

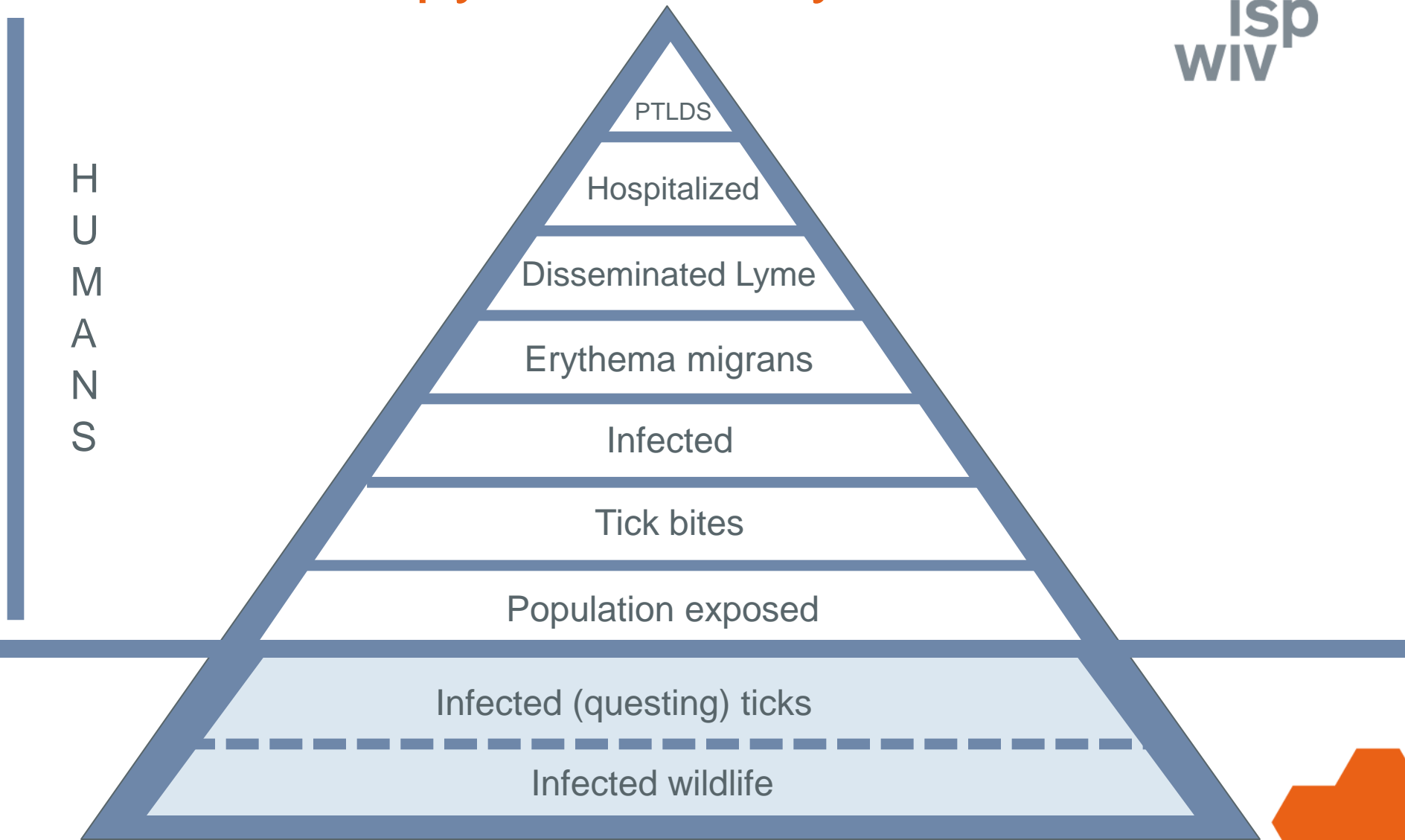
Surveillance strategies for Lyme borreliosis in Belgium

