

# HOspital Systemic Treatment for HEpatoCArcinoma: The HOSTHECA study

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## Introduction



In 2020, 11,504 new cases of hepatocellular carcinoma (HCC) were reported, with incidence rates continuing to rise. On the same year, the management of advanced and metastatic HCC experienced significant progress with the introduction of combined immunotherapy-anti-angiogenic agent (atezolizumab + bevacizumab) as first line treatment further promoting the transition from outpatient to inpatient care.

A real-world study using the French hospital discharge database (PMSI database) was conducted to understand the therapeutic pathway of hepatocellular carcinoma (HCC) patients treated with systemic therapy in hospital and to characterize these patients.

The French PMSI-MCO ("Médecine, Chirurgie, Obstétrique") is an exhaustive medico-administrative hospital discharge database which covers all short-term hospital stays, in the public and private sectors, in medical, surgical, or obstetric facilities. It captures every single day care and inpatient stay in France.

## Methodology

### Study objectives

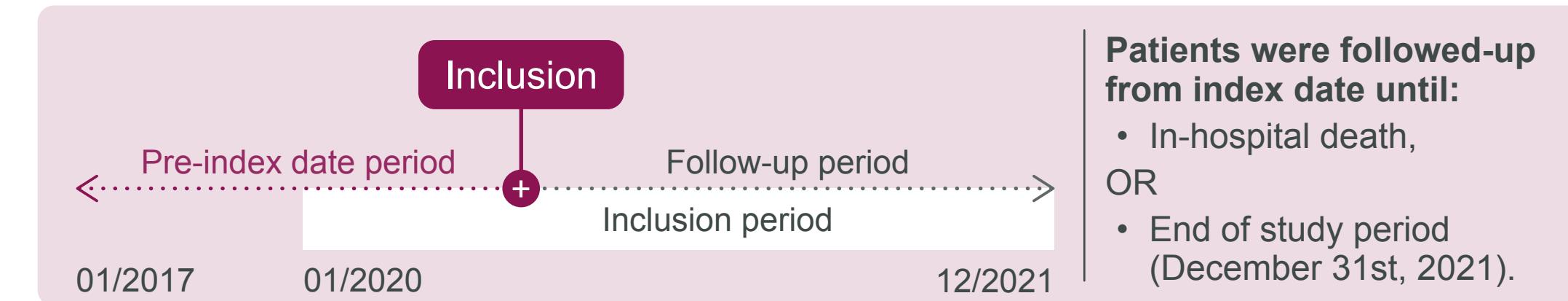
This study aimed to analyze the evolution of hospital management and treatment pathways for patients with advanced and metastatic HCC in France between 2020 and 2021.

### Study design

A retrospective observational study was conducted using the French hospital discharge database (PMSI). All adult patients with an HCC ICD-10 code (C220) within at least one hospital stay and a systemic treatment, excluding adjuvant therapy, between 2020 and 2021 were included.

### Study period

Index date was defined as the first day of hospitalization with a HCC diagnosis (ICD-10 C22.0) fulfilling the inclusion criteria and none of the exclusion criteria.



### Outcomes

The following outcomes were analysed using descriptive statistics in this study :

- Treatment pattern
- Patient characteristics

Medical history was identified thanks to a fixed 3-year pre-index date period.

## Population selection process



Patients with an HCC ICD-10 code (C220) between 2020 and 2021

1st exclusion step

### Non incident patients

Presence of prior systemic treatment for HCC within 3 years preceding the index date, unless administered as adjuvant therapy (see def below)

2nd exclusion step

### Patients with adjuvant therapy

ICD-10 code for HCC (C220) associated with systemic therapy within a ± 3 month window around month window of a liver transplant, surgical resection, TACE, TARE (SIRT) or Radiofrequency.

