Q: To what extent do you believe the Scottish Government’s Diabetes Improvement Plan 2014 and the approach by Integration Authorities and NHS Boards is preventative? Is the approach adequate or is more action needed?

A: Prevention is at the heart of the Scottish Diabetes Improvement Plan (DIP) 2014. The plan sets out 8 priority areas to support improved patient care and drive improvements in clinical outcomes and the experiences for people living with diabetes. Prevention is priority one within the DIP and the aim is to prevent/improve early detection of type 2 diabetes, rapid diagnosis and referral of type 1 diabetes and also implement measures to prevent/detect the complications of diabetes of all types.

The Scottish Diabetes Group focuses on all aspects of diabetes care and the 2014 DIP highlighted the need to identify those with undiagnosed diabetes as well as those at risk of developing type 2 diabetes. There was an acknowledgment for the need to have a consistent approach to diabetes prevention across Scotland, with coordinated work between weight management and diabetes services. As such we have formed a short life multiagency expert group with representation from the diabetes clinical community, maternal health, public health, education sector, health experts in obesity, health and social care and Diabetes Scotland, to lead on the development and implementation of a diabetes prevention framework. The framework aims to offer national guidance and suggested infrastructure for implementation across health and social care and work collaboratively with improvement boards to prioritise this work. The framework aims to provide a population wide approach to prevention with key areas being raising awareness, risk stratification, standardised interventions and robust pathways of care.

Currently, access and provision of lifestyle and weight management services across Scotland vary significantly. Some areas provide high quality tiered models of care whereas many areas have very limited service. In many areas, services do not target high diabetes risk as a specific category for referral and are unable to accept referrals for lower BMI criteria (BMI 25kg/m2 – 30 kg/m2) due to pressures with capacity and funding. There is inconsistent screening and recording of pre-diabetes and its follow up so the framework will provide consensus agreement on a screening risk score to use for this purpose.

In collaboration with the Pregnancy subgroup of SDG we have identified that antenatal services also vary with regards dietetic input and follow up for gestational diabetes mellitus (GDM). We have already made progress with agreement of the
need to standardised care, support pre, peri and post-pregnancy with follow up weight management and diabetes prevention input.

The evidence base and cost benefit of prevention are well understood, therefore NHS Boards, while managing reactive and crisis interventions, provide services which focus on prevention. It is hoped that the Diet and Obesity Consultation with associated significant funding proposal will enable us to fund and implement the Prevention framework detailed above.

This work will complement the wider Diet and Obesity Strategy focusing on prevention of type 2 diabetes and also alongside other workstreams to improve the prevention and early detection of complication of diabetes of all types.

It is also worth highlighting that the DIP also encourages the use of a clinical register to identify and help all individuals with diabetes to engage with screening and care services and prevent complications. SCI-diabetes, the national diabetes IT system, allows us to do this for those with diabetes and in some instance those with pre-diabetes however a standardised approach to recording those ‘at risk’ categories such as GDM, impaired glucose tolerance and impaired fasting glucose would be beneficial. Integration of IT systems in primary and secondary care would help with this.

**Q: What are the most effective initiatives for preventing Type 2 diabetes?**

**A:** Type 2 diabetes is a complex condition and many factors influence the risk of developing it, such as age, weight, gender, genes and ethnicity. Weight is one of the factors that people can change and this is particularly important as the risks of developing type 2 diabetes are seven times higher for people who are obese compared to those with a healthy weight, and three times higher for people who are overweight.

Studies have shown that significant changes in diet and exercise leading to weight loss can delay or prevent the onset of diabetes and its associated morbidity. Recent studies aimed at the primary prevention of type 2 diabetes have highlighted that both lifestyle intervention programmes and metformin can be cost-effective in reducing the subsequent development of type 2 diabetes. These interventions are likely to be most effective in those at high risk of developing type 2 diabetes. These diabetes prevention programmes using lifestyle modification or medications that promote weight loss or insulin sensitisation, are associated with a reduced type 2 diabetes risk of 36-39%. Some evidence suggests positive medication outcomes are short lived and not maintained once the medication is withdrawn. Lifestyle modification have been shown to have a sustained positive effect and outcomes improve the longer the period of follow up.

There is also the potential for a secondary preventative approach in established type 2 diabetes as encouragingly, a newly published, landmark trial funded by Diabetes UK provides evidence that remission in type 2 diabetes is possible with intensive weight management support using a low calorie diet-based weight programme, incorporating reintroduction of food and behaviour change delivered entirely in
primary care. The results demonstrate that almost 9 in 10 participants who lost more than 15kg on programme put their condition into remission. Confirming that Type 2 diabetes remission is closely linked to significant weight loss.

Findings suggest a weight loss programme could be successfully delivered through primary care and this is an area we are hoping to incorporate into the framework as part of the early intervention stage in type 2 diabetes.

The Diet and Obesity consultation launched by the Scottish Government in October is encouraging and should help both address the primary and secondary prevention of type 2 diabetes.

Q: Are the services and Diabetes Improvement Plan 2014 being measured and evaluated in terms of cost and benefit?

A: The Diabetes Improvement Plan is based on improvement of diabetes care and treatment, and progress is being measured through the work plan actions of the Scottish Diabetes Group (SDG).

The use of a national diabetes IT system, SCI-diabetes, which integrates with primary care data allows comprehensive data collection on several aspects of diabetes. This includes diabetes type, processes of care and outcomes of care. This information is available on a continual basis to the clinical community via the SCI-diabetes reporting function and also on an annual basis via the Scottish Diabetes Survey. Information is collated at health board level and also communicated to the clinical diabetes community via the diabetes managed clinical networks (MCNs).

There is a register of all individuals with diabetes in Scotland and as detailed above in some instance this includes those with pre-diabetes namely gestational diabetes, impaired glucose tolerance and impaired fasting glucose. The ability to capture this information in a standardised manner across Scotland will help in the measurement of the effectiveness, both clinically and economically, of the prevention programme as detailed above. As part of the consultation for the diet and obesity strategy, the economic case is well understood for benefits in preventing progression to type 2 diabetes. Effectiveness of interventions will be measured through existing databases; specifically, by tracking the reduction in drug prescriptions and, in the longer term, the reduction and delay of complications such as cardiovascular disease, sight loss and amputation.

The main focus of improvement in those with established type 2 diabetes is around glycaemic control and cardiovascular risk factor management. As type 2 diabetes is often a co-morbidity then ensuring a person centred care approach is critical in helping to improve outcomes. The Diabetes Improvement Plan via the annual Scottish Diabetes Survey measures several aspects of the processes of care such as glycaemic control, blood pressure, cholesterol, smoking status, BMI etc and also importantly measures the outcomes of care such as those with target glycaemic control, blood pressure and lipids etc. This allows a national overview and regional comparison of these parameters.
The main issues we have are resource, infra-structure and the deliverability of effective diabetes prevention across Health and Social Care with a shared vision within Integrated Joint Boards. We are optimistic that the £42million outlined in the Diet and Obesity strategy consultation document for weight management and diabetes prevention over the next 5 years, will enable us to deliver a comprehensive National Prevention agenda.

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