12-15 November 2023 - Copenhagen, Denmark

# Open data available in France: a great asset to study real-life trends for disease burden

An example with bariatric surgery procedures

#### BACKGROUND

Several types of bariatric surgery procedures 1 exist, including:

#### Restrictive methods, which reduce the stomach size:

- Sleeve gastrectomy: It removes irreversibly around two-thirds of the stomach pouch, leaving a tube-shaped stomach.
- Gastric Bands: procedure that reduces stomach volume and slows the passage of food. It does not interfere with food digestion. A ring (whose diameter can be modified) is placed around the upper part of the stomach, delimiting a small pouch. Little food is needed to fill this pocket, and the sensation of satiety appears quickly. Food flows out very slowly, according to the hourglass principle. This is a reversible and the only adjustable procedure.

#### Mixed methods called restrictive & « malabsorptive » procedures which reduce both the size of the stomach and assimilation of the food by the body:

• Bypass creates a short-circuit of part of stomach and intestine (no organs are removed). Food goes directly into the middle part of small intestine, and is therefore assimilated in smaller quantities.

Data on bariatric surgeries and related hospitalization in France are available in open access thanks for datasets provided by the French Health National Insurance (NHI) and by the Technical Agency for Health Information (ATIH). Bariatric surgeries can be identified thanks to specific procedures codes (CCAM codes).

### OBJECTIVE

To highlight strengths and weaknesses of the open data made available through concrete example describing evolution and costs of bariatric surgery procedures.

## METHODS

This work was based on reprocessing of two open datasets:

- OpenCCAM<sup>2</sup>: gathering information on medical procedures realized in hospital setting,
- ScanSanté<sup>3</sup>: gathering information on hospital stays.

All initial procedures were extracted between 2018 and 2022 thanks to the relevant CCAM codes of interest:

[HFFC018] Longitudinal gastrectomy for morbid obesity, laparoscopy

[HFFA011] Longitudinal gastrectomy or morbid obesity, by laparotomy

## Bypass

[HFCC003] Laparoscopic Y-loop gastric bypass for morbid obesity

[HFCA001] Y-loop gastric bypass for morbid obesity, by laparotomy

## Bands

[HFMC007] Laparoscopic perigastric adjustable ring gastroplasty for morbid obesity

All the Diagnosis Related Group (DRG) coded for each procedure of interest were retrieved on ScanSanté with the number of stays for each DRG. Official tariffs were retrieved thanks to French decree published on 2022<sup>4</sup>, taking into account the enhanced recovery programs after surgery (Programmes de récupération améliorée après chirurgie (RAAC) in French) <sup>5</sup> separetely for public and private (excluding physician fees) facilities.

The average cost of hospital stays was estimated per bariatric procedure. Costs were expressed in Euros 2022.

## CONCLUSION

Bariatric surgeries, especially through sleeve surgeries, continue to generate high costs for the NHI in France, showing that obesity remains a major public health issue and should not be a neglected disease.

This work also demonstrates that open data from the NHI can be a strong asset to evaluate trends and related costs of hospital activities in France.

## References

<sup>1</sup> Haute Autorité de santé. https://www.has-sante.fr; https://www.has-sante.fr/upload/docs/applica-

tion/pdf/2009-09/brochure\_obesite\_patient\_220909.pdf <sup>2</sup> Available on: https://www.assurance-maladie.ameli.fr/etudes-et-donnees/actes-techniques-ccam

<sup>3</sup> Available on: https://www.scansante.fr/

<sup>4</sup> https://www.legifrance.gouv.fr/download/pdf?id=kXS9L4V1IaN015QKKNMKyGdoyaiZlDDLDoWKNzrjT-Y=

<sup>5</sup> https://www.has-sante.fr/jcms/c\_1763416/fr/programmes-de-recuperation-amelioree-apres-chirurgie-raac

## **Abbreviations**

ATIH: Technical Agency for Hospital Information; CCAM: Common Classification of Medical Acts; DRG: Diagnosis Related Group; **NHI:** National Health Insurance

