COST EFFECTIVENESS IN OUTPATIENT BARIATRIC SURGERY WITH HOME CARE: A FIVE-YEAR SINGLE CENTER EXPERIENCE

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Private hospital

NANTES FRANCE

*DISCLOSURE : **ELIVIE e- Horus***

WHY AMBULATORY ?

4 major objectives:

1/Medical

2/Institutional

3/Public health policy

4/Economic

L'ambu est un 100m!

Tout se joue avant l'hospitalisation

1/ MEDICAL OBJECTIVES

- Patient safety, morbi/mortality comparable to inpatient surgery while reducing hospital-acquired complications
- ERAS : early mobilization, rapid resumption of oral intake, reduced surgical stress
- Reduce postoperative morbidity by avoiding routine drains, urinary catheters, and nasogastric tubes.
- Safe discharge using home nursing surveillance and laboratory investigations
- Optimize postoperative pain control using multimodal, opioid-sparing analgesia

2/ INSTITUTIONAL OBJECTIVES

- Standardized protocol
- Continuous improvement in quality of care
- Structured postoperative follow-up, including telephone consultations on postoperative days 1 and 5
- Promotion of multidisciplinary teamwork and institutional excellence
- Reduced hospital exposure and iatrogenic complications
- Early return home = improved psychological comfort and faster functional recovery

3/ PUBLIC HEALTH OBJECTIVES

By 2022, my objective is to increase outpatient medical care to 55% and outpatient surgery to 70%."

Agnès Buzyn

French Minister of Solidarity and Health 2017

October 5, 2017

	France 2016 Volume et taux de chirurgie ambulatoire	France 2017 Volume et taux de chirurgie ambulatoire	France 2018 Volume et taux de chirurgie ambulatoire	France 2019 Volume et taux de chirurgie ambulatoire	Evolution
Volume de séjours nouveau périmètre ambulatoire avec DS = 0 et ME = MS =8	3 430 698	3 583 362	3 730 818	3 846 578	+ 115 760
Taux de chirurgie ambulatoire nouveau périmètre	54,1 %	55,9 %	57,6 %	**58,5 %**	+ 0,9 %

A ce rythme d'évolution en moyenne de 1%/an = Objectif BUZIN atteint en 2032 et non 2022 !

4/ ECONOMIC OBJECTIVES

1 / Compare healthcare expenditures associated with outpatient versus inpatient bariatric surgery, taking into account:

- hospitalization costs
- costs related to postoperative home monitoring and follow-up

2 / Evaluate economic impact of implementing outpatient bariatric surgery

OUTPATIENT BARIATRIC SURGERY
Prospective Single-Center Observational Study

Antoine SINA, MD

Digestive and Bariatric Surgeon

Santé Atlantique

Saint-Herblain, France

- Methods and design: Prospective, non-randomized observational study single center/single surgeon from September 2019 to June 2024

- Eligibility : Patients fulfilling both current indications for bariatric surgery and criteria for outpatient anesthesia

- Standardized management : Anesthetic protocol, surgical technique, postoperative pain management, PONV ..

Patients received structured postoperative home monitoring provided by specialized home healthcare professionals

PERI OPERATIVE PROTOCOL

- VTP : Intermittent pneumatic compression devices, Graduated compression stockings
- Low-impact laparoscopy : Low-flow CO_2 insufflation (10–12 L/min) PNP 8 - 10 mmHg
- Opioid-free anesthesia , TAP block or Trocar-site infiltration using levobupivacaine (Chirocaine®)
- Enhanced recovery measures: No urinary catheter, no naso gastric tube

HOME CARE

Twice daily, for 4 days :

- Assessment of pain using the Numeric Rating Scale (NRS) or Visual Analogue Scale (VAS), and evaluation of the patient's general condition.
- Heart rate
- Blood pressure
- Temperature
- Saturation (SpO_2)
- Inspection of the surgical dressing(s) and wound for bleeding, discharge, or signs of infection.
- On POD 3: CBC with CRP ++

Pain and PONV Prevention

- Analgesics : Oral paracetamol ,Phloroglucinol (Spasfon®): 2 ampoules, twice daily and Nefopam (Acupan®): 3 ampoules administered as a continuous 24-hour infusion via a portable infusion pump

