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**CONFERENCE ABSTRACT****Implementing a community-based diabetes prevention programme in Ireland.**17<sup>th</sup> International Conference on Integrated Care, Dublin, 08-10 May 2017

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**Abstract Summary:** There is consensus in the literature that early detection, treatment and prevention is imperative for the wellbeing of society and the health care system (1). There is strong evidence which shows that T2D is preventable (2-5). Early identification of people at risk of T2D and lifestyle interventions has been shown to reduce progression to T2D. This abstract describes a diabetes prevention programme that has been set up in the community by a clinical nurse specialist and physiotherapist. An intervention was provided for those at medium to high risk. This comprised of a validated structured education programme and if the client was at high risk they were also provided with a one to one support for lifestyle change. Results from a retrospective audit of 273 in 2015, participants in the programme showed good outcomes with statistical improvement's in weight loss, reductions in fasting glucose and reduction in blood pressure.

**Introduction:** Type 2 diabetes (T2D) is a serious public health challenge. T2D is estimated to be the fifth leading cause of mortality globally. It is predicted that T2D will affect 552 million people worldwide by 2030, 90% will have or be diagnosed with T2D. It is estimated that between 33% and 65% adults with impaired fasting glucose or impaired glucose tolerance may progress to T2D within 6 years, versus 5% for those with normal blood glucose levels (6). T2D onset can occur up to twelve years before diagnosis of the disease. It is essential therefore to identify individuals at risk of T2D, as it enables opportunities for them to reduce their risks, preventing or delaying the development of T2D and T2D associated complications.

**Description of practice change implemented:** Identifying clients at risk of diabetes can be through blood testing (fasting glucose, Hba1C or glucose tolerance test) or by using a risk score. It is a quick, easy and non-invasive way of identifying individuals at high risk of diabetes within the population. Risk tools are now recommended in guidance for diabetes prevention and have been used in many prevention programmes (7-10). The programme uses the validated Findrisc risk score. If the patient has a moderate risk for developing diabetes they are offered a single structured education programme called 'Walk away from Diabetes'. This is a three hour, group based, structured education programme developed in the UK (11). If the client is at high risk they are also provided with one to one support for making lifestyle changes. Clients can also be referred to the service by general practitioners, dieticians, practice nurses, public and community health nurses or self-referral.

**Aim and theory of change:** The aim of the programme is: early identification of risk, access to a structured education programme and support for making lifestyle changes. The aim of the structured education is to explore and enhance their knowledge of how to reduce their risk, and to increase their self-efficacy.

**Targeted population and stakeholders:** The targeted population is all adult clients identified as being at risk of diabetes, either through risk screening or blood results. This programme is currently running in West Cork and we increased the spread of the programme by initiating a diabetes prevention group. In the local area, we have presented at multidisciplinary meeting for HSE staff but also to many groups such as Active retired groups, Parent associations in schools, GP meetings and Cardiovascular groups. An excellent example is the 'mens health' promotion evenings which was set up in 2013, in association with the Gaelic Athletic Association clubs (GAA). The clubs send out a text to the players and their male relatives regarding the evening, short presentations around men's health are discussed and health screening is carried out (e.g. cardiovascular health, mental health, diabetes prevention, bowel health and prostate health).

**Highlights:** A retrospective audit of 273 number of clients showed Statistically significant reductions in percentage weight lost (2.3%,  $p < 0.001$ ), waist circumference (2cm,  $p < 0.001$ ) and blood pressure (systolic 7 mmHg, diastolic 10mmHg,  $p < 0.001$ ) were found at the end of the programme. Median fasting and 2 hour post-prandial (2 hrpp) blood glucose reverted to normal range at follow up.

Attending the programme to completion was important in reducing weight and 2 hrpp.

The incidence of diabetes at follow up was 7.7%.

In 2016 we started a diabetes prevention group (DPG) this includes clinicians from Limerick (dieticians), Dublin (nurses), Cork (Physiotherapists) and local practice nurses. It facilitates sharing of issue but also to ensure consistency in what is provided for clients and an agreed minimum data set.

Sharing of our experiences, challenges and outcomes at the following:

Invited speaker to the West of Ireland Diabetes Conference

Presented at the at Diabetes UK in 2011, O'Riordan B, Haseldine C, O'Sullivan C (2011) 'Implementing a community based diabetes prevention programme in Ireland.

O'Riordan B, (2016) Screening for Risk of type 2 Diabetes in the Community' oral presentation at 4thInternational Global Network of Public Health Nursing Conference. Billund Denmark. 19th &20th September( 2016)

Presented at the 7th World Congress of diabetes prevention and its complications in Madrid 2012. O'Riordan B, Haseldine C, (2013) 'Diabetes prevention in a small rural community in Ireland'. 7th World congress on Prevention of Diabetes and its Complications. Madrid November

**Sustainability:** To ensure the sustainability of the programme, there are several issues that need to be enhanced, these are:

to increase public awareness of the risk of diabetes and that it is preventable.

Providing signposting for staff as to what they can do for clients at risk.

Development of a diabetes prevention module for post grad students

Economic evaluation to be carried out

Continue to teaching nurses about prevention on the diabetes course

Publish outcomes from the programme

Expansion of the programme to other regions

Inclusion of diabetes prevention within Healthy Ireland policy

**Transferability:** This programme is easily transferable around the country. It requires a commitment to risk scoring clients at all opportunities. It requires little equipment, as all that is needed is the risk score, weighing scales, height measure and tape measure. Training for educators is available and is quality assured. The template used with the GAA clubs can be replicated throughout the country. Other vulnerable groups can also access the programme for example the traveling community who have accessed the screening and walk away programme by the clinicians providing it in the traveller centre.

**Measurements, indicators and evaluation tools:** The evaluation of the initial stage of the programme is reported above. Client data is kept regarding glucose results, cholesterol results, weight, waist circumference, blood pressure and activity levels (measured using a pedometer given to the client at the beginning). We now run a follow up clinic one year after completion of the programme, where the group returns to discuss what has gone well with them and what has been more difficult. The clients tend to help each other with regard to what has helped or not. Clients chart their recent blood tests and discuss the how their results have changed.

**Developing the business case:** Our programme has been running for the last seven years and its success is continuing to grow. A business case for further expansion has been submitted in 2013, which was not awarded further funding in that year. However the case still stands that for relatively small levels of funding substantial achievements can be achieved.

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**Keywords:** diabetes prevention; structured education; community based; risk scoring

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