Preface
On 16 November 2016 Member of the European Parliament (MEP) Ernest Maragall (Greens/EFA, Spain) organised, with the support of the European Association for the Study of Diabetes (EASD), a roundtable discussion on diabetes research in Europe. The meeting took place in the European Parliament in Brussels and was held under the auspices of the Slovakian EU Presidency and on the occasion of World Diabetes Day (November 14). The main focus was to present the magnitude of the problem diabetes forms for patients and society as a whole and emphasize the important role research has played in improving the daily lives of patients and their environment.

In addition, the speakers presented a number of research areas that need more attention to lower current incidence and, in general, reduce the overall impact of diabetes on society in Europe and the rest of the world.
Mr Ernest Maragall, MEP (Greens/EFA, Spain)

Welcome

MEP Maragall first of all introduced his co-chair Professor Miriam Cnop, affiliated to the Free University of Brussels and chair of the EASD-EU Committee. Also the other speakers were introduced. MEP Maragall in particular welcomed the presence of three of his colleagues from different countries and parties MEPs Pavel Poc, Christel Schaldemose and Bogdan Wenta. He stressed that a strong voice in the European Parliament is pivotal to ensure sufficient European funding for this often lethal disease. Secondly, he considered it important to hear the patients’ voice, as the impact of the disease continues to be underestimated.

Video: patient testimonials - living with diabetes

After the introductory remarks a 3 minute video was shown in which 4 European patients tell their personal stories about the impact diabetes has on their daily lives and that of their environment.

Dr Karim Berkouk, deputy head of the unit non-communicable diseases and the challenge of healthy ageing, DG Research & Innovation, European Commission

Driving Research forward at the EU level

Dr Berkouk stated that diabetes is a complex, heterogeneous disease which is notoriously underdiagnosed. He highlighted the harmful consequences of gestational diabetes for the mother and her offspring, and the impact of complications on patients, their families and national healthcare systems (e.g. high costs).

Moreover, he focused on the EU efforts in research over the past 10 years. He showed that during the seventh framework programme (FP7) 156 diabetes related projects received in total €376 million in funding. During Horizon 2020 the total amount of funding allocated to diabetes research is so far €219 million, divided over 81 projects. He projected that the total amount of funding for diabetes research in Horizon 2020 will approximately double the amount under FP7.
The Global Alliance for chronic diseases (GACD), a collection of the world’s biggest public research funding agencies has launched projects on diabetes worth €35 million in total, with a contribution from the EU of €10 million. Another EU fund, the Innovative Medicines Initiative (IMI), the world’s biggest public-private partnership (PPP) in life sciences, launched the Europe’s partnership for health 2008-2024 with a total budget of €5 billion. From the very beginning diabetes has been high on their research agenda.

Dr Berkouk presented the selection process of research areas that will receive funding in the future. In particular the important role of the Horizon 2020 Advisory Group for Societal Challenge 1 “Health Demographic Change and Wellbeing”. The advisory group recently produced a report containing advice on the main priorities for the work programme 2018-2020i.

Ms Emma Matthews, mother of Jack

**Patient testimonial: impact of diabetes research on the daily life of my son**

Ms Emma Matthews is the mother of Jack who was diagnosed at birth as a type 1 diabetic patient. When Jack was 5 years old Ms Matthews read a scientific article which described monogenic diabetes and possible treatment methods. After contacting the author of the publication, Prof Andrew Hattersley from the University of Exeter, Jack was one of the first to be diagnosed with this type of diabetes and consequently able to change his treatment from insulin to tablets.

Ms Matthews described in detail the positive changes the new treatment had on Jack’s life and that of his family. Following her personal experience, she is now actively involved in raising awareness for the positive effects of research on the daily lives of patients.

Prof Andrew Hattersley, University of Exeter

**Past achievement and future priorities in diabetes research**

Prof Hattersley explained how European research helps to overcome different silos in science and often leads to excellent project outcomes. The EU funded project CEED3ii for example helped to significantly reduce the impact of diabetes on Jack’s life by following two steps:

1. Using the knowledge of the beta-cell and genetic experts to find the cause of the disease -> a genetic mutation in the potassium channels
2. From theory to patients: trying to stop insulin injections and replace with sulphonylurea tablets in neonatal diabetes

While touching upon future research priorities, Prof Hattersley stated that we will need to find a cure for type 1 diabetes by replacing insulin with new beta-cells that secrete insulin, make beta-cells from other cells and prevent immune destruction. Moreover, he emphasized the need for better treatment and prevention programmes for type 2 diabetes and underlined the continuous high incidence of complications which form a huge problem due to their severe impact on the lives of patients and high costs for society.

