MANCHESTER 1824
The University of Manchester

NHS
National Institute for Health Research

Collaboration for Leadership in Applied Health Research and Care (CLAHRC) for Greater Manchester

Diabetes Prevention Project in Ashton, Leigh and Wigan

Evaluation Report

Anna Betzlbacher, Improvement Manager
NIHR CLAHRC for Greater Manchester

IGT

Bridgewater Community Healthcare NHS
NHS Trust

Contents

1 The growing need for diabetes prevention

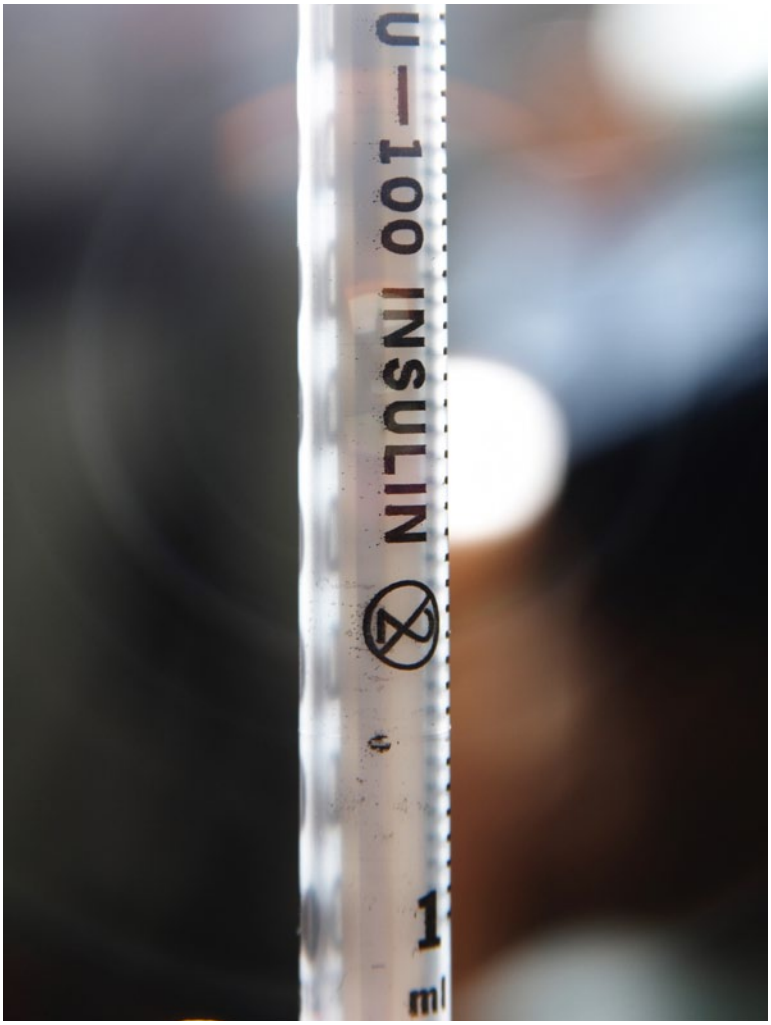
The NHS is facing growing challenges in treating the number of people diagnosed with type 2 diabetes and in meeting the associated costs as a result of increasing cases of obesity.

In 2012, 3 million people had a diagnosis of diabetes which equates to 4.6% of the UK population [1]; a number that is expected to increase to five million by 2025 [2] with the majority being diagnosed with type 2 diabetes, resulting from an ageing society, increased sedentary lifestyles and rising obesity levels.

Treatment costs for diabetes consume 10% of the annual NHS budget for England. 80% of the total amount spent on diabetes is used to manage avoidable complications.[3] In addition to the rise in prevalence of diabetes there is also a rise in the number of people with borderline hyperglycaemia or pre-diabetes. Impaired glucose tolerance (IGT) is one form of pre-diabetes and describes a condition with raised blood glucose, not high enough to warrant a diabetes diagnosis. People with IGT have an increased risk of developing type 2 diabetes [4,5] and cardiovascular disease[6].

However, developing type 2 diabetes is not inevitable as has been proven by a number of randomized controlled trials (RCTs), which have shown consistent degrees of risk reduction through intensive lifestyle interventions in patients with IGT. RCTs have shown that lifestyle interventions for people with IGT can delay or even prevent progression to type 2 diabetes [7,8] by up to 58% in the short term[9] and 38% after ten years[10]. Prevention of type 2 diabetes has also shown to be cost-effective [11,12].

Therefore, identifying patients with IGT and offering them dedicated behaviour change support services are vital components in strategies to reduce the growing burden of type 2 diabetes to patients and the health economy. However, despite growing evidence from translational studies [13,14] and international guidelines [15,16], there is no UK-wide implementation of type 2 diabetes prevention services.



2 Diabetes prevention in Ashton, Leigh and Wigan

Ashton, Leigh and Wigan suffers poorer health than other parts of the country. Life expectancy for men living in this area is almost two years less than the national average and people in the borough have a much greater risk of dying from cancers, stroke and coronary heart disease.

Across the borough people living in the more deprived areas are much more likely to experience poor health, with a gap of 6.5 years life expectancy between the most deprived and most affluent wards.

The NIHR Collaboration for Leadership in Applied Health Research and Care (CLAHRC) for Greater Manchester supported NHS Ashton, Leigh and Wigan and Bridgewater Community Healthcare NHS Trust in applying and translating the existing research evidence to find a community-based service model for type 2 diabetes prevention that offers behaviour change support and lifestyle advice to people living in the borough who are at increased risk of developing type 2 diabetes.

The NIHR CLAHRC for Greater Manchester supported Bridgewater Community Healthcare NHS Trust and participating GP surgeries in piloting a type 2 diabetes prevention service using the local, established Health Trainer service. This model of delivering a diabetes prevention service via the local Health Trainer service was already successfully implemented by the NIHR CLAHRC for Greater Manchester in collaboration with NHS Bolton.[17]

Health Trainers are a Department of Health initiative, introduced in the Government's White Paper 'Choosing Health', to offer personalized, face-to-face lifestyle and behaviour change support to people at risk of developing cardiovascular disease and other life threatening illnesses, mainly focusing on deprived communities.

They support and motivate people along the behaviour change journey by helping them to identify which lifestyle choices put them at risk of developing diseases and positive changes they could make to reduce their risk. This can range from supporting patients in lifestyle changes like smoking cessation, adopting a healthier diet or exercising more regularly.

