

String of Pearls and diabetes

The number of diabetes patients is expected to increase sharply over the next few years. The main causes of this trend are obesity, lack of exercise and bad eating habits. Because of these factors, the disease is also appearing more frequently in younger people. Approximately 600,000 people in the Netherlands have been diagnosed with diabetes, with another 250,000 or so sufferers believed to be undiagnosed at present. There is still no known cure for the condition.

Most diabetes patients are treated by primary healthcare professionals such as general practitioners. The longer the condition persists, however, the greater the risk of complications arising – and with the younger average age of onset, that means that the extent of such complications and the associated costs are set to rise significantly in the near future. For the most part, it is complications of diabetes in combination with other ailments that bring sufferers into contact with university medical centres (UMCs).

The existing systems for registering diabetes patients and to provide specialist information about the condition need to be expanded to include biobanks, in order that relatively uncommon complications are sufficiently represented to enable effective scientific research. The String of Pearls Initiative (PSI) has begun this process with a database of type 2 diabetes patients. This form of the disease was once known as “adult-onset diabetes”, although it is now increasingly prevalent in younger people as well.

Scientific value

Because of their progressive onset, the treatment of complications caused by

diabetes – which include kidney failure, heart failure and circulatory problems leading to amputation of the lower leg – seem likely to impose a huge financial burden on the health service in the future. Only their effective prevention, through the identification of treatable risk factors and by developing good treatment strategies, can keep the costs manageable.

Gathering large volumes of clinical data about diabetes opens up the possibility that genetic and other risk markers for the advance of the diseases and its complications can be identified. It should also enable proper evaluation of the effectiveness – both clinical and economic – of therapies, medication and patient support.

Work to improve diabetes information, prevention and research is under way on a number of fronts, in collaboration with charities like the Dutch Diabetes Research Foundation, the Netherlands Heart Foundation and the Dutch Kidney Foundation, as well the national patients’ association, the Netherlands Diabetes Federation. Relationships are also maintained with major pharmaceutical companies, amongst

them Merck, GSK, Novartis, Novo Nordisk, Astra Zeneca and Bayer.

Dutch researchers are already participating in several EU-backed projects in the fields of diabetes and its genetics, a number of which are making use of a shared biobank. As yet, however, there are no biobanks devoted to the serious complications of diabetes. Eventually, the European network could serve as an extension to the PSI diabetes biobank

About the pearl

Only patients with type 2 diabetes mellitus, as defined by the World Health Organisation, qualify for inclusion in database and biobank for this “pearl”. Moreover, they must be undergoing treatment either at one of the participating UMCs or within a UMC-affiliated primary or transmural healthcare network.

As well as compiling a pseudonymised patient record, this “pearl” collects DNA, urine, plasma and serum samples for inclusion in its biobank.



The String of Pearls Initiative

The String of Pearls Initiative is the result of a unique partnership between the eight Dutch university medical centres (teaching hospitals). Founded in 2007 by NFU, the Dutch Federation of University Medical Centres, the initiative gathers clinical data and biomaterials from all the participating institutions so that together, they can promote the ad-

vancement of science, improve patient treatment and encourage the development of new products, as well as strengthening the economic position of biomedical research in the Netherlands. Initially, the project is focusing upon nine groups of medical conditions, its so-called "pearls". In the future, its activities may be expanded to include

others. For more information, you can contact the String of Pearls Initiative at info@string-of-pearls.org.