Dr Till Seuring, Leibniz Institute for Prevention Research and Epidemiology – BIPS

**Social and economic impact of diabetes**

Dr Seuring presented the social and economic impact of diabetes. He highlighted that around 60 million people live with diabetes in Europe, of which many remain undiagnosed. In the decades to come the population size is predicted to remain stable, but, according to current projections, the demographic change will lead to an even higher prevalence of type 2 diabetes if no action is taken.
The already high incidence has led to a huge economic burden, according to the International Diabetes Federation (IDF), 9% of European health expenditures, or around €290 billion, is currently spent on diabetes. Dr Seuring underlined the problem at hand by presenting 3 case studies showing estimated costs of diabetes in Denmark, Poland and Spain. In all three countries the major cost factor is diabetes related complications.

Dr Seuring concluded his presentation by underlining the need for better prevention of diabetes and more investment in research. Special attention has to be given to the reduction of complications though early diagnosis and improved treatment methods. These measures are, according to him, likely to pay off in terms of decreased patient suffering as well as reduced overall costs for the national healthcare systems.

Ms Christel Schaldemose, MEP (S&D, Denmark)

*Endocrine disruptors - a real threat for human health*

MEP Schaldemose was introduced as the co-chair of the EU Diabetes Working Group (EUDWG), an informal European Parliament interest group. She stressed the importance of placing patients in the centre of all discussions surrounding diabetes and emphasized the urgent need for more research in diabetes and related areas.

According to her, Europe can't afford to wait any longer with boosting its investments in this important area. In addition, more must be done to prevent diabetes from occurring in the first place through public health measures and research in diabetes related areas. She suggested that more funding should be made available to determine the causal link between endocrine disruptors and diabetes.

Mr Bogdan Wenta, MEP (EPP, Poland)

*Physical activity and diabetes*

MEP Wenta was presented as a former handball player and coach. He is currently Vice-President of the European Parliament Sport Intergroup. In his presentation he underlined the importance of promoting physical activity as a key ingredient for a healthy lifestyle. He stated that an active lifestyle can reduce the risk of obesity, diabetes and cardiovascular complications.

MEP Wenta described the parliamentary question he posed in June 2016 on physical activity and diabetes to the Commission. He wanted to know what action the Commission is planning to take to maximize the extensive benefits of physical activity for diabetes patients. Moreover, he was interested to know whether the Commission, in coordination with the Member States, will be willing to use the EU Public Health Programme, Horizon 2020 and/or the EU Structural Funds to promote physical activity among diabetes patients. Finally, he used the question to urge the Commission to support research and help to fill the many knowledge gaps in this area. In its reply the Commission stated that it does not intend to take any specific action focusing on diabetic patients in relation to physical activity.
Despite his disappointment with the answer from the Commission, MEP Bogdan Wenta did applaud them for their recently launched Joint Action on Nutrition and Physical Activity (JANPA) which is a European collaborative action to stop the rise of overweight and obesity in children and adolescents by 2020\textsuperscript{6}.

**Mr Pavel Poc, MEP (S&D, Czech Republic)**

**EU support for diabetes**

MEP Poc was announced as the main champion in the European Parliament promoting colorectal cancer screening in Europe. In addition, he is well-known in the field of health for his more recent work on pancreatic cancer.

MEP Poc mentioned that he submitted a parliamentary written question together with MEP Maragall and other colleagues on diabetes research in May this year. They asked more specifically what measures the Commission intends to implement for the upscaling of diabetes research. Secondly, the MEPs urged the Commission to focus more on basic research in the successor of Horizon 2020. Finally, they enquired about a possible Joint Programme Initiative (JPI) on diabetes.\textsuperscript{6}

In its answer, the Commission stated that diabetes research has been a priority throughout the past and current research framework programmes with over €1 billion investment for 442 projects in this area. Furthermore, at the moment no member state expressed an interest in a JPI on diabetes.

