An innovative approach to providing lifestyle and behaviour change to prevent type 2 diabetes: The IGT Care Call Project

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Costs associated with type 2 diabetes[2]

- 10% of the total NHS budget currently spent on diabetes care. Expected to increase to 17% over next 25 years (DUK).
- Diabetes prescribing currently accounts for 7% of all prescription costs
- Managing type 2 diabetes in primary care (consultation+ prescribing) estimated £1080 per patient/year (2007)[3]
- 80,000 hospital bed days per year due to prolonged stay by people with diabetes

2 Diabetes UK(2009) Diabetes in the UK 2009: Key statistics on diabetes

3 Currie et al (2010). Estimation of primary care treatment costs and treatment efficacy for people with type 1 and type 2 diabetes in the United Kingdom from 1997 -2007

Impaired Glucose Tolerance

DIAGNOSIS:		OGTT mmol/l		
		<=7.7	7.8 - 11	>11.1
Fasting mmol/l	<=6	Normal	**IGT**	
	6.1-6.9	IFG	**IGT**	
	>=7	type 2 diabetes		type 2 diabetes

- With no intervention, approx 50% of people with IGT will develop type 2 diabetes in 5 – 10 years[1]

[1] Lindstroem et al (2008) Determinants for the effecitiveness of lifestyle intervention in the Finnish Deiaberes prevention study. Diabetes Care 31(5):857-862

Risk factors for IGT/type 2 diabetes[4,5]

Non-modifiable risk factors

- Ethnicity
- Family history of type 2 diabetes
- Age
- Gender
- History of gestational diabetes
- Polycystic ovarian syndrome.

Modifiable risk factors

- **Overweight/obesity**
- **Sedentary lifestyle**
- **Metabolic syndrome:**
  - **Hypertension**
  - **Decreased HDL-cholesterol**
  - **Increased triglycerides**
- **Dietary factors**

4 Diabetes UK Position Statement (2009) Impaired glucose regulation/non-diabetic hyperglycaemia NDH/Prediabetes.
5 Evans (2009) Clinical presentations, diagnosis and prevention of diabetes. Diabetes and Primary Care 12 (6): 326-370.

Rationale – The Diabetes NSF[6]

The Diabetes NSF, established to drive up service equality and tackle variations in care, set out 12 standards to be achieved by 2013:

'The NHS will develop, implement and monitor strategies to reduce the risk of developing type 2 diabetes in the population as a whole and to reduce the inequalities in the risk of developing type 2 diabetes' (Diabetes NSF, Standard 1)

'The NHS will develop, implement and monitor strategies to identify people who do not know they have diabetes' (Diabetes NSF, Standard 2)

6. Department of Health (2007) National Service Framework Diabetes: 2007

Salford Diabetes Team and GM CLAHRC agreed project aim:

To deliver a telephone-based support service for people with IGT in which 75% of service users

achieve and sustain one or more lifestyle goals and

rate as assisting them in achieving one or more lifestyle goals

IGT Care-Call pathway

IGT identified in General Practice [n = 61]
Initial assessment (FBG, OGTT, FINDRISC, weight/BMI) → referred to care call

↓

Introduction call (HA) [6 withdrawals]

Action planning call (HCP) [n=55]

5 x monthly calls (HA)

↓

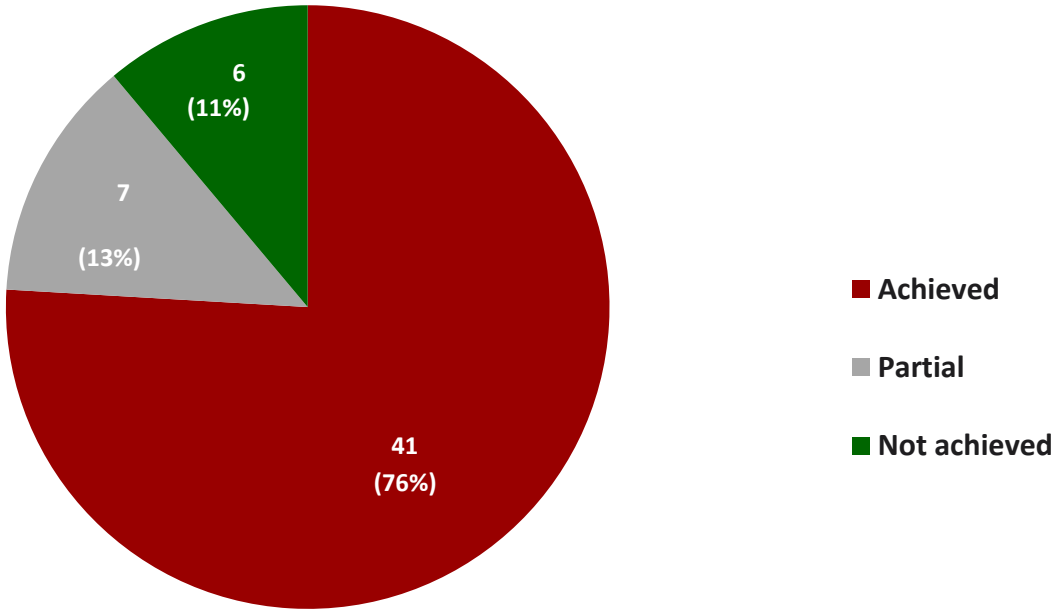
GP practice advised on completion [n=55]
Final assessment request (FBG, OGTT, FINDRISC, weight/BMI)
Final results → care call

