ESM Methods 1 - Data Collection and Recruitment Procedures

Three academic paediatric endocrinology/diabetology centres submitted complete data on the prevalence of diabetes in their respective regions. The numbers of children with diabetes in the analysed regions were collected from the respective epidemiologic databases of the centres. In the Slaskie and Pomorskie regions, the study centres (in Katowice and Gdansk) were the main reference departments for children with diabetes and oversaw the treatment of all children with diabetes in those administrative districts. In the Lodzkie voivodeship there are two academic centres for paediatric diabetes care; however, the study centre was responsible for the treatment of approximately 85% of children with diabetes and was in charge of epidemiologic data collection from both regional centres. Overall, owing to the centralised structure of diabetological care in the studied regions, we were able to maintain approximately 100% coverage of the three voivodeships in terms of the number of children with diabetes throughout the study period. The number of children aged 0-18 years living in the Lodzkie, Slaskie and Pomorskie voivodeships in each year of the study period was extracted and matched with data on children with diabetes in each of the regions. The mean number of children in Poland in 2005-2011 was 7,898,295±320,972. Earlier reports on the incidence of diabetes in the Slaskie region and several other voivodeships were published in 2010 and 2011, showing a substantial increase and a very pessimistic prognosis for rapid growth of the disease between 2010 and 2025 [1,2].

All diabetologists working in the three centres were asked to re-evaluate the type of diabetes in patients undergoing treatment during the study period. Uniform recruitment criteria for MODY described by Ellard et al. were adopted in 2008 by all participating centres [3]. Prior to that publication, patients referred for genetic testing with a clinical suspicion of MODY included those who showed mild/moderate fasting hyperglycaemia with a preserved response in OGTT, had a positive family history suggestive of a dominant mode of inheritance (in the case of MODY), negative for anti-islet antibodies, evidence of progressive loss of beta cell function in non-obese, diabetic family members, and age at onset of diabetes in those relatives between 15-30 years. Treatment with diet alone or daily insulin requirement less than 0.3 IU/kg was considered predictive for *GCK*-MODY. Individuals with impaired fasting glucose without any additional features were not considered eligible for genetic screening, unless they were siblings or children of patients with confirmed *MD*.

References:

[1] Jarosz-Chobot P, Polanska J, Szadkowska A, et al. (2011) Rapid increase in the incidence of type 1 diabetes in Polish children from 1989 to 2004, and predictions for 2010 to 2025. Diabetologia 54: 508-515
[2] Jarosz-Chobot P, Deja G, Polanska J (2010) Epidemiology of type 1 diabetes among Silesian children aged 0-14 years, 1989-2005. Acta Diabetol 47: 29-33
[3] Ellard S, Bellanne-Chantelot C, Hattersley AT (2008) Best practice guidelines for the molecular genetic diagnosis of maturity-onset diabetes of the young. Diabetologia 51: 546-553