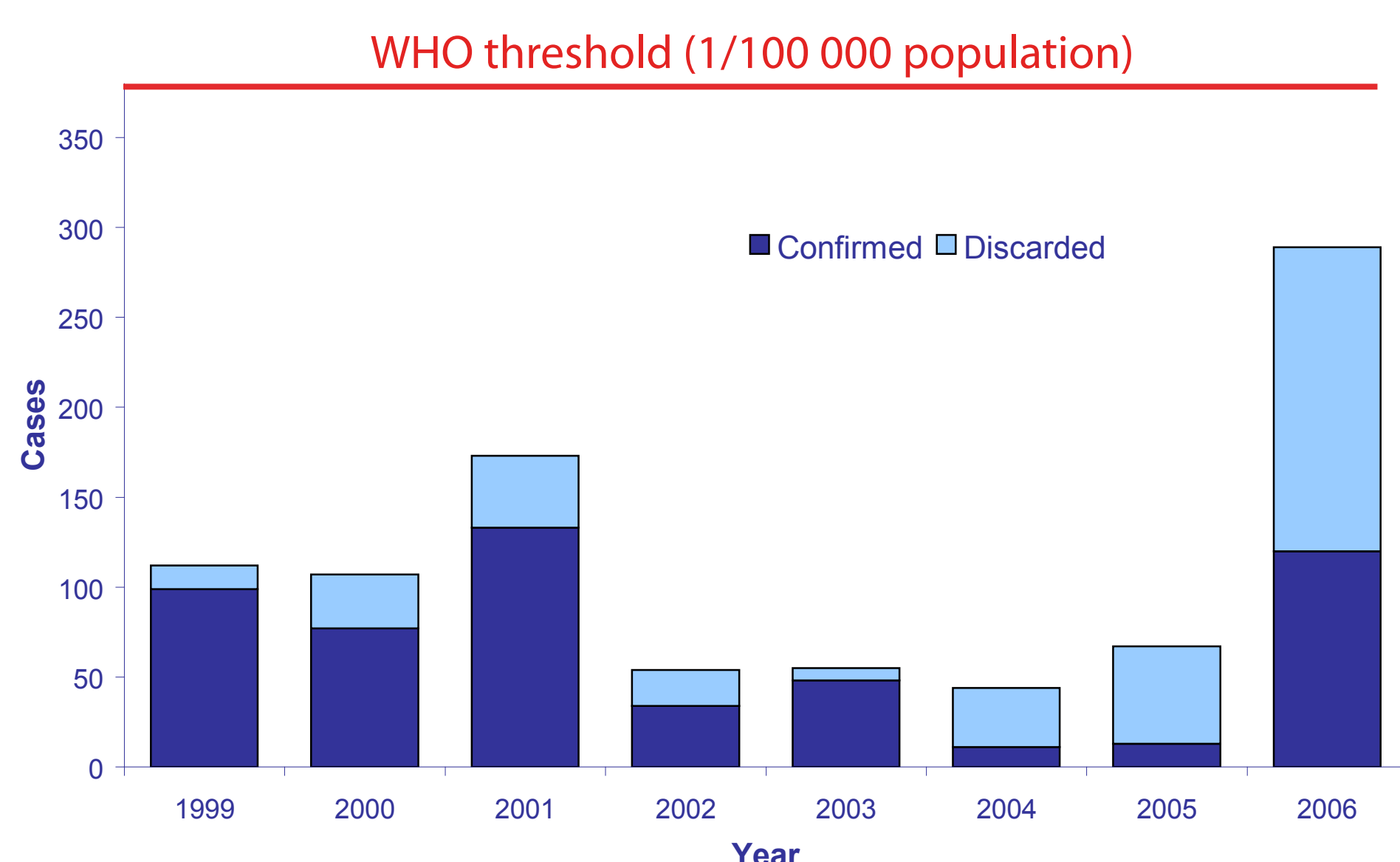
