

BACKGROUND

Hypoglycemia, defined as a drop in blood glucose below clinically established thresholds (<70 mg/dL), requires prompt treatment to prevent adverse outcomes [Seaquist et al., 2024]. However, overcorrection with excessive carbohydrate intake can lead to a subsequent spike in glucose level, known as rebound hyperglycemia (RhyperG) [Hansen et al., 2024]. RhyperG contributes to glycemic variability and complicates insulin management. Despite its clinical implications, a standardized definition of RhyperG has yet to be established in real-world populations [Hansen et al., 2024].

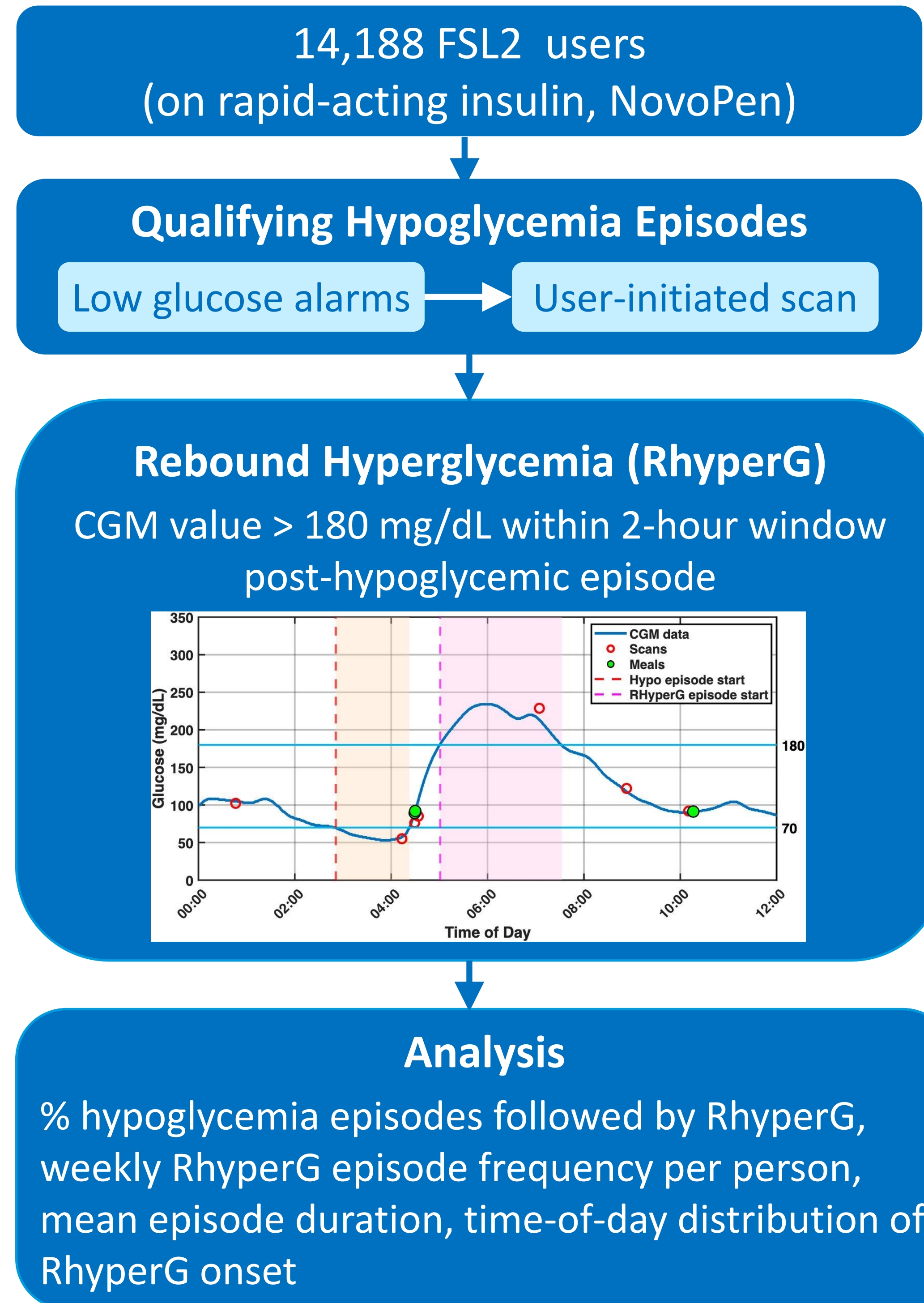
OBJECTIVE

To quantify the real-world prevalence of RhyperG in a large cohort of insulin-treated individuals using continuous glucose monitoring.

METHODS

Real-world data from 14,188 FreeStyle Libre 2 (FSL2) users were analyzed to characterize RHyperG following user aware hypoglycemic episodes (Figure 1).