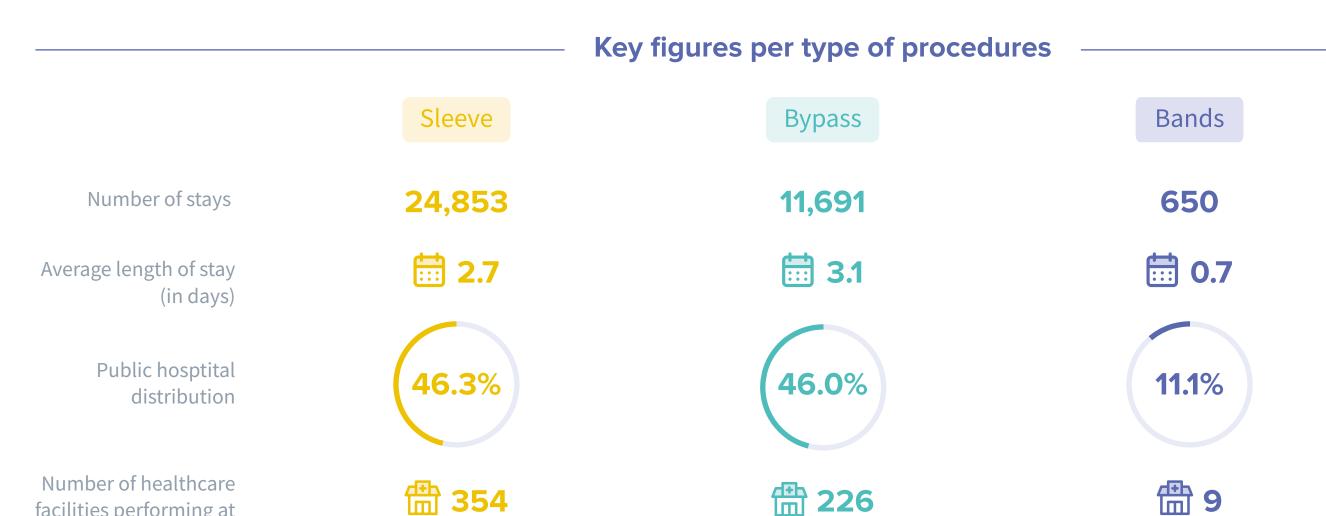
### RESULTS