Study population

## Results

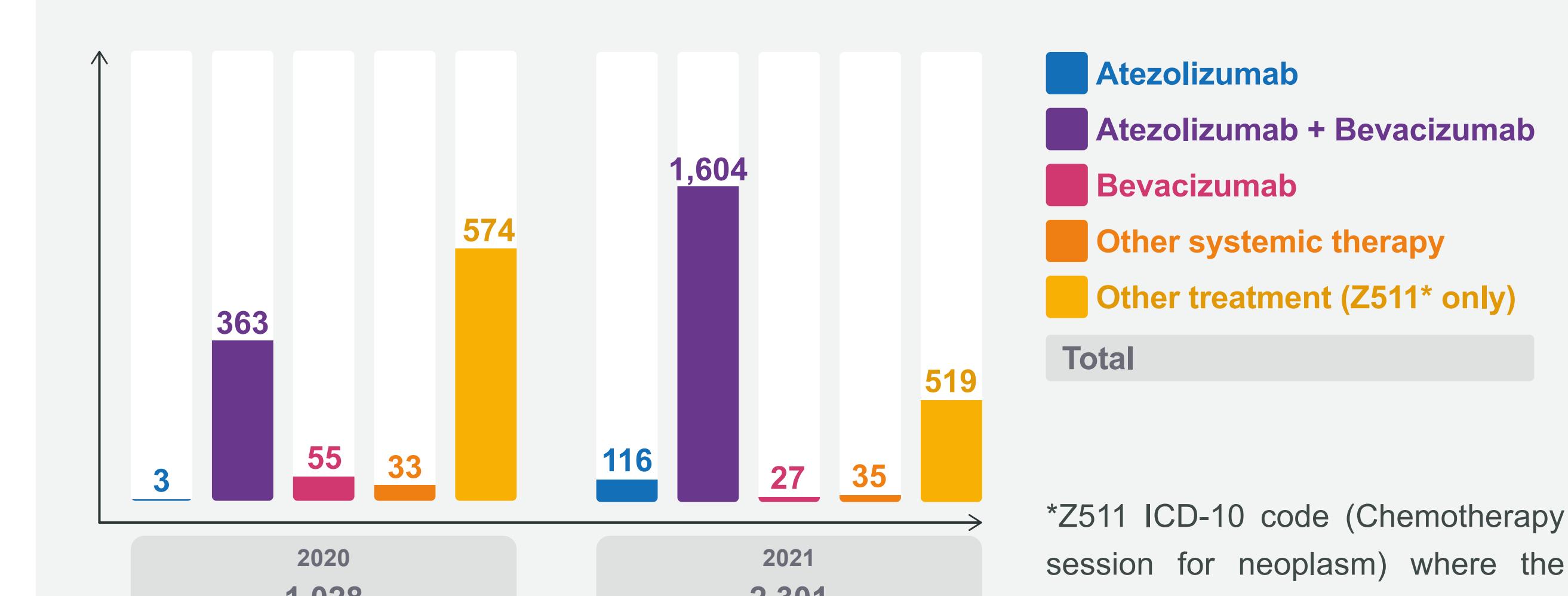


### Flow chart

Between 01/01/2020 and 12/31/2021, a total of 3,329 patients-initiated hospital-based systemic treatment for HCC, with 1,028 patients recorded in 2020 and 2,301 in 2021, representing a 123% increase over the two-year period.