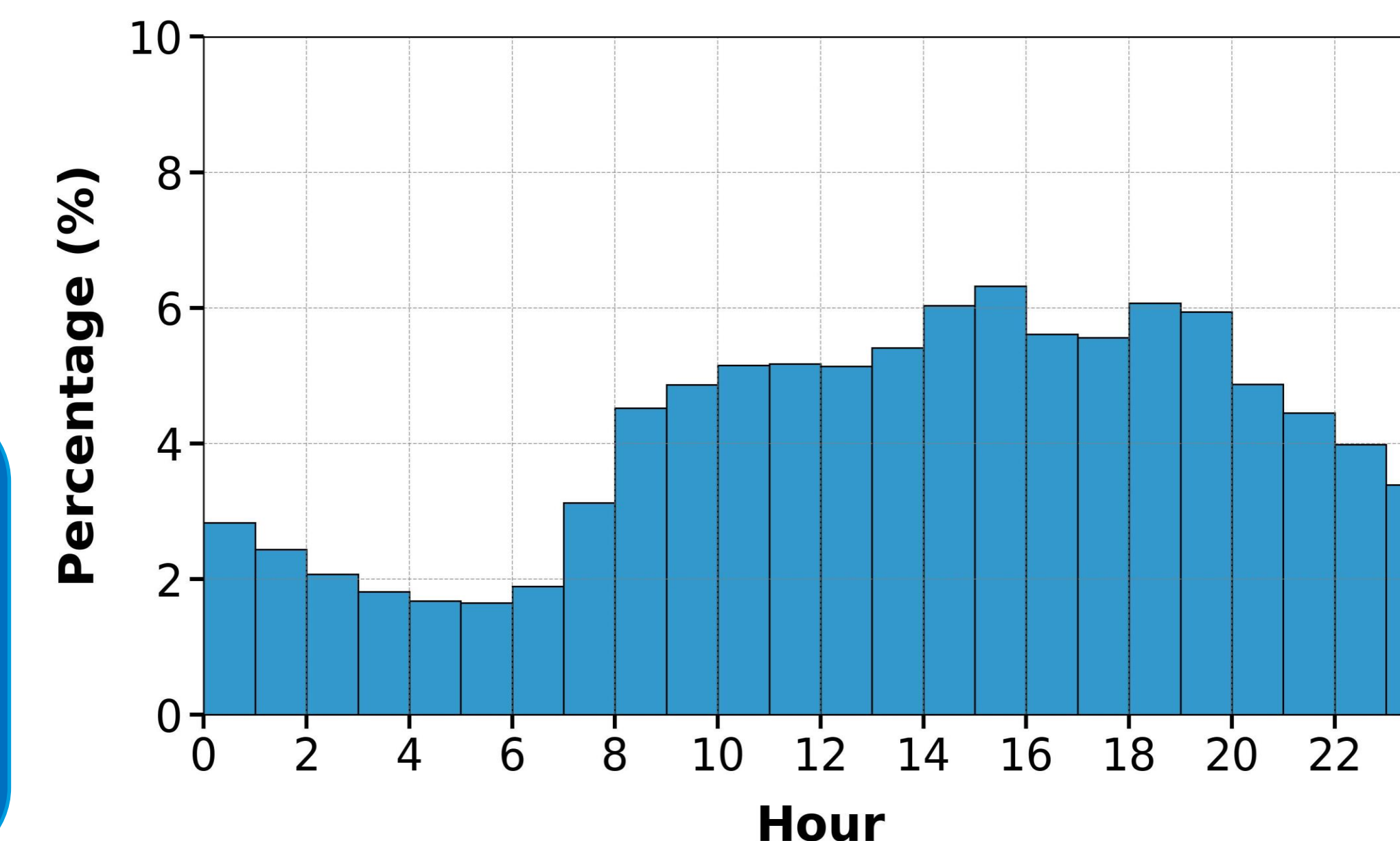
Figure 1. Episode identification and analysis approach



RESULTS

- Among 1,913,552 qualifying hypoglycemia episodes, 24% were succeeded by a RHyperG event.
- On average, individuals experienced 2.2 RhyperG episodes per week, with a mean episode duration of 79 minutes.
- RhyperG were more frequent during daytime hours, likely reflecting behavioral and treatment-related factors such as higher corrective carbohydrate intake during waking hours (Figure 2).

Figure 2. Distribution of onset of RHyperG episode



CONCLUSION

RhyperG was identified in approximately one quarter of the qualifying hypoglycemic episodes among insulin-treated individuals, and higher frequency of RhyperG during waking hours suggests the influence of corrective carbohydrate intake. These findings demonstrate RhyperG is an important issue and underscore the need for optimized hypoglycemia management.

REFERENCES

1. Seaquist E, Giménez M, Yan Y, et al. Nasal glucagon reverses insulin-induced hypoglycemia with less rebound hyperglycemia: pooled analysis of clinical trials. *Journal of the Endocrine Society*. 2024;8(4). <https://doi.org/10.1210/jendso/bvae034>
2. Hansen KW, Bibby BM. Rebound hypoglycemia and hyperglycemia in type 1 diabetes. *J Diabetes Sci Technol*. 2024;18(6):1392-1398. <https://doi.org/10.1177/19322968231168379>.

DISCLOSURE

This study was funded by Abbott Diabetes Care. The authors are employees of Abbott Diabetes Care.