Tinne Lernout

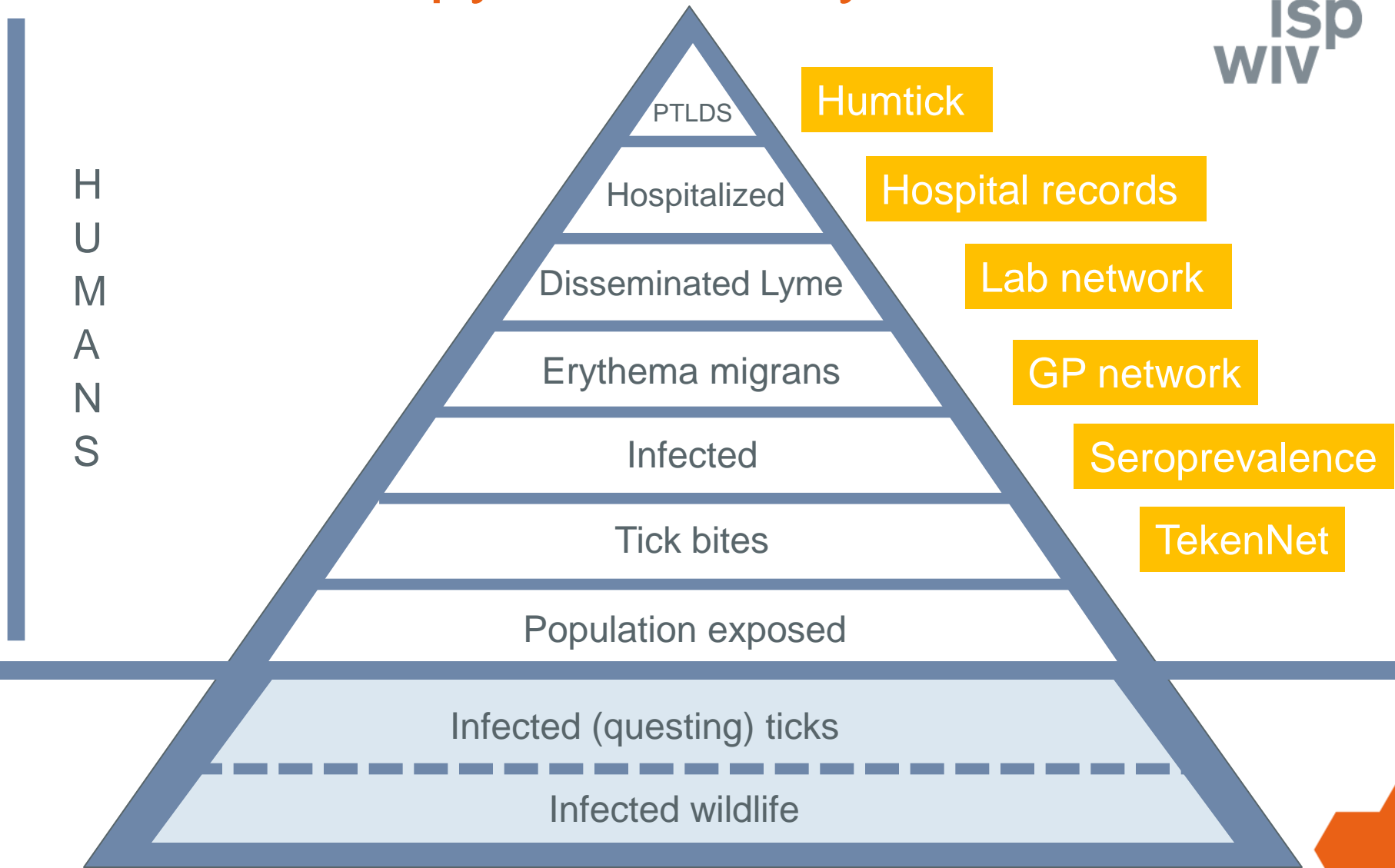
Epidemiology of infectious diseases

19/05/2016

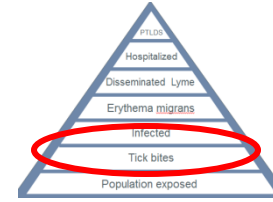
Surveillance pyramid for Lyme



Surveillance pyramid for Lyme



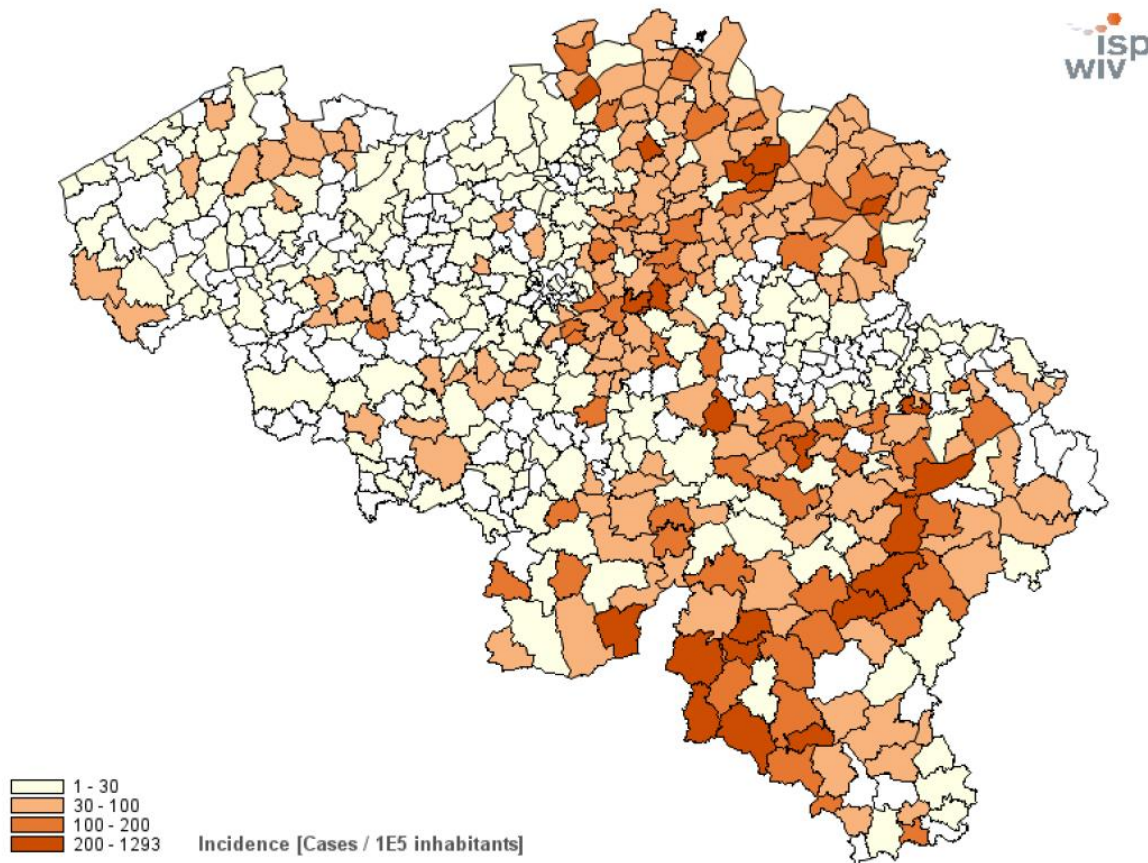
1. TekenNet/TiquesNet



- Launch of website June 2015 and application for mobiles in May 2016
- Over 5000 tick bites reported between July and December 2015, by individuals/groups
- 1 087 “long-term” participants, but only 25% regular participation

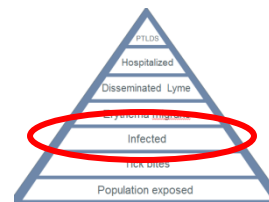
tekennet.wiv-isp.be

- Highest incidence in provinces of Luxemburg (79/100 000), Limburg (61/100 000), Namur (60/100 000) and Brabant (40-42/100 000)



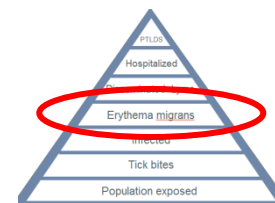
Incidence of reported tick bites by commune, July-December 2015

2. Seroprevalence



- Residual samples (n=3 215) representative of the Belgian population, collected in 2013-2014
- *Borrelia burgdorferi* sl. IgG antibody reactivity by Elisa (Liaison XL) followed by confirmation test (Western Blot) at NRC Lyme (UCL)
- Adjusted* overall seroprevalence of 1.06% (95% CI: 0.67-1.67)
- Estimation on healthy individuals/blood donors in Europe ranges between 1.6% (Slovakia) and 9.5% (Germany)

3. Sentinel network of GPs

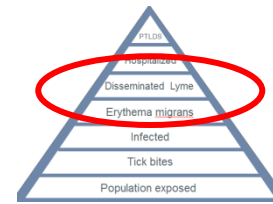


Incidence of consultation rate (and 95% CI) for tick bite and EM per 10 000 patients, sentinel network of GPs

