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BURDEN OF HOSPITALIZATIONS RELATED TO CHRONIC HEPATITIS C IN FRANCE

Evolution between 2009 and 2012

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INTRODUCTION

The burden of hospitalizations related to chronic hepatitis C (CHC) in France has been published in 2013 by extracting data from the PMSI 2009 (French Medical Information System)¹.

With regards to the availability of new CHC treatments in 2011 and considering also the decrease of hospitalized CHC patients², the objective of this study was to reassess the burden of hospitalizations related to CHC in France in 2012.

A descriptive benchmark has been performed with the previous study in order to highlight potential evolutions.

METHODS

➤ Data source

Data were extracted from the PMSI 2012 MCO (Medicine, Surgery, Obstetric units) database. It represents a comprehensive collection of all inpatient stays in France.

➤ Study population

▪ All hospital stays with chronic viral hepatitis C (ICD-10 code: B18.2) as principal, related or significantly associated diagnosis were selected.

▪ An algorithm considering ICD-10 codes and clinical procedures (“classification commune des actes médicaux”, CCAM) has been designed for exclusion of hospital stays not related to CHC. A medical review has also been performed.

▪ Based on information gathered, hospital stays were categorized into the 6 following liver disease stages:

- F0-F3 Fibrosis
- Compensated cirrhosis
- Decompensated cirrhosis
- Hepatocellular carcinoma
- Liver transplant (1st year of management)
- Liver transplant (≥ 2nd year of management)

In the PSMI database, all patients receiving hospital care were tracked until death with one and unique anonymous number. It allowed linkage between hospital stays and patients.

➤ Valuation of costs

Valuation of the hospital stays has been performed using diagnosis related group (DRG) and corresponding French official tariffs expressed in 2013 value (Euro).

➤ Benchmark to 2009 data

Same database and method (without making the distinction between compensated/decompensated cirrhosis and with a focus on the first year of management of liver transplant) had been used in the 2013 publication¹.

RESULTS

➤ Characteristics

27,258 hospitals stays related to CHC were extracted from the PMSI-MCO in 2009, 21,829 in 2012.

Between 2009 and 2012, number of patients hospitalized for CHC decreased by 22%, from 15,482 to 12,040 patients.

On the other hand, the sex-ratio (M/F) increased (1.61 in 2009 ; 1.80 in 2012), as well as the proportion of patients aged 50 years old and over (59% in 2009 ; 68% in 2012 ; Figure 1).

➤ Distribution of patients and hospital stays according to liver disease stage

▪ Patients

Between 2009 and 2012, the proportion of patients with F0-F3 fibrosis or cirrhosis decreased by one third. On the opposite, the number of patients with hepatocellular carcinoma increased by 17% (Figure 2).

