

FRANCE vs SPAIN

Comparison of hospital delivery mode between 2006 and 2014 according comorbidity profiles of patients

INTRODUCTION

The aim of the study is to compare delivery mode in hospital (*vaginal and cesarean*) between two European countries, according to patient's comorbidities as diabetes, age, multiple pregnancies, obesity, smoke and prematurity.

METHODS

STUDY POPULATION

A retrospective cohort was performed from national **PMSI** (*France*) and **CMBD** (*Spain*) public databases 2006 to 2014. All of childbirth hospitalizations were extracted by selecting DRG. Comorbidities were identified according to each country diagnosis classification's (*ICD 10 for France and ICD-9 for Spain*).

ADVANCED STATISTICAL ANALYSIS

DESCRIPTIVE EPIDEMIOLOGY

Standardized prevalence rate of births per 1,000 women in France and Spain
Standardized prevalence rate of caesarean sections per 1,000 women in France and Spain
Standardized premature birth rates in France and Spain
Standardized rate of multiple births in France and Spain
For prevalence, the reference population is the number of women in the European Union of twenty-eight (1).

MULTIVARIATE ANALYSIS

Multivariate regression was done to model cesarean delivery hospitalization according to comorbidities.

EXPLORING VARIABLES

Patients' features: Age
Comorbidities: *Smoking, diabetes, obesity*
Type of delivery: *Multiple births, premature delivery*

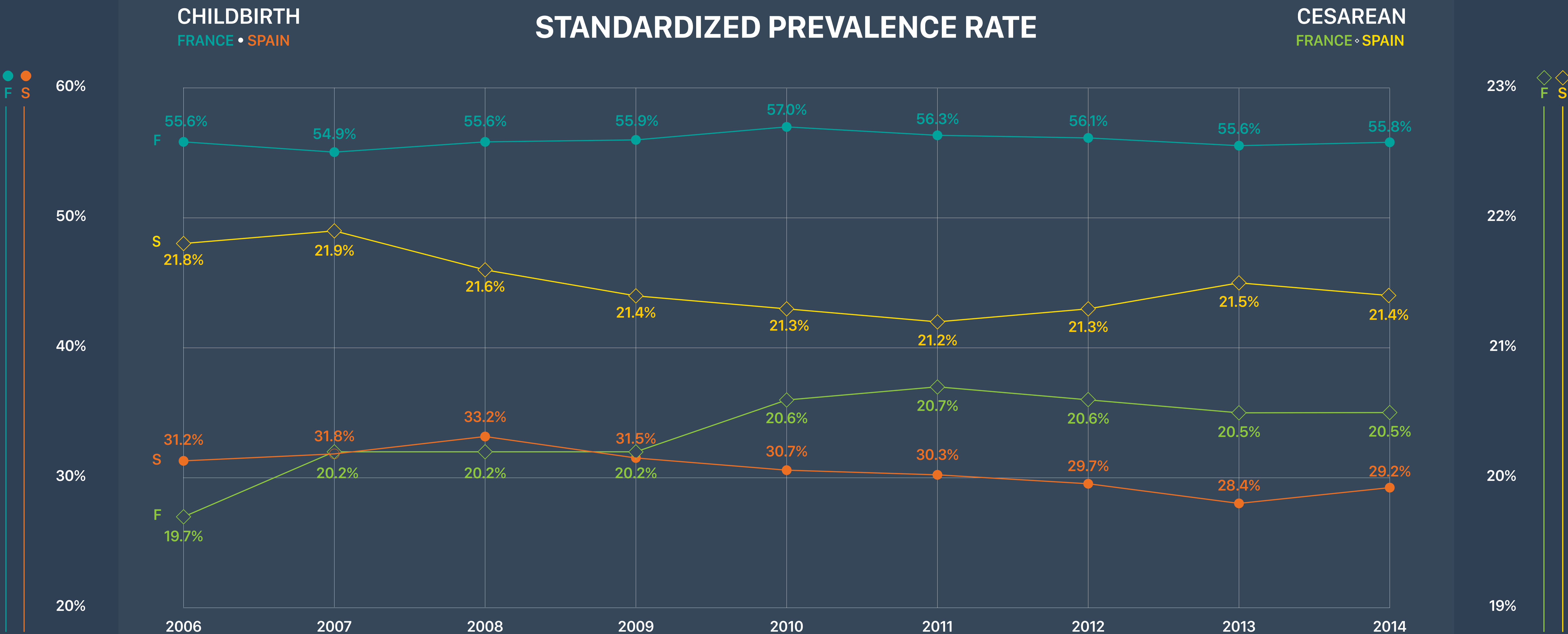
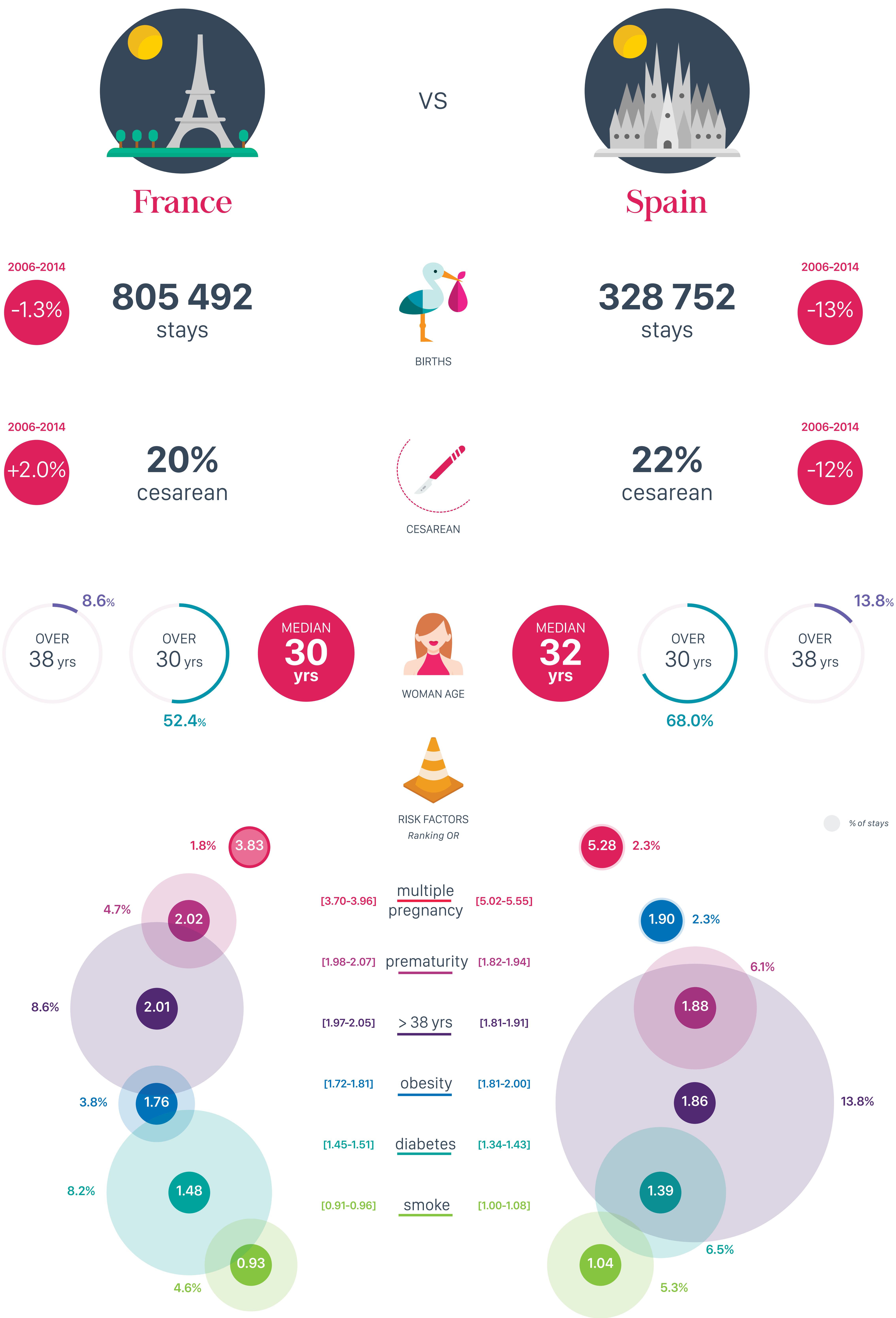
RESULTS