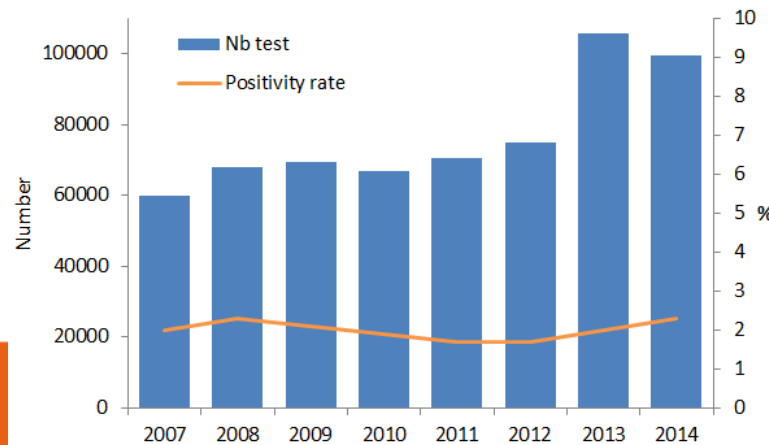
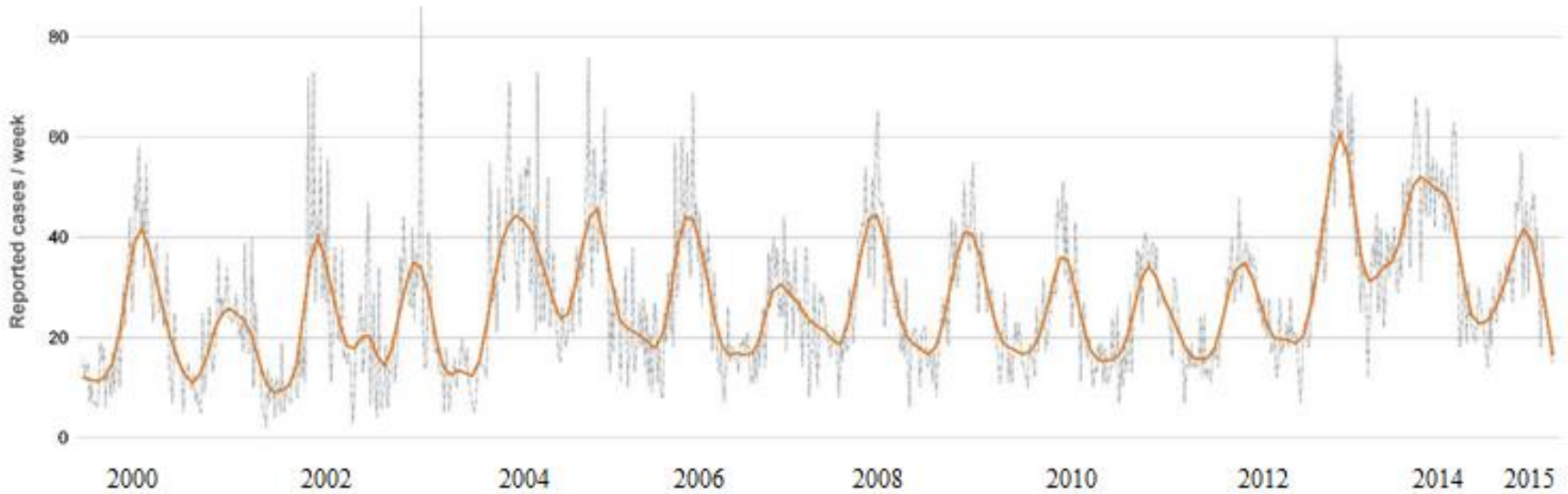
Time period	2003-2004	2008-2009	2015	P value (2008-2009/2015)
Consultation for tick bite	18.6 (17.2-20.0)	18.6 (17.3-20.1)	15.0 (13.2-17.0)	< 0.05
Consultation for EM	8.3 (7.4-9.3)	9.0 (8.1-10.0)	9.8 (8.3-11.4)	NS