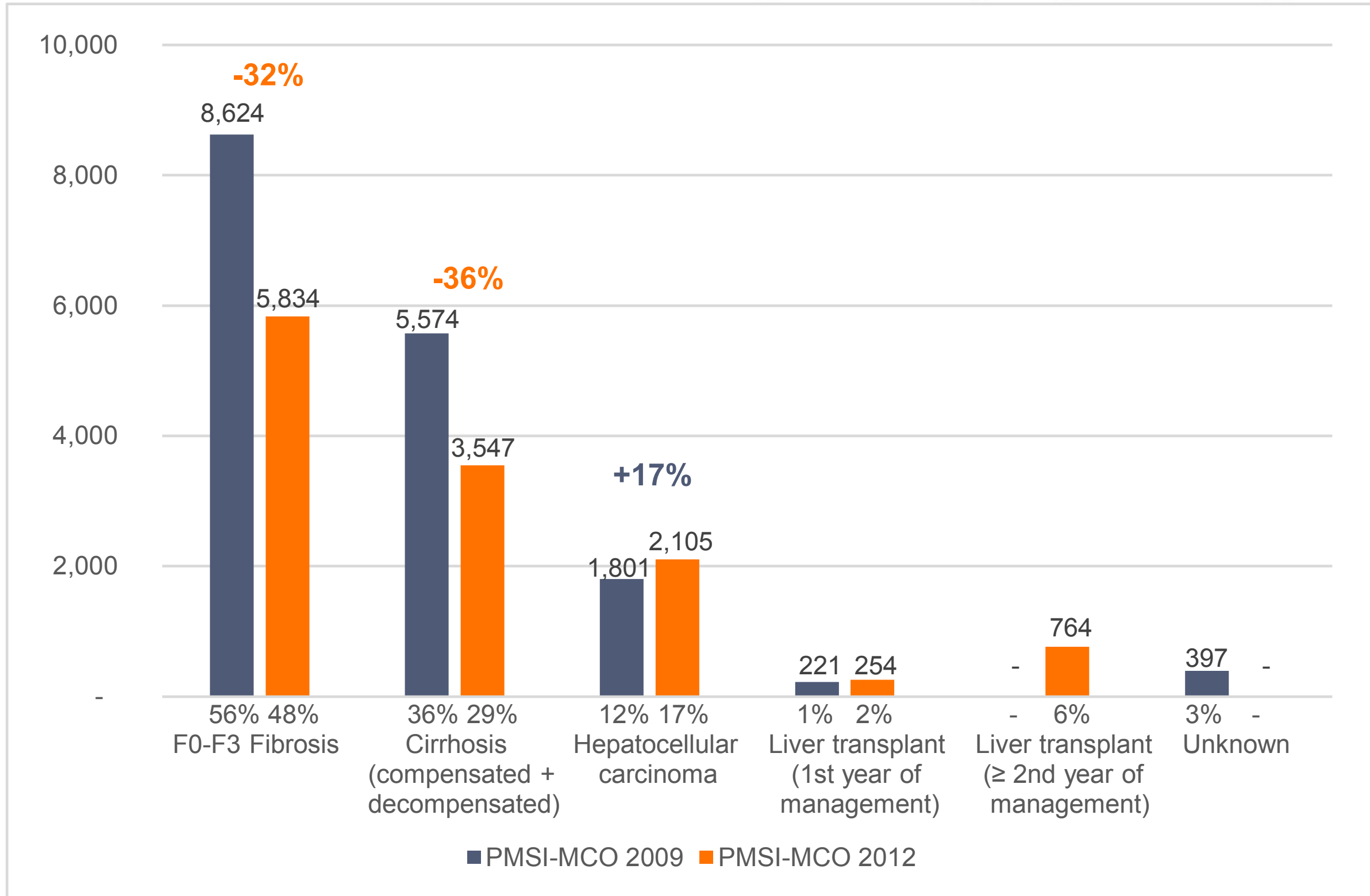


Figure 2. Distribution of patients according to liver disease stage .

Patients with compensated/decompensated cirrhosis, hepatocellular carcinoma or liver transplant represented 50% in 2009 and 55% in 2012 of the overall patients hospitalized for CHC (Figure 2).

➤ Economic burden of hospitalizations related to CHC

The total cost of the hospitalizations related to CHC was estimated to €65 million in 2009 and €60 million in 2012, corresponding to a decrease of 8%.

Cirrhosis corresponded to 47% and 28% of the overall cost in 2009 and 2012, respectively. On the opposite, proportion of hospitalization costs assigned to hepatocellular carcinoma increased from 18% to 26% during the same period (Figure 3).

