

CENTRALIZED PREPARATION OF ARGATROBAN SYRINGES

MEDICO-ECONOMIC ASSESSMENT

AFTER 18 MONTHS

GM-11



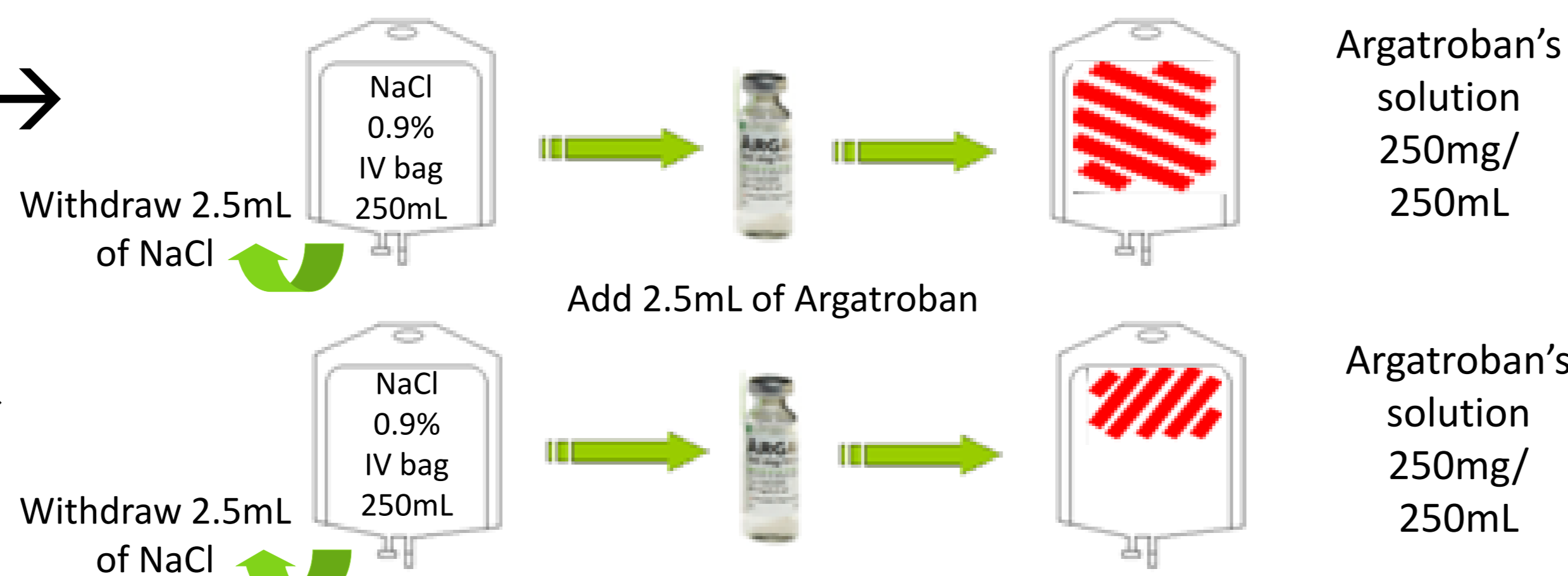
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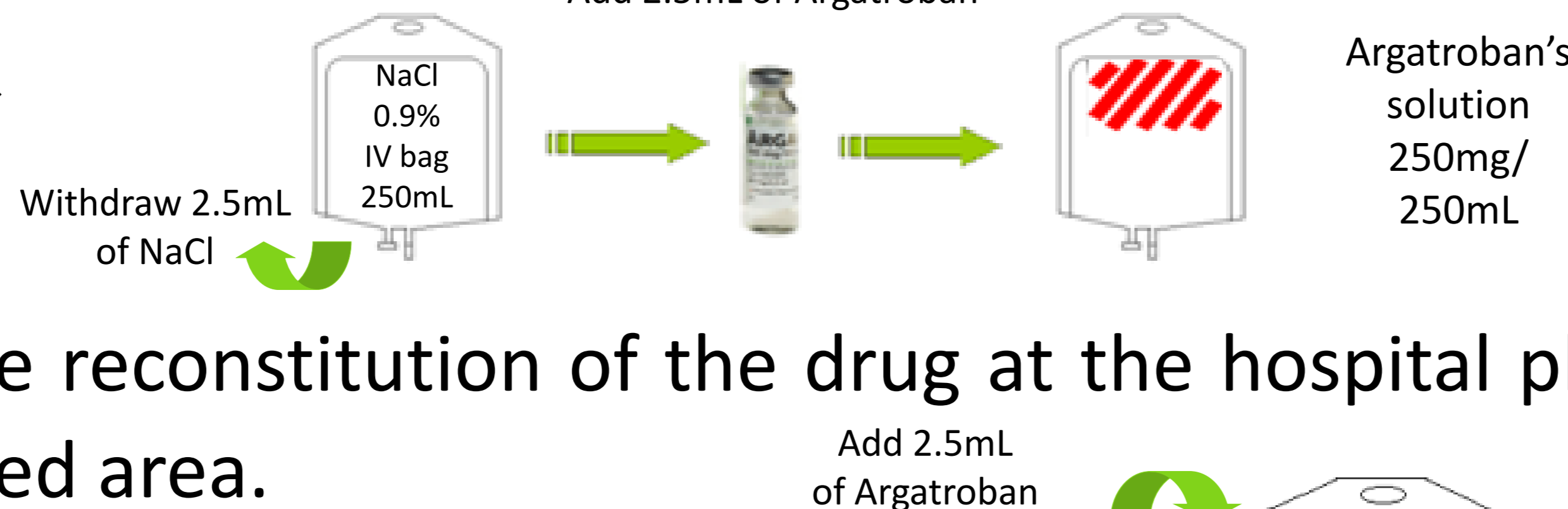
Background:

Argatroban is indicated in cases of suspected heparin-induced thrombocytopenia (HIT) type II. Argatroban's reconstitution, example with a starting dose for a 70 kg patient:

• 0.5 µg/kg/min : 50 mg/day →



• 2 µg/kg/min : 201 mg/day →

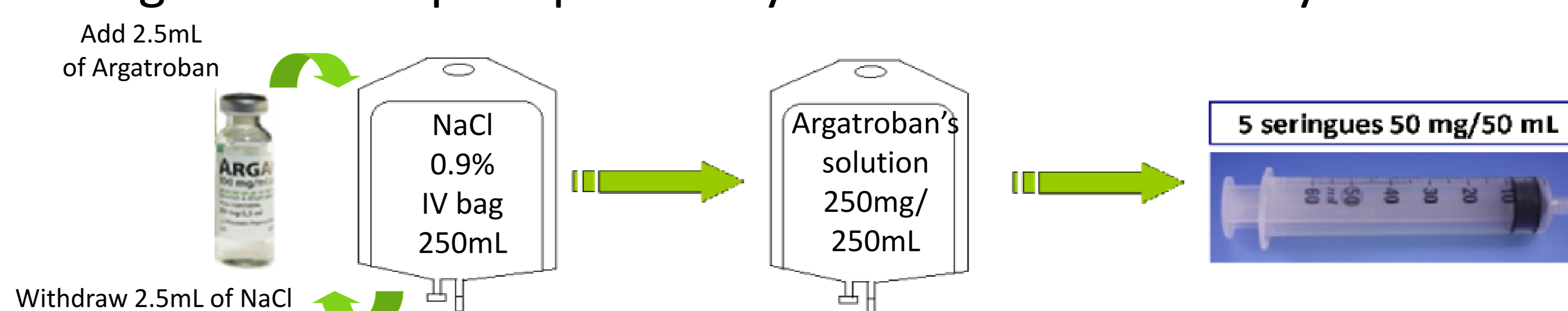


Waste of Argatroban's solution between 20 and 80% !



⇒ In 2013, we centralized the reconstitution of the drug at the hospital pharmacy done under biosafety cabinet with supervision, and in air controlled area.

One vial produces five 50ml syringes, ready to use, for several days.



The firm validated the physicochemical stability of the preparation for 14 days at 25°C and we validated the microbiological stability for 5 days between +2 et +8°C.

Objective

To evaluate the medico-assessment of the preparation after 18 months

Method:

Retrospective, **cost minimisation** analysis of the medico-economic assessment from January 2013 until June 2014 for the hospital.