↓

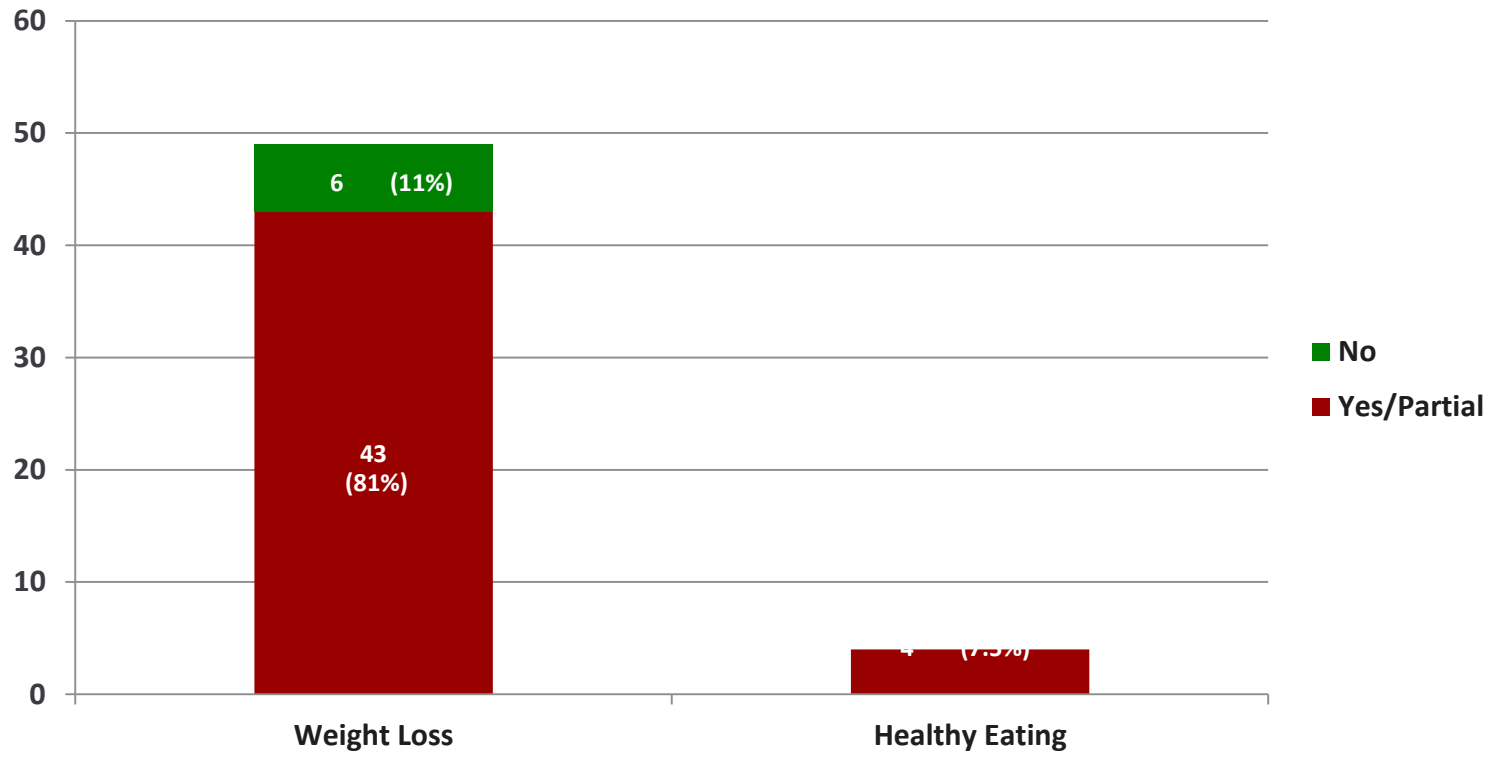
Results collected by CLAHRC for evaluation [n ~ 50]

Results: Project aim No.1

To deliver a telephone based support service for people with IGT in which 75% of service users achieve and sustain one or more lifestyle goals (n=54)