Health Trainers are non-clinically trained staff, normally employed on an Agenda for Change Band 3 or 4. They receive intensive training in supporting and motivating people along the behaviour change pathway.

The local Health Trainer Team in Ashton, Leigh and Wigan was already successfully working with primary care and other community services. Their Health Trainers are based within a range of settings across the borough which include GP surgeries, other NHS settings and community venues. The Health Trainer pathway offers regular support over a period of six months, with follow up appointments offered at three months and six months after sign off to monitor the client's progress and their ability to maintain lifestyle changes. However, the intervention length and contact frequency is adjusted to suit each client's individual needs and circumstances. At the beginning of the intervention, each person develops a Personal Health Plan (PHP) with their Health Trainer outlining the changes they would like to achieve over the intervention period, which is then supported via setting smaller goals during the intervention period.

3 The pilot project

3.1 Project overview

The pilot project started in January 2011 with seven GP practices that originally volunteered to take part and start referring people with IGT to their Health Trainers.

Most of these original practices also started to validate their IGT registers and tried to identify so far undiagnosed people at risk of developing type 2 diabetes to also offer them the preventative service. The pilot phase lasted for 25 months until the end of January 2013, and during those two years a further ten surgeries started to refer IGT clients to their Health Trainer as they had heard of the project. Clients referred by those additional practices were also included in the below outlined evaluation outcomes.

3.2 Evaluation overview

The evaluation focused on both process and outcome measures and consisted of quantitative and qualitative elements. Outcome measures mainly focused on changes in type 2 diabetes risk factors achieved: changes in weight, body mass index (BMI), waist circumference, dietary habits and exercise levels. Process measures focused on the number of clients that decided to enrol and then either dropped out or completed the Health Trainer intervention. Both outcome and process measures were taken from the Data Collection and Recording System (DCRS) a national Health Trainer database used to record socio-demographic data and information regarding a client's progress and clinical outcome measures.

Quantitative information was also supplemented by client questionnaires (sent to 99 clients in summer 2012), interviews with GP surgery staff (two practice managers and three practice nurses) and interviews with seven health trainers working with those original seven surgeries. Those interviews also took place in summer 2012.

4 Sample description

During the pilot phase a total of 170 people with IGT were referred to the Health Trainer Service and attended at least one appointment with their surgery's Health Trainer.

The distribution across all participating surgeries can be found in Table 1 which shows a large variety in the number of referrals across surgeries. Overall, those with the highest referral numbers tend to be those surgeries that were approached to take part at the beginning of the pilot project.

Surgery	n	%
Surgery 1	72	42
Surgery 2	27	16
Surgery 3	20	12
Surgery 4	10	6
Surgery 5	8	5
Surgery 6	6	4
Surgery 7	5	3
Surgery 8	5	3
Surgery 9	4	2
Surgery 10	2	1
Surgery 11	2	1
Surgery 12	2	1
Surgery 13	2	1
Surgery 14	2	1
Surgery 15	1	1
Surgery 16	1	1
Surgery 17	1	1
Total	**170**	**100**

Table 1:
Enrolment by surgery for overall sample

4.1 Gender and age

Looking at this sample of 170 participants, there are slightly more men than women represented: 92 male participants (54%) versus 78 female participants (46%).

77% (n=131) are 56 years or older; less than 10% are 45 years or younger.

A detailed split across all age ranges can be found in Table 2.

Age	n	%
18 - 25	1	1
26 - 35	1	1
36 - 45	12	7
46 - 55	18	11
56 - 65	53	31
Over 65	78	46
Declined	1	1
Not recorded	6	4
Total	**170**	**100**

Table 2:
Age ranges of overall sample

4.2 Deprivation and employment

As Table 3 indicates, half of the 170 participants live in areas associated with the two most deprived quintiles. This is encouraging as there is a close link between deprivation and developing type 2 diabetes.[18] Over the last few years Ashton, Leigh & Wigan's health trainer service has also mainly focused its efforts and resources at the more deprived communities to reduce health inequalities in those parts of the borough.

58% (n=98) stated being retired. 29% are employed either on a full-time (21%, n=36) or part time (8%, n=13) basis.

A full employment status break down can be found in Table 3.

Employment	n	%
Retired	98	58
Employed full-time	36	21
Employed part-time	13	8
Permanently Sick / Disabled	10	6
Unemployed	2	1
Self-employed	2	1
Full time carer	4	2
Looking after home or family full time	4	2
Not recorded	1	1
Total	**170**	**100**

Table 3:
Employment status within overall sample

4.3 Risk factors for type 2 diabetes

Unhealthy lifestyle choices play an important part in increasing a person's risk of developing type 2 diabetes; an unhealthy diet and a sedentary lifestyle can lead to a raised BMI and waist circumference that are seen as putting people at risk of developing the disease.

The following is a description of these risk factors as they could be found in our sample: 55% (n=102) had a BMI in the obese range, only 11% (n=18) had a BMI below 25kg/m^2 which is seen as healthy. For the full break down see Table 4.

A similar picture can be seen when looking at waist circumference; however, less data is available for waist circumference than for BMI (n=140). Only 6% (n=11) of participants had a waist circumference perceived as healthy and 65% (n=111) were in the highest risk category.

A full spread of the sample can be found in Table 5. Both tables indicate that the service is accessed by people with risk factors for developing type 2 diabetes.

BMI category	From (kg/m^2)	To (kg/m^2)	n	%
Healthy weight	20	24.99	18	11
Overweight	25	29.99	54	32
Obese I and II	30	39.99	74	44
Obese III	40		18	11
Not recorded	n/a	n/a	6	4
Total			**170**	**100**

Table 4:
BMI category of overall sample

Waist category	n	%
Not at risk (Healthy)	11	6
At risk	18	11
At high risk	111	65
Not recorded	30	18
Total	**170**	**100**

Table 5:
Waist circumference categories for overall sample

5 Project outcomes

Only those participants who have a 'Sign-off' record within DCRS are included in the process and outcome evaluation analysis.

Health trainers either sign off a client after successfully completing the programme or when clients decide to drop out or fail to attend appointments with their health trainer, despite the Health Trainer's attempts to re-engage that client and offer new appointments. Of the 170 participants, 138 had been signed off by January 2013 and are included in the following analysis.