### Treatments at inclusion

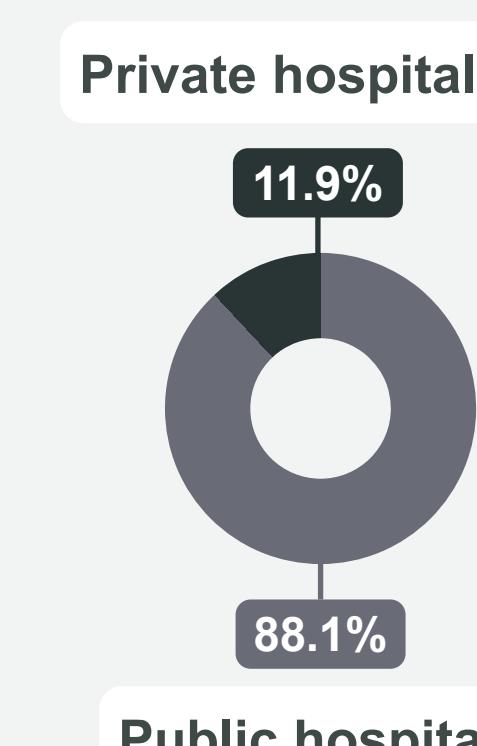


### Patients' characteristics

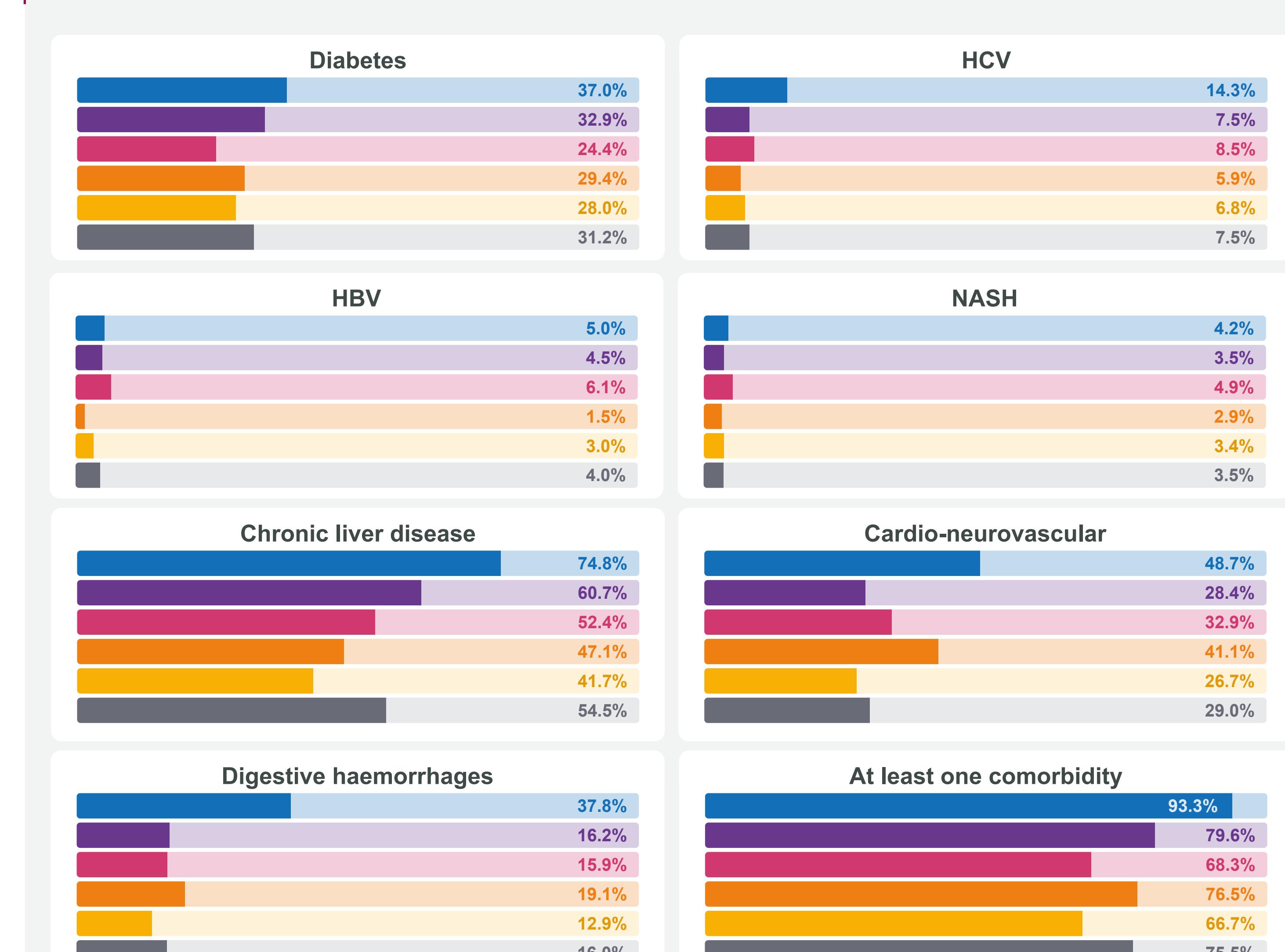
The median age of patients was 69 years, 81% were male and 88% of them were treated in an university hospital at inclusion. An oesogastrroduodenal endoscopy was performed for 53% of patients (N=1,048) before treatment initiation.