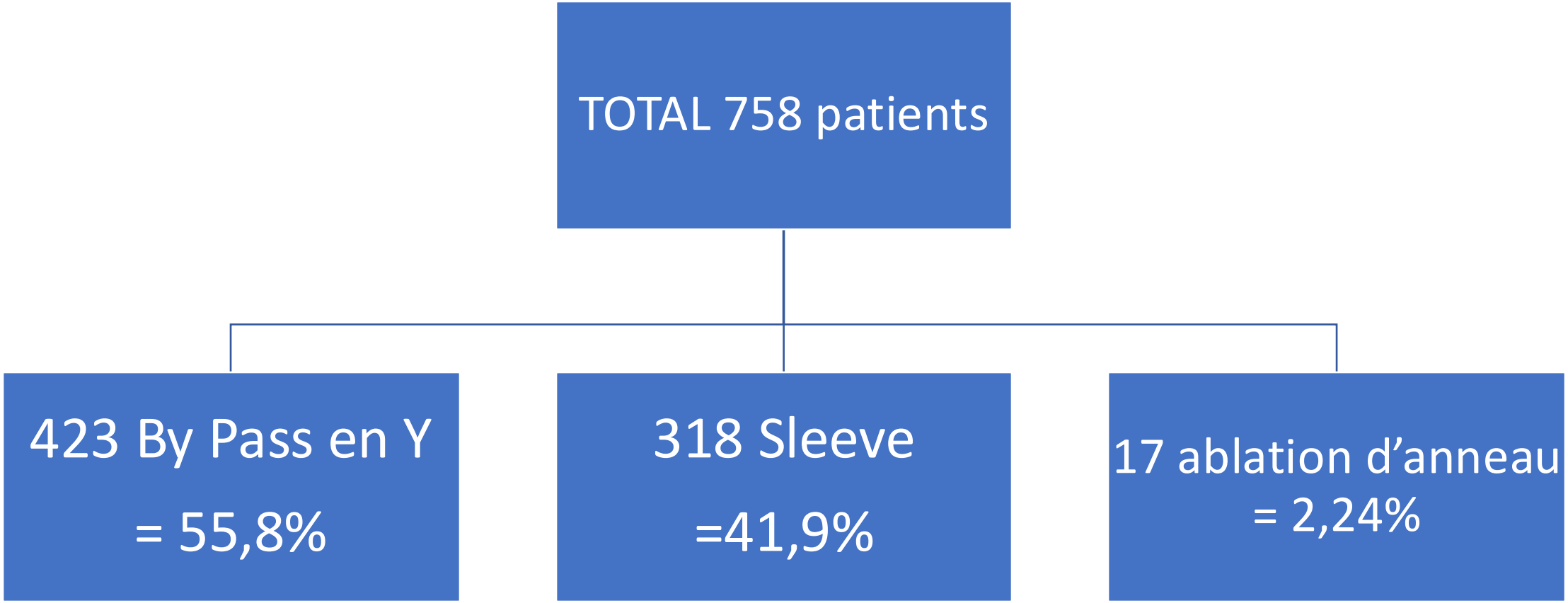
- Antiemetic therapy:Ondansetron (Zophren®): 4 mg, twice daily

- Hydration: 500 mL of 0.9% normal saline administered overnight via a large-volume infusion pump.