5.1 Process measures

Of those 138 participants, 5% (n=6) decided not to enrol into the Health Trainer Programme following their initial appointment with their Health Trainer.

Reasons, as recorded on DCRS, are that people 'Only wanted some information' (4%, n=5) or that the client wanted a 'Mini Health MOT only' (1%, n=1). Despite deciding to enrol at their first appointment with a Health Trainer, a further 36% (n=49) then did not complete the Health Trainer programme. Reasons for this vary with the main reason (12%, n=16) being that clients fail to repeatedly attend appointments and that Health Trainers are not able to contact clients (19%, n=12).

More reasons for participants to drop out of the programme can be found in Table 6. 60% (n=83), however do stay with the programme and either fully (49%, n=68) or partly (11%, n=15) complete the PHP they developed with the Health Trainer at the beginning of the intervention.

Reasons for sign off	n	%
Reasons for not enrolling:		
Mini Health MOT Only	1	1
Only wanted some information	5	4
Reasons for dropping out:		
Not ready to make changes	2	1
Chose an alternative service	3	2
Inability to continue	11	8
Other	2	1
Client did not attend	16	12
Could not contact client	12	9
Did not follow plan	3	2
Reasons for completing:		
PHP completed	68	49
PHP part completed	15	11
Total	**138**	**100**

Table 6:
Reasons for sign off

For those 83 clients that completed the Health Trainer intervention, the average enrolment duration is 5.8 months; however enrolment duration varies from being signed off within the same month up to 11 months from enrolment date. 83% (n=69) stay with the Health Trainer Programme for 3 months or longer. A detailed spread can be found in Table 7.

Length of intervention	Completion n	Completion %
Signed off same month	2	2.4
Signed off after 1 month	2	2.4
Signed off after 2 months	10	12.0
Signed off after 3 months	7	8.4
Signed off after 4 months	10	12.0
Signed off after 5 months	8	9.6
Signed off after 6 months	7	8.4
Signed off after 7 months	10	12.0
Signed off after 8 months	16	19.3
Signed off after 9 months	0	0
Signed off after 10 months	6	7.2
Signed off after 11 months	5	6.0
Total	**83**	
Average time of enrolment (months)	**5.81**	

Table 7:
Enrolment duration

5.2 Outcome measures

This section will look at the outcome data achieved by those 83 clients that completed the intervention, focusing on the number of goals set and achieved, changes in weight, body mass index, waist circumference and behavioural changes in clients' dietary habits and exercise levels.

5.2.1 Achievement of goals and Personal Health Plans

Health trainers encourage clients to set small goals during the intervention phase which will support the overall PHP. Therefore, these goals and how many they set for themselves can vary from client to client, e.g. keeping a food diary, going for a 30 minute walk three times for the next four weeks, reducing take away dishes to two times per week etc. A total of 323 goals were set by those 83 clients who completed the intervention. 85% (n=273) of goals set were achieved with a further 9% (n=27) being part achieved. 7% (n=23) of goals were not achieved. A similar achievement rate is recorded for the PHP with 83% (n=69) achieving their PHP and a further 17% (n=14) partly achieving their PHP.

5.2.2 Changes in weight, BMI and waist circumference

Weight recordings before and after the Health Trainer Programme are available for 76 clients. Mean weight reduced from 88.6kg to 86.0kg, which is a mean weight reduction of 2.6kg (3.0% bodyweight). This is also reflected in a reduction of mean BMI from 32.0kg/m^2 to 31.0kg/m^2. However, not all participants lost weight: 74% (n=56) of participants reduced their mean weight by 3.8kg (4.2%), 13% (n=10) had no change in weight and the same number increased their body weight by 1.1kg (1.1%).

Looking at the group of clients that managed to lose weight during the intervention, the majority of participants (70%, n=39) reduced by less than 5%. 21% (n=12) of clients even managed to lose between 5 and 10% of their bodyweight and a further five (9%) lost more than 10% of their bodyweight.

Waist circumference data for before and after the intervention is available for 59 participants, which shows a mean reduction of 3.4cm from 108.2cm to 104.8cm. Almost half of the participants (49%, n=29) reduced their waist circumference - on average by 7.1cm - with the same number having no change in waist circumference. One participant increased his/her waist circumference.

5.2.3 Diet and exercise

As part of the programme, changes in diet and physical activity can also be found in the data. Comparing fruit and vegetable consumption before and after the intervention for the whole sample (n=66), there is an increase of one portion of fruit and vegetable per day. No changes could be seen in 18% (n=12) and a reduction in 11% (n=7). However, in 71% (n=47) there was an increase in fruit and vegetable consumption on average by 1.8 portions per day.

A change in physical exercise (n=68) can also be seen with an increase in the frequency of 30 minutes of moderate exercise completed per week by 1.9 sessions. However, an increase in physical exercise can be observed in fewer participants than changes in diet, with 49% (n=33) exercising more often - on average by 4.2 sessions per week. 46% (n=31) did not change their exercise levels and a further 6% (n=4) actually reduced their exercise levels.

5.3. Client feedback

To gather client feedback, questionnaires (Appendix 1) were sent out to 99 clients who either had already completed the intervention or were still working with a health trainer. In total 32 questionnaires were returned, with one questionnaire being completed by both husband and wife who both saw the same Health Trainer, giving differing answers at some sections which were therefore counted as separate answers. The sample characteristics of those clients who returned questionnaires were the following: 56% (n=18) were over 65 years, 56% (n=18) were female, 25% (n=8) came from the most deprived areas in Ashton, Leigh and Wigan and 66% (n=21) were already retired. The questionnaire consisted of both closed and open questions, asking for the client's motivation to enrol into the programme, their expectations, whether they managed to make changes to their lifestyle and whether seeing a health trainer helped them to achieve these changes. Questions also focused on whether their knowledge around IGT and risk factors for type 2 diabetes have improved and how confident they are that they will be able to prevent type 2 diabetes in future following the Health Trainer Programme.

The majority of respondents were referred by their practice nurse (55%, n=18) and their GP (36%, n=12), and this also was one of the main motivations to arrange/ attend an appointment with the Health Trainer (Question 1, Appendix 1):

"I was advised by the doctor."

"The practice nurse thought it might help."

Other reasons stated are focused on their condition and how to prevent type 2 diabetes (Question 2):

"I am borderline diabetic and wanted to get help to prevent it."

"To learn more about IGT and how to control sugar levels."

