OBJECTIVE
To evaluate paediatric inappropriate rate of emergency departments (ED) and to determine associated factors.

METHOD
An observational prospective survey was performed in 12 Belgian hospitals during a two-week period in autumn 2010. All children (<15 years) attending ED were included. At least one of the following criteria had to be met for considering an emergency attendance as appropriate: child referred by doctor or police, brought by ambulance, need technical examination, orthopaedic treatment, medical observation, in-patient or death. Crude odds ratios and 95% confidence intervals (CI) were calculated. Logistic regression was used to adjust for potential confounding factors.

RESULTS
Overall, 317 children were included in the study, the median age was 3.3 years (Interquartile range (IQR) 7). Among them, 53.5% were male. One patient died during the recording period. The characteristics of the attendances are presented in Figure 1.

The inappropriate use rate was 39.9% (1244 cases). The median length of stay was 40 minutes (IQR 48) for inappropriate and 98 minutes (IQR 100) for appropriate visit (p<0.001). The relationships between chronic condition or gender with inappropriate use were not statistically significant (respectively p=0.378 and p=0.443). The multivariate model showed that disadvantaged families did not present a higher risk for inappropriate use after controlling for other variables. The associated factors with the inappropriate use are presented in Table 1.

DISCUSSION
As shown in Table 2, the prevalence of inappropriate use for pediatric patients varies largely in function of the definition of appropriateness, pediatric patient and the organization and provision of health care. However, developing actions are needed to improve the access to primary care, to educate parents and to aware primary care providers.

CONCLUSIONS
Almost 40% of all paediatric ED attendances have not required hospital stay. The risk of an inappropriate use of ED by paediatric patients is predominantly associated with organizational and cultural factors. Access, equity, quality of care, and medical human resources availability have to be taken into account to design financially sustainable model of care for those patients. Furthermore, future research is needed to explain reasons why parents visit ED rather than using of primary care services.