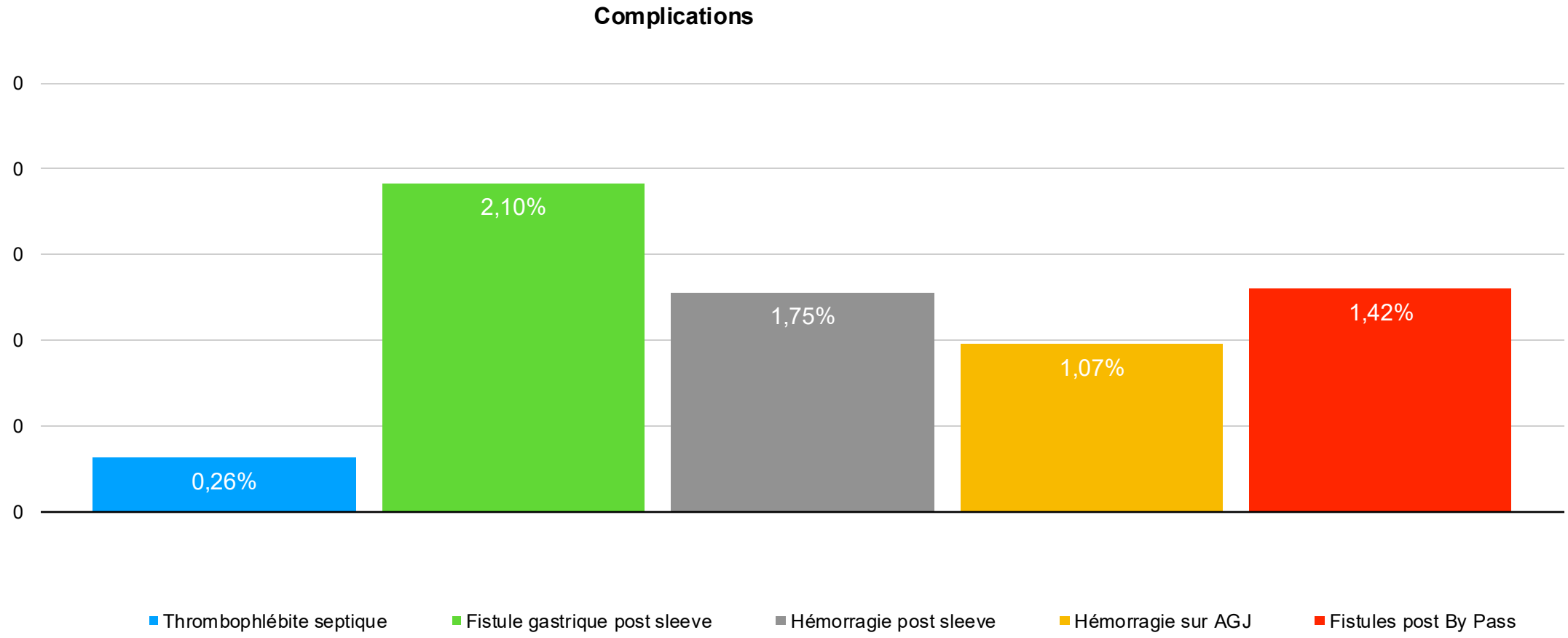
INDICATIONS FOR URGENT READMISSION

Risk of Hemorrhage and Anastomotic Leak (Fistula)

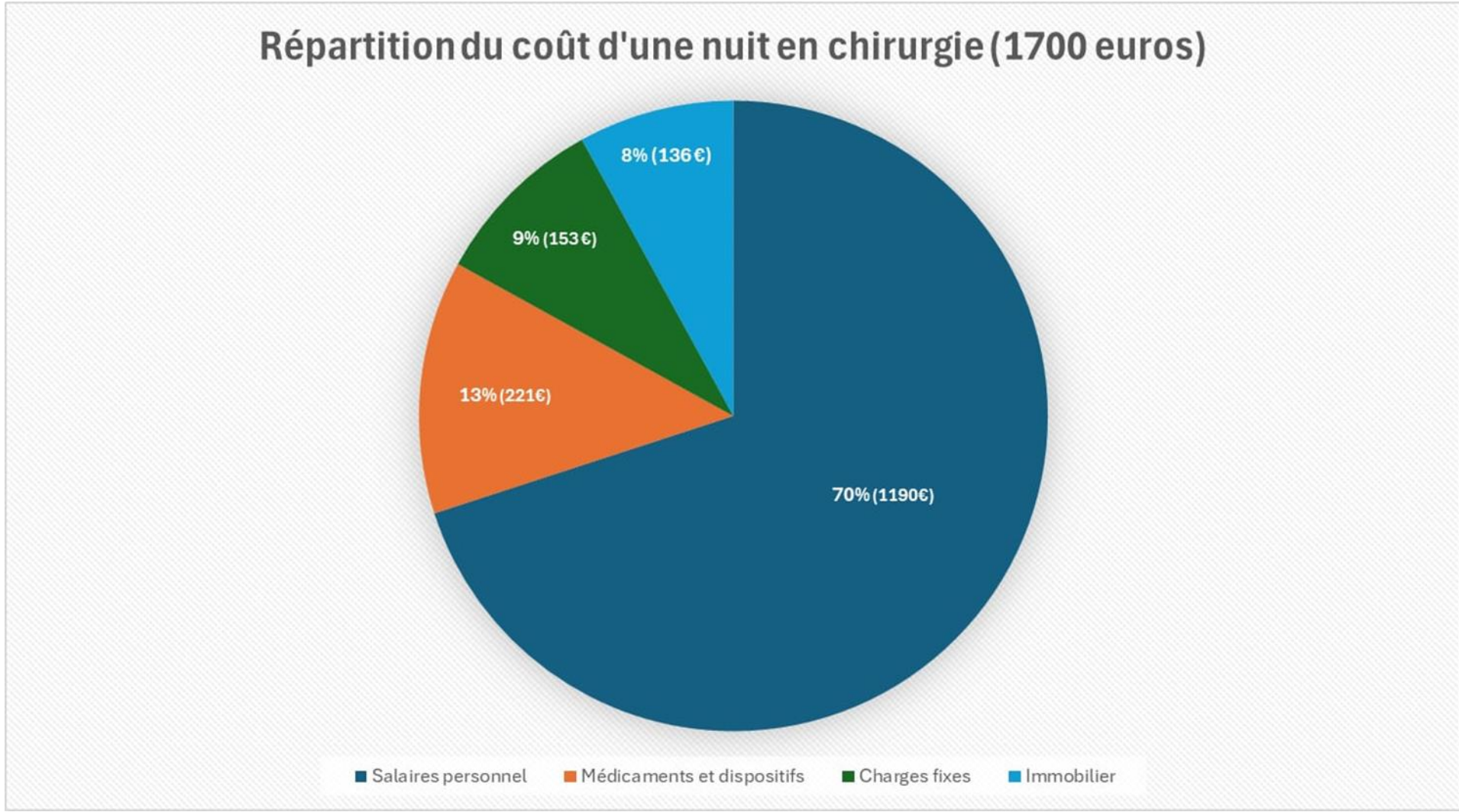
- Palpitations, tachycardia – **heart rate (HR) > 110 beats/min**
- Temperature **> 38.2°C**
- Paroxysmal abdominal pain, particularly **occurring between meals**
- Sweating and/or chills
- Recurrent vomiting
- Dizziness
- **C-reactive protein (CRP) > 120 mg/L** with no other identifiable cause
- **Hemoglobin < 10 g/dL**