COHORT CHARACTERISTICS

The number of annual hospitalization for childbirth is stable in **France** around **800,000 stays** (*-1.3% between 2006 and 2014*). In the **public Spain** sector, we observed a **decrease of 13%** between 2006 and 2014 with almost **330,000 stays** in 2014. The cesarean rate in **2014 is 20% in France** versus **22% in Spain** and increased by 2% between 2006 and 2014 for France and decreased by 12% for Spain. The **median age is 30 years** in 2014 for France versus **32 years for Spain** and has increased by one year between 2006 and 2014 in the two countries. The age structure is higher in Spain with more than **68% of women aged over 30 years** (*52.5% in France*) and over **14% of women aged over 38 years** (*8.6% in France*). The standardized caesarean rate is **1% higher in Spain** and **+ 1.2% for prematurity**, and **+ 0.3% for multiple births**. A higher rate of smoking is observed in Spain (*5.3% versus 4.6%*) and inversely to the rate of diabetes (*8.2% in France vs 6.5% in Spain*) and obesity (*3.8% in France vs 2.3% in Spain*).

ADVANCED STATISTICAL ANALYSIS

Multivariate analysis of cesarean deliveries highlights a significance of all risk factors : *age, prematurity, diabetes, obesity and multiple births*. The **multiple pregnancy is the first risk of cesarean** delivery with an OR of **5.28** [*5.02-5.55*] for Spain versus **3.83** [*3.70-3.96*] in France. The **second risk is the prematurity in France** with an OR of **2.02** [*1.98-2.07*] and the **obesity in Spain** with an OR of **1.90** [*1.81-1.91*]. The **third risk is the age for France** with an OR of **2.01** [*1.97-2.05*] and **prematurity for Spain** with an OR of **1.88** [*1.82-1.94*].



CONCLUSION

Multiple pregnancy is the most important risk factor for cesarean delivery for Spain and France. The second risk factor is obesity for Spain and prematurity for France. The standardized caesarean rate is 1 point higher in Spain.