Achievement of six month lifestyle goal results by category (n=53)

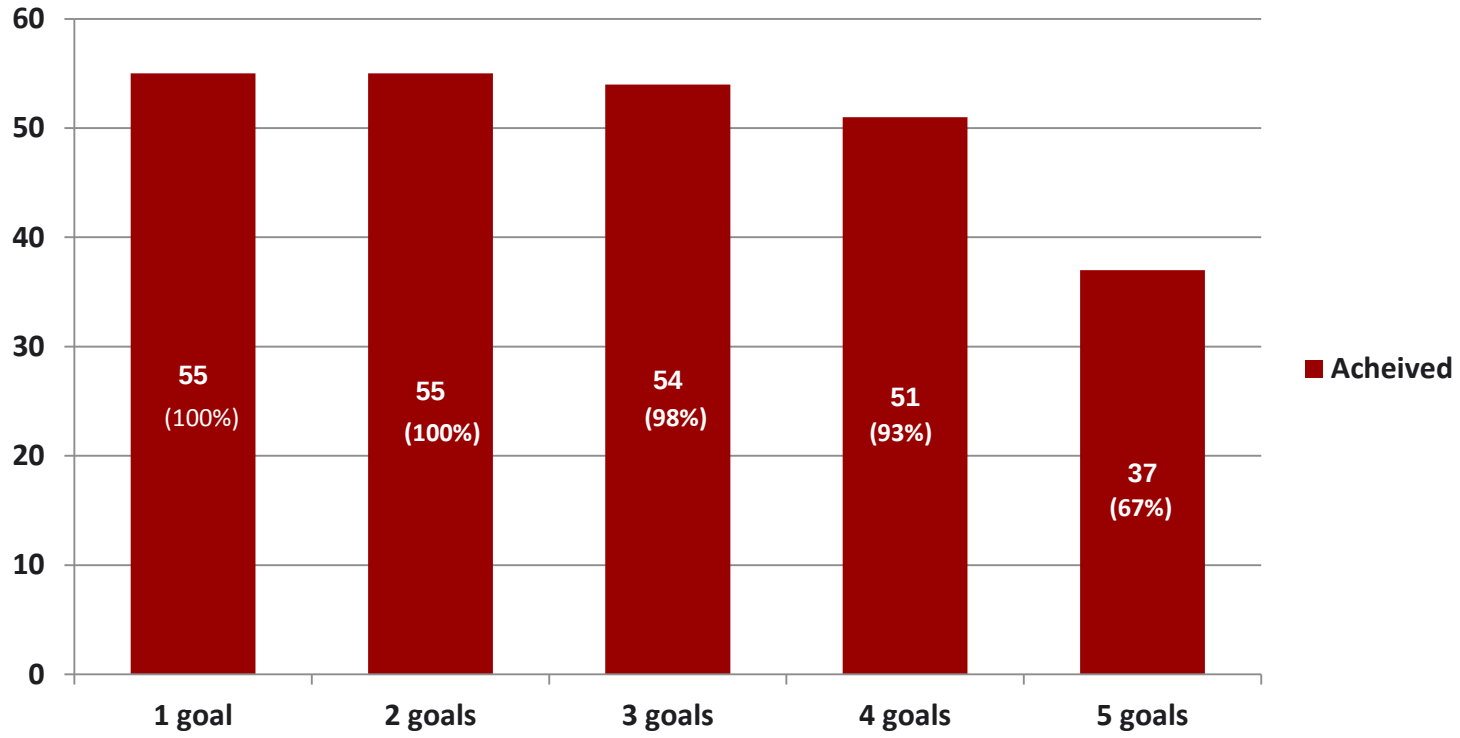


Mini Goals

- IGT Care Call Pathway: 5 goals/person =275 mini goals

- Of these:
  - 91% (n=250) Totally or partially achieved
  - 6% (n=17) Not achieved
  - 3% (n=8) Not set