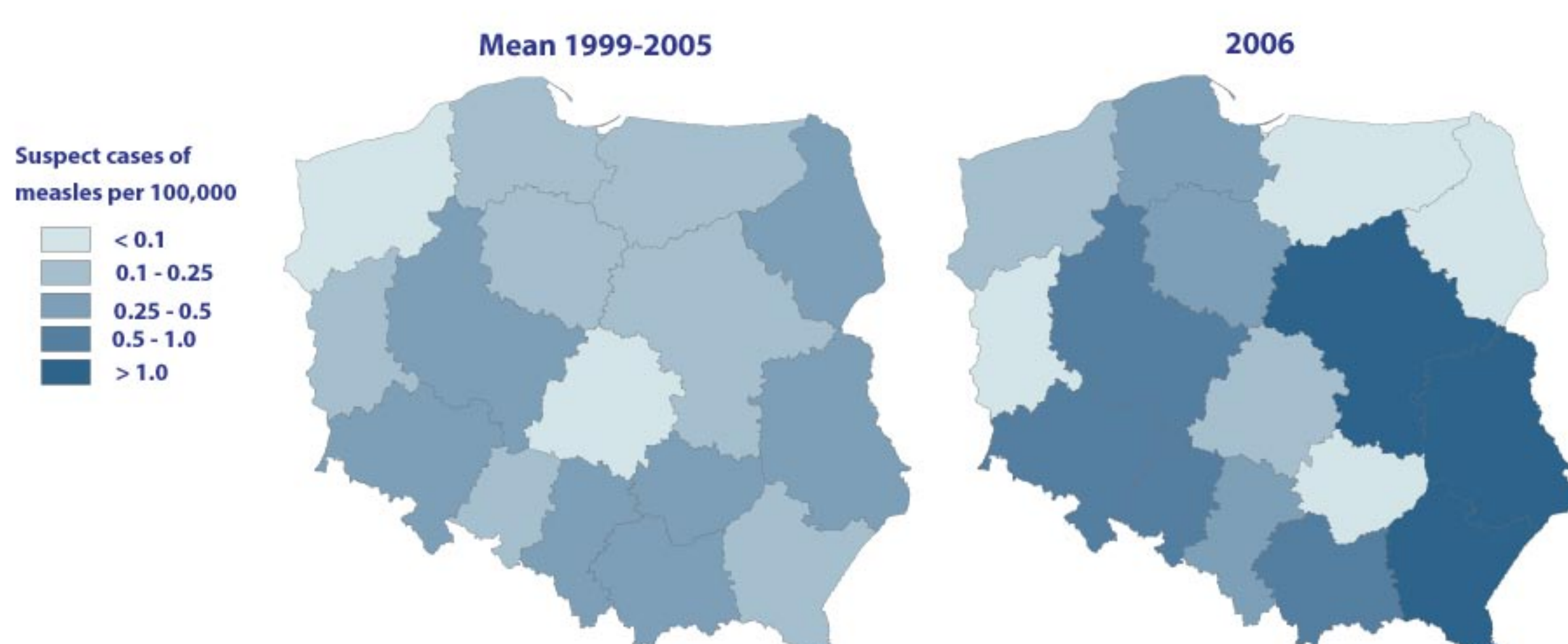
