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How to tackle the ticking bomb of diabetes

Máire Geoghegan-Quinn, Commissioner for Research, Innovation and Science, urges global collaboration to stop the epidemic. Diabetes currently affects more than 350 million people around the world.

22 March 2013 - By MÁIRE GEOGHEGAN-QUINN, EUROPEAN COMMISSIONER FOR RESEARCH, INNOVATION AND SCIENCE

What is the fifth leading cause of death worldwide? What is the epidemic that currently affects more than 350 million people around the globe, kills one European every two minutes and may easily account for a staggering 15 per cent of national healthcare budgets?

What is the condition from which, by conservative estimates, one in 10 Irish people aged over the age of 45 already suffers?

The answer is diabetes. It is a disease that is increasingly becoming one of the greatest threats to our health as well as to healthcare systems.

At the last count, 33 million Europeans were diagnosed with diabetes. A further six million are probably unaware that they are living with it. And over the next 15 years, these numbers are set to rise by up to 30 per cent.

Conservative estimates

Data gathered by the Institute of Public Health in Ireland shows that in 2010, 106 000 people over the age of 18 were told by a doctor that they had diabetes. An additional 30 000 are expected to get the same devastating news by 2020. And these are conservative estimates: some organisations put the rates twice as high.

Diabetes puts national healthcare systems under enormous strain due to the spiralling costs of treating complications such as heart disease, strokes, blindness, kidney disease and limb amputations. A recent study estimated that dealing with these complications costs the Irish taxpayer EUR 600 million every year.

To break these trends, we must find ways to better understand, prevent and treat diabetes, and to deliver better care. The European Commission is already devoting significant resources to this research. Since 2007, close to EUR 435 million has gone into research projects dealing with diabetes, and this includes addressing issues such as obesity, a major causative factor in type 2 diabetes.

These EU-funded projects have led to significant breakthroughs. One example is the Imidia project, focusing on the functioning of specialised 'beta cells' in the pancreas that produce insulin. This is the hormone that removes sugar from blood.

It is the failure of the body to produce insulin that results in so-called type 1 diabetes. Researchers in this project, supported by the EU's Innovative Medicines Initiative – our partnership with the pharmaceutical industry – were the first to generate human pancreatic beta cells that can survive in test tubes.

Thanks to this, researchers can further unravel the causes of the disease and test potential new drugs much more easily.

Better understanding

Irish researchers and companies have provided an invaluable contribution. The DexLife project, involving, among others, Dublin City University and VHI Healthcare, aims to better understand and prevent the development of the most common form of the disease, type 2 diabetes.

In this type of the disease, which is closely connected to leading an unhealthy lifestyle, cells do produce insulin, but the body fails to use it properly. Projects like this will have a significant impact on the choice and cost of treatment. The earlier type 2 diabetes can be accurately diagnosed, the better the chances of preventing the development of serious symptoms and of lowering the cost of treatment.

Another project called Dali, involving NUI Galway, is helping to determine how lifestyle or vitamins can prevent so-called gestational diabetes. This type of the disease affects women during pregnancy and can have very serious consequences for both the mother and the child.

But as the diabetes epidemic grows, so too must our efforts to stop it. In the proposal for a new seven-year research programme, Horizon 2020, the European Commission identifies 'health, demographic change and wellbeing' as one of six major societal challenges to be tackled. Chronic diseases, including diabetes, will continue to be a major focus of our research efforts in the coming years.

However, the EU cannot do it alone. Diabetes is a global problem. The greatest increase in the number of people with the disease is expected to occur in the developing world, as it adopts a 'Western' lifestyle and diet. Most patients with type 2 diabetes are now found in North America and in Europe, but by 2030, there are likely to be many more in Asia and Africa.

Fighting a global problem requires a global effort. Once again, the EU has been to the forefront in this context. We have initiated a new research effort into the impact of diseases like diabetes on specific populations around the world. Altogether, four projects worth EUR 16 million have been launched in this context. Last year, we organised a major conference on 'diabesity' in Brussels, exploring further opportunities for international cooperation.

Global research

The European Commission has also joined the Global Alliance for Chronic Diseases, that brings together six major funders to better coordinate global research activities in this field. This alliance has just announced that it will focus its next call for proposals on the prevention and treatment of type 2 diabetes.

These partnerships help attract funding to Europe. For example, the above-mentioned Imidia project has recently received additional funding of $1 million dollars (EUR 772 405) from the US Juvenile Diabetes Research Foundation, the largest charitable supporter of research into type 1 diabetes.

I hope to see more of these good examples in the coming years. Nothing short of global action can avoid the devastating consequences of diabetes for our health and healthcare systems.

Diabetes is a ticking time bomb that can only be defused by a joint effort.

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