

# ARE VARIATIONS OF GLYCATED HEMOGLOBIN GIVEN BY THE FREESTYLE DEVICE ACCURATE?

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## BACKGROUND-AIM

Continuous glucose monitoring (CGM) by **interstitial glucose fluid monitoring** is a major recent improvement in the global care of diabetic patients. The **FreeStyle Libre (FSL)** allows CGM, but can also provide an **estimated glycated hemoglobin (eA1C)** based on serial interstitial glycaemia. Several studies showed a good correlation between eA1C and measured glycated hemoglobin (A1C) in cross-sectional designs.

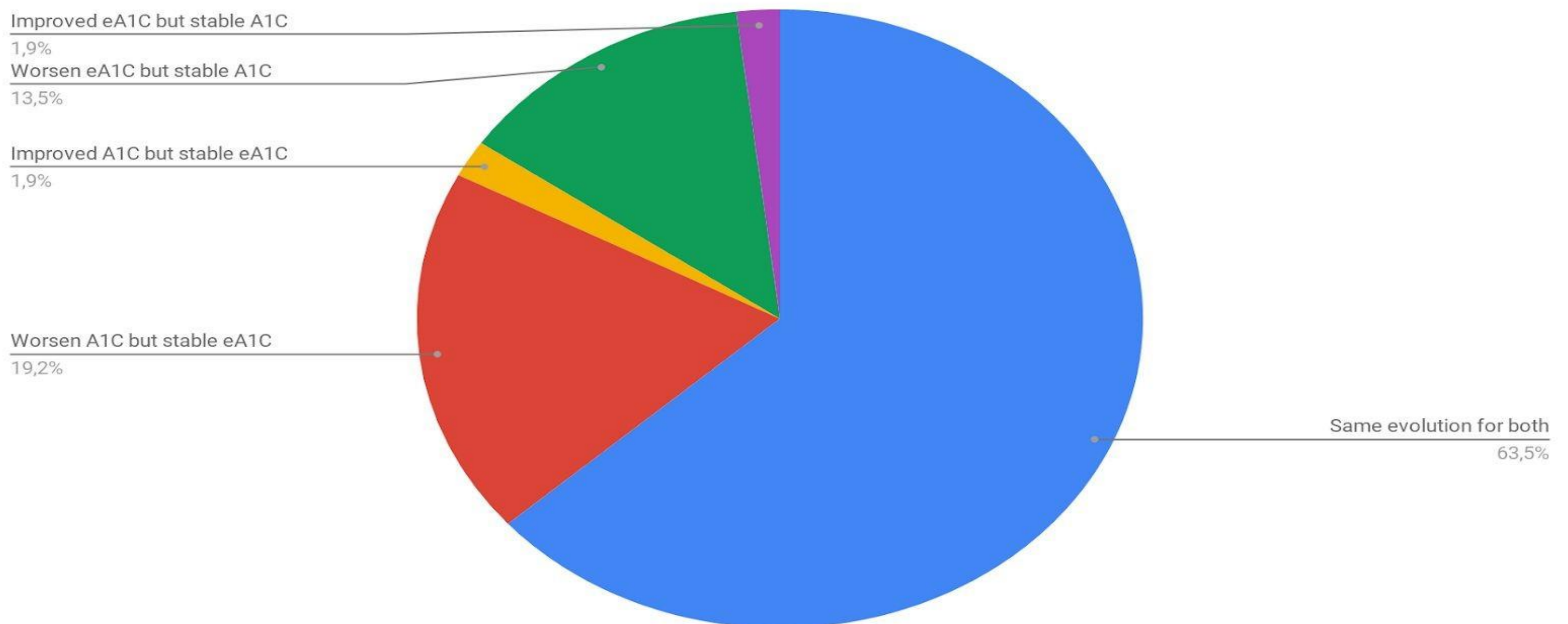
In the current study, we studied the ability of the FSL to **correctly estimate** such variations of A1C.

## METHODS

Patients from our University hospital with the following criteria were considered: **type 1 diabetes with FSL** and two values of A1C within an interval of **80 to 100 days**, values obtained from **FSL** (Abbot Diabetes Care) on one part and the laboratory (HPLC, HA8180, Menarini) on the other part.

The values should be obtained within the same period ( $\pm 8$  days). According to biological variation of A1C measurement, a change in A1C concentration of minimum  $\pm 6\%$  was considered as clinically significant. Accordingly, the patients were classified with the two techniques as stable, **“improving”** (value decreased) or **“worsening”** (value increased).

## RESULTS



## CONCLUSION

In this study, we showed that **variations of A1C** are **correctly** assessed by eA1C in **two-third** of the patients. In the remaining third, discrepancies are observed between stable and others, but **“improving”** patients are never classified as **“worsening”** (or the inverse).