

EASY-TO-USE AI CALCULATOR PREDICTING 5Y WEIGHT TRAJECTORIES AFTER BARIATRIC SURGERY: A SOPHIA STUDY

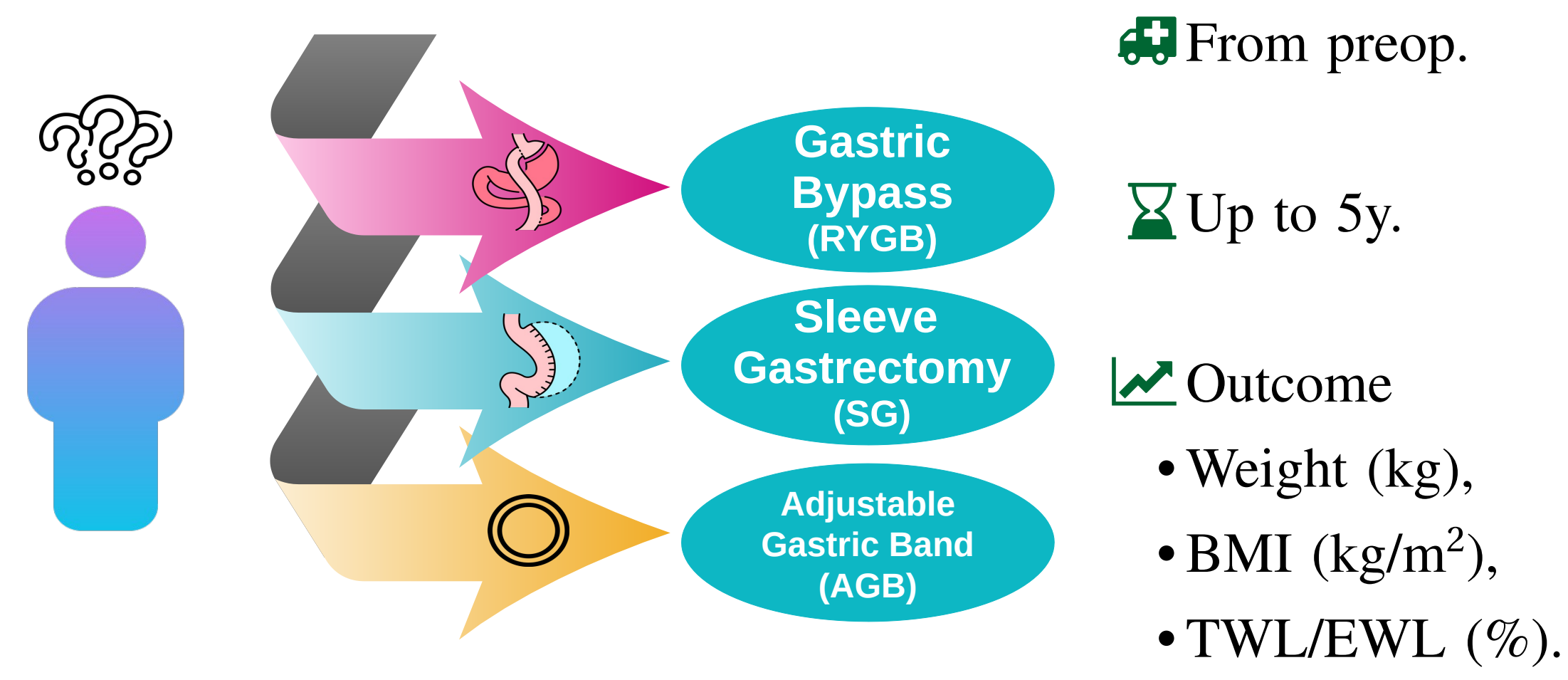