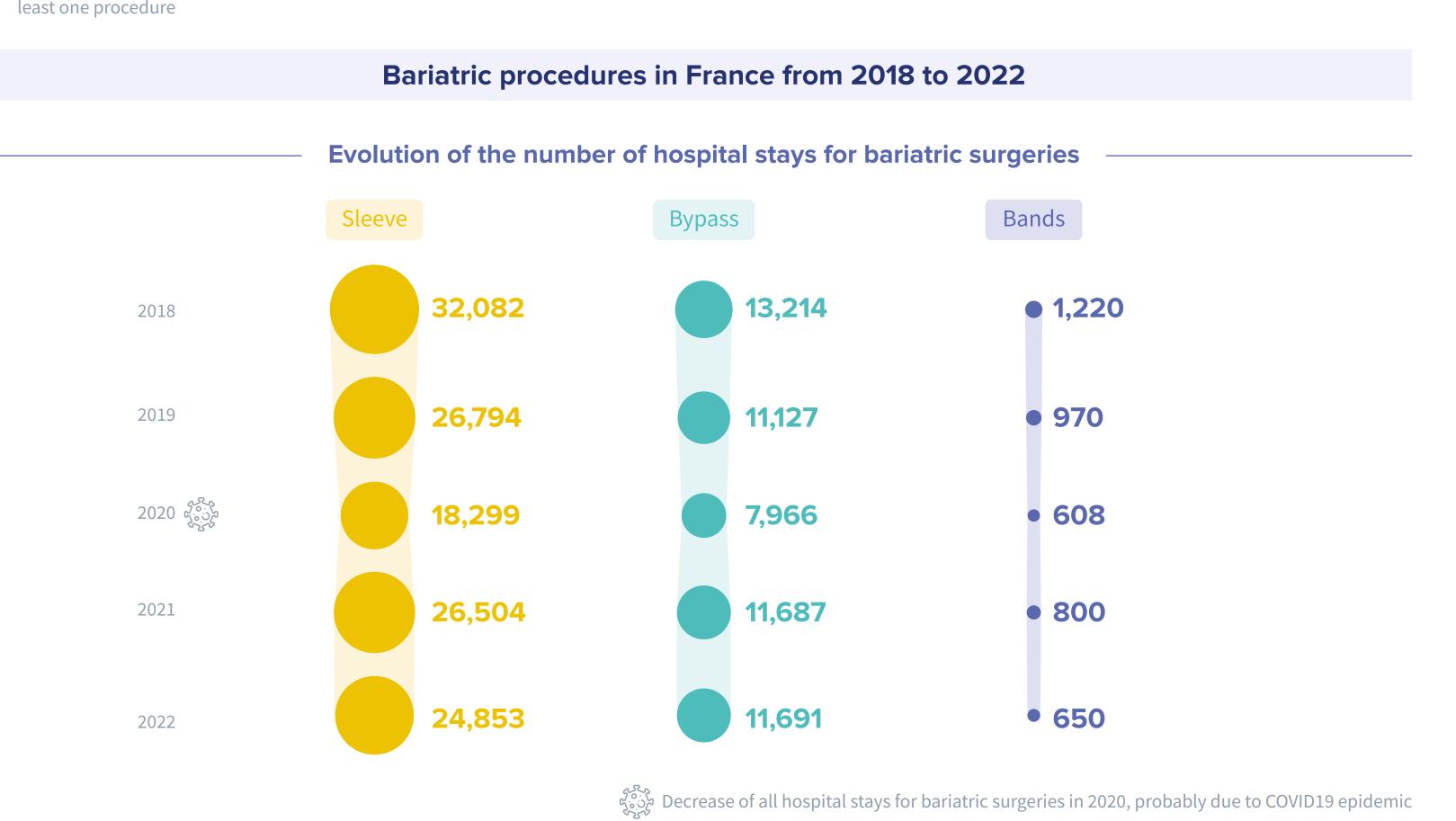
### **Bariatric procedures in France in 2022**