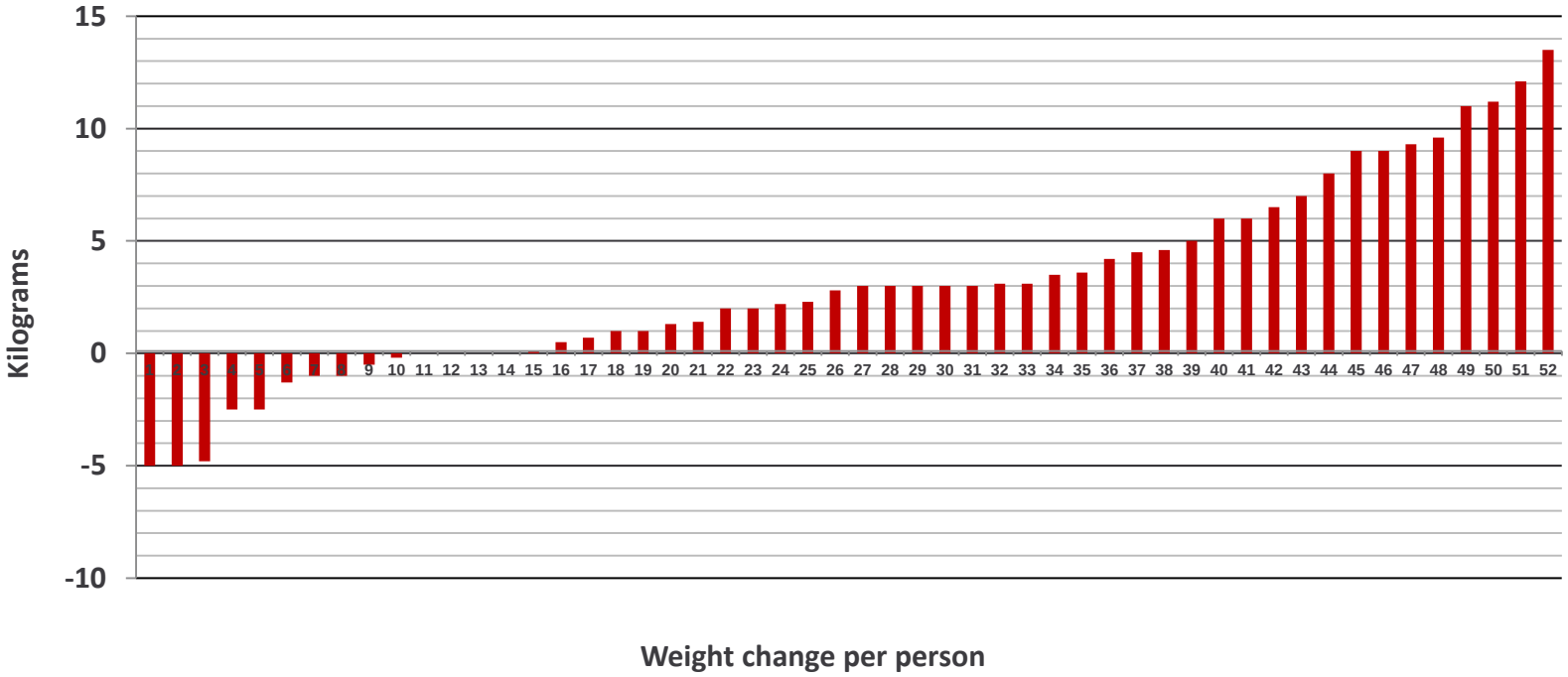
Number of mini goals achieved



Changes in weight (n= 52)

- 73% (n=38) achieved weight loss
  - average loss 4.8kg (5.3%) per person
- 8% (n=4) no change in weight
- 19% (n=10) gained weight
  - average gain 2.4kg (2.6%) per person

Ordered difference in weight change (n=52)



Change in BMI (n=52)

- 71% (n=37) reduced BMI
  - average 1.7 points per person
- 10% (n=5) no change BMI
- 19% (n=10) increased BMI
  - average 0.9 points per person

BMI >30 (obese)

Pre-intervention results: n= 33 (60%)
Post-intervention results: n=31

- 70% (n=23) reduced BMI
  - average 2.1 points per person
- 3% (n=1) no change
- 21% (n=7) increased BMI
  - average 1.1 points per person

