Title: Trends in the asthma hospitalization rates among young adults in Spain

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Body: Objective: To assess changes in incidence, length of hospital stay (LOS) and costs, of patients hospitalized for acute exacerbations (AE) between 2002 and 2010. Methods: We included all young adult patients (from 16 to 45 years) hospitalized for AE between 2002 and 2010 (ICD9-CM codes 493.0x-493.9x). The data were collected from the National Hospital Discharge Database (entire population). We compared the incidence, length of hospital stay (LOS) and costs between two points in the time 2002 and 2010. Results: We included a total of 2,792 patients. Overall crude incidence decreased from 4.12 to 3.68 AE per 100.000 inhabitants from 2002 to 2010 (p<0.05). There was no difference for sex. The mean LOS was 5.36 (SD 4.02) days in 2001 and progressively decreased to 5.16 (SD 5.39) in 2010 (p<0.05). During the study period, the mean cost per patient decreased from 2183.44 (SD 783.15) to 2564.32 (SD 1933.98) euros (p<0.05). Conclusions: Our results suggest a decrease in the incidence of hospital admissions for AE among young adults patients with concomitant decrease in LOS. The mean cost per patient also decreased significantly. Better primary care management of disease may explain the improvement in the incidence and outcomes.