

BACKGROUND

Sepsis is a serious and life-threatening condition that necessitates immediate intervention. Its onset can happen in the community or in the hospital setting, with severe risks for patients if not promptly diagnosed and treated with the appropriate therapeutic regimen.

OBJECTIVES

The aim of this research was to quantify the epidemiological and economic impact of sepsis in Italy, Spain, Germany, France, and the UK. Additionally, two secondary objectives were identified:

1) To quantify the burden of hospital-acquired (HA) sepsis, which could be partially mitigated through effective infection prevention strategies. Some major causes of hospital-acquired sepsis are catheter-associated infections (urinary or central line bloodstream infections), ventilator-associated pneumonia, and surgical site infections.

2) To assess the impact of delayed diagnosis, which can lead to poorer patient outcomes. It has been well demonstrated that for every hour of delayed treatment the risk of death increases considerably.

METHODS

Epidemiological data on incidence and mortality were retrieved from the Global Burden of Disease Study, 1990-2017. Additional literature research was conducted to obtain country-specific costs and the prevalence of hospital-acquired sepsis and late diagnosis risks. The epidemiological and economic burdens for each individual country were calculated and then aggregated.

RESULTS

In the five countries analyzed, there are 550,730 cases of sepsis every year, leading to more than 84,000 deaths, causing an additional 5.6 million hospital bed-days, and costing €11.6 billions. Of all the yearly sepsis cases, 24% are acquired in hospitals, leading to more than 45,400 deaths, and costing more than €2.7 billions. Another significant portion (14%) of the sepsis cases receive a late diagnosis, increasing the risk of death (more than 21,900 cases/year).

CONCLUSION

Sepsis not only jeopardizes patient outcomes, but it also places significant capacity and cost pressures on hospitals. Strategies to minimize the risk of developing sepsis during hospitalization and to expedite accurate diagnosis can play a crucial role in reducing the overall burden of sepsis from both epidemiological and economic perspectives.

WHAT’S NEW

The 1) overall, 2) hospital-related, and 3) late diagnosis burden of sepsis, in the 5 biggest european countries

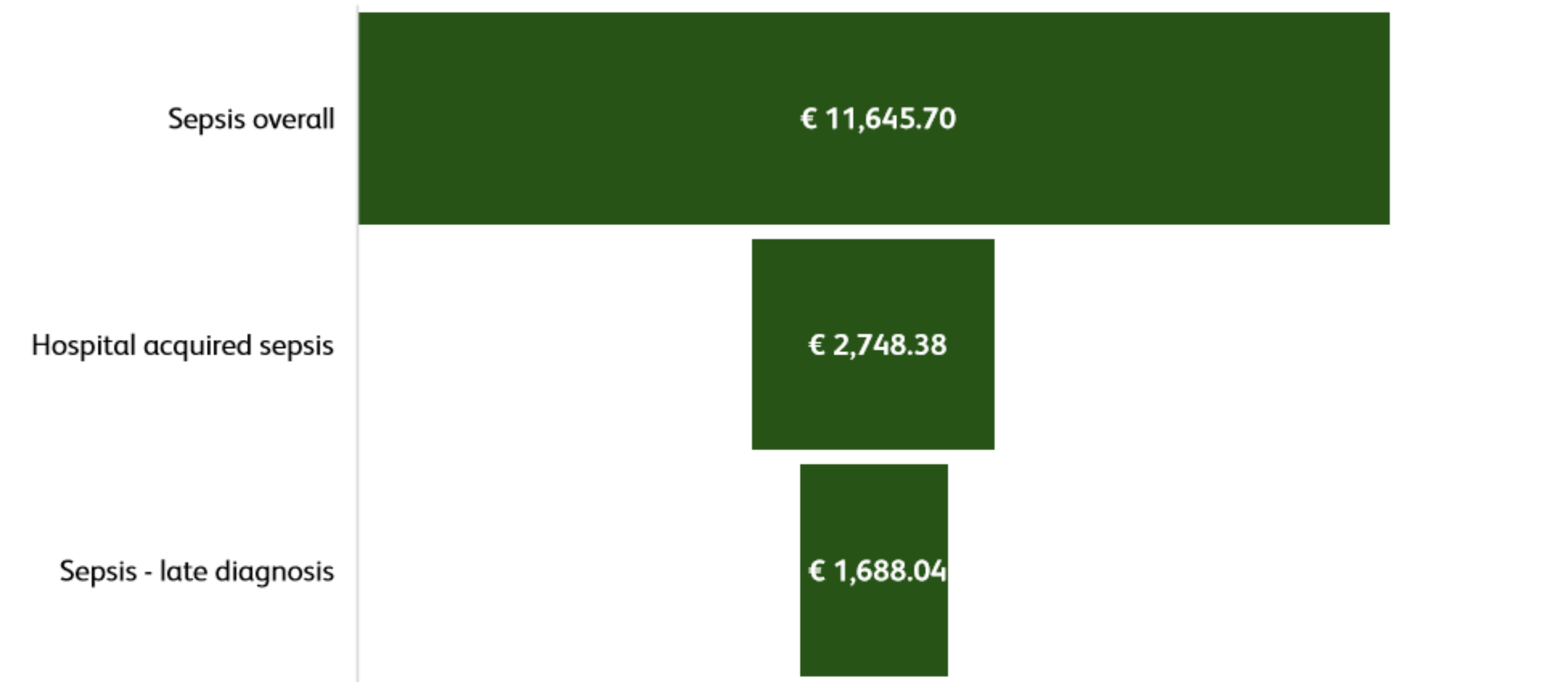
Table 1: Analysis input description

Parameter	Reference	Notes
Epidemiology; Incidence and mortality rates	[1]	Data from the Global Burden of disease study—for all the countr ^{es}
Additional hospital bed-days	[2, 3, 4]	
Sepsis costs	[5, 6, 7, 4, 8]	Adjusted to €2024
% hospital acquired sepsis	[9]	
% sepsis with late diagnoses	[10]	

Table 2: Countries results

	N events	N Fatal Cases	Increased bed-days	Total Costs (mln €)	N. HA sepsis	N. Sepsis with late diagnosis
Italy	76,033	10,904	661,488	1,545	17,944	11,021
UK	144,792	23,306	1,462,401	4,638	34,171	20,988
FR	105,016	16,109	1,060,658	2,029	24,784	15,222
Spain	77,496	11,467	950,623	709	18,289	11,233
Germany	147,401	22,709	1,488,747	2,725	34,787	21,366

Figure 1: Sepsis Economic Burden (mln€)



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