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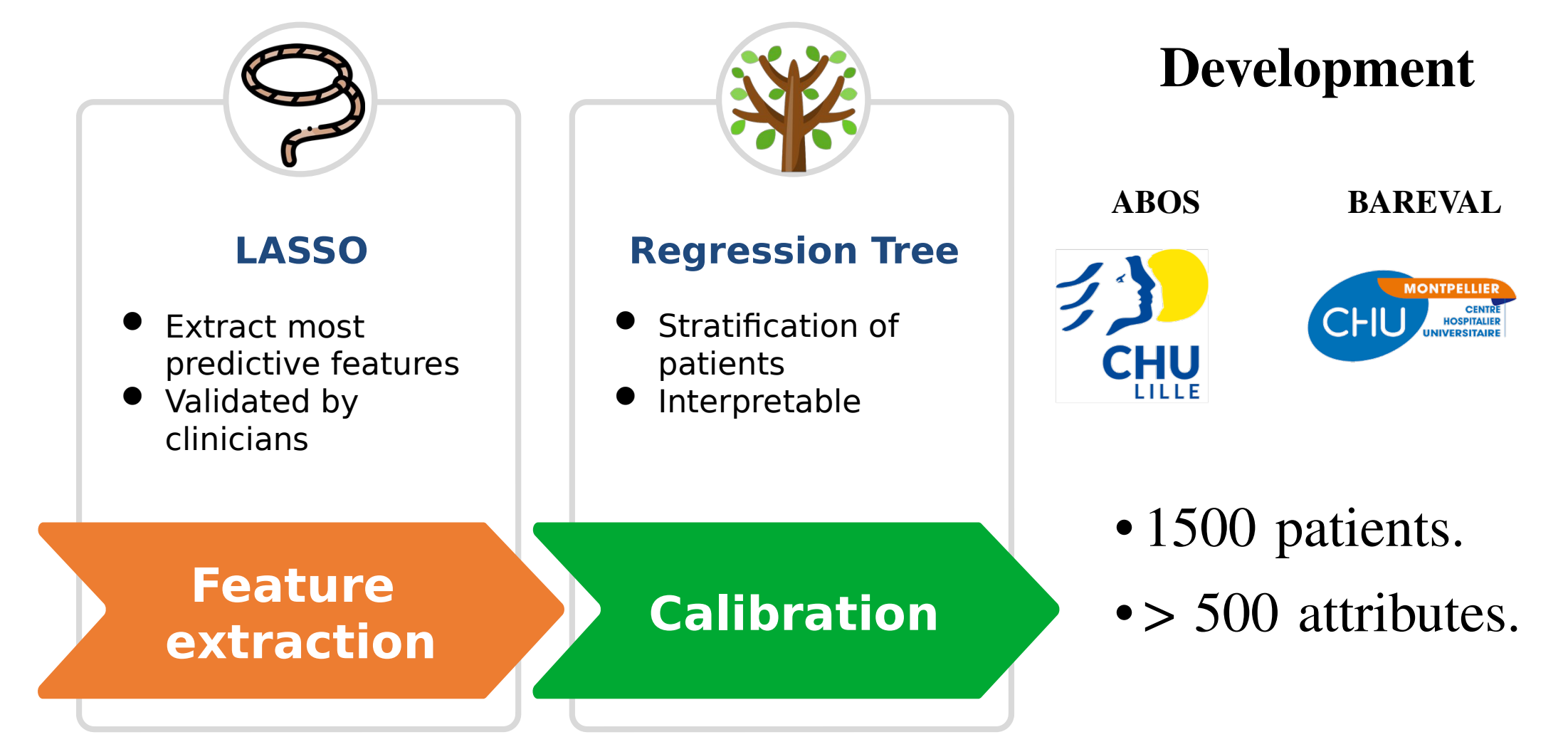


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Goal: predict the outcome of surgery