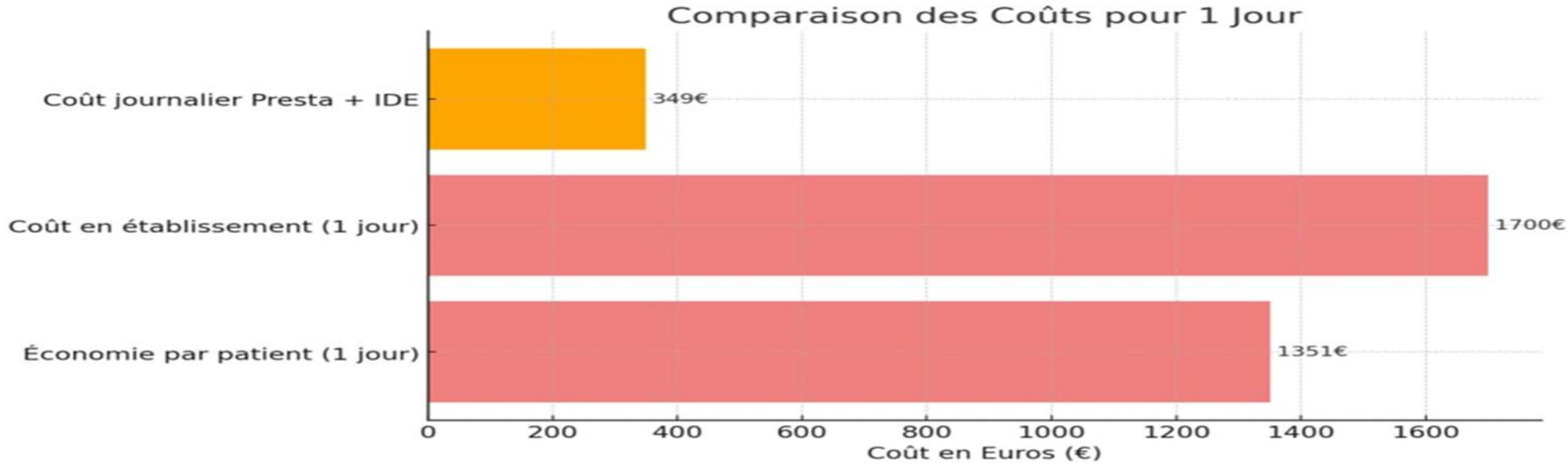

TOTAL 758 patients
423 By Pass en Y
= 55,8%
318 Sleeve
=41,9%
17 ablation d'anneau
= 2,24%

