Significant reduction of AECOPD hospitalisations after implementation of a public smoking ban in Graubunden, Switzerland

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PURPOSE
Only a few studies have examined the effect of public smoking bans on respiratory conditions. These showed reduced admission rates for different respiratory diseases.

OBJECTIVE
The objective of the present study was to evaluate the effect of the public smoking ban implemented in Graubünden, Switzerland, on the incidence of acute hospital admissions for acute exacerbated chronic obstructive pulmonary disease (AECOPD).

METHODS
We searched a database, including all nationwide hospitalisations in Switzerland, for AECOPD and analysed incidence rates before and after introduction of the smoking ban using Poisson regression and incidence rate ratios (IRRs).

RESULTS
After introduction of the smoking ban, we observed a significant 22.4% decrease in the incidence of AECOPD hospitalisations in Graubünden (IRR=0.78 (0.68 to 0.88), p<0.001). In the same period, the incidence of AECOPD hospitalisations only slightly decreased by 7.0% in the rest of Switzerland (IRR=0.93 (0.91 to 0.95), p<0.001). The observed reduction in AECOPD hospitalisation incidence was significantly greater in GR than in the rest of CH (p=0.008).

CONCLUSIONS
Our study supports the limited body of evidence demonstrating that a reduction of secondhand smoke by legislated bans on smoking is associated with reduced rates of admission to hospital for respiratory conditions, hereby shown for AECOPD, in addition to the meanwhile well-documented impact on cardiovascular disease.