"To check my lifestyle with an expert and get advice on improving it."

However, statements given also indicated that not every participant knew what support to expect from working with a health trainer (Question 3):

"I didn't really know what to expect at first."

"I really did not know I am just glad I did."

"Apart from diet information I hoped I would receive encouragement and support."

Following the first appointment with the Health Trainer, 94% (n=31) of clients decided to make changes to their lifestyle, e.g. choosing a healthier diet, exercising more or losing weight (Question 4) and also chose goals aiming at achieving those overall lifestyle changes (Question 5):

"Help myself to feel better - health wise."

"To lose weight, to get my glucose levels down."

"Having three meals a day, cut down on fat and sugar, cut out a lot of alcohol."

"To lose some weight, to walk about at least half an hour to one hour daily depending on the weather, I have lost one stone. I try and walk every day; I try very hard to cut my biscuits down."

"I now eat a balanced diet and have lost two stones in weight. I walk regularly every day and go for two hour walks every weekend."

Seeing a health trainer regularly and receiving their support did help 88% (n=29) of participants to achieve the goals they set themselves (Question 6). The same number of participants also agreed that they are now more confident than before about making lifestyle changes (Question 7), and 97% (n=32) of respondents confirmed that they now have a better understanding of lifestyle choices that increase their risk of developing type 2 diabetes (Question 8) and 76% (n=25) thought that they are now able to reduce their risk of developing the disease (Question 10).

Asked how they would rate the Health Trainer Service overall, answers given were only positive; with 88% (n=29) rating the service as 'Very good' and a further 12% (n=4) as 'Good' (Question 11). When asked to name those elements that were best about the Health Trainer Service, comments given highlight the advice and information provided by health trainers, the motivation, encouragement and support in setting realistic goals received and the fact that clients appreciated being taken seriously and listened to in a friendly, unhurried and non-judgemental environment (Question 12):

"I feel as though I have been genuinely helped."

"Lots of useful information, reviews of the goals set and if they were achieved; Health Trainer is extremely knowledgeable and helpful in setting realistic targets and talking through the benefits of lifestyle changes."

"(The Health Trainer) allowed time to talk, we discussed lots of helpful issues and he really motivated me. So different from a five minute appointment with the GP. I felt as though I mattered."

"Actually sitting down and talking about my case on a personal level. After information was given, I was greatly encouraged to make changes - not 'told' to. Going back each month to discuss progress; I was made to feel confident about the goals and that I could achieve them."

"My Heath Trainer was very reassuring (…). She never judged me. If I felt I hadn't done as well one month she was always supportive and generous with praise each time I saw her."

"I could talk to the Health Trainer and knew he listened."

"Regular reviews and setting goals gave me extra incentive to achieve goals by set date, e.g. next review and weight and measurements every time showed me actual results."

5.4 GP surgery feedback

Surgeries that decided to take part in the pilot and refer IGT clients to their Health Trainer were motivated for several reasons; in some cases there was one member of staff who specialised in diabetes and was keen to improve the management of pre-diabetes within the surgery, other surgery's motivation came from the fact that by taking part they could offer better care to their IGT patients and others were interested in better utilising the Health Trainer Service in their surgery.

"We've always had an interest in diabetes in the practice. We've always looked for it an awful lot (…)." ***Practice Nurse***

"Because [the GP] (…) was a diabetes specialist, it went parallel along with what [the GP] was doing. So that's mainly why we decided to do it. And because it was beneficial to the patients as well, so we thought we'd go along with that and have a go."
Practice Manager

"We wanted to make sure that any patients that were impaired glucose tolerant were captured. And [the practice nurse] was keen to make sure that they were brought in and screened. (…) it's for the patients' benefit, that's the main thing (…) helping your patients not to become diabetic. (…) you've got that sense of achievement that you're doing something for your patients."
Practice Manager

"It was just really to see if there was anything we could gain from taking part in using the Health Trainer, really, because we hadn't done that before. (…) To be honest they weren't used very well. I think you sort of get a little bit protective of your own work, don't you." ***Practice Nurse***

Some surgeries expressed concerns whether taking part would increase their workload and put extra burden on an already busy practice; however in retrospect surgeries didn't think that was actually the case.

"I think maybe initially we thought it was going to be a lot of extra work, but I don't think it has been. I've not heard [the practice nurse] saying it's been extra work for her." ***Practice Manager***

Surgery staff were also asked how they would describe their management of IGT pre-project and answers varied. Some admitted that in retrospect the care they provided was more hit and miss. With a strong focus on diabetes management, surgeries ensured that people were diagnosed and were given brief dietary and lifestyle information but then failed to code clients correctly and therefore to recall them regularly for monitoring purposes. Time constraints were also mentioned, by not having the time to see people with IGT more regularly to work on lifestyle issues.

Others thought their management was already up to scratch before they started referring to the Health Trainer.

"We've always done a lot of glucose tolerance testing, always. When (…) we were given our numbers [IGT prevalence], our numbers were quite low and I said straight away that is was a Read Code issue." ***Practice Nurse***

"We didn't really manage them very well. We had put codes on to say they had impaired glucose tolerance and we had diary dates on for a 12 month re-tests. But once they had that re-test, I think they didn't get a further diary date, so they were lost in the system then." ***Practice Manager***

Being part of this project and starting to refer IGT clients to their Health Trainer also triggered practices to look into the above mentioned issues by coding people correctly, setting up recall systems and assigning responsibilities for the IGT register to a member of staff (who will, at least once a year, audit the register to see whether anybody should be coded who currently isn't and whether anybody missed should be recalled).

"We did lots of [database] searches, we found it all - the glucose tolerance testing - and we recoded them [IGT clients] appropriately. That made our register up to date then. (…) [The] healthcare assistant is going to manage the register. (…) She will look at that, she will send for patients that need to be sent for. That's something that she can manage. (…) I feel now, since the programme, that the register is up to date, everybody knows that we refer to the Health Trainer, so I feel that we've got a more up to date and a more fluid process. (…) That's a big thing." ***Practice Nurse***

"So I think once we got organised, it does work a lot better now because they are included in all our monthly searches for anybody who needs annual reviews of anything, and then they are recalled for GTTs [glucose tolerance tests] every 12 months, so they've got diary dates on for that. So hopefully we don't miss anybody." ***Practice Manager***

Most practices also ensured that all staff members were informed why it is important to monitor people with IGT and the importance of offering lifestyle support and the role the Health Trainer will play in this. The main benefit practices saw in referring IGT clients to the Health Trainer was that they could now offer structured education to people with IGT - something they were not able to do beforehand.

