



**Liverpool
Public Health
Observatory**

Interventions to reduce emergency hospital admissions for diabetes

Cath Lewis

Liverpool Public Health Observatory

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clewis@liverpool.ac.uk

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Alex Scott-Samuel, Fran Bailey and Anne Dawson and Liverpool Public Health Observatory

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1. Introduction

Diabetes is a progressive, lifelong, condition. According to NHS Choices (<http://www.nhs.uk/Pathways/diabetes/Pages/Landing.aspx?WT.srch=1&gclid=ClaV4NufxJ4CFeZr4wodvE-XgQ>: last accessed December 2009), Type 1 diabetes is caused by the body's failure to make sufficient insulin, and generally appears before the age of 40. Type 2 diabetes is caused by the body not producing enough insulin or not using what it produces effectively. It is more common than Type 1, and accounts for 90% of all diabetes.

Early treatment and intervention can greatly reduce the risk of complications and reduce health service expenditure, as well as improving quality of life for those with diabetes, so early intervention in this area is vital.

2. Key recommendations

Policy interventions

Tackle obesity, a key risk factor for diabetes, through promotion of healthier life choices, and making it easier for people to build physical activity into their lives.

Community interventions

Use mass media campaigns to reduce population levels of obesity, as they are the most cost effective way to do this. Use mass media campaign to promote smoking cessation.

Health service interventions

To prevent obesity, deliver school based group education.

Ensure early diagnosis of diabetes to prevent or alleviate complications.

Use care planning to allow individuals to play an active part in their care.

Deliver brief interventions in GP surgeries, to improve uptake of physical activity and prevent obesity.

Provide education for those with diabetes, and offer emotional support.

Tailor reviews of those with diabetes to meet individual needs.

Provide regular foot care and retinopathy screening for those with diabetes.

3. Policy interventions

Obesity is a primary risk factor for diabetes. The risk of developing diabetes is around 20 times higher in the very obese (NICE, 2008). Over half the increase in diabetes cases from

2005 to 2010 will be attributable to the increase in overweight and obese people. The strategy recognises that the risk of developing diabetes is around 20 times greater in the very obese (those with a body mass index of over 35) than in people with a body mass index of between 18 and 25 (Department of Health, 2008). In response to this, the Government published an obesity strategy (HM Government, 2008). The strategy sets out population-wide plans to promote healthier food choices, making it easier to build physical activity into our lives, and create incentives for better health.

4. Community Interventions

4.1 Mass media campaigns

According to HELP, the Health England Leading Prioritisation online tool, mass media campaigns are the most cost-effective intervention in reducing population levels of obesity (HELP website <http://help.matrixknowledge.com/interventions/>: last accessed December 2009). According to HELP, a BBC campaign involving use of a website, Ceefax pages and telephone lines, cost £73.60 per person, resulted in an additional 0.736 QALYs per person, and cost savings of £2,494 per person, based on net costs, for Liverpool for 2007/8. Savings were similar in the Knowsley, Sefton, the Wirral and both Cheshire PCTs.

5. Health service interventions

5.1 Primary interventions

According to HELP (see 4.1 above), the second most cost-effective interventions for increasing levels of physical activity and reducing obesity is brief interventions delivered in GP surgeries to improve uptake of physical activity, for all Cheshire and Merseyside PCTs. For all PCTs, for 2007/8, brief interventions consisting of brief advice and one motivational interview with a health visitor cost £31 per person more than brief advice. Interventions were associated with 1.42 additional QALYs per person, and cost savings of £3,301 per person. School based group education was the third most cost-effective intervention (after mass media campaigns and brief interventions in GP surgeries) in reducing obesity, according to HELP. Nationally, for 2007/8, this cost around £24 per person more than usual curricula. It was associated with an additional 0.013 QALYs per person, and cost savings of £16.20 per person.

