

Hypoglycaemia: making sense of chaotic coding in primary care computerised medical records**W. Hinton**^{1,2}, M.D. Feher^{1,2}, N. Munro², H. Kasetty³, B.C.T. Field², S. de Lusignan^{1,4};¹Nuffield Department of Primary Care Health Sciences, University of Oxford, Oxford, ²Department of Clinical and Experimental Medicine, University of Surrey, Surrey, ³Novo Nordisk Ltd., Gatwick,⁴Royal College of General Practitioners (RCGP) Research and Surveillance Centre (RSC), London, UK.

Background and aims: Hypoglycaemia is one of the most important side-effects of insulins, sulphonylureas and meglitinides, and has important clinical and economic consequences for people with diabetes and their families. The recording of hypoglycaemia in primary care uses a variety of diagnostic codes. The aims of the study were to evaluate the individual codes and frequencies of use for recording any hypoglycaemia in a national primary care database.

Materials and methods: The Royal College of General Practitioners (RCGP) Research and Surveillance Centre (RSC) is a nationally representative English primary care network, which comprises 349,863 people with diabetes ever registered as of 31st December 2018 from a population of over four million. We performed a retrospective data analysis of the database to determine the frequencies of each clinical code for hypoglycaemia. We also ranked their usage and evaluated the number of codes used for severe hypoglycaemia.

Results: From 40,185 individuals (11.5% of the diabetes cohort) with a hypoglycaemia record, we ascertained that there were 96,533 separate recordings of a hypoglycaemic episode. There were 87 different clinical codes available to record descriptively the cases of hypoglycaemia, however 41 codes available were not used. Three codes accounted for 77.4% of hypoglycaemia recordings (*“Last hypoglycaemia attack”* 39.7%; *“Hypoglycaemia unspecified”* 26.5%, *“Frequency of hypoglycaemia attacks”* 11.3%); while 43 separate codes were used to record 22.6% of hypoglycaemia events. Descriptors for “severe hypoglycaemia” were documented by 14 separate codes comprising 7.6% of hypoglycaemia recordings.

Conclusion: Recent guidelines have been published both to standardise the recording of hypoglycaemia in clinical trials and to describe fewer categories for types of hypoglycaemia. There is an urgent need for data science to provide consistent recording of hypoglycaemia in a clinical primary care setting.

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