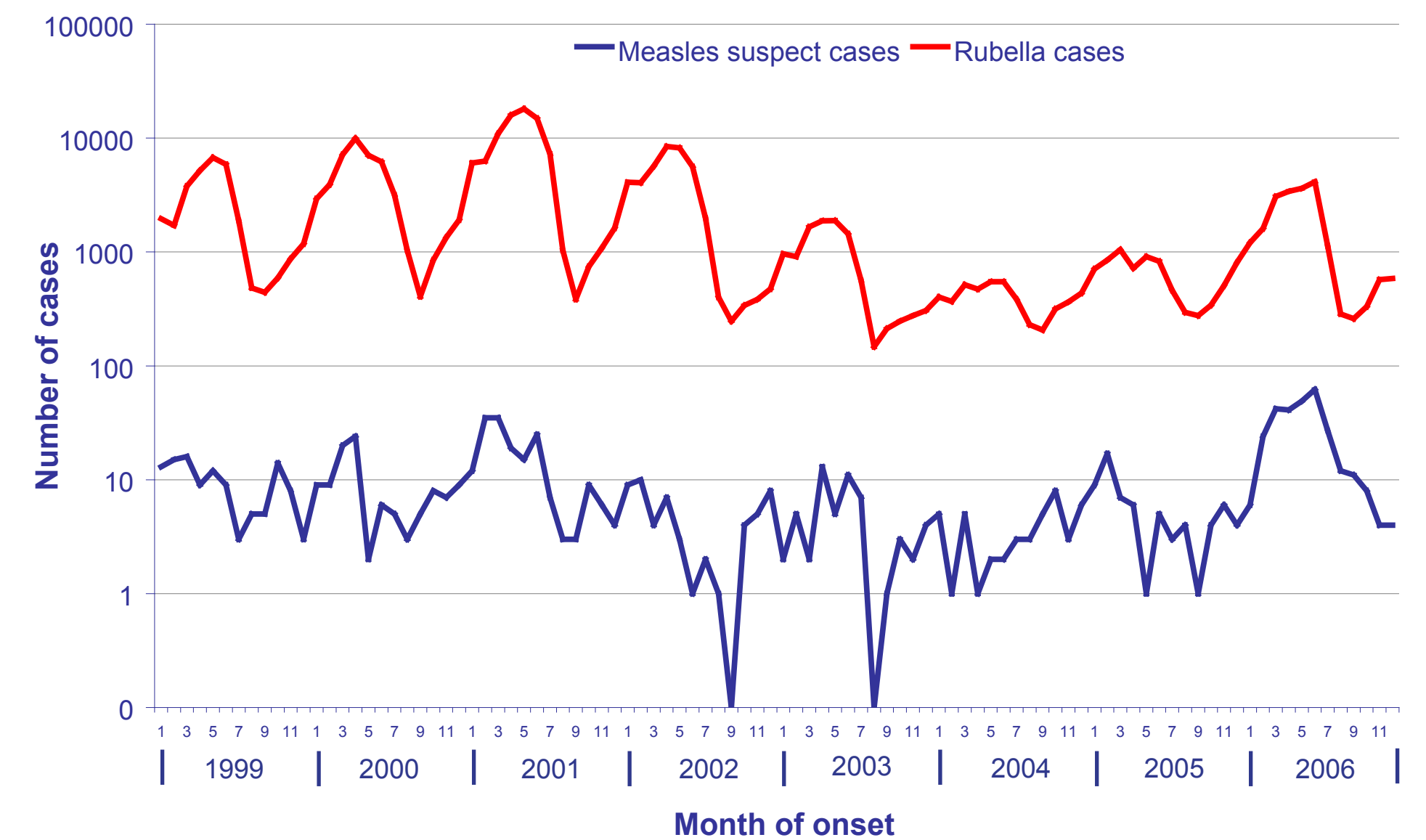


