Title: Clinical profile of adult patients with invasive pneumococcal disease (IPD) during a 3 year surveillance in Belgium

Body: Objectives: A 3 year prospective surveillance program on invasive pneumococcal disease (IPD) in Belgium provided data for 1332 patients. The data were analyzed to identify the clinical presentation and profile of patients hospitalized with IPD. Methods: Prospective, active surveillance of IPD in hospitalized adults. Isolation of S. pneumoniae from culture of a normally sterile site by hospital microbiological laboratories. Fifty hospitals (44% of acute hospitals) participated in the surveillance network. Results: In 2009, only patients older than 50 y with IPD were targeted. In 2010 and 2011 the study was extended to adults from 18 y. A total of 1875 patients were included and of these, 1332 patients were evaluable. 76.5% of patients had 1 or more underlying diseases. The presence of comorbidities increased by age range from 53.6% in 18-49 y, 74.1% in 50-64 y and 84.5% in 65+. The average number of comorbidies increased with age from 0.7 in 18-49 y to 1.8 in 65+. The most frequent underlying diseases were COPD (25.2%), cancer (22.3%), heart failure (18.7%) and renal insufficiency (13.4%). The mortality rate increased with the presence of comorbidities from 9.3% to 17.6% (p<0.0001). The presence of heart failure, renal insufficiency, hepatic disease and alcoholism significantly increased mortality, whereas COPD, cancer, HIV, immunosuppression did not increase mortality. Conclusion Underlying diseases are present in 8/10 patients with invasive pneumococcal disease and their presence increases the mortality rate.