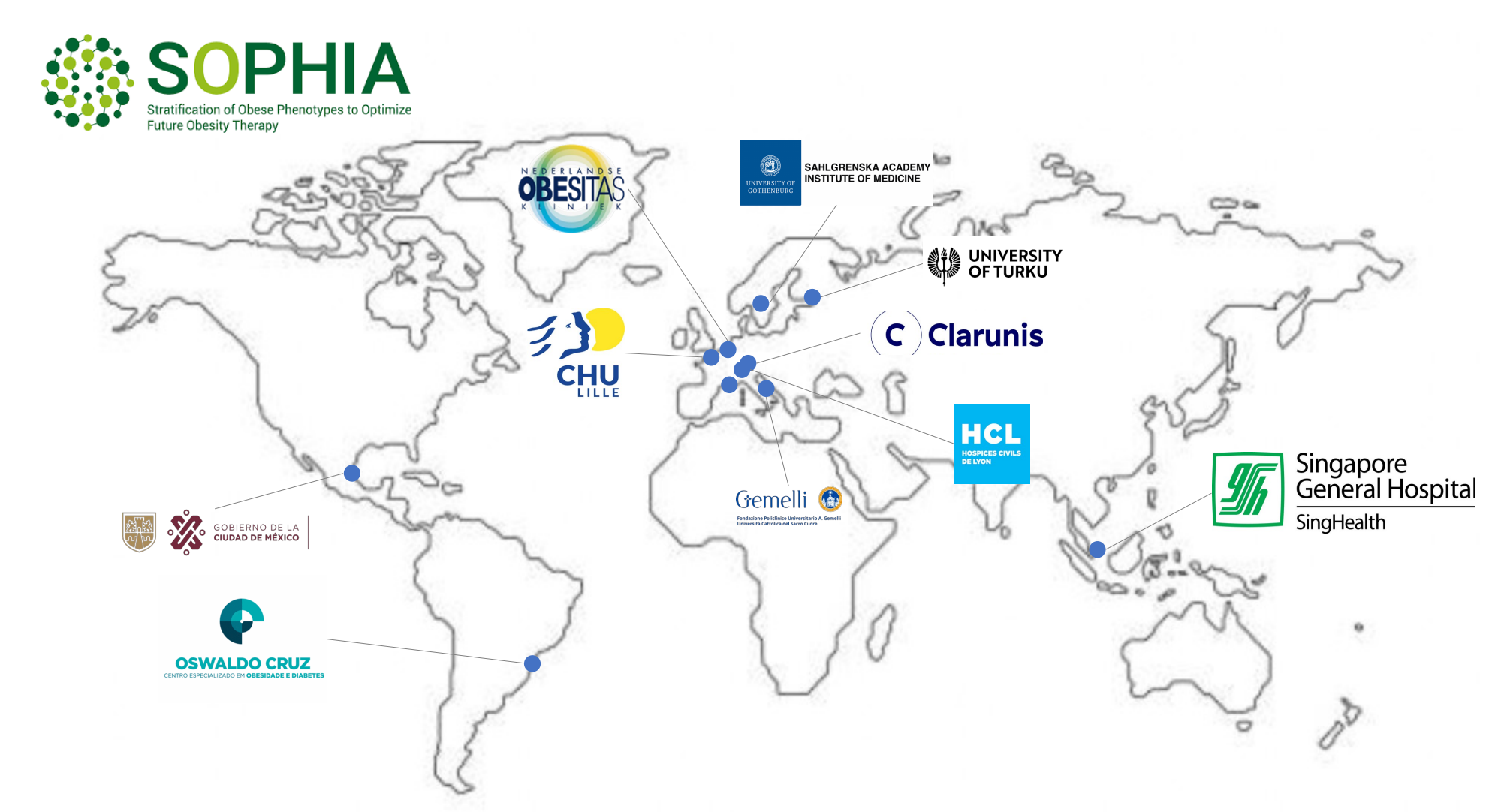


Machine learning model



An international study

Validation: 8 cohorts + 2 RCT studies
10,000 patients, 3 continents

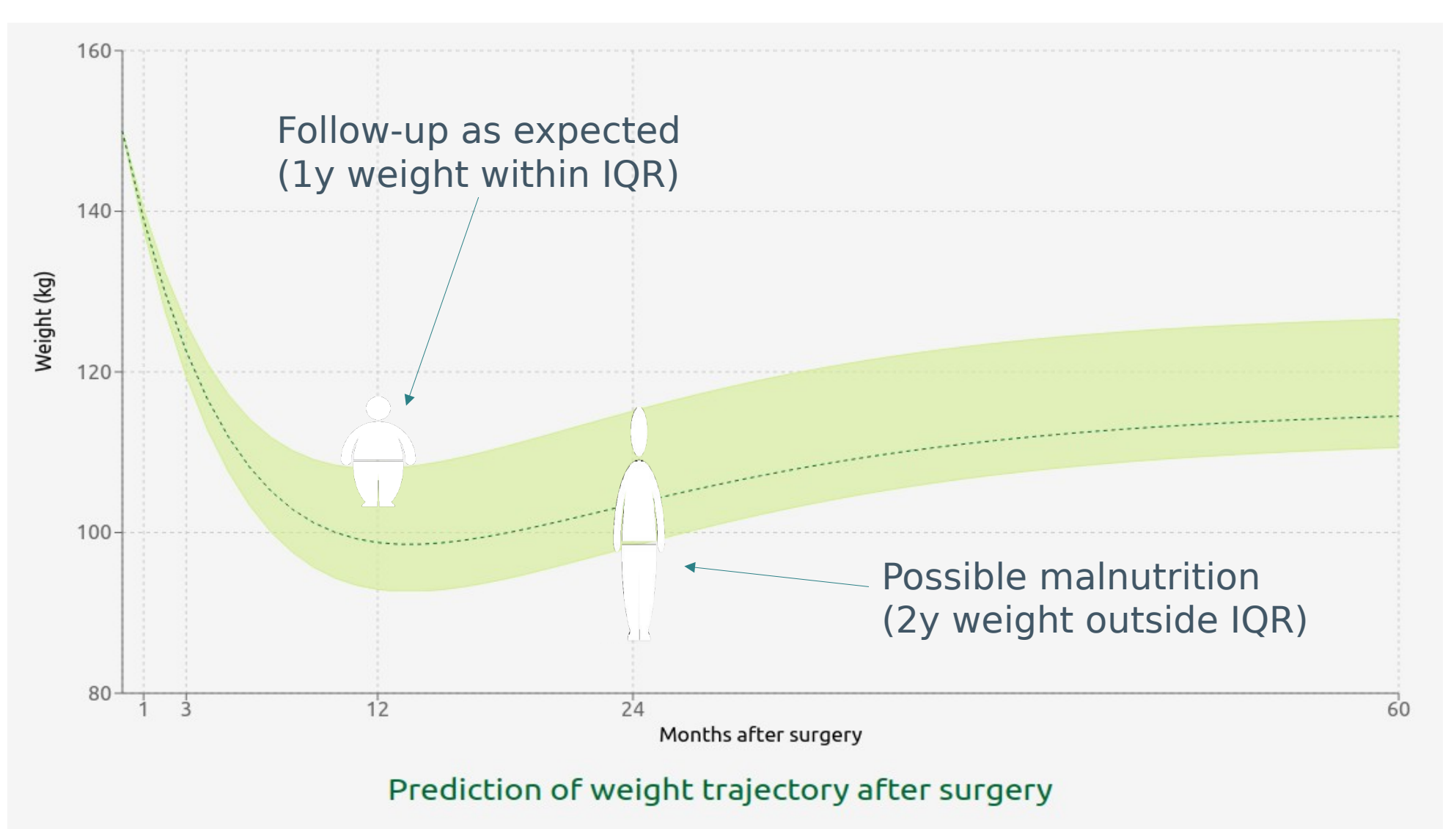


Results

7 (simple) attributes are predictive of post-surgery weight loss:

- Weight (preop),
 - Height,
 - Age,
 - Type of intervention,
 - Type II diabetes (T2D),
 - Duration of T2D,
 - Smoking.
- ⚠ Lower weight loss with
 - Age,
 - SG (after 1y),
 - T2D,
 - Longer (more severe) T2D.

