

Design, delivery and evaluation of IGT Care Call: a telephone-based, structured education programme to promote lifestyle and behaviour change to prevent or delay the onset of type 2 diabetes.

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Background

In Salford, over 50% of the 220,000 population has a recorded BMI in the overweight or obese category. Obesity and inactivity are known risk factors for type 2 diabetes. Based on WHO criteria one in seven adults has impaired glucose regulation (IGR). This translates as an estimate of 7000 individuals in Salford. With no intervention, this could increase Salford's diabetes registers by 3800 over the next 10 years.

Methods

Working collaboratively since 2010, NIHR CLAHRC for Greater Manchester and Salford Diabetes Team developed a six month, telephone based lifestyle and behaviour change intervention for people diagnosed with impaired glucose tolerance (IGT) with the aim of preventing type 2 diabetes. Eligibility criteria required a diagnosis of IGT confirmed by fasting blood glucose (FBG) and 2 hour oral glucose tolerance test (OGTT) within the last six months; FINDRISC calculation (a validated tool to assess 10 year absolute risk of developing type 2 diabetes); current weight and BMI. Delivered by a team of trained health advisors, the programme provided motivational support and evidence based education to 55 participants with IGT, via a series of electronic scripts developed and maintained by the specialist diabetes team. Focus groups, workshops and questionnaires were undertaken to capture healthcare professional and participant views, enabling service improvements to be made.

Results

Following six months of telephone support, participants showed statistically significant improvements in FBG, OGTT, FINDRISC score, weight and BMI. One year after completing the six month Care Call programme these positive changes were sustained. Among the 40 participants we were able to reach at one year follow up, 65% achieved normal fasting blood glucose, 30% remained IGT and 5% developed type 2 diabetes. In comparison with baseline, the mean fasting blood glucose dropped by 0.29mmol/l (CI 0.07-0.51), mean weight loss was 2.81kg (CI 1.2-4.42kg) and BMI reduced by an average of 1.06kg/m² (CI 0.49-1.63). This suggests that Care Call has encouraged lifestyle and behaviour changes that are sustained long term.

Results at six and 18 months suggest sustained, statistically significant reduction in weight, BMI and diabetes risk.

Changes in fasting blood glucose at baseline, six and 18 months (n=40)

	Baseline	Stage	Changes	Difference	P	95% CI
Fasting blood glucose (mmol/l) mean (SD) (n=40)	6.2 (0.44)	6 months	5.8(0.59)	0.4(0.60)	<0.0002	0.21-0.59
		18 months	5.9(0.62)	0.29(0.69)	0.01	0.07-0.51

Changes in weight at baseline, six and 18 months (n=38)

	Baseline	Stage	Changes	Difference	P	95% CI
Weight (kg): mean (SD)(n=38)	91 (14.41)	6 months	88.11(14.93)	2.85(4.19)	0.0002	1.47-4.22
		18 months	85.15(15.76)	2.81(4.89)	<0.001	1.20-4.42

Changes in BMI at baseline, six and 18 months (n=38)

	Baseline	Stage	Changes	Difference	P	95% CI
BMI (kg/m ²): mean (SD)(n=38)	32.02 (5.15)	6 months	30.99(5.34)	1.02(1.46)	<0.0001	0.54-1.50
		18 months	30.96(5.29)	1.06(1.74)	0.0006	0.49-1.63

Conclusion:

The cost of diabetes and its complications is a serious concern to the NHS in this current financial climate, so there could not be a better time for a preventative service. The IGT Care Call service provides a cost effective method of promoting positive lifestyle changes which in turn have led to long term improvements in clinical outcomes which reduce the risk of type 2 diabetes. The service has been well received by service users, health care professionals and health advisors. Evidence suggests this approach may be particularly beneficial in hard to reach groups such as the elderly, geographically isolated, or those in full time employment. This telephone method of healthcare delivery appears transferable and could be easily adapted and utilised in the management of other medical conditions.

Achievements:

- Winner: Quality in Care Diabetes Award - Best Type 2 Prevention Initiative. 2011
- Finalist: HSJ Patient Safety Award - Primary Care category. 2012
- Highly Commended: HSJ Care Integration Award - Diabetes category. 2012
- Featured on national BBC news in response to a Diabetes UK report. 2012
- NICE(PH38) guidance: cited as an example of 'see this guidance in practice'. 2012
- Finalist: HSJ Care Integration Award - Diabetes category. 2013
- Finalist: HSJ Patient Safety Award - Primary Care category. 2013