	Atezolizumab	Atezolizumab + Bevacizumab	Bevacizumab	Other systemic therapy	Other treatment (Z511 only)	Total
Number of patients	119	1,967	82	68	1,093	3,329
Median age at inclusion (min-max) years	69 (19 - 87)	70 (19 - 95)	69 (20 - 87)	70 (20 - 91)	68 (18 - 90)	69 (18 - 95)
Men, n (%)	100	1,724	59	61	766	2,710

### Type of hospital at treatment initiation

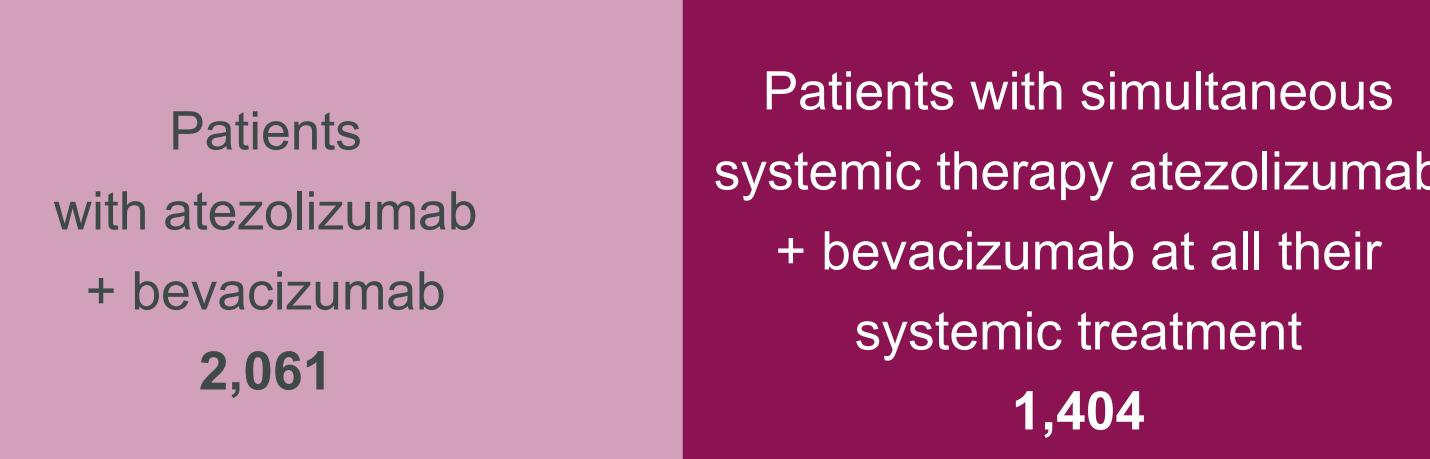


### Associated comorbidities



### Treatment patterns

2061 patients received at least one combined administration of atezolizumab + bevacizumab but less than 68% of them (N=1,404) had the combined therapy in all treatment cycle.



## Conclusion



This study highlighted the evolution of inpatient care for the management of advanced or metastatic HCC with the adoption of a new standard of treatment. Patients' characteristics were consistent with the population found in a study carried out on the SNDS in 2017, which also used outpatient data(1).

However, limitations such as the absence of data on outpatient management and therapies, inherent to the database used, should be considered when interpreting the findings. Also, other chemotherapies can only be identifiable via the coding of a Z511 ICD-10 code (Chemotherapy session for neoplasm) where the precise molecule was not identifiable unless being present on the expensive drug list. Patients treated with this non identifiable chemotherapy could be patients treated for another cancer than HCC, some of them with secondary hepatic malignant tumors.

## References

<sup>1</sup>SPF. Fréquence des facteurs de risques de carcinome hépatocellulaire en France en 2017 : étude à partir de l'appariement des informations du Système national de données de santé [Internet]. [cited 2025 Sep 18]. Available from: <https://www.santepubliquefrance.fr/import/frequence-des-facteurs-de-risques-de-carcinome-hepatocellulaire-en-france-en-2017-étude-a-partir-de-l-appariement-des-information-du-système-nat>

## Abbreviation

HBV: Hepatitis B Virus; HCC: hepatocellular carcinoma; HCV: Hepatitis C Virus; ICD: International Classification of Diseases; PMSI: Programme de médicalisation des systèmes d'information; NASH: Non-Alcoholic Steato-Hepatitis; SIRT: Selective internal radiation therapy; SNDS: Système National des Données de Santé; TACE: Transarterial chemoembolisation; TARE: Transarterial radioembolisation