→ Estimated 8 000 to 10 000 consultations for EM/year

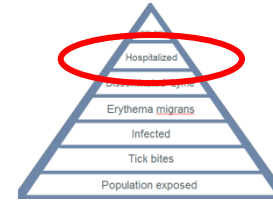
4. Network of laboratories



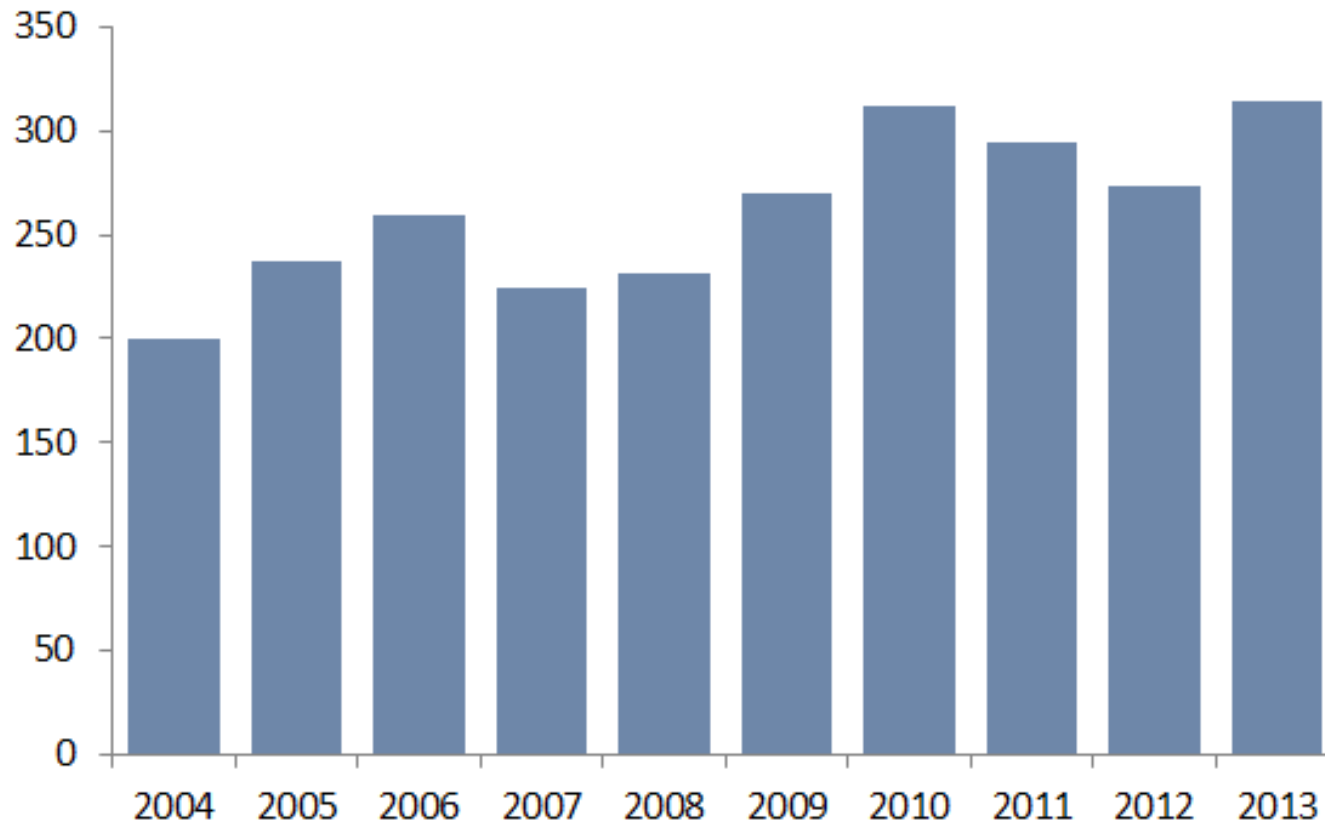
Number of positive serological results by week, sentinel network of laboratories, 2000-2015



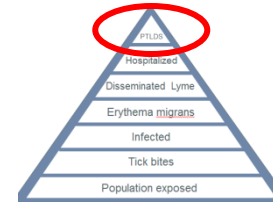
5. Minimal hospital data



Annual number of hospitalisations for Lyme disease (primary diagnosis), 2004-2013, MZG-RHM




6. Humtick



- Study on
 - health and cost burden of Lyme disease in Belgium
 - occurrence of other tick-borne infections
 - occurrence and risk factors of post-treatment Lyme disease syndrome (PTLDS)
- Starting inclusion patients in June 2016
- Partners: UCL, NRC Lyme (UCL – UZ Leuven), CHERMID, RIVM

Methods

- Prospective cohort study (6 to 24 months)

	Group 1 EM	Group 2 Disseminated LM	Group 3 Control group	Group 4 Other TB infection
Characteristics	 <small>CDC</small>	Arthritis Neuroborreliosis Other	No chronic disease Age and gender matched	Fever < 1 month after tick bite
Recruitment	GPs*	NRC/hospitals	Patients	GPs*
Sample size	600-800	100-150	700	Max 500
Blood sample**	Yes			Yes

- Nested case control study for possible risk factors for PTLDS: co-infection, treatment, gender, severity of acute symptoms, ...

*At least 200 GPs in high risk area's for Lyme

** Screening for *N. mikurensis*, *A. phagocytophilia*, *B.miyamotoi*, *Rickettsia* spp., *Babesia*

Conclusions

- Different complementary surveillance strategies and research projects on Lyme disease are ongoing
- Up to 2015, no significant increase of Lyme disease has been identified

Acknowledgements !



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Seroprevalence

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GP network

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Laboratory network

All participating labs and NRC Lyme

Hospital data

Data management, MoH

Humtick

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