#### **Key figures**



facilities performing at



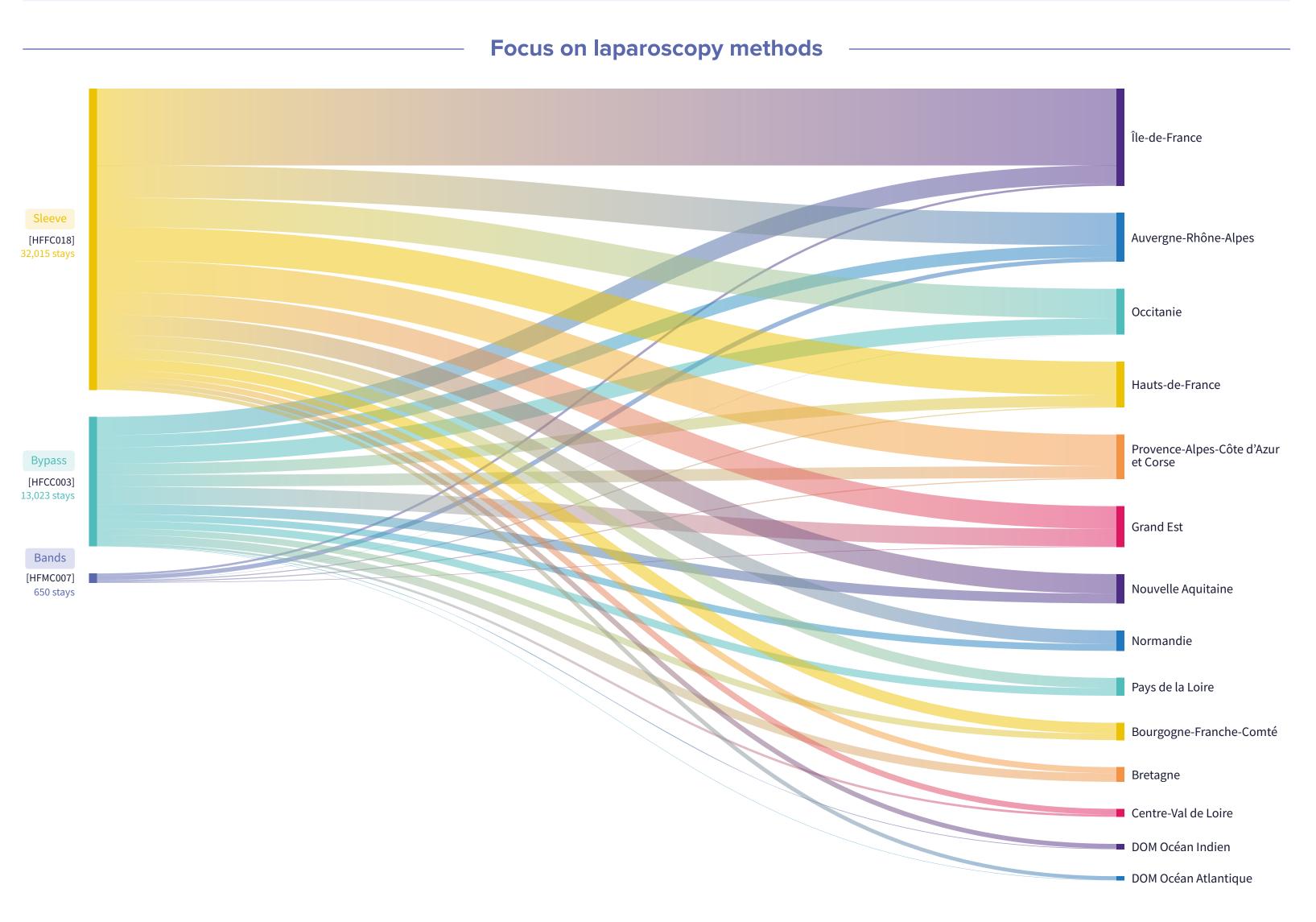


The proportion of overall bariatric surgeries performed as outpatient (no stay over night) remained quite low in 2022, except for gastric bands (bypass: 2.3%; sleeve: 3.3%; band: 57.8%).

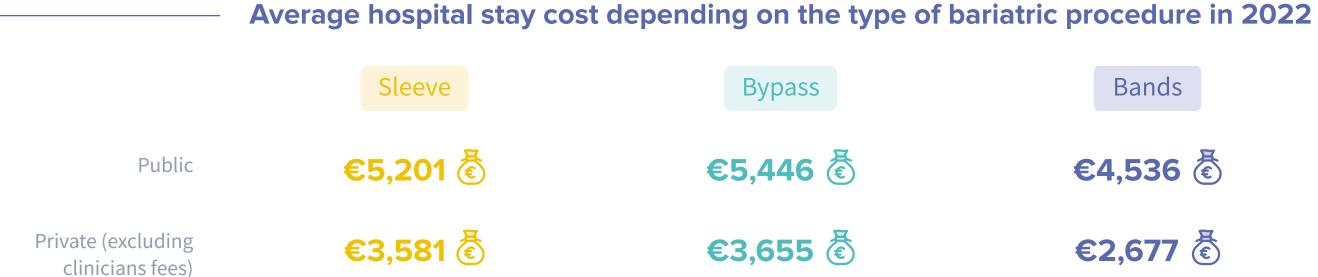
**Outpatient setting** 



## Distribution of procedures of interest according to French regions



**Costs related to bariatric procedures** 



Average length of stay

**3.5** days