Scottish Parliament’s Health and Sport Committee Inquiry into Preventative Agenda: type-2 diabetes

Evidence by:

Professor Falko Sniehotta
Professor of Behavioural Medicine and Health Psychology
Faculty of Medical Sciences; Newcastle University
Fuse, the UK Centre of Excellence for Translational Research in Public Health

I am grateful for the opportunity to give evidence to the Inquiry by the Health and Sport Committee. My submission focuses on two areas in particular, the option of developing a comprehensive Type 2 Diabetes Prevention Programme in Scotland and the implementation of recent evidence for primary care led dietary interventions supporting individuals diagnosed with type 2 diabetes in the process of remission to a non-diabetic state.

Declaration of interest: I am a full time academic at Newcastle University with partial core funding from Fuse, the north east England based UK Clinical Research Collaboration Centre of Excellence for Translational Research in Public Health. I was the Lead Investigator of the ‘Formative evaluation of the First Wave of the national implementation of the NHS Diabetes Prevention Programme in England’ funded by the Department of Health through the National Institute for Health Research School of Public Health Research and I am a co-investigator of the Diabetes Remission Clinical (DiRECT) Trial funded by Diabetes UK referred to below.
I am co-investigator on a European Union project (Evidence-based ICT tools for weight loss maintenance (The NoHoW) programme) in which Slimming World is one of various independent partners in an international consortium.

1. Prevention and Early Detection of Diabetes and its Complications

Preventing Type 2 Diabetes at population level requires a whole systems approach, focusing on both, population as well as on individual approaches1,2 targeting distal (e.g., overweight) and proximal risk factors (e.g., non-diabetic hyperglycaemia or “pre-diabetes”). For example, Scotland’s recent decision to introduce minimum unit pricing for alcohol could be described as contributing to diabetes prevention at population level as well as some of the more targeted policies referred to in the Scottish Government’s Diabetes Improvement Plan. National policies talking population energy intake, physical activity and obesity are an important part of a comprehensive preventive strategy towards diabetes.

National Diabetes Prevention Programme
Another key element of a strategy to improve early detection and to prevent diabetes is to identify those with an increased risk of developing diabetes and to provide treatments to lower the risk of developing diabetes. In response to the NHS Five Year Forward View3 which emphasised the importance of prevention and public health to the sustainability of the NHS and economic prosperity of Britain, the NHS-England Diabetes Prevention Programme ‘Healthier You’ was introduced in 2016. It offers adults in England at high-risk of type 2 diabetes (i.e., with non-diabetic hyperglycaemia) evidence-based behavioural interventions to prevent or delay T2D onset. The programme is commissioned and funded nationally, led by a partnership of NHS England, Public Health England (PHE) and Diabetes UK and implemented by national and regional teams. The NHS DPP is being implemented in phases, with plans for 100,000 places to be made available across England by 2020 and each year thereafter.
The introduction of the NHS DPP in England was driven by evidence from rigorous Randomised Controlled Trials demonstrating that comprehensive behavioural interventions focusing on dietary and physical activity behaviours and resulting in weight loss were effective in decreasing the risk for developing type 2 diabetes compared with standard care by over 50% (accumulative incidence)\(^4,5\). Moreover, a systematic review commissioned by Public Health England found that translational diabetes prevention programmes implemented in primary care or community settings result in risk reduction of 26% in those receiving an intervention compared with usual care\(^6\). Recently, a systematic review of studies of cost-effectiveness of lifestyle programmes for pre-diabetes concluded that there is evidence that diabetes prevention programmes are cost effective, but a lack of conclusive evidence as to the optimal design of these interventions\(^7\).

While there are critics to individual intervention approaches in the prevention of type 2 diabetes\(^8\), current evidence suggest that such programmes are likely to be cost effective and potentially a viable component of a future Scottish Diabetes Improvement Plan.

To date, it is not known if the ‘Healthier You’ programme of the NHS-England is going to be cost effective. Formative evaluations of the demonstrator programme, a pilot in seven health economies in England informing the final specification of the ‘Healthier You’ programme as well as of the first wave of national implementation of the ‘Healthier You’ programme have been conducted\(^8\). Moreover, the NHS England Diabetes Programme Directors Group recently published referral numbers, percentage uptake, attendee characteristics and factors associated with attendance\(^10\).

Our evaluation so far shows that the programme specification appropriately captures the current evidence for what works best in diabetes prevention and overall allows for balance between consistency and contextual variation in intervention delivery, with details of development of intervention and training procedures and intervention delivery devolved to providers. Various existing procedural limitations, for example regarding procedures to ensure consistent delivery in accordance with the national specification, data collection procedures and recruitment issues have been identified and recommendations for improvements have been made\(^9\).

The programme received 43,603 referrals between June 2016 and March 2017, 16% more than expected and 49% of individuals referred attended the first session. Evidence from recruitment in the first year also suggests that the programme reaches individuals from Asian, Afro-Caribbean, mixed and other ethnic groups, individuals from areas in the most deprived quintile and men\(^10\). The outcome evaluation for the programme has just started and will be conducted by a team at Manchester (http://clahrc-gm.nihr.ac.uk/our-work/exploiting-technologies/diploma-evaluation-nation-nhs-dpp/).

Since the Scottish Diabetes Improvement Plan 2014, the evidence for targeted Diabetes Prevention Programmes has progressed significantly. It would be warranted to review the evidence and decide if a comprehensive programme to identify individuals at high risk of type 2 diabetes would be a cost-effective option for Scotland and consider the possibility to work with the teams organising and evaluating the ‘Healthier You’ programme of the NHS-England to learn from their experience and optimise a potential programme.
2. Beating Type 2 Diabetes into remission

Remission of Type 2 diabetes at population level was not an explicit goal formulated in the Scottish Government’s Diabetes Improvement Plan.

The DiRECT trial\textsuperscript{11,12,13} conducted in Scotland and England (funded by Diabetes UK) challenged the traditional understanding of Type 2 diabetes and demonstrates that Type 2 Diabetes can be put into remission amongst those diagnosed for less than 6 years with a Body Mass Index between 27 and 45 kg/m\textsuperscript{2}. In the long-term, this could help to reduce the number of people living with Type 2 diabetes. The DiRECT intervention is a safe, scalable and affordable weight management programme based on a low calorie, nutrient-complete diet for 3-5 months, food reintroduction and long-term support to maintain weight loss delivered in primary care practices in Scotland and England.

The first year findings of DiRECT show almost half (45.6\%) of those who took part in the programme were in remission after 12 months suggesting that remission of type 2 diabetes is a practical target for primary care. Long-term outcomes from DiRECT are still to be published. The findings so far suggest that primary care can play a key role in supporting individuals with type 2 diabetes to achieve remission of their condition. This has short term implications about the recording of diabetes in remission in patient datasets\textsuperscript{14} and the potential to adapt the emerging evidence from DiRECT into policy in Scotland.

There is the opportunity to work with the DiRECT trial team and other stakeholders to explore the conditions of implementing this new evidence into practice and to prepare for early adoption of this key evidence into practice.

References

1. Rutter, H; Savona, N; Glonti, K; Bibby, J; Cummins, S; Finegood, DT; Greaves, F; Harper, L; Hawe, P; Moore, L; Petticrew, M; Rehfuess, E; Shiell, A; Thomas, J; White, M (2017) The need for a complex systems model of evidence for public health. Lancet. DOI: 10.1016/S0140-6736(17)31267-9


