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Title: Prediction of the clinical course of COPD using the old and the new GOLD classification

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Body: Using data from The Copenhagen General Population Study and The Copenhagen City Heart Study comprising more than 50,000 individuals, we identified 6,628 persons older than 40 years of age with spirometrically defined COPD (FEV_1/FVC ratio below 0.7 and no asthma). These individuals were subdivided according to the GOLD 2007 into stages 1, 2 3 and 4 (based on spirometry only) and according to the GOLD 2011 (using spirometry, mMRC-dyspnea scale and the number of exacerbations in the previous year) into stages A, B, C and D. They were followed for the subsequent year with regard to important COPD outcomes.

Distribution of individuals with COPD according to the 2007 and 2011 GOLD stratification and the 1-year prognosis

GOLD stage	n	FEV1%predicted at baseline	% on inhaled medication	% with exacerbation	% hospitalized due to COPD	% dead
GOLD 1	3306	95	5.5	2.6	0.2	0.7
GOLD 2	2851	68	18.4	4.2	1.3	1.0
GOLD 3	426	43	50.2	10.8	7.7	2.3
GOLD 4	45	25	73.3	22.2	24.4	2.2
GOLD A	5126	84	8.5	2.0	0.3	0.6
GOLD B	936	74	26.6	3.7	3.0	2.0
GOLD C	271	52	32.1	23.2	2.6	0.7
GOLD D	295	43	62.0	20.3	13.6	3.4

Conclusions: 1. The distribution of the individuals according to the two stratifications differs considerably 2. With regard to prediction of exacerbations, the A-D GOLD 2011 classification performes well 3. Compared with the group D, the lack of symptoms in group C is, not surprisingly, associated with lower frequency of treament with inhaled medications, but also with a sligthly higher frequency of exacerbations 4. Presence of dyspnea and a low level of FEV_1 are both predictors of high risk of hospitalisation/casualty ward visit due to COPD, whereas dyspnea seems to be a better predictor of all cause mortality than FEV_1.