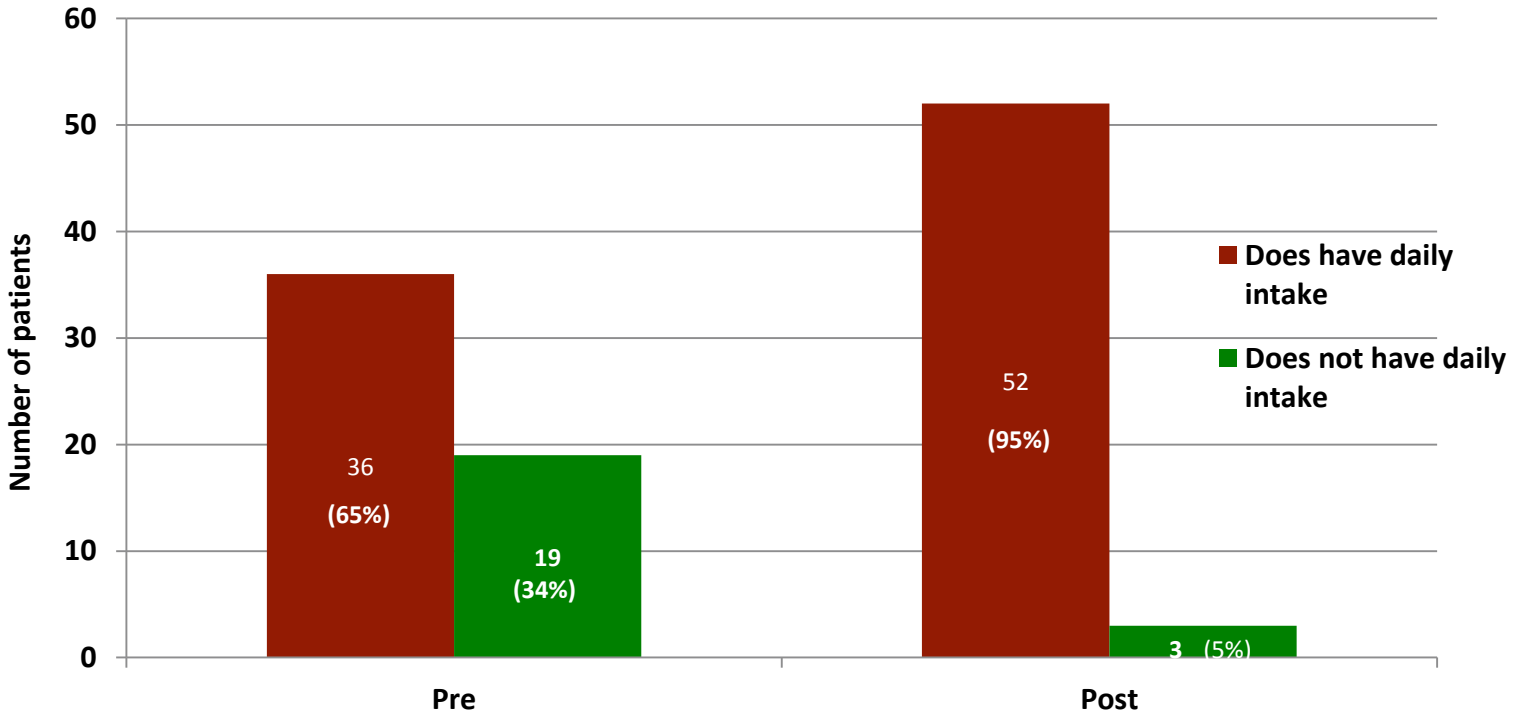
FINDRISC (Finnish Diabetes Risk Score)

Risk Score (points)	Risk of developing type 2 diabetes within 10 years is:	
0 - 6	Low	estimated 1 in 100
7 - 11	Slightly elevated	estimated 1 in 25
12 – 14	Moderate	estimated 1 in 6
15 – 20	High	estimated 1 in 3
> 20	Very high	estimated 1 in 2

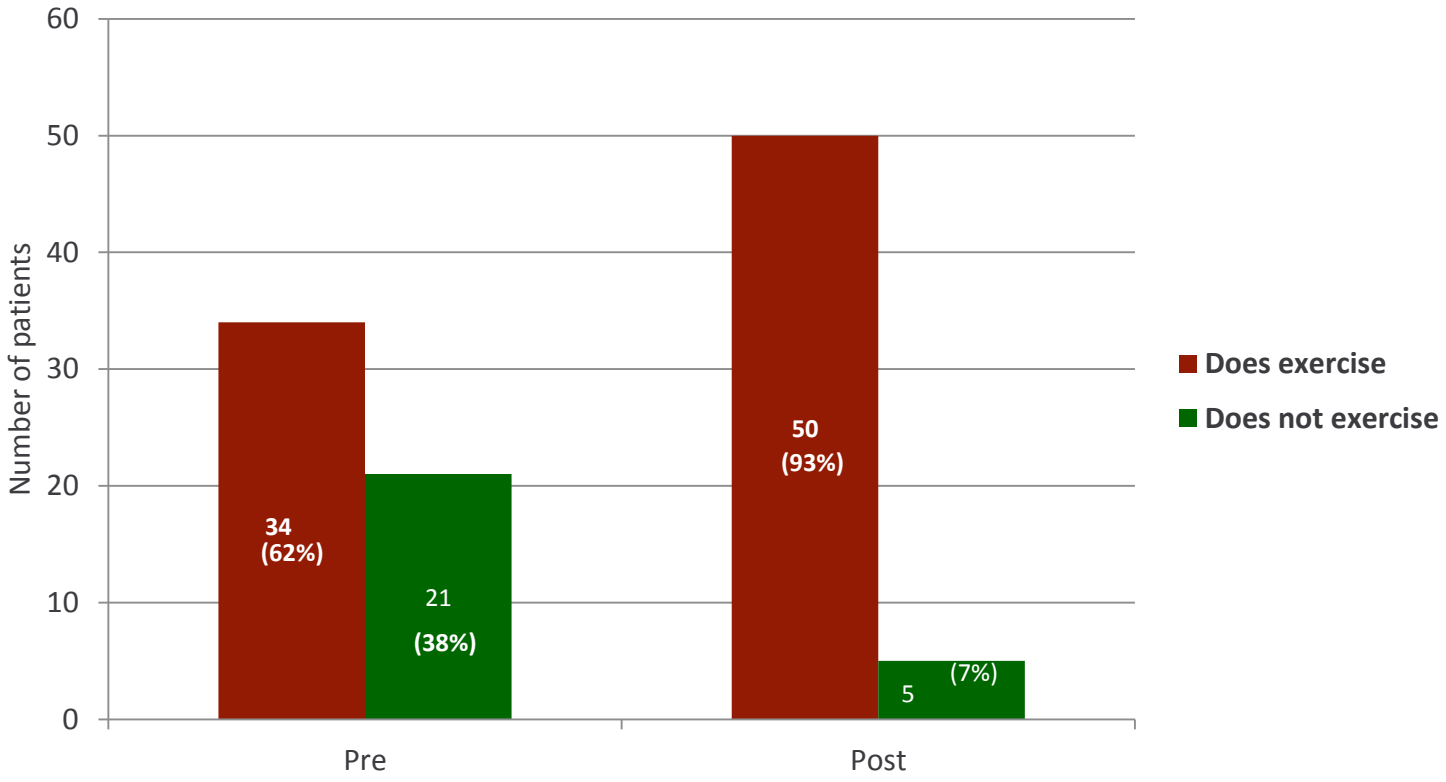
Change in FINDRISC score (n=51)

