Evidence
While there is no direct evidence that people will benefit from screening and early detection of the condition, screening for Type 2 diabetes is important for public health policy and day-to-day clinical practice. The health benefits to people are currently being investigated in the multi-centre European ADDITION study. Indirect evidence already suggests that screening is valuable as it improves documented possibilities for the prevention, early detection, and treatment of diabetes-related complications (see below).

In order to identify high-risk groups, several countries have implemented screening programmes using a variety of different strategies and algorithms. However, there is no international agreement with respect to the optimal method for screening.

Population studies have shown marked differences between ethnic groups in the development of Type 2 diabetes. Therefore, screening strategies which are appropriate and cost-effective for one ethnic group may not be appropriate for another.

Need for simplicity
IGT precedes the development of Type 2 diabetes and independently increases the risk for cardiovascular disease (CVD). Recent studies from China, Finland and the USA demonstrate that lifestyle interventions such as diet, physical activity, and weight reduction can reduce the progression from IGT to diabetes by more than 50%. This makes people with IGT an obvious target for future intervention programmes.

No international agreement exists on the optimal methods for screening.

However, in order to identify these people, there is currently no alternative to the oral glucose tolerance test (OGTT). This involves an overnight fast, followed by up to 3 hours of repeated blood glucose tests. Simpler screening methods are needed for the early identification of people with IGT.
The way forward: DETECT-2

In 1997, the DECODE and DECODA programmes began studying the consequences of the use of new diagnostic criteria for Type 2 diabetes. The study compiled original data from a large number of population surveys from Europe (27 surveys involving 40,442 people) and Asia (23 surveys involving 46,616 people). The studies also offered some insight into the differences between ethnic groups with respect to the consequences of changing diagnostic criteria.

The DECODE and DECODA initiatives provided valuable experience. As a result, a collaborative international data-pooling programme has emerged as a logical approach to the issues relating to screening for Type 2 diabetes and IGT, with a special emphasis on the impact of ethnicity on screening protocols.

An international data-pooling initiative is the logical approach to screening for Type 2 diabetes and IGT.

In May 2002, the International Diabetes Federation (IDF) and the World Health Organization (WHO) convened a meeting to consider screening for Type 2 diabetes. The DETECT-2 project arose from that meeting as an IDF-WHO collaboration which has the following main aims:

- to develop a simple screening strategy for Type 2 diabetes and IGT which is applicable to different populations after appropriate modification for ethnicity
- to compare and evaluate selected strategies for screening for undiagnosed Type 2 diabetes and IGT across a range of populations from diverse ethnic backgrounds
- to assess the health implications for people who have been categorized on the basis of a screening programme for diabetes.

DETECT-2 relies entirely on the pooling of data already gathered in population surveys. Centres from around the world which have been identified as publishing relevant studies have been invited to participate by providing their data. The minimum requirements for participation include:

- a population-based study involving at least 500 people
- an OGTT for all people in the study without previously known diabetes
- availability of data on age, gender, weight, and height.

A part of the study addresses the implications on the rate of death (mortality) and the rate of incidence of diabetes-related

Population studies have shown marked differences between ethnic groups in the development of Type 2 diabetes. Therefore, screening strategies which are appropriate and cost-effective for one ethnic group may not be appropriate for another.
Participation in DETECT-2 is open to centres all over the world which have the appropriate data.

Primary objective
Currently, 41 centres are participating and have contributed data for 105,778 people from 23 countries. The Diabetes Atlas second edition (available from IDF) was used as a guide to allocate countries to international geographical regions. Work is progressing toward the achievement of the primary objective of the programme – the development of a simple screening strategy.

Preliminary results suggest that a simple strategy which includes age, sex and weight, adjusted for the relevant world region, can be successfully used to detect people with undiagnosed Type 2 diabetes.

Invitation to participate
Participation in DETECT-2 is open to any centre in the world which has appropriate data. Centres which would like to collaborate with DETECT-2 can obtain more information from the authors of the current article: Stephen Colagiuri (colagiuri@sesahs.nsw.gov.au) and Knut Borch-Johnsen (kbjo@steno.dk).

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References