"I think we just manage better now. I mean, we did see them every six months but there was no structured education to it. (…) now (…) they're having lots of interventions, which we haven't time to do. (…) I do think it helps to focus the patients, and at least make some changes."
Practice Nurse

"Patient education. They can give more time than the nurses can, and it's a bit more relaxed, I think, for the patient. They might ask something that they might not feel comfortable asking us.
Practice Nurse

In general, Health Trainers were perceived positively and the extra support they offered was appreciated.

"I think the extra support is good. (…) And I have checked that we're [Health Trainer and practice nurse] singing from the same hymn sheet with the information I'm giving, because obviously if you're giving two lots of different information, it's going to confuse the patient."
Practice Nurse

This was also reinforced by positive feedback that surgery staff received from their clients.

"Yes, to be honest, it is mainly positive. I mean, I've had the odd one who said well, I was doing that anyway, but you get that with anything, don't you. But yes, I would say they do like what they've received."
Practice Manager

"So I think [the Health Trainer] has been invaluable to a lot of them, yes." *Practice Manager*

Some surgery staff also felt that having the Health Trainer working closely with the IGT client freed up some of their time, which was appreciated and it seems that this also helped the Health Trainer Service to be perceived in a positive light.

"I think it certainly frees up a lot of our time (…). I have just found it really useful. I think [the Health Trainer] is doing what we want him to do. The patients more often than not are quite chuffed with the service they've received. (…) But I think we can use them [Health Trainers] quite effectively and it does work, and they give them [clients] the time we have not got, in all honesty."
Practice Nurse

Working more closely with the Health Trainer around the specific topic of type 2 diabetes prevention also had a positive effect on the surgeries' relationship with the Health Trainer by getting a better understanding of their role and what they can add to each surgery. This in turn helped surgeries to view the Health Trainer as an integral team member.

"I think it's built the relationship up between Health Trainer and GP because the Health Trainer is just across the corridor from me so I see [the Health Trainer] every week. The GPs probably don't see [the Health Trainer] as much as I do so that relationship is better. I have found that they do refer other people to the Health Trainer now for other things."
Practice Nurse

"[The Health Trainer] is quite part of our team now."
Practice Manager

One improvement area highlighted by surgery staff was the lack of feedback received from health trainers. As health trainers have no access to the GP database and are unable to enter information on there, e.g. the topics discussed with a client, goals agreed or measurements taken, there is no opportunity for GP surgery staff to see a client's progress or messages/advice given by the Health Trainer.

"But we don't, at the moment, get the feedback as in what's happening with the patients, and we don't know the outcomes of the sessions with the Health Trainer. So it's difficult from that point of view. (…) the only bit that I would improve if I could, would be the fact that we would get some communication. (…) Yes and being able to see what's been discussed would be handy as well." *Practice Nurse*

5.5 Health Trainer feedback

Health trainers working with those surgeries that were originally approached to take part in the pilot project were also asked to be interviewed and all seven health trainers agreed to take part. The interview covered several topics, e.g. their initial perceptions of taking part, how well the referral process works, their impressions of working with IGT clients and results achieved, any challenges they encountered and the effect the project had on their development.

First impressions

All interviewees were positive about expanding the service to a different client group and felt that the type 2 diabetes prevention focus fitted very well with their role and were looking forward to a new challenge.

"I was pleased to be involved really; because I am a true believer that prevention is better than cure. So, picking up people who haven't developed diabetes and hopefully helping them not to develop diabetes seems, you know, a good thing."

"Personally I think the IGT clients fit perfectly into what being a health trainer is about anyway. (…) In some ways I'm quite surprised that it's taken this long to put together IGT clients and health trainers because I think they fit really well."

"I was quite excited about it. I thought it was a new challenge. I thought new clients with a specific health issue would not only make me more motivated, but show the practice the nature of the work that we do. It was an opportunity as well to engage more with the people I work with at the practice, who you often don't see much of, but now it's an opportunity to immediately engage with them."

"It was really exciting, it was just something different. (…) it was exciting to do something new."

Referral process

Comments also indicate that not all clinicians within the surgery refer as proactively to the Health Trainer, with health trainers receiving the majority of referrals from only a few clinicians. Mainly this was the practice nurse(s) and in some cases referrals were received from the surgery's healthcare assistants, which worked well. However, there is always a risk associated when the referring member of staff leaves, as has happened in one case.

"In the beginning it was really good because the healthcare assistant that was there (..) she was really keen and she did refer all the time. So at the beginning it was a little bit slow but then it started getting busy, but unfortunately she [the healthcare assistant] left."

"A lot of it comes from the drive from individual doctors within the practice and I know it shouldn't be that way but unfortunately ... Saying that I think the nurses are the key ones in all of this (…). If you can get them on board, that's most of your job done. It's not really the doctor but the practice nurse."

Health trainers, who are positive about the surgery's referral process, very often work in surgeries where every person newly diagnosed with IGT is now automatically referred to the surgery's Health Trainer.

"I think having that automatic link, you know, with the nurses knowing anyone with IGT automatically gets referred on to a Health Trainer Programme."

"I'd say it does work, in every aspect, really, where somebody with IGT will go to [the practice nurse] automatically, like I say, will refer it to me anyway."

In other surgeries, health trainers had to be more proactive in generating referrals either by reminding the surgery that they are also able to see people at risk of developing type 2 diabetes or by ringing people who are already on the IGT register. However this was not seen as the preferred option as a referral from either the practice nurse or GP is seen as more impactful.

"It was slow at first, getting the referrals through. But then it was suggested that they [health trainers] can just ask for a list of the clients who had impaired glucose tolerance. So they [the surgery] did just print a list and I worked my way through the list. (…) It worked pretty well with most people. It would've probably been better if the original approach had come from the surgery itself rather than from me (…) people may have been a bit more comfortable being contacted by the surgery themselves rather by somebody they hadn't actually met before."

Working with IGT clients

Once health trainers started working with IGT clients they quickly realised that there is hardly any difference in working with this particular client group compared to those clients they had worked with so far around adopting a healthy lifestyle.

"When I first came across IGT clients I was thinking oh my god what's going to be different here? Really and truly there isn't too much different at all. The information we would put across to any client is basically the same."