- 61% (n=31) reduced FINDRISC score
  - average 2.1 points per person
- 35% (n=18) no change
- 4% (n=2) increased FINDRISC score
  - average 1.5 points per person

Healthy eating
Change in daily fruit and vegetable intake (n=55)

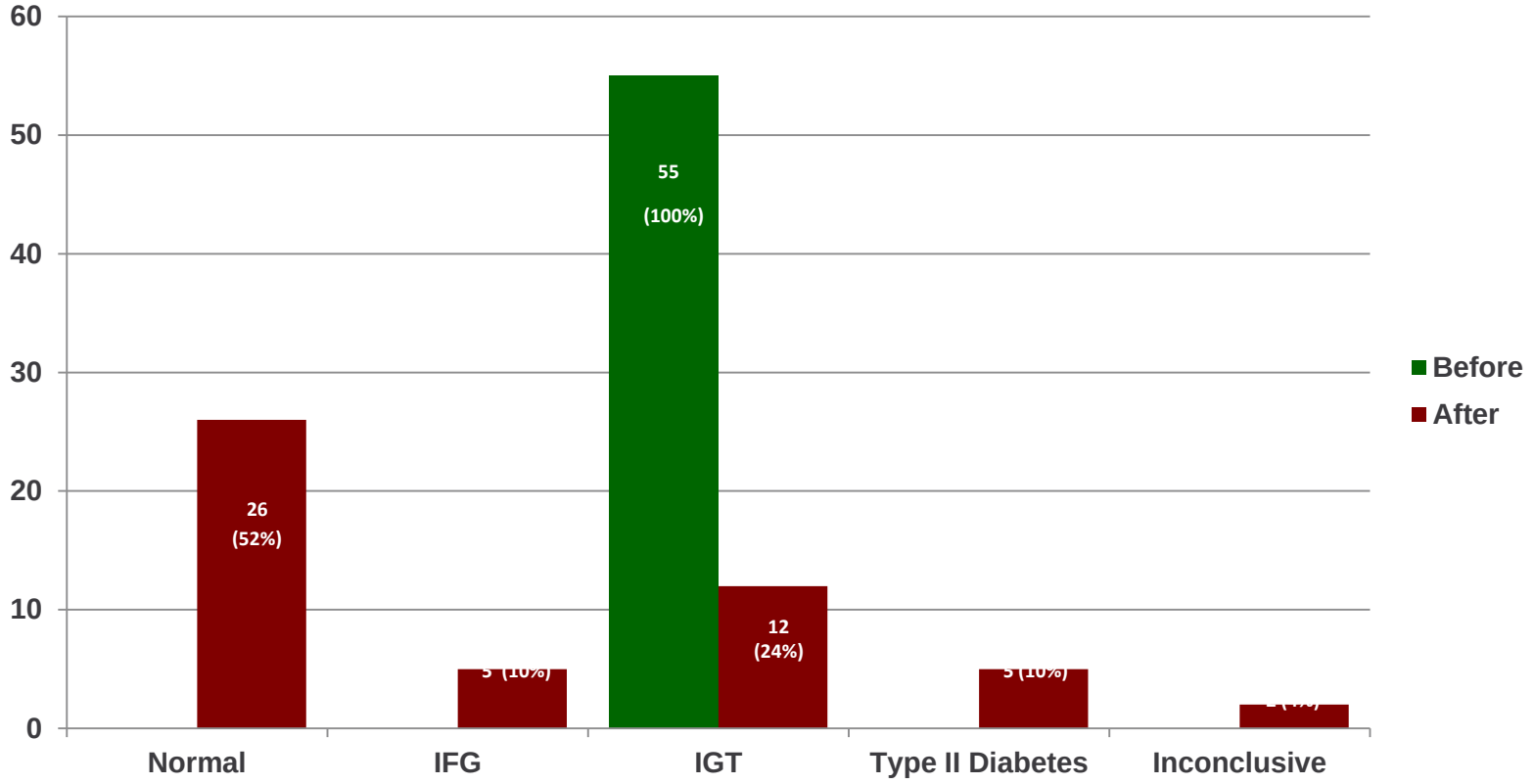


Change in activity levels (n=55)



Change in blood glucose results (n=50)

80% (n=40) reduced OGTT, average 2.4mmol/person



Service user feedback: Project aim 2 (n=41)

To deliver a telephone-based support service for people with IGT that 75% of service users rate as assisting them in achieving one or more lifestyle goals.

- 93% (n=38) discussed goals regularly with their health advisor, stating this helped achievement of their overall goal.

- 90% (n=37) felt their health advisor definitely gave relevant, up to date advice on how to reduce their risk of developing type 2 diabetes.

- 78% (n=32) definitely felt more confident in reducing their own risk of developing type 2 diabetes as a result of participating in the programme.

Service user feedback: How Care-Call assisted in achieving goals

- *'It was very well structured, it was small steps.. try this or try that…'*
- *'[health advisor] guided me in taking small steps….their communication skills and guidance were superb'*
- *'[health advisor] spoke to me as an equal….I was treated like a thinking adult!'*

Service user feedback further demonstrated Care-Call was :

- acceptable and accessible
- educational
- motivational
- successful in changing behaviour
- knowledgeable about local services

‘ care call is an excellent resource for helping people with lifestyle change’

Signposting to local services

Service	Number Signposted or directly referred
Health Walks	16
Active Lifestyle Team (NHS)	14
Salford Fit City	8
Recommended an approved website	4
Smoking Cessation Team (NHS)	3
Local Community Class	2
Community Health Trainers (NHS)	1
Mental Health Team (NHS)	1
Total	**49**

'I mentioned (activities) to my health advisor and 2 days later got a list of different places I could attend where I would meet people of my own age'

Participating practices feedback

- **Information and resources used:**
