

Session: P098 Severe sepsis: sepsis definitions, biomarkers and bacteraemia

**Category: 2b. Severe sepsis, bacteraemia & endocarditis**

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## Septic shock in France from 2009 to 2014: incidence, outcome, and associated costs of care

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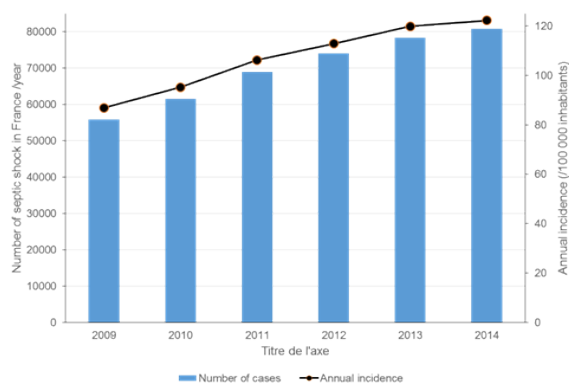
**Background:** Despite significant improvement in medical management, septic shock (SS) remains a major health care burden and a leading cause of death worldwide.

The aim of this study is to determine recent French national trends in occurrence of SS and its-related deaths and costs.

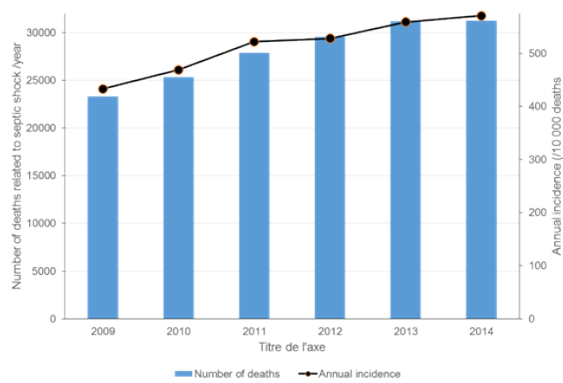
**Material/methods:** We analysed the occurrence of sepsis (2009 to 2014), in adult patients, using the national French hospital Database. This database collects annually, for each hospital stay in France, a uniform hospital discharge record including diagnostic codes according to the International Classification of diseases, Tenth revision, Clinical Modification (ICD-10<sup>th</sup>-CM) and procedure codes. Cases were identified from discharge records in the database. SS was defined by a combination of a principal or accompanying diagnosis of infection plus a diagnosis code for SS or the procedure code for infusion of vasopressors. Costs were determined according to the National Reference Costs. Temporal trend were assessed by calculating the value of the entire variable by year and compared using linear regression variables or Cochran Armitage Trend Test for continuous and categorical variables respectively.

**Results:** A total of 25,444,627 adults were hospitalized in France during 2009-2014. Among them we identified 419,597(10.3%) patients with SS. There was an annualized increase in the incidence of SS from 87 to 122/100,000 inhabitants,  $p<0.001$ ). Overall, the SAPS2 score was (median [interquartile range=IQR] 49 [36-65]. 58.6% of the cases were considered as medical. Nearly all the patients were admitted from the emergency department (75.9%) or from wards (20.1%). About 80% of the patients were hospitalized at least one day in Intensive Care Units. Overall, the main comorbidities reported were congestive heart failure (27.6%), Chronic Pulmonary Disease (15%), renal disease (11.3%), diabetes without (6.3%) and with complications (5%) and cancer (16.9%). The main sources of sepsis were pulmonary (39.2%), abdominal (12%) and urinary (15.6%). Gram-negative bacteria were the predominant organisms causing sepsis (from 27.6% to 38.8%) but gram-positive bacteria were also common (from 20.8% to 26.4%). The length of ICU and hospital stays were 9[3-19] and 18[8-35] days respectively and both decreased over time ( $p<0.001$ ). Mortality rates decreased over the 6-year period (from 41.7% to 38.7%). However the in-hospital deaths related to sepsis increased over time from 433 to 571/10 000 deaths ( $p<0.001$ ) (figure). The average costs per case were 14,453€[7,460-25,041] decreasing over time from 15,291[7,637-26,136] to 14,171[7,593-24,194].

**Conclusions:** SS incidence increased in France. Although the overall mortality rate in patients with SS is slightly decreasing in France, the number of deaths related to SS is growing. Results must be interpreted with caution because of the limits related to administrative databases. However, the trends are comparable to data from other countries.



A: Annual Incidence of Septic Shock in France From 2009 to 2014



B: In-hospital deaths related to Septic Shock from 2009 to 2014