"It is not that dissimilar, really, from the ordinary sort of information and intervention we do with other clients anyway."

Despite there not being a big difference in how to work with that client group health trainers thought that they needed to provide more information to clients so they could gather a better understanding of IGT.

"They [clients] were being referred with IGT and it's amazing how many didn't know what it meant. So I was going right from the foundation of what IGT is, then moving on to why you're at risk of it or developing diabetes, and then what we can do about it. Nobody before me, whether it be the nurse or the doctor had really explained what IGT was."

They also realised that they needed to gain a better understanding of the relevant diagnostic tests to be able to answer clients' questions; this issue is reinforced by the fact that most health trainers don't have access to the surgery's database and would therefore not know whether a client has been in for further testing and what the results were.

"A lot of people come in and ask about the sugar levels and they'll say 'Oh my sugar level is this, what does that mean? What should it be and what is low, what is high?'"

"Another challenge was not knowing how regular the sugars [blood glucose levels] were being taken and read by the client, how many check-ups they were having. Often I'd work with a client for six months and they still hadn't been called back for a check-up. So I didn't, and they didn't, know whether their sugar levels were actually reducing or not."

However, despite the similarities in topics to discuss with IGT clients - compared to other client groups - health trainers identified differences in working with this client group mainly by having a more focused intervention with the clear aim of preventing type 2 diabetes which they also find easier to communicate than general benefits of a healthier lifestyle or losing weight. Receiving a disease diagnosis also seems to have a positive effect on a person's motivation to make changes to their lifestyle.

"It's very much more focused. You can be quite positive about trying to prevent them developing diabetes and the possible complications that could arise from that."

"People who in the majority were motivated to make the changes once we explained what IGT meant and the potential harm caused by diabetes primarily. (…) I think they are more motivated because once we explain to them that the risk of them developing diabetes could be significantly reduced by lifestyle changes, they see the urgency of it. (…) It's that immediate impact they can have on their health by making lifestyle changes. (…) I think there's a lot more motivation there. A lot more urgency actually to make those changes. That threat of diabetes (…) But the motivation I think is far higher than say for instance a client coming through looking to lose weight. (…) obviously we do a lot of promotional work, really our promotional work is to convince people that they need to change their lifestyles. Whereas with the IGT clients you're kind of beyond that step. You're onto the next rung of the ladder almost. That is the motivational factor really."

Health trainers also thought that the increase in motivations stemmed from the fact that clients knew that their blood glucose levels would be measured again in circa 12 months' time as part of routine monitoring in primary care; however this led to frustration for some clients who had to wait until they were recalled for further testing which could mean a gap of up to six months, until they knew whether the changes they made led to an improved glucose regulation.

The only thing health trainers seem to struggle with was finding the right, written information to hand out to clients.

"I think maybe a bit more literature to give out to clients would have been helpful. "

As a result an IGT patient leaflet was developed with support from Health Trainers which can be found in Appendix 2.

Effect of IGT Health Trainer Service

Good team working between the Health Trainer and the surgery is key in ensuring that clients take up the offer of working with a health trainer. In some cases working with a new client group raised the Health Trainer's profile and gave it a slightly different focus and even improved the relationship between health trainers and surgery staff and fostered new ways of working together.

"In a way it has got me closer to the people at the surgery because I did liaise with [the Healthcare Assistant] a lot about it and I met her straight away which was great (…). So it has helped me build up relations with people in the surgery. (…) I think that using the IGT project, we're all in it for the same results. It is working together more so that helped me build up relations there."

"What I think it's done really, what it's given is a bit more focus to our role. You're actually working towards the goal of bringing that person back from that borderline situation. As a health trainer that's something that you can get your teeth into. (…) That's what it gives to the role of health trainer."

"Much better than I even thought. You know, doctors were popping their heads through my door and having a brief word and just more interaction with the nurses as well. I thought that was one of the great things from it. (…) Actually I think a few of the doctors were unaware of the nature of the work that I did. (…) And as a consequence of that, any new GPs who have joined the surgery have automatically been coming in and shadowing me for an intervention and that's on the back of the IGT programme. And any trainee doctors they have in are also shadowing me for an afternoon, again on the back of what they learnt from the IGT programme. It's been really beneficial."

Health Trainers also acknowledged the positive effect being involved in this project had on their personal development and also on their own motivation in working with this client group.

"I feel I've learnt another skill really. I've learnt something else."

"It's a bit of a critique of myself, but I feel more motivated knowing a) that the programme is being monitored, just knowing that you're going to get feedback (…), that adds to my motivation and b) also because I know that the lifestyle changes we're going to achieve with the client are going to have an immediate impact with that long term impact. I feel more motivated to work with IGT clients."

Having now successfully worked with IGT clients, Health Trainers were very positive about rolling out the diabetes prevention service to the whole borough - especially targeting a younger population and detecting IGT at an earlier stage was seen necessary. Health Trainers also reflected how they could further diversify their service by targeting other disease areas which could offer a similar focus on prevention, on measurability of outcomes and the immediate impact of their work as they had observed in the IGT project.

"I think targeting high blood pressure and cholesterol and diabetes, there's an urgency to it. Where people don't want to develop these heart conditions. But as well it's much more measurable. I think that's helpful. Perhaps that's what we should be looking at."

"I feel where it is linked to [a] medical condition. (…) Patients seem to be that much more receptive really."

Interviewees also suggested that they could start offering home visits to offer their support to clients who struggle to attend appointments outside their home.

6 Conclusion

The rising number of people diagnosed with type 2 diabetes proves to be a challenge for the NHS; this pilot project has shown that by using existing community services, type 2 diabetes prevention services can be offered to people at risk, filling a gap in the current service provision.

Results achieved in weight loss and waist circumference indicate that participants are able to change their lifestyles and reduce those behaviours that put them at increased risk of developing the disease. Clients rated the service as either 'Very good' or 'Good' and felt that the Health Trainer Service supported them in understanding what lifestyle changes put them at risk and in making positive changes. It was also positively received by those clinicians interviewed and helped to embed the Health Trainer Service further and show potential for further service diversification.