  - HIGH satisfaction (average rating 9.2 out of 10)
- **Ability of Care-Call to provide evidence based, lifestyle advice:**
  - HIGH confidence (average rating 9.2 out of 10)
- **Ability of Care-Call to motivate:**
  - HIGH confidence (average rating 8.6 out of 10)

Practice feedback: benefits to practice

- *'A very useful service to have available to us. It offers a far greater level of advice and support than we are able to offer due to time constraints'*
- *'[patients] have received more education and input than they would have had from us alone'*
- *'Care Call offers more long term support which is better for us and the patient as sometimes messages need re-enforcing to be effective'*

Practice feedback: benefits to individual

- *'Feedback has been good from patients and enables me to discuss their care management with them on a much higher level of understanding'*
- *'It improves compliance with healthy lifestyle and positive reinforcement'*
- *'The ongoing nature of the service encourages patients to continue with changes longer term'*
- *'Some results have been impressive'.*

Cost of providing the service (n=55)

Staff (including 50% overheads)			
Band 4 Health advisor	lifestyle support	£82.45	per patient
Band 7 Health professional	initial assessment and goal setting	£41.58	per patient
Telephone calls		£11.52	per patient
TOTAL		**£135.55**	**per patient for 6 month programme**

NOTE: as the service was already established and staff trained in the relevant motivational interviewing approaches, cost of training has not been included.

Savings

In the absence of any intervention, 50% of people with IGT will develop type 2 diabetes over a period of 10 years [7]	~27 patients from those in this project over 10 years
A lifestyle intervention can reduce the incidence risk of diabetes by 34% [8]	~9 patients will not develop diabetes who would otherwise have done so, over 10 years
Assume that development of diabetes is linear over the 10 years	i.e. a rate of 0.9 patients/year

	Y1	Y2	Y3	Y4
Cost	£7,455	0	0	0
Savings	£1,010	£2,020	£3,029	£4,039
Cumulative saving		£3,029	£6,059	£10,098

