Briefing Paper: Summary on the development of the Merseyside Impaired Glucose Regulation Pathway

Purpose

The purpose of this briefing is to outline the public health contribution to the development and launch of the Merseyside Impaired Glucose Regulation (IGR) Pathway. The Merseyside Diabetes Network is now part of the Strategic Clinical Networks, under the umbrella of CVD and is being expanded to cover Cheshire and Merseyside. One of the projects suggested for roll out across Cheshire is the IGR pathway.

Introduction

A joint health needs assessment of Diabetes in Sefton, Knowsley and Liverpool written in 2010 highlighted the increasing prevalence of Type 2 diabetes, a situation that is mirrored nationally and internationally. At this time the Merseyside Diabetes QIPP (Quality, Innovation, Prevention and Productivity) programme was in development and public health submitted a short evidence briefing on offering lifestyle interventions to those most at risk, those with raised blood sugars (including those with a history of gestational diabetes). The rational being;

- There was a very strong evidence base showing it is possible to identify, and take action to change risk factors
- Early intervention can prevent, delay or reverse the onset of diabetes, and potentially save money
- Evidence of clinical and cost effectiveness for lifestyle interventions

The paper was discussed at the QIPP board and agreement reached that IGR should be a priority. A steering group was established with membership from public health, the network and the GP diabetes leads. This was supported by the patient subgroup of the network who had asked for prevention to be a priority.

There were a number of stages to the development of the pathway; the key activities are outlined below, see the appendix for more information. It took nearly four years from the health needs assessment to launching of the pathway, hampered in part by a lack of national guidelines before June 2012 and the NHS going through a time of organisational change.

Key activities and findings (for more information on the findings, please see the appendix)

1) Initial Evidence review supported lifestyle interventions with modest changes

2) Survey (hosted on survey monkey) of GP practice staff in Knowsley, Liverpool and Sefton during March 2011. This showed variation in management of patients with IGR, with majority not reviewed and GPs reporting a lack of systematic approach
Clinical Audit in September 2011, searches were run in the GP practice clinical systems (all six CCGs took part). The audit showed increased numbers of patients recorded as having a diagnosis of IGR but still underreported when compared to expected numbers. Very low levels of referral to lifestyle services or follow up testing.

PH supported the development of the pathway from diagnosis to management. A steering group was established with representation from primary care, the network, secondary care and public health. Developing the pathway was not straightforward as at the time there was a lack of national guidance.

Following on the publication of NICE PH guidance 38, which supported the use of HbA1c (this had a pivotal effect on cost effectiveness), a business case was written in September 2012 and sent for sign off to the boards of the six Clinical Commissioning Groups in Merseyside. Showed cost effectiveness of lifestyle interventions and options for commissioners eg LES. The Business Cases was taken initially to QIPP Board then as time progressed needed to go to CCGs.

Following on from the business case, to support the developing programme and ensure that interventions met local needs, QIPP funding was provided to enable insight work which commenced in October 2012; this led to development of patient facing materials and informed the future development of education programmes. The evidence also clearly showed the incentive that the discovery of being at high risk gave for patients to undertake lifestyle interventions.

An additional evidence review was then undertaken to evaluate the evidence base for the health trainer lead intervention as outlined in NICE guidelines and translational studies of lifestyle interventions.

Other activities included public health funding the development of a training package for lifestyle staff (health trainers) and the production of patient information leaflets and a goal planner. Work was undertaken with local laboratories to ensure that the raised HBA1C levels were clearly highlighted to practitioners. Also, national codes were requested for the GP clinical system. In Merseyside a ‘diabetes dashboard’ has been developed to support the monitoring of the IGR register and activity.

Summary of the Merseyside IGR Pathway

The steps include:

- Identifying patients with IGR via NHS Health Checks and opportunistically.
- Initial review in primary care and thereafter annual reviews (some CCGs have used quality premiums or secured other funding for this, some see it as routine primary care).
- The practice staff to refer IGR patients for the intervention provided through lifestyle services and follow-up with the health trainer.
Departures from NICE

NICE guidelines for Preventing Type 2 diabetes: risk identification and interventions for individuals at high risk, were published in July 2012. For the Merseyside pathway, in conjunction with network colleagues and clinicians, we made a number of departures from the guidance.