Figure 3. Suspect measles cases by administrative region, Poland, 1999-2006.



- The seasonal distribution of measles suspicions was compared to rubella surveillance, which is still common in Poland (Fig. 4).

Figure 4. Suspect measles cases by month of onset, as compared to rubella cases, Poland, 1999-2006.

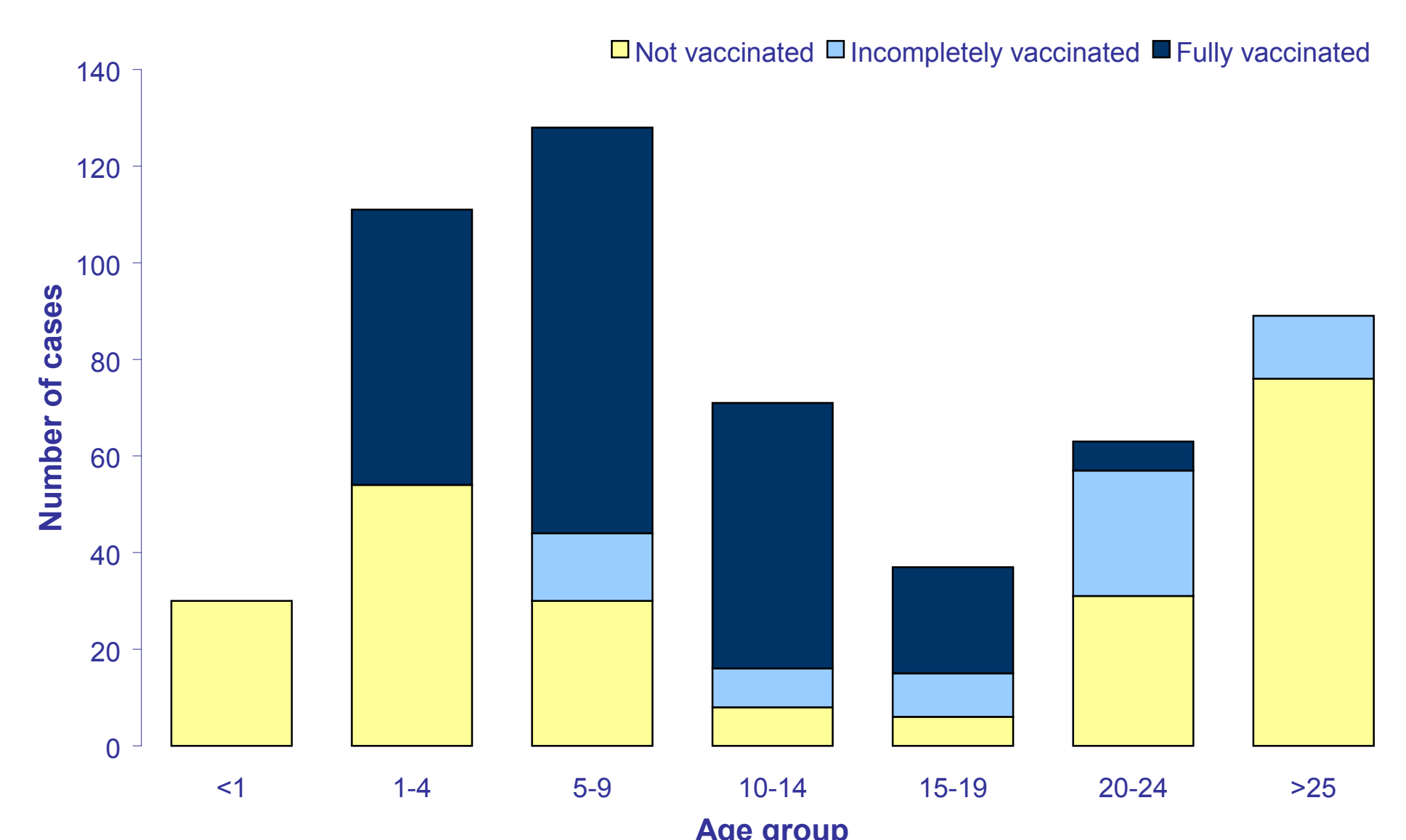


- The mean number of days between rash onset and sample collection increased from 11.8 days in 1999 to 14 days in 2006.
- Investigation of suspicions is presented in following Table:

Investigation of suspect cases	Number of cases (%)
Total	902 (100%)
Confirmation status	
total confirmed	529 (59%)
serologically confirmed	242 (27%)
clinically confirmed	259 (29%)
epidemiologically confirmed	28 (3%)
discarded	373 (41%)
Blood sample collection	
total collected	601 (67%)
referred to WHO accredited lab	377 (42%)

- Out of 529 confirmed cases, 44% were unvaccinated, 13% received incomplete vaccination, and 42% were fully vaccinated (Fig. 5).

Figure 5. Confirmed measles cases by age and vaccination status, Poland, 1999-2006.



- Starting in June 2006 PCR investigation of 33 samples revealed that the local Polish strain belong to D4 genotype.
- In 100 cases the chain of infection was established, 3 clusters involving more than 10 cases were detected.

Conclusions

- Measles surveillance in Poland did not achieve the required sensitivity to detect 1 case of measles suspect case per 100,000 inhabitants and varied greatly across regions.
- The present study indicates the need to improve the sensitivity and timeliness of surveillance in Poland.
- Special attention has to be paid to appropriate sample collection and contact tracing.