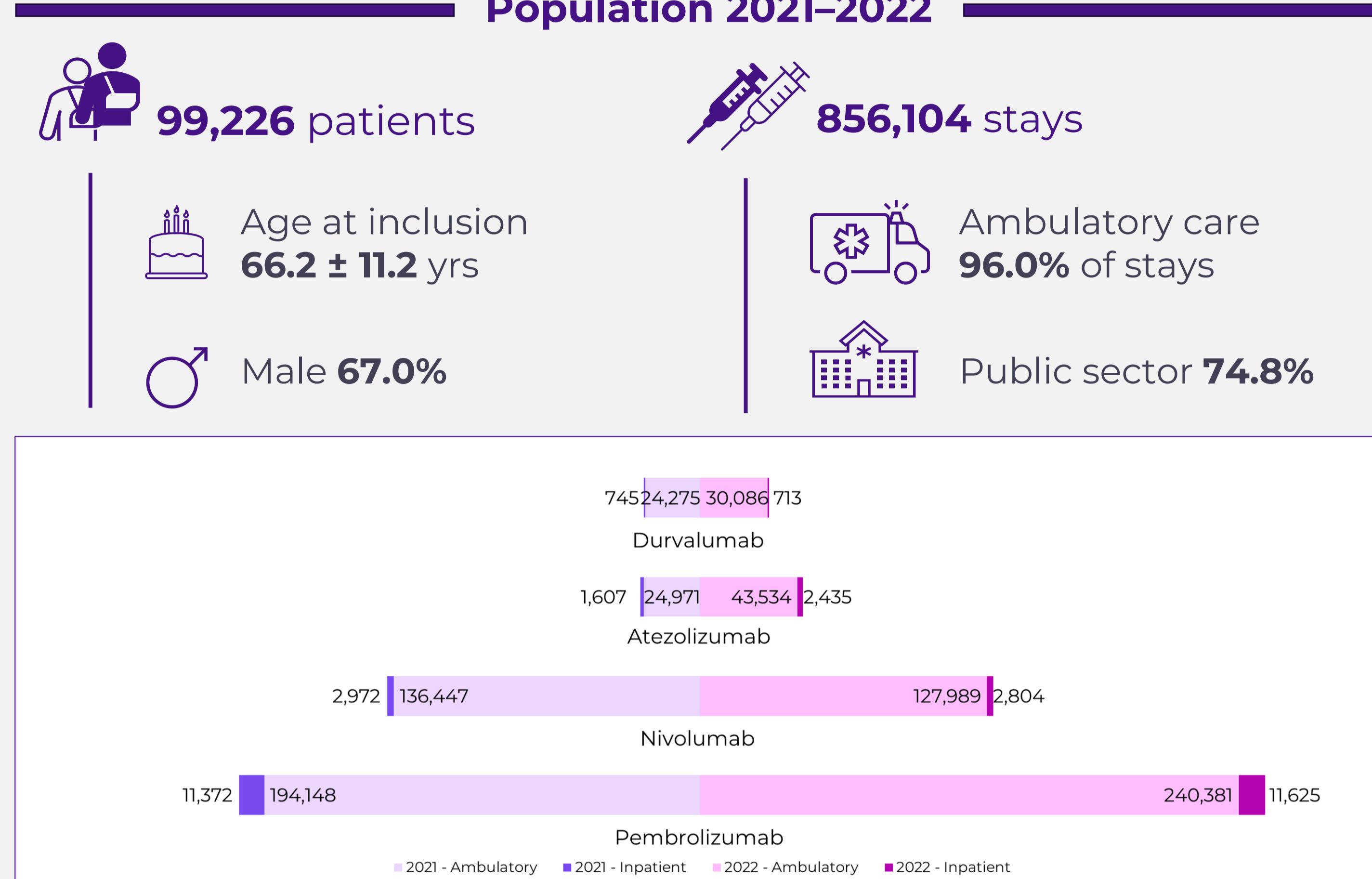


## Introduction

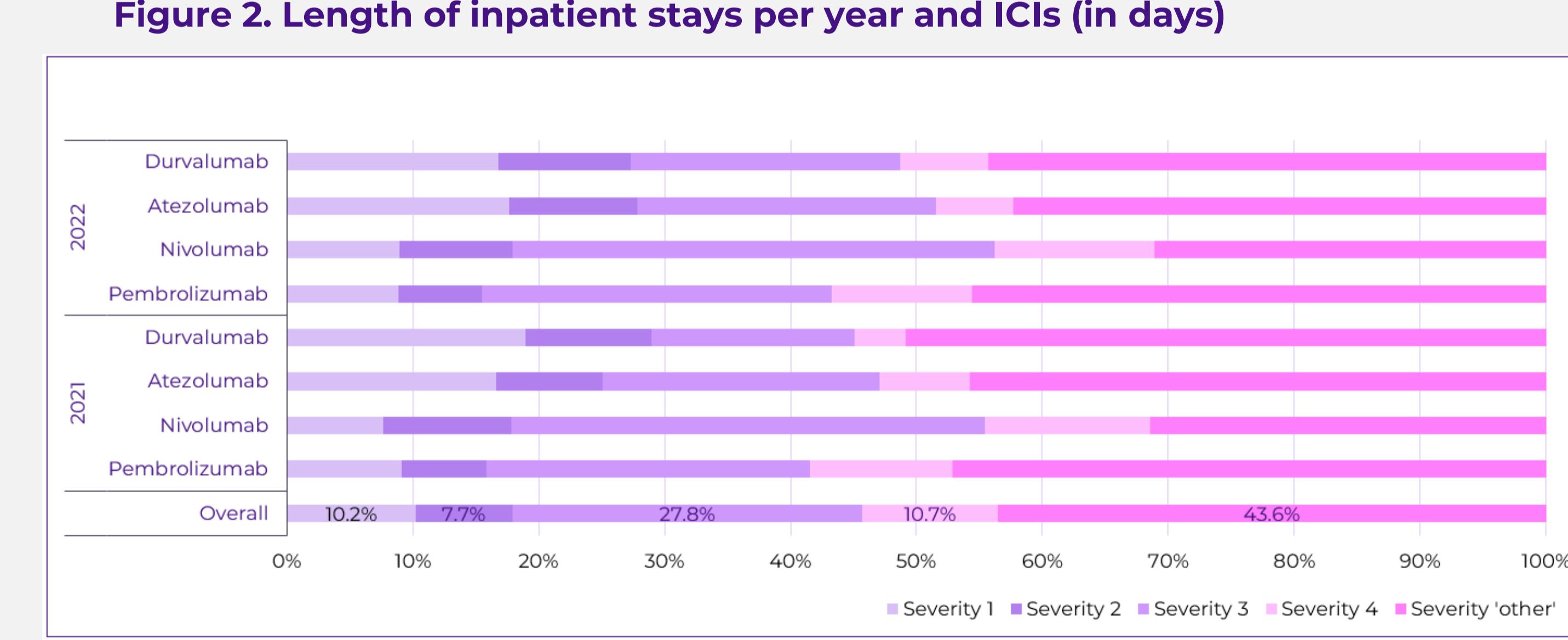
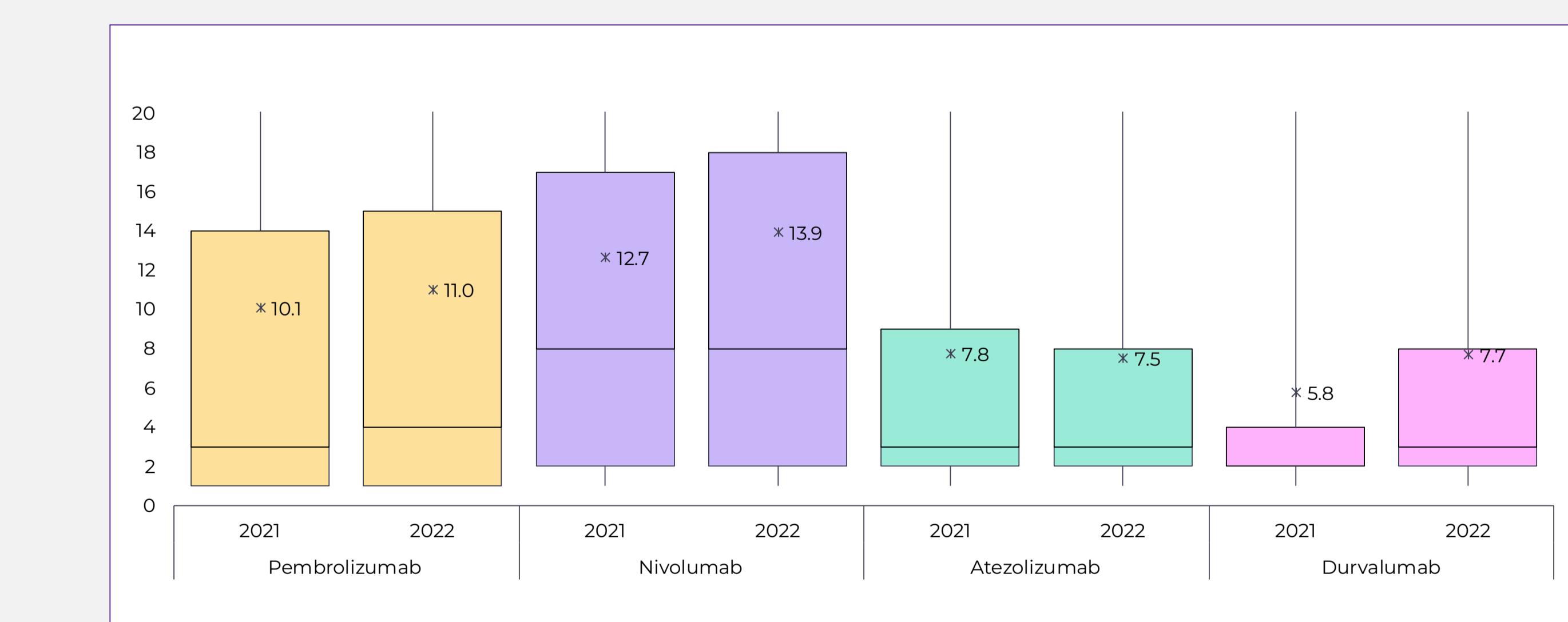
- Immune checkpoint inhibitors (ICIs) are widely used across multiple cancer indications. As their hospital-based use increases, real-world data are needed to better understand care patterns, diagnostic contexts, and economic implications at the population level.
- This study aimed to characterize hospital stays associated with 4 ICI injections (pembrolizumab, nivolumab, durvalumab, and atezolizumab) in France using national hospital database (Programme de Médicalisation des Systèmes d'Information, PMSI), focusing on diagnosis-related groups (DRGs), principal diagnoses, care settings, and healthcare resource consumption, including cost and length of stay.

