## European Respiratory Society Annual Congress 2013

Abstract Number: 3965 Publication Number: P5102

Abstract Group: 1.2. Rehabilitation and Chronic Care Keyword 1: COPD - exacerbations Keyword 2: COPD - management Keyword 3: Exacerbation

**Title:** Factors associated with exacerbation in a general practitioners'-based Swiss chronic obstructive pulmonary disease (COPD) cohort

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Body: Background: Patients with COPD often suffer from acute exacerbations, which can require hospitalization. Frequent COPD exacerbations are related with higher mortality. Aim: Our objective was to investigate predictors for exacerbation in a general practitioners' (GP's) based Swiss COPD cohort. Methods: COPD patients from 23 Swiss cantons were screened and enrolled into our cohort. Demographic data, medical treatment, spirometric parameters and exacerbation history were collected and recorded for 24 months. Patients with presumed mild to very severe COPD (GOLD stages I-IV) were seen by their GPs at least twice a year during the study period. Results: Among 139 GPs, 413 patients (64% male, mean age 68 years), (No COPD 26%, GOLD Stage I 1%, II 23%, III 38%, IV 12%) were analyzed. During the study period of two years, 239 exacerbations occurred (57 patients with > 3 exacerbations, 182 patients with 1-2 exacerbations and 235 patients with no exacerbations. Chronic cough (Hazard Ratio HR 2.29, p =0), sputum production (HR 3.28, p =0) and severe to very severe dyspnea (HR 2.89, 3.96, p =0) were associated with high risk of exacerbation. Cardiovascular diseases (HR 1.45 p =0.02), previous rehabilitation (HR 2.96, p =0), hospitalization (HR 1,709, p = 0.09) and a history of exacerbation at baseline (HR 7.66 p =0) were significantly associated with a future exacerbation. Conclusion: Exacerbations in the past and symptoms such as sputum production, dyspnea and cough seem to be predictors for future exacerbations in patients with COPD treated in primary-care settings.