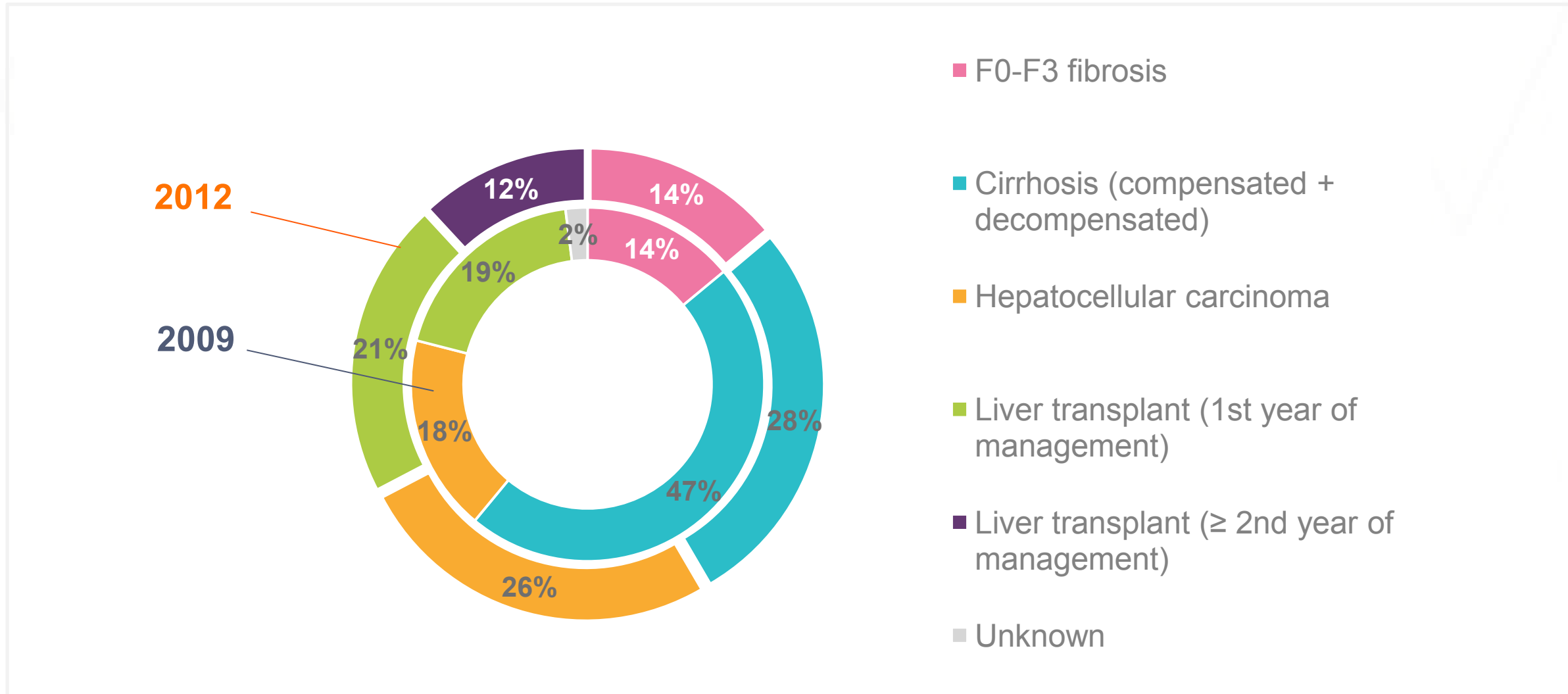


Figure 3. Relative distribution of the costs according to liver disease stage.