## Results



## Inpatient stays 2021–2022

Overall, only **4.0%** of stays were inpatient. Lengths of stay differ considerably across treatments, and overall, they have remained stable over the two years, with the exception of durvalumab (Figure 2). The severity of hospital stays appeared comparable across treatments (Figure 3).



## Discussion & Conclusion

This nationwide analysis reveals the predominance of ambulatory ICI-care, highlighting the need to optimize patient time in ambulatory units. Although inpatient stays represent only 4% of episodes, they are associated with substantially higher costs, stressing the importance of reducing avoidable hospitalizations. These findings underscore the relevance of incorporating organizational efficiency and environmental impact into value assessments and healthcare planning for cancer immunotherapies.

## Objective & Methods

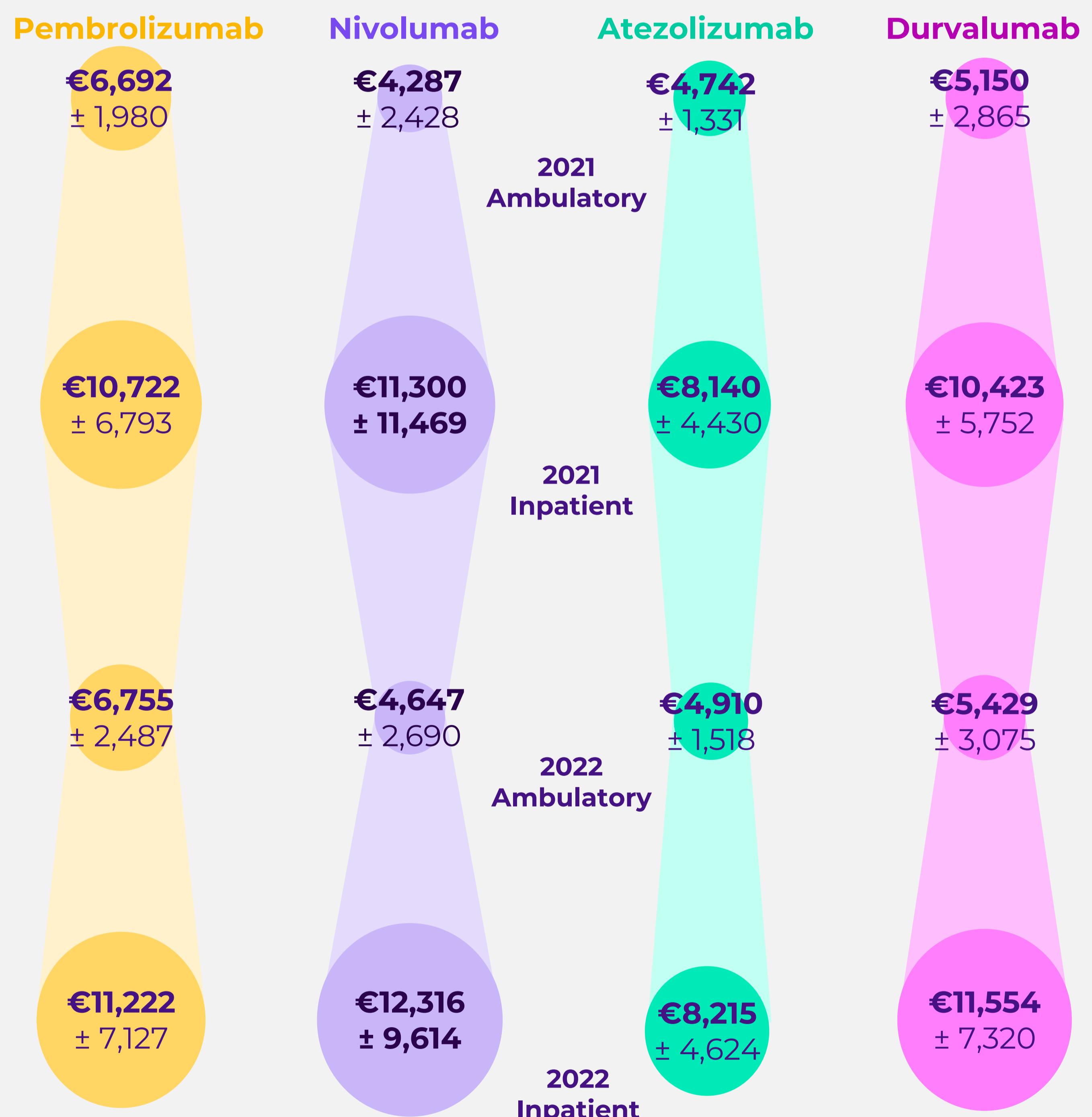
- A retrospective analysis of the PMSI database from 2021 to 2022 was conducted. Patients treated with ICIs were identified through hospital drug administration records. Hospital stays with at least 2 different drugs among the 4 ICIs were excluded.
- For each year, ICIs, care setting (ambulatory or inpatient), patient characteristics, and stays were described, including an analysis of derived costs using national reimbursement tariffs.
- The results were also used to study organizational and environmental impacts of switching from intravenous to subcutaneous ICIs in France (poster reference: EE603 – Session 5).

## DRGs, diagnoses, and procedures 2021–2022

- 95.3% of DRGs** were classified as type Z, i.e., undifferentiated activity type.