A companion tool for patients and care providers



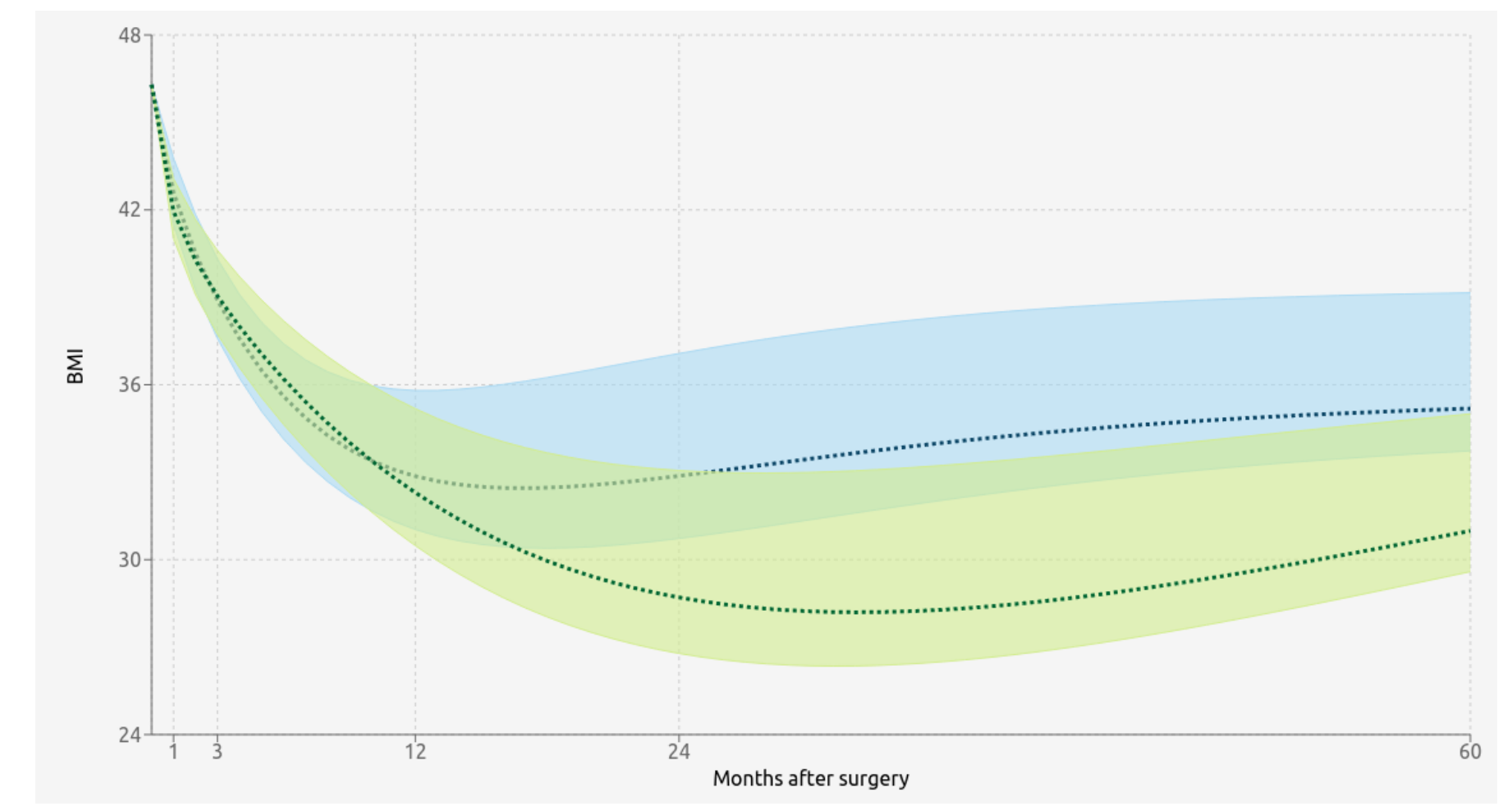
Bariatric Weight Trajectory Prediction



<https://bwtp.univ-lille.fr>

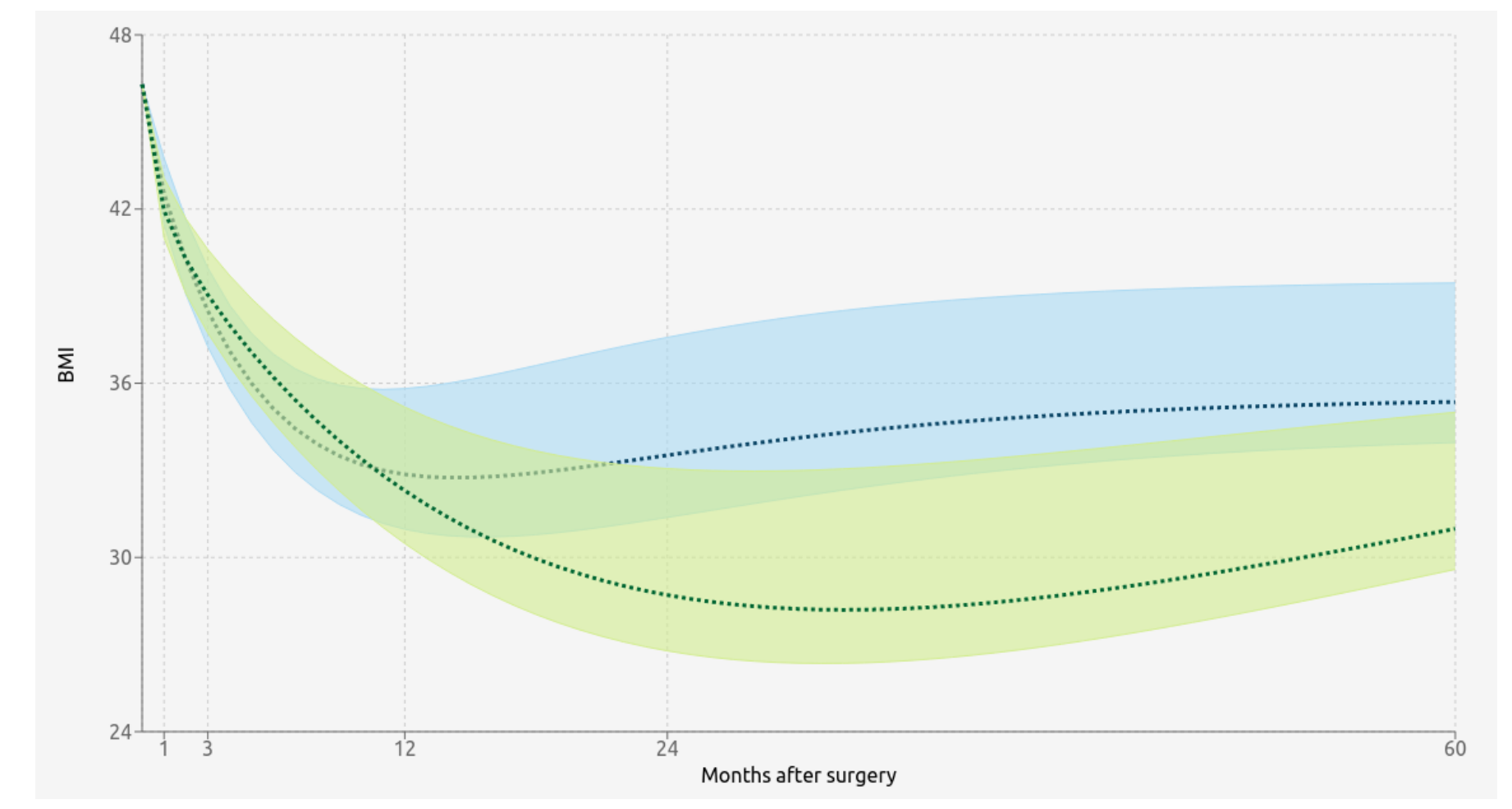
- ➡ Individualized trajectory (dotted line),
- ➡ "Green zone": where the majority of patients are (IQR),
- ➡ Preop: visualize expected weight loss,
- ➡ Postop: flag complications (patient out of green zone).