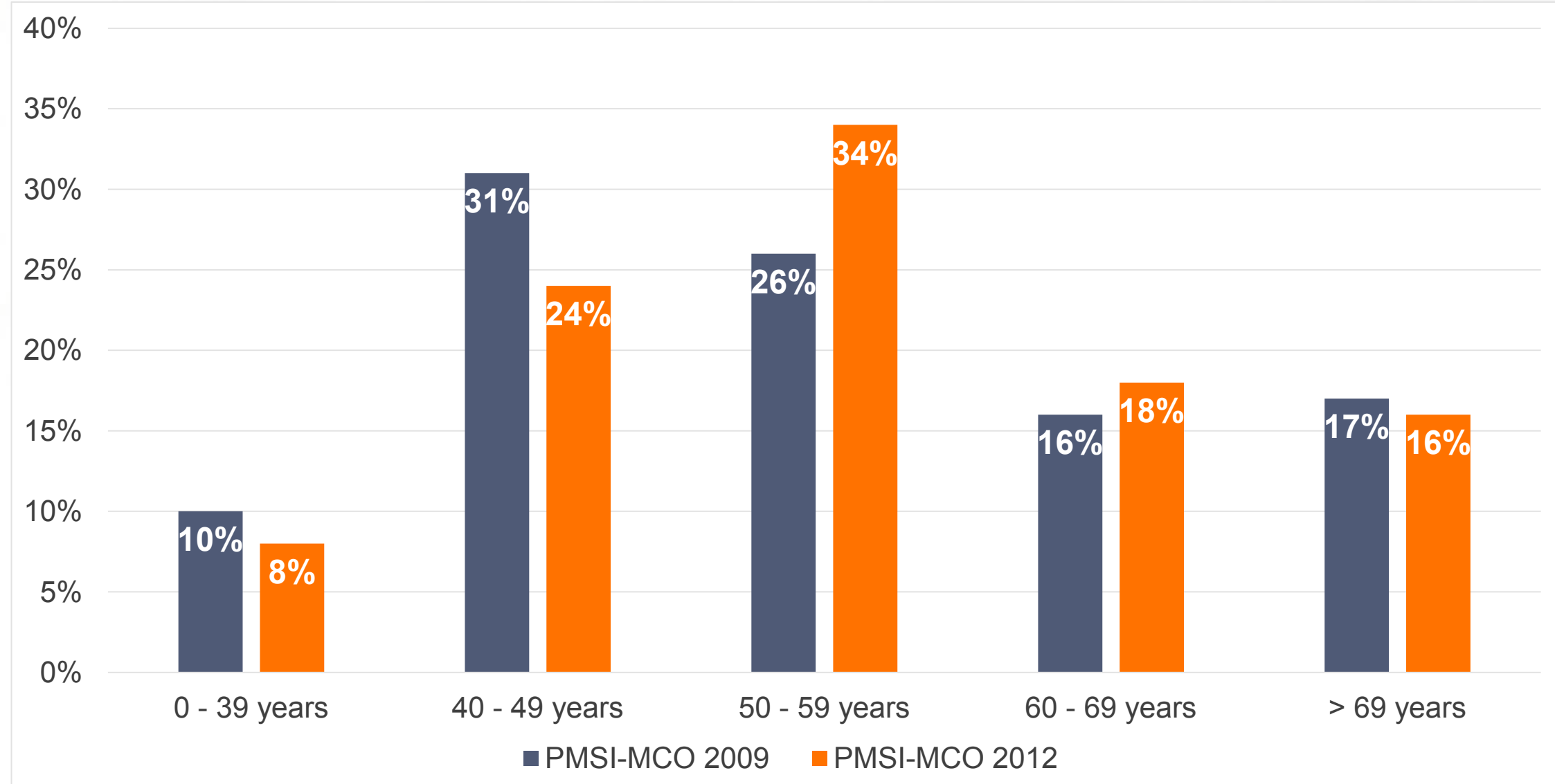


Figure 1. Relative distribution of patients according to age.

▪ Hospital stays

The total number of hospital stays related to CHC decreased by 20% in 3 years (27,258 vs 21,829 stays). The most important reduction of number of stays was in the cirrhotic subgroup (Table 1).

Table 1. Distribution of hospital stays according to liver disease stage.

	PMSI-MCO 2009 (N)		PMSI-MCO 2012 (N)
F0-F3 Fibrosis	11,453	-35%	7,500
Cirrhosis (compensated + decompensated)	11,217	-40%	6,812
Hepatocellular carcinoma	3,644	+30%	4,741
Liver transplant (1 st year of management)	227 *		654
Liver transplant (≥ 2 nd year of management)	-		2,122
Unknown	431		-
Total	27,258		21,829

* Focus on the 1st year of management of liver transplant among the 513 stays classified as “Liver transplant”

▪ Medical procedures

Among all the medical procedures studied, liver biopsy was one of major interest.

In 2009, the number of liver biopsies performed was 2,744; in 2012 it was equal to 1,876, corresponding to a decrease of 32%. 77% of liver biopsies were performed on F0-F3 fibrosis patients in 2009, 51% in 2012.