- The **28Z07Z** DRG (Chemotherapy for tumor, in sessions) was the most represented code in ambulatory stays (**98.5%**).
- Principal **diagnoses** based on ICD-10 codes were:
  - Malignant neoplasm of bronchus and lung (C34)
  - Malignant melanoma of skin (C43)
  - Malignant neoplasm of kidney, except renal pelvis (C64)
  - Malignant neoplasm of bladder (C67)
- 9.9%** of stays had at least one **procedure** based on the Classification commune des Actes Médicaux (CCAM) codes.

## Mean costs of stays 2021–2022

Costs attributed using the official French national tariffs in 2021 and 2022 were expressed in April 2025 Euros (€) to take account of inflation and were based on the Indice des prix à la consommation<sup>(1)</sup> indicator. Ambulatory costs ranged from approximately €4,300 to €6,700 across treatments, whereas inpatient costs ranged from about €8,000 to €12,000. **On average, inpatient care was nearly twice as costly as ambulatory care.**



## Data Source

Data Controller & Processing Implementation Manager: Creativ-Ceutical / Putnam  
Study registered under MR0006 with the Health Data Hub on 26 May 2025 under number N° 24415519

## Reference

(1) <https://www.insee.fr/statistiques/serie/001763845> - consultation date May 2025

## Abbreviations

PMSI: Programme de Médicalisation des Systèmes d'Information; ICI: Immune checkpoint inhibitor; DRG: Diagnosis-Related Group; ICD-10: International Classification of Diseases, 10th revision; CCAM: Classification commune des Actes Médicaux\*

## Contact

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