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# A systematic review of comorbidities and outcomes of adult patients with pleural infection

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**In pleural infection, patients from higher-income countries tend to be older with more comorbidities and are more likely to be referred for fibrinolytic treatment in comparison to patients from lower-income countries** <http://bit.ly/2K2M5HL>

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## ABSTRACT

**Background:** Pleural infection remains an important cause of mortality. This study aimed to investigate worldwide patterns of pre-existing comorbidities and clinical outcomes of patients with pleural infection.

**Methods:** Studies reporting on adults with pleural infection between 2000 and 2017 were identified from a search of Embase and MEDLINE. Articles reporting exclusively on tuberculous, fungal or post-pneumonectomy infection were excluded. Two reviewers assessed 20 980 records for eligibility.

**Results:** 211 studies met the inclusion criteria. 134 articles (227 898 patients, mean age 52.8 years) reported comorbidity and/or outcome data. The majority of studies were retrospective observational cohorts (n=104, 78%) and the most common region of reporting was East Asia (n=33, 24%) followed by North America (n=27, 20%). 85 articles (50 756 patients) reported comorbidity. The median (interquartile range (IQR)) percentage prevalence of any comorbidity was 72% (58–83%), with respiratory illness (20%, 16–32%) and cardiac illness (19%, 15–27%) most commonly reported. 125 papers (192 298 patients) reported outcome data. The median (IQR) length of stay was 19 days (13–27 days) and median in-hospital or 30-day mortality was 4% (IQR 1–11%). In regions with high-income economies (n=100, 74%) patients were older (mean 56.5 *versus* 42.5 years,  $p<0.0001$ ), but there were no significant differences in prevalence of pre-existing comorbidity nor in length of hospital stay or mortality.

**Conclusion:** Patients with pleural infection have high levels of comorbidity and long hospital stays. Most reported data are from high-income economy settings. Data from lower-income regions is needed to better understand regional trends and enable optimal resource provision going forward.