Comparison of 2 hypotheses

H1: cost of reconstitution at the pharmacy

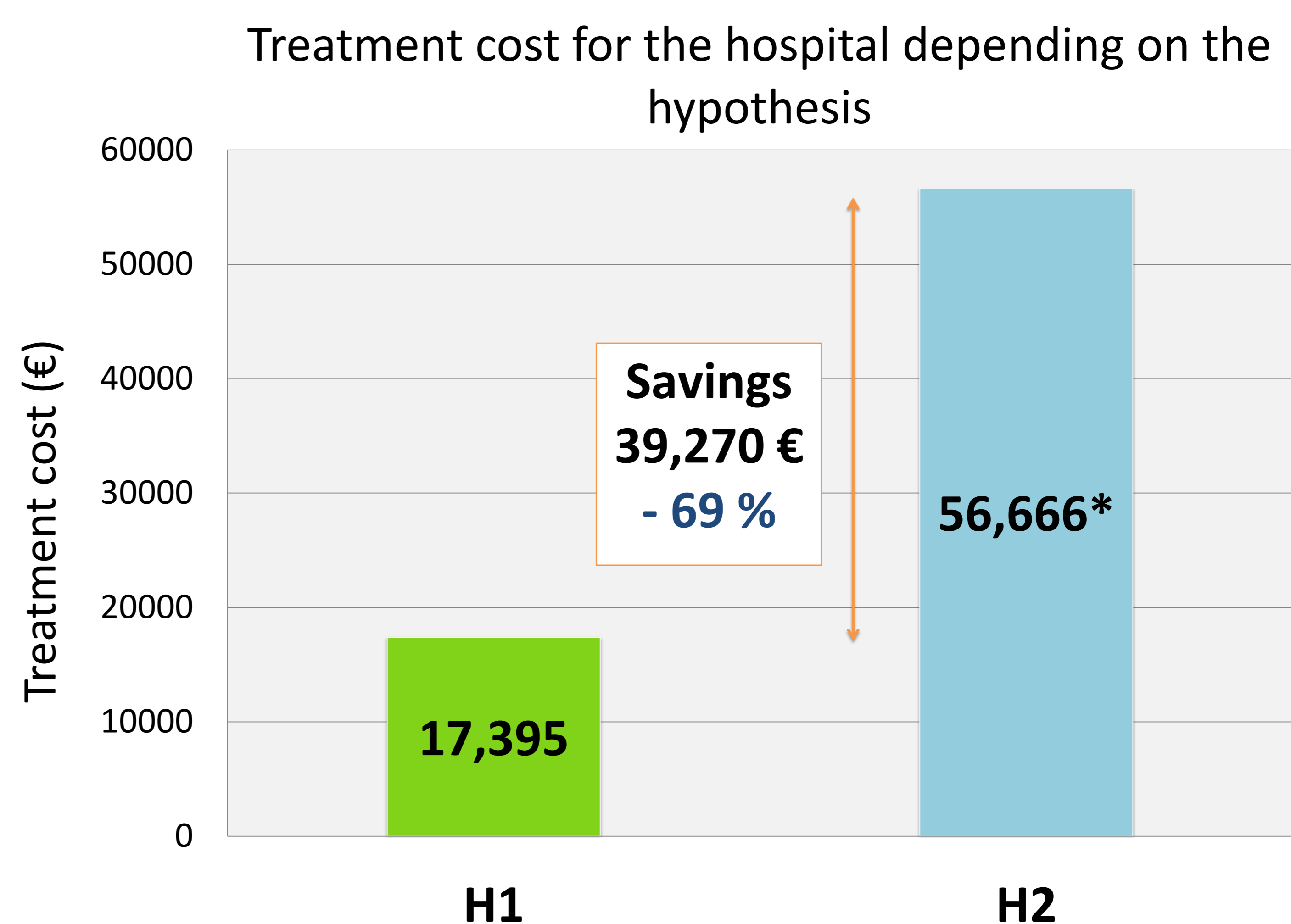
355€ = estimation for 1 reconstitution sequence (1 vial → 5 syringes) includes costs of a vial, consumables and staff

H2: cost of reconstitution if done extemporaneous in care service

255.25€ = cost of 1 vial VAT → worst case (no staff, no consumables)

Results:

- **12 patients** treated of average age of 75 years ([66;87])
- Average duration of treatment: **16 days** ([1;40])
- Average dosages:
 - **0.53 mg/kg/min** ([0.33;1.07]) or
 - **45.6 mg/day** ([24;61])
- Total of 245 prepared syringes, 49 vials used
- **9%** (23/245) of prepared syringes were **not** administered to 6 patients:
 - 2/6: no real HIT (negative heparin-induced platelet activation test) → IV heparin
 - 2/6: relay with oral anticoagulants
 - 1/6: death
 - 1/6: stop treatment even if « ok reconstitution » from care service
 - Others: expiration of syringes if low dosage (<50 mg/day)



Total savings = 39,270 € on 18 months – 12 patients

Average savings per patient 3,272 €
⇒ **Cost reduction of 69%**

Discussion & Conclusion:

The average dosages confirm the fact that Argatroban's vial has an inadequate presentation. Thus, centralized preparation of Argatroban syringes at the pharmacy guarantees **safety, sterility** and **savings** (reduction of 69% of the cost of the treatment).

To come, we aim to extend the time of microbiological stability (expiry date to 7 days) and to improve the communication with the care services, in order to minimize syringes losts.