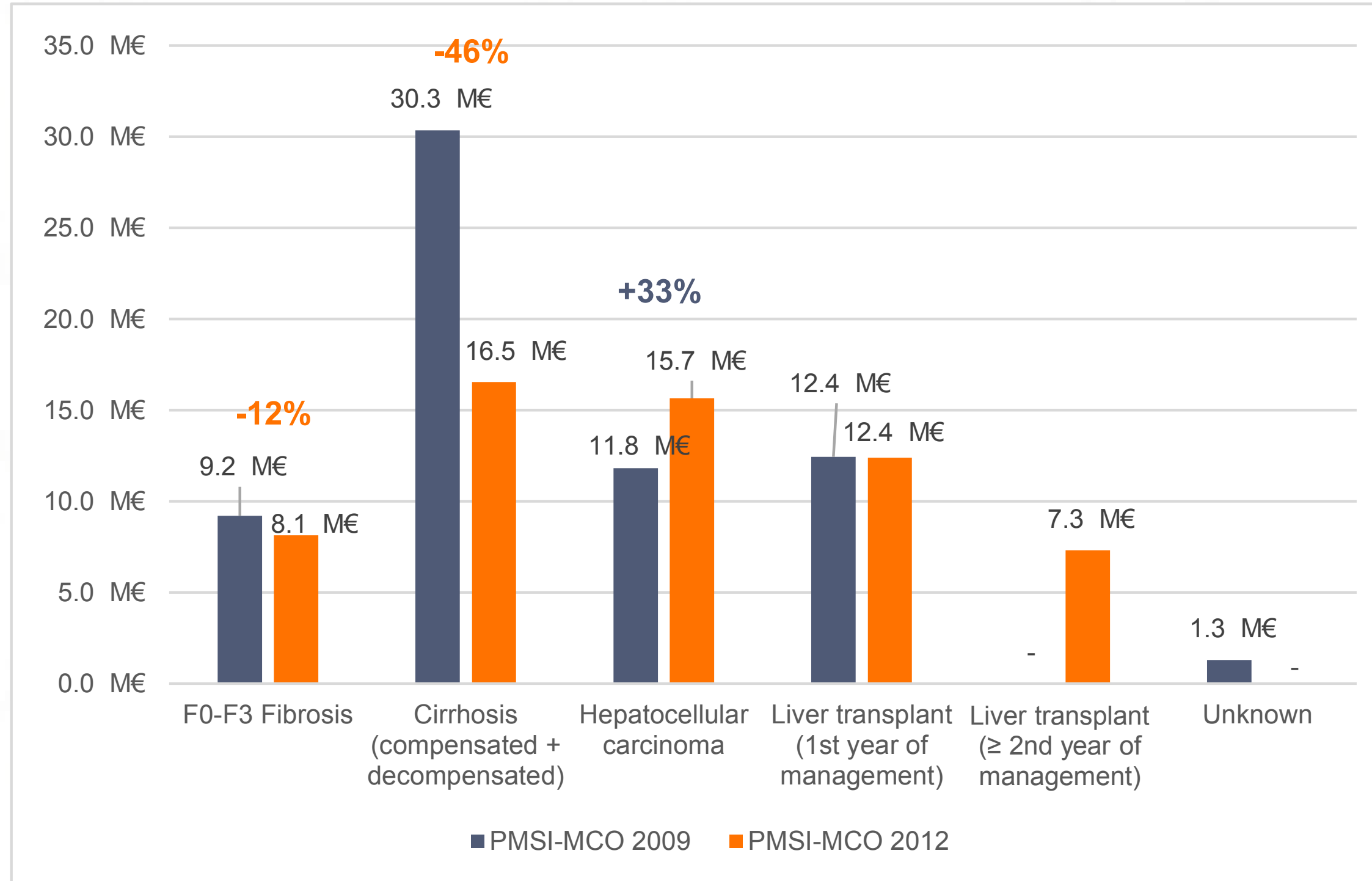


Figure 4. Distribution of the costs according to liver disease stage.

Overall, 65% of the costs of hospitalizations related to CHC were assigned to cirrhosis and hepatocellular carcinoma in 2009. In 2012, these stages represented 54% of the overall costs.

CONCLUSION

The PMSI is a database originally designed to analyze hospital activity. However, in the current context, it allows epidemiological research with some limitations to be considered: some clinical characteristics are not gathered, such as virus genotype and METAVIR stage. However, the main advantage of this database is the comprehensiveness of the inpatient stays in France.

Analyses based on the PMSI provide relevant information on the natural history of CHC and patients management at hospital. The current study highlights a decrease of the economic burden of hospitalizations related to CHC by 8% between 2009 and 2012. The number of inpatients as well as the number of hospital stays decreased by 22% and 20%, respectively. This is in line with a recent study carried out on the PMSI between 2004 and 2011².

The proportion of F0-F3 fibrosis and cirrhosis patients decreased, and the proportion of patients with hepatocellular carcinoma increased. It might be due to the slowing down of the incidence of CHC, the improvement in screening techniques/ treatments and the aging of the population. The reduction of the number of liver biopsies might be related to the availability of new non invasive tests for assessing liver fibrosis.

References

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