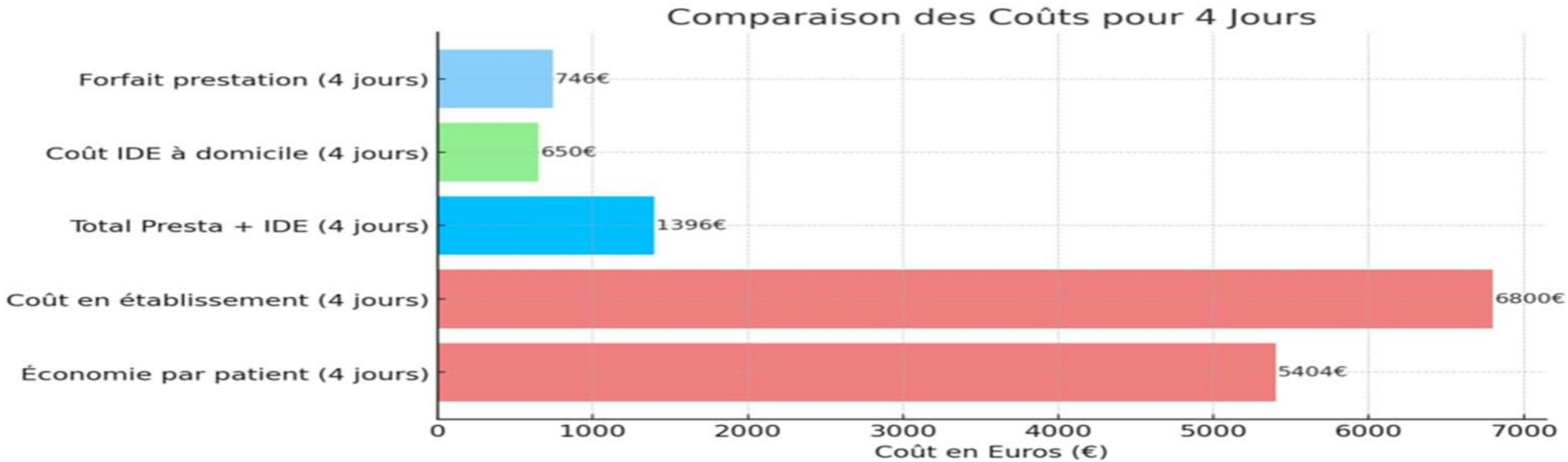
- **Mean length of stay (LOS) in PACU: 89.5 min** (range: **32–245 min**)
- **Mean total length of stay (LOS) in the ambulatory surgery unit: 655 min** (range: **595–705 min**)
- **Overall patient satisfaction: 87%** (*n* = 506)
- **Mortality: 0%**
- **Morbidity: 3.44%** (**20 readmissions out of 580 patients**)