The changes are as follows:

- NICE suggest using a computer based risk assessment tool. However, as there is a CVD risk tool used within NHS Health Checks, the decision was made to stay with the NHS Health Checks guidance rather than introduce an additional tool. This may change in the future.
- NICE suggest either Fasting Blood Sugar or HbA1c, we decided to encourage HbA1c use as this is a more accurate blood test (although there are caveats to this, see position statement of the Association of British Clinical Dialectologists).
- NICE use the term ‘high risk’ but when we tested this and ‘pre-diabetes’ through the local insight work, the preferred term for communicating the diagnosis was ‘borderline diabetes’ (high risk is also helpful but there are different perceptions of what this means). This has caused some debate nationally.
- NICE recommend working towards a healthy weight, where as we found this is difficult to achieve for some people and the evidence indicates even a small amount of weight loss is beneficial.
- NICE recommended using group sessions, we looked at educational packages but found locally although some would attend a group session not everyone would, people wanted a tailored approach focused on individualised goal setting.

The commitment required from public health

In terms of the enabling of the pathway a number of key actions were required:

- The most resource intensive aspect was establishing a steering group of public health leads who met regularly throughout the project. Project support was required.
- In addition to the public health steering group, there was a network lead steering group and public health was an active member.
- We changed service specifications to include provision for a face-to-face and/or group intervention on IGR and follow-up for up to 18 months (can be by telephone). Also to include IGR as a referral criterion to access lifestyle services (including weight management, BMI threshold of 28kg/m² for those with IGR).
- Funded the development of a staff training package to train 115 health trainers/lifestyle advisors (cost £40K in total) and included an e-learning package and attending a day’s training (approximately £7K per Local Authority)
- Each local area localised the patient information leaflet developed through the insight work and provided copies to health trainers and electronic copies to GP practices.
In addition we supported the CCGs and the network by developing the business case, writing the evidence reviews.

The commitment required from Clinical Commissioning Groups

- The CCG Diabetes Leads took an active role in developing the clinical pathway and guidelines, attending the steering group and communicating with their board.
- The CCGs Diabetes Leads took the business case to their board meeting and secured agreement to adopt the pathway.
- The CCGs organised and funded the local launch events (one in each area).
- Some of the CCGs have undertaken additional work, such as developing templates for the clinical system.

Next Steps

- Working with CCGs to monitor and evaluate the effectiveness of the whole pathway
- To identify the leavers to ensure activity in primary care
- Once running will consider promotional activities and clinical system searches to further support identification of IGR

Appendix

1. Summary of key findings
2. Audit Summary
3. Business Case
4. Diagnostic pathway
5. Overarching pathway
6. Clinical Guidelines
7. Patient leaflet
8. Outline of training package
9. Presentations
Appendix 1: More information on the key activities and findings

1) Initial Evidence review: Supported lifestyle interventions with modest changes

- American and European Guidelines on effective interventions for IGR.
- A reduction in weight of 3.7–6.8 kg in overweight aged 30 – 50 resulted in a 33% risk of diabetes [Moore et al 2000].
- Lifestyle intervention found to be more effective than Metformin in reducing incidence of diabetes [US Diabetes Prevention Program, 2002].

2) Survey (hosted on survey monkey) of GP practice staff in Knowsley, Liverpool and Sefton during March 2011:

a. showed variation in management of patients with IGR, with majority not reviewed and GPs reporting a lack of systematic approach
- 71 out of 182 practices across North Mersey completed the survey, a total of 98 respondents, giving a 39% practice response rate.
- 67% of respondents reported they had an impaired glucose patient register.
- 43% of practices with an IGR register reported reviewing patients on an annual basis.
- 92% of respondents stated the intervention they were most likely to offer during the review was lifestyle advice.
- Blood pressure monitoring (BP) was included in 85% of reviews.
- Some key themes emerged from the responses to the open questions:
  - The need for treatment to focus on lifestyle interventions.
  - Support for a common pathway with clear protocols and guidance.
  - There was felt to be a need for increased funding and provision of resources.
  - Some acknowledged current failures in managing IGR patients, and a recognition that improvements needed.
  - Support was requested to address current and potential non-compliance of IGR patients with treatment and review.
3) Clinical Audit in September 2011, Searches were run in the GP practice clinical systems (all six CCGs took part)

   a. Showed increased numbers of patients in practice records having a diagnosis of IGR but still underreported when compared to expected numbers. Very low levels of referral to lifestyle services or follow up testing

   - The known incidence of IGR has roughly doubled since 2006, rising from 644 new cases in 2006-07 to 1,203 new cases in 2010-11;

   - The current known adult prevalence of IGR is 0.8%, ranging from 0.5% in Liverpool to 1.6% in Halton & St Helens; at an individual GP practice level, current prevalence ranged from 0.0% to 4.6% (NHS Health Checks modelling suggested a prevalence of 2.3%);

   - 34.5% of known IGR patients had a recorded BMI of ≥ 25 and <30 (overweight) and 47.3% had a recorded BMI of ≥ 30 (obese);

   - only 0.2% of overweight and 1.2% of obese IGR patients were recorded as having been referred to a weight management intervention;

   - 65.7% of those diagnosed with IGR in 2009-10 were not recorded as having had an FPG test in the following 12 months (in Liverpool this figure was 90%) suggesting that in the majority of cases, blood tests were not being repeated annually

4) PH supported the development of the pathway from diagnosis to management.

   a. A steering group was established with the PCT GP diabetes leads, a dialectologist and public health. The steering group worked together to develop the clinical pathway and agree thresholds and guidelines.

   b. Developing the pathway was not straightforward as at the time there was a lack of consistent national guidance

   c. The publication of NICE PH guidance 38 which supported the use of HbA1c (which had a pivotal effect on cost effectiveness).