Impact of RYGB vs SG



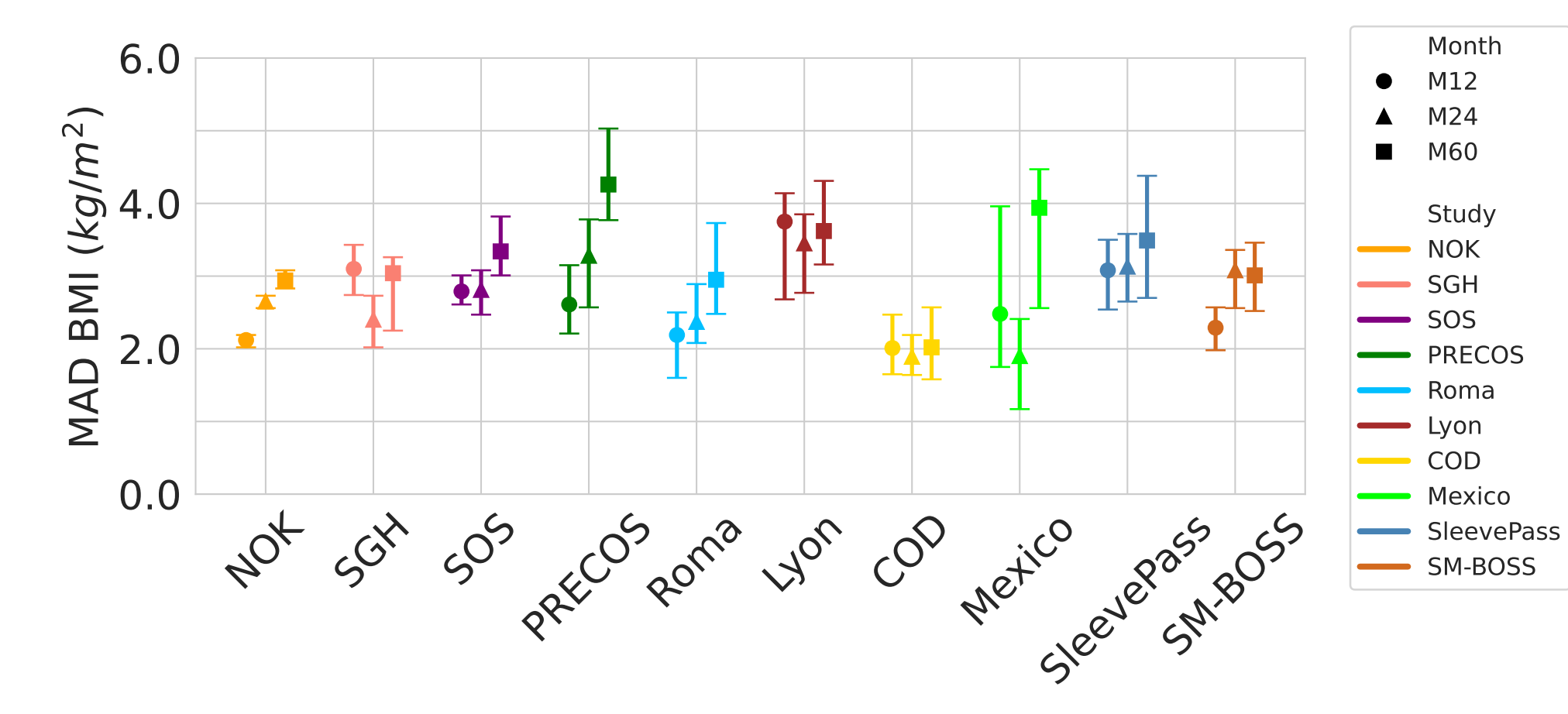
RYGB vs SG
synthetic replication of RCT SleevePass+SM-BOSS.

Impact of T2D



No T2D vs 10y T2D

Validation



MAD: accuracy in BMI points for a standard patient.