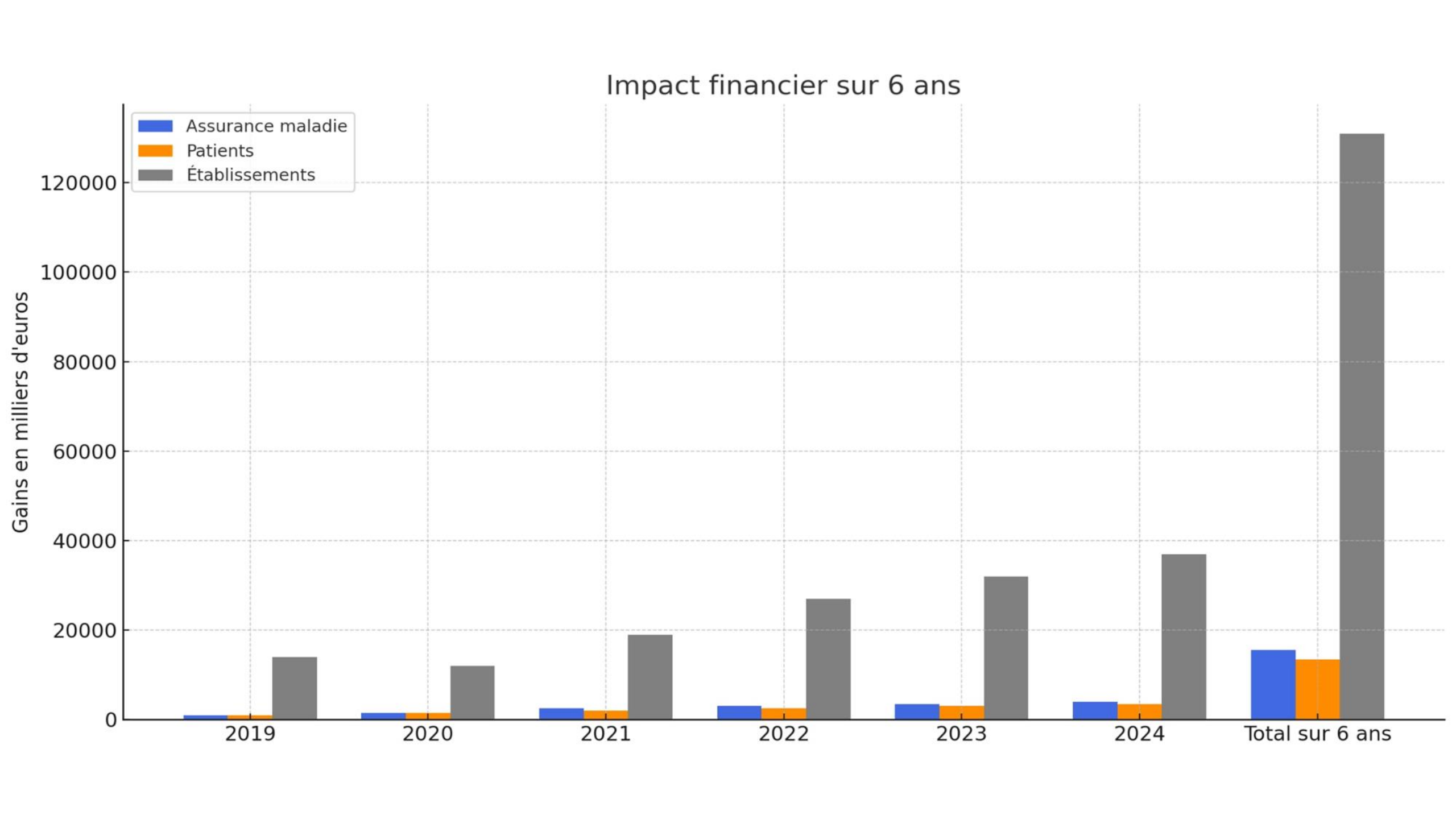

Complications
0
0
0
0
0
0
2,10%
1,75%
1,07%
1,42%
0,26%
Thrombophlébite septique
Fistule gastrique post sleeve
Hémorragie post sleeve
Hémorragie sur AGJ
Fistules post By Pass

COST EFFECTIVENESS


Répartition du coût d'une nuit en chirurgie (1700 euros)
8% (136 €)
9% (153 €)
13% (221€)
70% (1190€)
Salaires personnel
Médicaments et dispositifs
Charges fixes
Immobilier


Comparaison des Coûts pour 1 Jour
Coût journalier Presta + IDE
349€
Coût en établissement (1 jour)
1700€
Économie par patient (1 jour)
1351€
0
200
400
600
800
1000
1200
1400
1600
Coût en Euros (€)


Comparaison des Coûts pour 4 Jours
Forfait prestation (4 jours)
746€
Coût IDE à domicile (4 jours)
650€
Total Presta + IDE (4 jours)
1396€
Coût en établissement (4 jours)
6800€
Économie par patient (4 jours)
5404€
0
1000
2000
3000
4000
5000
6000
7000
Coût en Euros (€)


Impact financier sur 6 ans
Assurance maladie
Patients
Établissements
Gains en milliers d'euros
0
20000
40000
60000
80000
100000
120000
2019
2020
2021
2022
2023
2024
Total sur 6 ans

CONCLUSION

- **For the French National Health Insurance (CPAM), the costs of outpatient surgery (OS) and inpatient surgery (IS) are relatively similar.**
- **For healthcare institutions, outpatient surgery is associated with significantly lower costs than inpatient surgery (approximately 20% lower on average), resulting from substantial organizational restructuring and optimization of healthcare teams.**
- **For patients, hospitalization-related costs are lower when surgery is performed on an outpatient basis.**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