**Discussion with the audience – moderated by Prof Miriam Cnop, Chair of the EASD-EU Committee**

- Ms Anne-Marie Felton, President of the Federation of European Nurses (FEND), commented that there is a lack of reliable data registries in Europe, only Sweden may be an exception. Moreover, she commented that children or young adults with type 2 diabetes are more often diagnosed with complications.

- In response to the second comment by Ms Felton, Prof Hattersley informed the audience that children with type 2 diabetes indeed suffer more often from complications as they respond less well to drug therapies. Secondly, this particular group is often more difficult to reach as they tend to struggle with life in general and do not give any priority to their personal health and wellbeing.
Prof Cnop mentioned the disappointment of the EASD community in the lack of opportunities for pure basic research within Horizon 2020 and more specifically its component “Health Demographic Change and Wellbeing”. Currently calls for proposals on basic research require to translate the basic research being done into new drugs, devices and/or treatment options for patients. This is often unrealistic within the limited timeframe and budget available for executing the projects.

Ms Sarah Hills, Director of the Alliance of European Diabetes Research (EURADIA), commented on the DIAMAP project which is currently being updated. The objective of DIAMAP II is to provide an overview of the diabetes research landscape and set priorities in the different fields. DIAMAP II will include an interactive website that will become available for the general public by the end of 2016. Ms Hills aspires that DIAMAP II will, like DIAMAP I, be used as a source for the more specific diabetes calls in Horizon 2020 and its successor.

Dr Olivier Arnaud, Senior Director of European Research at JDRF, added that DIAMAP is really about coordinating the different research being done. Secondly, he came back to the comment made by Prof Cnop on translational research. Dr Arnaud explained that diabetes is a complex disease and involves different disciplines, JDRF therefore always chooses to provide grants for discovery or applicable research.

Dr Berkouk, mentioned that the Commission is in certain disease areas stimulating an exchange of information between the different research projects conducted at the EU level. This may lead to potential networking or even deeper collaboration in the future. Currently this has not been done yet for diabetes related projects, but this is definitely an area the Commission will look into as well in the future.

Dr Anna Novials, President of the Spanish Diabetes Association and Director of IDIBAPS - Diabetes and Obesity Research Laboratory in Barcelona, expressed her disappointment with the Commission. She stated that diabetes is a risk for many other diseases and she wondered what more is needed to convince the politicians to invest more funding in diabetes through for example a Joint Programme Initiative (JPI)?

Dr Berkouk responded by highlighting the extensive amount of funds that have been made available at the EU level for diabetes research. Secondly, he pointed out that the selection of JPIs is really in the hands of the Member States and not a process which the Commission can actively influence.

Prof Tomasz Klupa, member of the EASD EU Committee and affiliated to the Jagiellonian University, urged the EU to stimulate the creation of a European diabetes registry as this will significantly boost research in this area.

Dr Berkouk mentioned that there are already projects bringing together large cohorts of data which could serve as a first step towards better diabetes registries in Europe.

**Prof Miriam Cnop**

**Concluding remarks**

Prof Cnop thanked all the speakers for their excellent presentations. She believed a strong case was made for additional diabetes research at the national as well as the European level. She explained that diabetes is a complex disease with an increasing incidence associated with high morbidity and mortality levels. Urgent public health measures and more research are urgently needed to stop the current epidemic.
In addition to research focusing on the improvement of care, she also called upon the EU institutions to give more funding to basic research. This is necessary to obtain a better understanding of the disease and enable the scientific community to work towards a cure.

Prof Cnop emphasized the need for better coordination between research efforts at the EU as well as the national level and integrate outcomes into national and/or European plans and strategies.

She finally thanked the 4 MEPs present for their political support which she considered pivotal to top up current funding levels and increase awareness of the disease at the EU as well as at the national level.

She underlined the willingness of EASD to continue discussing this topic with all stakeholders and together improve the lives of patients and their families.

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1 https://goo.gl/CgFQv4
3 http://www.ceed3.org/en/home
4 https://goo.gl/ZLQzAZ
5 http://www.janpa.eu/
6 https://goo.gl/AjhBMI
7 http://www.diamap.eu/ (currently the website is under maintenance)
8 https://goo.gl/tp68fb