

## P0821 **Detection of a significant increase in reported cases of invasive *Streptococcus pyogenes* in Belgium (2008-2017)**

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**Background:** *Streptococcus pyogenes*, also known as toxin-producing group A streptococci (GAS) can cause mild to life-threatening infections. Case fatality rate in GAS invasive infections is very high. Eventough this pathogen is very commonly present in the environment, the past decade was characterised by a low incidence, yet there seems to be a resurgence of the number of severe infections. The aim of this study is to report on the number of invasive GAS infections in Belgium as reported by the sentinel network of laboratories by the National Reference Center together with the Belgian Public Health Surveillance (WIV-ISP).

**Materials/methods:** The number of invasive GAS infections per year, was compared over a time period of 10 years. Trends over time, regions, age-groups and inter-annual differences were analysed using a negative binomial regression with a random intercept for the laboratories.

**RESULTS:** The number of participating laboratories that reported invasive GAS infections fluctuated between 41 to 50 over a time period of 10 years. In total they registered between 128 and 256 invasive GAS cases per season. The increasing trend in seasonally reported GAS cases was shown to be significant (regression coefficient=0.056; 95%CI 0.029-0.083; p<0.001) and mainly attributable to an increase in the Flemish region of Belgium (p<0.05) compared to the Wallonia and Brussels region (see Figure 1). The highest proportion of invasive infections was detected in the older age group, >65 years, i.e. 39.8%, followed by 15-65 years (38.9%). 20.7% of cases were detected in young children and preadolescents (0-14 years of age). The age distribution remained stable throughout the investigated time-period and was found to be significantly associated with the Flemish region.

**Conclusions:** The epidemiological surveillance in Belgium reveals a significant increase of number of reported cases of invasive *S. pyogenes* infections. Since 2017, medical practitioners in Flanders, but not in other two regions of Belgium, have a statutory duty to report suspect cases of invasive GAS infections. Further extensive monitoring is warranted to closely follow-up on this potential public health threat.