5.2 Secondary interventions

5.2.1 Early identification

If diabetes is diagnosed early, action can be taken to prevent or alleviate complications (Department of Health, 2008), resulting in decreased health service expenditure, as well as quality of life benefits. The Quality and Outcomes Framework (QOF) has been introduced as part of the GP contract, rewarding GP practices for the identification and treatment of people with diabetes. As a result, 600,000 people have been diagnosed, and there are 2 million people over the age of 17 registered as having diabetes. The Yorkshire and Humber Public Health Observatory (2008), estimates that there are 2.44 million people with diabetes in England, so there may still be over 400,000 people with undiagnosed diabetes in England.

5.2.2 Regular review

According to the Department of Health (2008) regular review of those with diabetes is vital. Research shows that the majority of those with diabetes are receiving regular reviews, although there is a need for these reviews to be increasingly tailored to individuals' needs and circumstances. This includes considering the needs of different ethnic groups. It is well known that diabetes has a disproportionate impact on some ethnic communities in England, and this means that their different needs and cultural identities have to be taken into account when developing strategies to prevent diabetes.

Set a targeted glycated haemoglobin in consultation with each patient, which may be above that of 6.5 % set for those with diabetes in general, and encourage the person to maintain that level unless there are side-effects.

5.2.3 Education and support for those diagnosed with diabetes.

Education is key to enabling those with diabetes to manage their condition. NICE, the Department of Health, the National Diabetes Support Team, and Diabetes UK offer a range of programmes, plus tool kits and guidance for those providing local services (Department of Health, 2008). NICE recommends that group education should be provided as a preferred option. Individualised nutritional support should also be provided, by a competent health professional (NICE, 2009). Advice that is applicable to the general population, such as maintaining a diet that is rich in high-fibre, low glycaemic-index sources of carbohydrate, such as fruit, vegetables and pulses, as well as including low-fat dairy products in the diet and controlling the intake of foods containing saturated fats, should be emphasised to those with diabetes. The use of foods marketed specifically for people with diabetes should be discouraged.

Many people with diabetes will need some form of emotional and psychological support to be able to tackle the challenges this presents and to care for themselves effectively from day to day. Despite this, a Diabetes UK survey of primary care trusts (Diabetes UK, 2007), found that only 38% provided psychological support for adults with diabetes, rising to 51% for children and young people. In addition, the Diabetes National Service Framework

recommends the use of care planning, which actively involves patients in deciding how their diabetes will be managed (Department of Health, 2006).

5.2.4 Stopping smoking

Giving up smoking is one of the most important things those who have been diagnosed with diabetes can do, according to Diabetes UK (http://www.diabetes.org.uk/Guide-to-diabetes/Treatment_your_health/Smoking/).

5.3 Tertiary interventions

5.3.1 Foot care

This includes regular **foot care**. The lifetime risk of developing a foot ulcer is 25% in those with diabetes (Singh et al, 2005), and although amputations are preceded by foot ulcers in more than 80% of cases (Pecorano et al, 1990), many of these amputations are preventable with the right teamwork (Krishnan et al, 2005, NICE 2004).

5.3.2 Diabetic retinopathy screening

100% of those with diabetes should be offered diabetic retinopathy screening, according to the Diabetes National Framework Delivery Strategy (Department of Health, 2003). By 2008, almost 90% were being offered screening. The Department of Health recommends that the NHS should also work towards increasing numbers of those taking up screening, as well as continuing to work towards the 100% target of those being offered screening.

5.3.3 Antiplatelet agents

The use of antiplatelet agents such as aspirin has been shown to reduce the chance of future cardiovascular events in people who have both diabetes **and** established cardiovascular disease (includes heart disease, stroke/TIA and peripheral vascular disease). This guidance recommends that people with diabetes who have established cardiovascular disease should be offered aspirin treatment, in addition to following a healthy lifestyle, according to Diabetes UK (<http://www.library.nhs.uk/Diabetes/ViewResource.aspx?resID=328155>).

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