

Composition of Steering Group and Observers

Experience of the research team

Epidemiologic Research Group in Diabetes from Primary Health Care DAP_CAT

Group certified by: IDIAP Jordi Gol

The group is made up of family doctors from the Catalan Health Institute (ICS) with wide experience in the world of diabetes. All of them collaborate with other research groups or scientific societies such as the Spanish Diabetes Society, CAMFiC-SEMFyC, SEMERGEN, or CIBER-DM, and notably in coordination with the group GEDAPS Catalunya and the RedGEDAPS Espanya. It has also collaborated in drawing up the National Health System's diabetes strategy and the Diabetes mellitus type 2 Clinical Practice Guide for the Instituto de Salud Carlos III and the Ministry of Health. The Catalan Advisory Council on Diabetes systematically uses the group's data to prepare its recommendations. The group's main objective is the study of Diabetes mellitus type 2 in primary health care through epidemiological studies based on the exhaustive analysis of the data obtained from e-CAP (electronic clinical records), which will provide demographic and epidemiological information as well as better knowledge of metabolic control, the coexistence of other risk factors, the presence of complications, treatment compliance and therapeutic inertia.

Currently, the group is made up mostly of primary care physicians and endocrinologists, statistics and pharmacists:

- Joan Barrot (MAP)
- Gabriel Coll de Tuero (MAP)
- Celia Cols (MAP)
- Xavier Cos (MAP)
- Josep Franch (MAP)
- Flora Lopez Simarro (MAP)
- Manel Mata (MAP)
- Didac Mauricio (endocrinologist)
- Sonia Miravet (MAP)
- Angels Mollo (MAP)
- Xavier Mundet (MAP)
- Emilio Ortega (endocrinologist)
- Jordi Real (statistical)
- Antonio Rodriguez Poncelas (MAP)

- Joan Antoni Vallès (pharmacologist)
- Bogdan Vlacho (pharmacist)
- Silvia Canivell (MAP)

The distribution of the tasks of the project:

- J. Franch (IP), M Mata, Mauricio D, Real J, S Canivell and Bogdan Vlacho have participated in the elaboration and drafting of this Protocol
- Data extraction will be done by the staff of the SIDIAP
- Statistical analysis will be coordinated by Mr. Jordi Real with extensive experience in the management of the SIDIAP database
- In the discussion of the results, planning of the different reports and writing the articles involved all members of the research team for this study

The Group has obtained various scholarships and competitive grants, including:

- Grant European Foundation for the Study of Diabetes / Lilly European Diabetes Research Programme. Novials, a.; Mundet, X; Parrizas, M; Franch, j.; Matte, M; COS, X. Circulating exosomal miRNAs as potential biomarkers and Dutch of tissue cross-talk in diabetes. Europe 2013
- Scholarship of the top Fund for health research of the Social Security (FISS) (No. 15/00625 record) the project entitled: identification of new biomarkers of lipid metabolism in diabetic atherosclerosis. Foundation Institute research Germans Trias i Pujol. Didac Mauricio (IP), Emerald Castelblanco, Berta Soldevila, Anna Lucas, Marta Hernandez, Josep Franch, Esther Rubinat
- Top Fund for health research of the Social Security (FISS) (record No. PI15/00140) for the project entitled: dynamic behavior of the metabolic syndrome and development of an equation to predict the risk cardiovascular in patients with Diabetes type 2 a cohort retrospective obtained from a clinical database administrative. Gabriel Coll de Tuero (IP), Antonio Rodriguez Poncelas, M.Antonia Barcelo

In its research activity, the DAP_cat group has had the possibility of establishing collaborations with different diabetes research centers at European level, establishing joint projects among which the following stand out:

- University of York (V́ctor Preckler) - costs of DM
- Leicester Diabetes Center (Kamlesh Kunti) - glycemic control
- University of Oxford (Andrew Farmer) - adherence to treatment
- University of Oxford (Daniel Prieto) - bone fractures associated with hypoglycemic treatment

According to the impact factors of journals, the 5 most important publications of the group are:

- Vinegar, I. Matte, M; Hermosilla, E; Morros, R; Fine, F; Rosell, M; Castell, C; Franch, j.; et al.: Control of Glycemia and Cardiovascular Risk Factors in Patients With Type 2 Diabetes in Primary Care in Catalonia (Spain). *Diabetes Care*. 2012; 35: 774-779. (doi:10.2337/dc11-1679/-/DC1). IF 8,087
- Rodriguez-Poncelas, Mundet-Tuduri X, Miravet-Jimenez S, Casellas, Barrot-of the bridge JF, Franch-Nadal J, et al. Chronic Kidney Disease and Diabetic Retinopathy in Patients with Type 2 Diabetes. *PLoS ONE* 2016; 11 (2): e0149448. doi:10.1371/journal.pone.0149448 IF 3,234
- Barrot-of the bridge J, Mata-Cases M, Franch-Nadal J, Mundet-Tuduri X, Casellas A, Fernandez-Real JM, Mauricio D.: Older type 2 diabetic patients are more likely to achieve glycaemic and cardiovascular risk factors targets as younger patients: analysis of a primary care database. *Int J Clin Pract*. 2015; doi: 10.1111/ijcp.12741 IF 2,566
- Matte, M; Casajuana, M; Franch, j.; Hermosilla, E; Casellas, a.; Castell, C; Vinegar, I. Mauritius, D; Bolibar, B.: Direct medical costs attributable to type 2 Diabetes Mellitus: a Population-Based Study in Catalonia, Spain. *EUR J Health Econ*. 2015; (doi: 10.1007 / s10198-015-0742-5 IF 1,774)
- Baena-Diez, JM; Peñafiel, j.; Subirana, I; Ramos, R; Elosua, R; Martinez-Ibáñez, A; Franch-Nadal, J; Matte, M; et al. Risk of cause-specific death in individuals with diabetes mellitus: a competing risks analysis. *Diabetes Care* 2016 DOI: 10.2337/dc16-0614 IF: 8,934

Some of the main lines/results of research of the group are:

- eCONTROL was the first study of the Group and analyzed the degree of metabolic control and the treatment of the risk factors associated with the DM2 in the greater population sample of Europe
- DM65 studied the epidemiology of the DM in elderly and you observe that the degree of glycemic control is superior to the younger population
- eCONTROLADOS aimed to analyze the use of antidiabetic drugs in situations in which they are formally contraindicated. It showed an excessive use of metformin and sulfonylureas in patients with severe renal failure
- Diabetic retinopathy. This study initially allowed to analyze the prevalence of retinal disease in patients with T2DM. Currently, it allows to study the incidence of the complication and its association with cardiovascular disease
- eCOSTES initially allowed to meet the excess of cost involved in treating a person with DM2 and its relation with the degree of glycemic control. At the same time it will allow its application to CORE DIABETES MODEL to predict the future costs of the disease and the cost/benefit ratio of specific activities

- INTEGRATES. It is a pragmatic clinical trial with various types of intervention in health centres to improve control of persons with T2DM Glycemic and poor control (HbA1c > 9%)
- INERTIA. Analyzes the actions of the health care professional when patients with T2DM are taking two drugs and have a bad control. It allows you to suggest what may be the best intervention according to HbA1c values and other parameters
- eCONTROL 2007-2013. It analyzes the evolution of glycemic control and treatment of persons with T2DM in Catalunya
- VALDIAB allowed developing an algorithm that validated the diagnosis of diabetes and the type of diabetes in large databases.