The following elements have been identified as being critical in implementing a successful type 2 diabetes prevention service - which are irrespective of using the Health Trainer Service or not. One is to support GP surgeries in establishing and/or validating their IGT register, coding people with IGT correctly and setting up recall systems for ongoing monitoring, re-referrals into the IGT Service and early identification and treatment of type 2 diabetes. Training for health trainers or other staff working with people diagnosed with IGT is also important and should be considered. Training should include basic information about diabetes, IGT, risk factors for type 2 diabetes and diagnostic tests and the meaning of test results.

However, any type 2 diabetes prevention services should not be delivered in isolation but as joined-up care with a person's primary care team - especially if the IGT service is not delivered by clinically trained staff as is the case with the Health Trainer Service.

References

1 Diabetes UK. Diabetes Prevalence 2012 (March 2013). London, 2013

2 Diabetes UK. Diabetes in the UK 2012. Key statistics on diabetes. London, 2012

3 Diabetes UK. State of the nation. England. London, 2012

4 Alberti K. The Clinical Implications of Impaired Glucose Tolerance. Diabetic Medicine 1996. 13: 927-937.

5 Edelstein SL, Knowler WC, Bain RP, et al. Predictors of Progression from Impaired Glucose Tolerance to NIDDM. An analysis of six prospective studies. Diabetes 1997. 46: 701-710.

6 Lee M, Saver JL, Hong K, et al. Effect of pre-diabetes on future risk of stroke: meta analysis. BMJ 2012. 344: e3564.

7 Eriksson KF, Lindgarde F. Prevention of type 2 diabetes (non-insulin dependent) diabetes mellitus by diet and physical exercise. The 6-year Malmo feasibility study. Diabetologia 1991. 34: 891-8.

8 Ramachandran A, Snehalatha C, Mary S, et al. The Indian Diabetes Prevention Programme shows that lifestyle modification and metformin prevent type 2 diabetes in Asian Indian subjects with impaired glucose tolerance (IDPP-1). Diabetologia 2006. 29: 289-97.

9 Tuomilehto J, Lindström J, Eriksson JG, et al. Prevention of type 2 diabetes mellitus by changes in lifestyle among subjects with impaired glucose tolerance. New England Journal of Medicine 2001. 344: 1343-50.

10 Diabetes Prevention Program Research Group. 10-year follow-up of diabetes incidence and weight loss in the Diabetes Prevention Program Outcomes Study. The Lancet 2009. 374: 1677-1686.

11 Segal L, Dalton AC, Richardson J. Cost-effectiveness of the primary prevention of non-insulin dependent diabetes mellitus. Health Promotion International 1998. 13: 197-209.

12 Hernan WH, Brandle M, Zhang P, et al. Costs associated with the primary prevention of type 2 diabetes mellitus in the diabetes prevention program. Diabetes Care 2003. 26: 36-47.

13 Yates T, Davies MJ, Gorely T, Bull F, Khunti K. Effectiveness of a pragmatic education programme aimed at promoting walking activity in individuals with impaired glucose tolerance: a randomized controlled trial. Diabetes Care 2009. 32: 1404-1410.

14 Yates T, Davies MJ, Sehmi S, Gorely T, Khunti K. The Prediabetes Risk Education and Physical Activity Recommendation and Encouragement (PREPARE) programme study: Are improvements in glucose regulation sustained at 2 years? Diabetic Medicine 2011. 28: 1268-1271.

15 Paulweber B, Valensi P, Lindström J, et al. A European evidence-based guideline for the prevention of type 2 diabetes. Hormone and Metabolic Research 2010. 42: S3-S36.

16 Schwarz PEH. Public health implications: Translation into diabetes prevention initiatives - four-level public health concept. Medical Clinics of North America 2010. 95: 397-407.

17 Betzlbacher A, Grady K, Savas L, et al: Behaviour change among people with impaired glucose tolerance: comparison of telephone-based and face-to-face advice. Journal of Health Services Research & Policy 2013. 18(2): S2-S6.

18 Diabetes UK. Diabetes in the UK 2012. Key statistics on diabetes. London, 2012

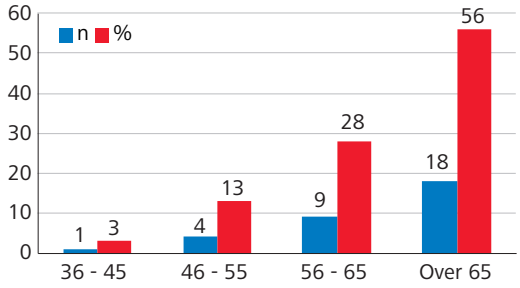
appendix 1

Client questionnaire

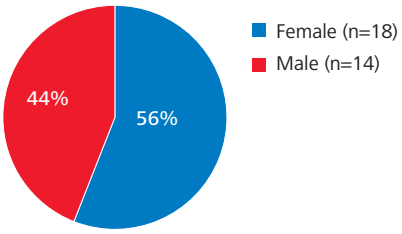
In total 32 questionnaires were returned and analysed. The following summary outlines key characteristics of the sample group and summarises the responses along with some key quotes from the questionnaires received. The questionnaire consisted of fourteen questions with both closed and open answer choices.

1. Sample Characteristics

Age bands



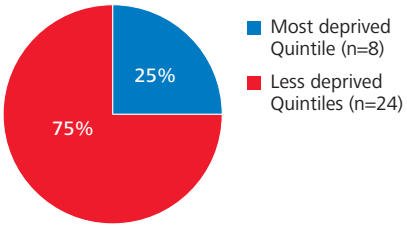
Gender



Ethnicity

All responders (n=32) identify themselves as White British.

Postcode Status



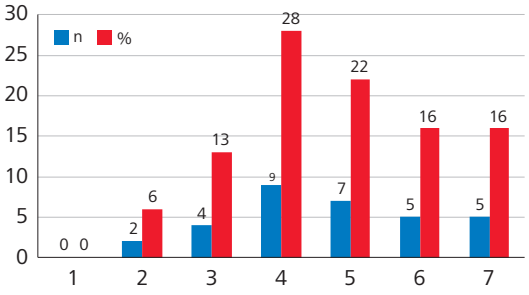
Employment

Employment	n	%
Retired	21	66
Employed (full-time)	5	16
Employed (part-time)	1	3
Self-employed	1	3
Unemployed	1	3
Full-time carer	1	3
Looking after home or family full time	1	3
Permanently sick/ disabled	1	3
Total	**32**	**100**

