Abstract: **P4244**

Incidence of pulmonary embolism, associated mortality and bleeding risk in england between 1998-2015

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Background: While pulmonary embolism (PE) is common in the ageing population of developed countries, reliable data on PE incidence, associated bleeding risk and mortality is scarce. We analyzed, therefore, the Hospital Episode Statistics for England to investigate the trends over the last two decades.

Methods and results: Between 1998 and 2015 there were 567'209 hospitalizations with a recorded diagnosis of PE in England. The PE incidence almost doubled over this period (from 50.2 in 1998 to 97.8 per 100'000 population/year in 2014) and the increase in PE incidence was evident in all age categories.

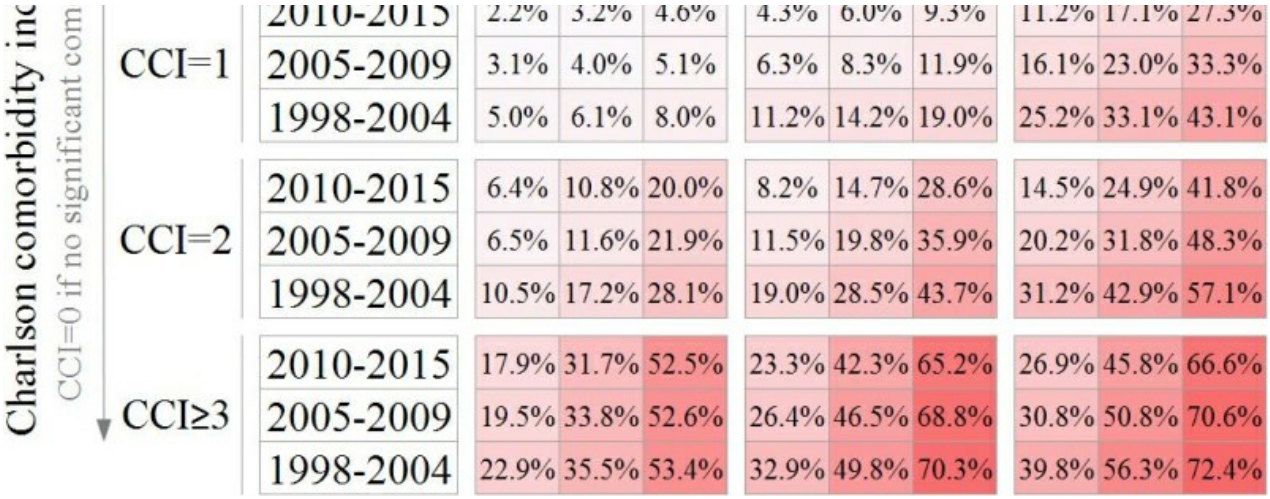
There were significant regional differences in the PE incidence, which was higher in non-urban areas, partially reflecting the higher proportion of older residents in rural areas and the exponentially increasing risk of PE with age.

Survival after the first PE episode at 1, 3 and 6 months was 85.0% (95% CI 84.9–85.1%), 76.9% (95% CI 76.8–77.1%) and 72.4% (95% CI 72.3–72.5%), respectively. Mortality at 1-month after PE was associated with older age (Odds ratio 1.52/10y, 95% CI 1.51–1.53, P<0.001, Figure), female gender (OR 1.06, 95% CI 1.04–1.08, P<0.001) and with presence of significant comorbidities (OR 3.38 for patients with Charlson Comorbidities Score>0, 95% CI 3.32–3.45, P<0.001) but mortality decreased significantly over the study period (OR 0.64 for "2010–2015" vs. "1998–2004", 95% CI 0.63–0.65, P<0.001).

Risk of bleeding resulting in hospitalization or death within 3 or 12 months after the index PE increased slightly over the study period (4.3%/5.1% for 1998–2004 versus 6.1%/7.2% for 2010–2014). Despite the modest increase in bleeding risk, due to the corresponding increase of PE hospitalizations, the absolute number of patients suffering from bleeding within 3 and 12 months following any PE episode significantly increased (from 886/1'464 in 1998 to 3'902/4'954 in 2014, P<0.001 for all presented comparisons).

Conclusions: The incidence of PE in England more than doubled over the last two decades with an increase in incidence in all age categories. There was a modest increase in bleeding risk associated with hospitalization or death. Both short- and long-term mortality significantly declined.

		Age <40y			Age 40-60y			Age>60y		
		1m	3m	1y	1m	3m	1y	1m	3m	1y
dex (CCI) orbidities ▲ CCI=0	2010-2015	1.1%	1.3%	2.1%	1.8%	2.5%	4.2%	5.8%	8.9%	15.3%
	2005-2009	1.6%	2.0%	2.7%	2.4%	3.3%	5.5%	9.0%	12.6%	19.4%
	1998-2004	2.4%	2.8%	3.7%	4.1%	5.2%	7.6%	15.2%	19.3%	25.6%



Mortality after pulmonary embolism