5) A business case was written in September 2012 and sent for sign off to the boards of the six Clinical Commissioning Groups in Merseyside.

   a. Showed cost effectiveness of lifestyle interventions and options for commissioners eg LES. BC taken initially to QIPP Board then as time progressed needed to go to CCGs

   - Once diagnosed, over a third of IGR patients will go on to develop Type 2 diabetes within 6 years if no intervention is made; however, evidence shows that the onset of Type 2 diabetes can be delayed for an average of 8 years through intensive lifestyle intervention, avoiding substantial costs. Offering patients with IGR an annual review will also enable early identification of diabetes which is likely to have clinical benefits and further cost savings.
• Cost-effectiveness of the proposed pathway has been calculated on the basis of cost-avoidance through the delay in onset of diabetes against costs of diagnosing and appropriately managing IGR patients.

• Annual number of Type 2 diabetes cases postponed for 8 years in Merseyside as a result of implementing the IGR pathway in Years 1 & 2 thought to be approximately 650 cases.

• The modelling estimated that diagnosing and appropriately managing the people who have been previously identified as IGR or with previous blood tests results that meet the threshold for IGR, and for managing those identified with IGR following on from an NHS Health Check, would deliver an annual cost saving of £1,648,690 across Merseyside.

6) QIPP funding was provided to enable insight work which commenced in October 2012;

a. This led to development of patient facing materials and informed the future development of education programes.

• A sample of people who were aged 40 years and over were recruited from each CCG from localities where there are a higher proportion of people with risk factors. The group contained an equal split of male and female, who were overweight and had a range of other risk factors for Type 2 diabetes. BME groups were also included.

• Stage one - individual and paired interviews to explore awareness, perceptions and attitudes towards prediabetes, diabetes, health and lifestyle. Stage two - focus groups to explore the pathway, identifying how it could be delivered to best meet needs and encourage behaviour change

• Results:
  o 65 people were recruited from 11 different localities within Merseyside.
  o **Healthy foundations segmentation**: identified almost half as Unconfident
  o Fatalists and a third Live for Todays
  o **Language**: Participants did not understand pre-diabetes or IGR. Borderline diabetes was the preferred term for communication purposes as it indicates you can do something about it, high risk of diabetes was also a useful term.
  o **Motivation**: Being identified as borderline diabetes is a motivator for making lifestyle changes.
  o **Access**: All would access support and regular review from their GP practice and wanted their GP practice to play a central role in the IGR pathway.
  o **Education**: Participants expressed reluctance to attend education (such as Walking Away from Diabetes), preferring coaching and on-going support.
• Evidence Review to evaluate the evidence base for the health trainer lead intervention as outlined in NICE guidelines and translational studies. Staff communicate risk appropriately and understand what works and why
  o Includes behaviour change and self-monitoring techniques
  o Individualised goal-setting

• The focus for the majority, who are overweight or obese, should be achieving weight loss (~5%), not ‘healthy weight’ BMI as per NICE

• The more lifestyle changes people can make the better as each one has benefits.

• In terms of diet: reduce fat, saturated fat, added sugars; increase whole-grains, vegetables and pulses; limit energy-dense drinks: fruit juice, alcohol, pop. Low GI can be encouraged. Aim for low fat protein at every meal to reduce glycaemic load and enhance satiety. A very low carbohydrate or high protein or <20% fat or <1200kcal diet cannot currently be recommended for this first line health-trainer led intervention

• Physical activity: Have staged goals. Build up to 150-200 mins of moderate activity; which can include 60mins resistance; reduce sedentary behaviour; emphasise distinct benefits, habit-building, frequency and importance of self-monitoring.

7) Other activities

a. Public health also funded the development of a training package for lifestyle staff (health trainers) and the production of patient information leaflets and a goal planner.

b. The Diabetes Network secured national codes for the GP clinical system to help with creation of the IGR Register.

c. The Diabetes Network also worked with the laboratories in Merseyside to change the reporting of the results of HbA1c so that IGR was flagged as well as diabetes

d. Some areas have also developed templates for the GP clinical system.

e. In Merseyside there is also a ‘diabetes dashboard’ and the IGR register and activity is included and monitored