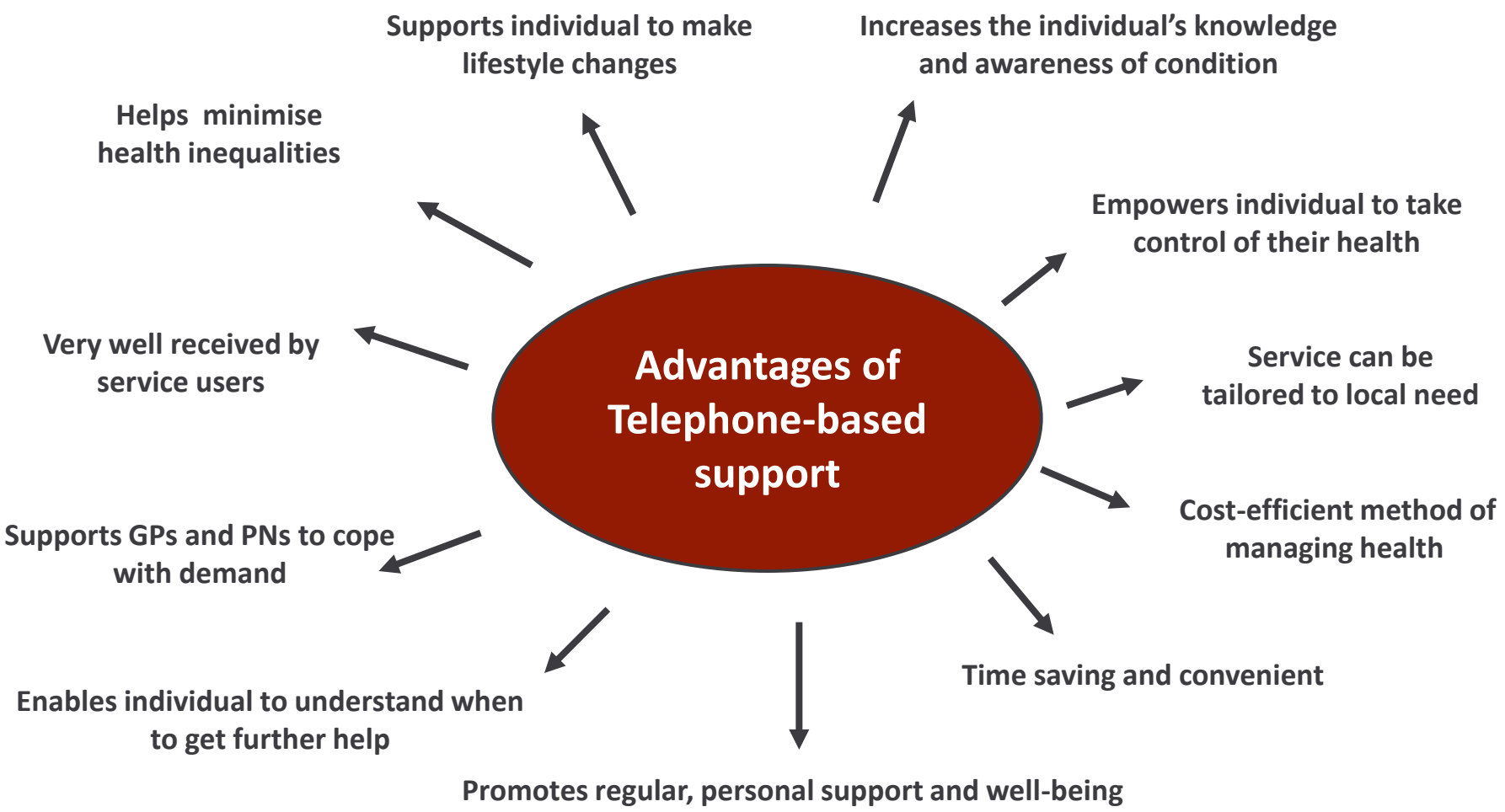
7 Lindstroem et al (2008). Determinants for the effectiveness of lifestyle intervention in the Finnish Diabetes Prevention Study, *Diabetes Care* 31(5): 857-862;

8 Diabetes Prevention Program Research Group (2009) 10-year follow-up of diabetes incidence and weight loss in the Diabetes Prevention Program Outcomes Study, *The Lancet,* published online 29th October 2009

Learning and considerations for the future

- Project well received
- Inconsistency in IG registers/ recall systems in Salford
- Non recurrent funding awarded for further development
- Next phase of project
  - Follow up of original participants
  - Roll out across district (incorporating service user /HCP feedback)
  - CLAHRC working with GPs re IG registers

Care-Call - the advantages



- **Quality in Care Diabetes Award (2011)**

  'Best type 2 diabetes prevention initiative'

- **Shortlist for two HSJ Awards (July 2012)**
  - **Care Integration (Diabetes)**
  - **Patient Safety (Primary Care)**

Thank you

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http://clahrc-gm.nihr.ac.uk/resources/igt-care-call