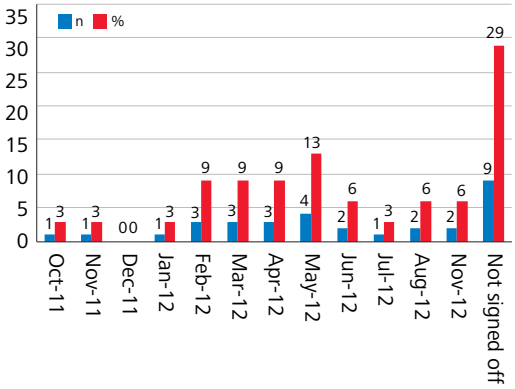
Surgery

GP Surgery	n	%
1	11	34
2	14	44
3	2	6
5	1	3
6	1	3
8	1	3
10	1	3
14	1	3
Total	**32**	**100**

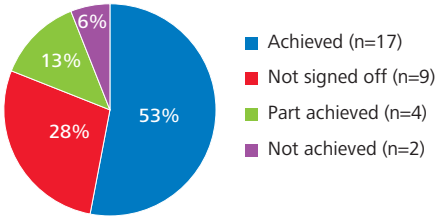
Duration of involvement



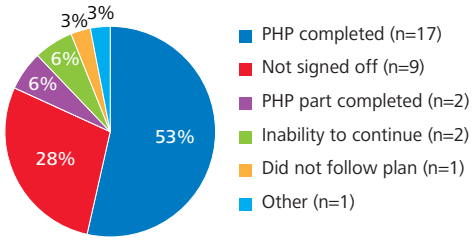
Sign-off date



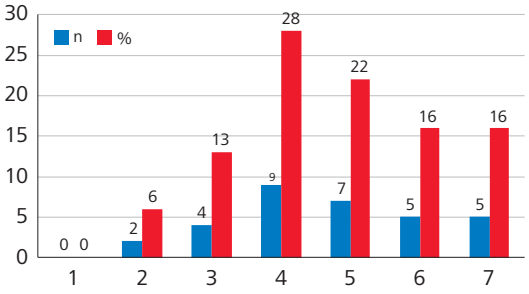
PHP achievement status



Reason for sign-off



Number of goals set

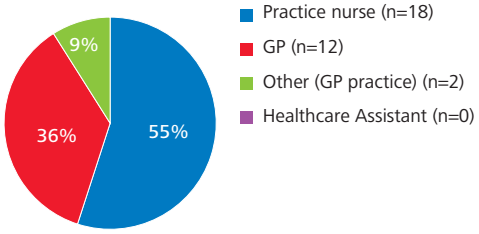


Outcomes

Despite receiving 32 responses, a total of 33 were counted through one questionnaire being answered by a couple who both worked with the Health Trainer.

Question 1: How did you hear about the Health Trainer Service?

More than half of the sample were referred by the surgery's practice nurse.



Question 2: Why did you want to make an appointment with your health trainer?

N.B. Responses given might have been allocated to more than one category - this applies to all free text field questions.

Category	n	%
Type 2 diabetes prevention	11	31
External factors/ suggested by surgery	9	25
Looking for advice in general	4	11
Weight management	4	11
Keep healthy in general	4	11
Changes in diet	4	11
Total	**36**	**100**

"Was advised by the doctor."

"The practice nurse thought it might help."

"I am borderline diabetic and wanted to get help to prevent it (…)."

"To learn more about IGT and how to control sugar levels."

"To check my lifestyle with an expert and get advice on improving it."

"In hope of improving my general health."

"To help me with diet e.g. cutting down on biscuits."

"To find out more about eating well."

Question 3: What did you expect to gain from seeing a health trainer?

Category	n	%
Improve health / change lifestyle	17	38
Advice/guidance/ knowledge	12	27
Not sure/no expectations	7	16
Diabetes prevention/ understanding of IGT	5	11
Motivation/ encouragement	3	7
Health check	1	2
Total	**45**	**100**

"I didn't really know what to expect at first."

"I really did not know I am just glad I did."

"I expected the Health Trainer to put me right."

"Apart from diet information I hoped I would receive encouragement and support."

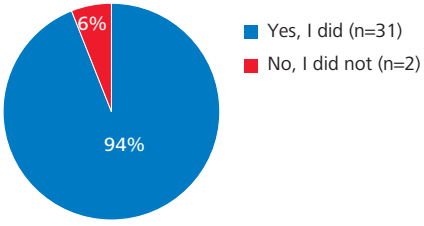
"A healthier lifestyle and becoming aware of IGT."

"Useful information on my eating, which I received."

"Weight loss and improved GTT result."

"Advice on diet and activity."

Question 4: After seeing your health trainer, did you want to make changes to your lifestyle?



No, I did not:

"I felt I didn't need to."

"As I follow quite a restricted diet."

Yes, I did:

Category	n	%
Diet	26	55
Exercise	18	38
Alcohol	3	6
Total	**47**	**100**

"Doing more exercises, joined 'lose weight, feel great', changed my eating habits and reduced portions."

"I have gone on a healthy diet and I walk every day for 30 minutes."

"Having three meals a day, cut down on fat and sugar, cut out a lot of alcohol."

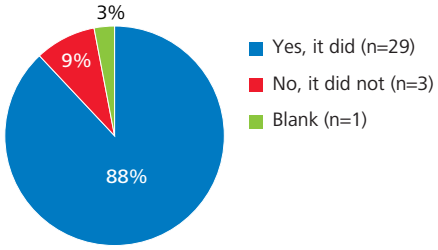
"I now eat a balanced diet and have lost 2 stones in weight. I walk regularly every day and go for 2 hour walks every weekend."

"More care of what I eat and more exercises."

"I needed to be a lot fitter."

"A (…) reduction in weight and I do more walking which helps my hips."

Question 6: Did seeing a health trainer help you in reaching the goals?



No, I did not:

"Life got in the way."

"I have no will power, but I eat smaller portions."

Yes, I did:

"Various changes in meals, drink more water, do more exercising."

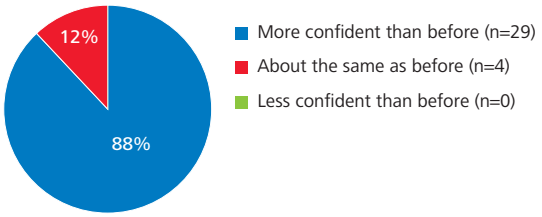
"I have lost a stone and a half and I am more agile now."

"Eating better"

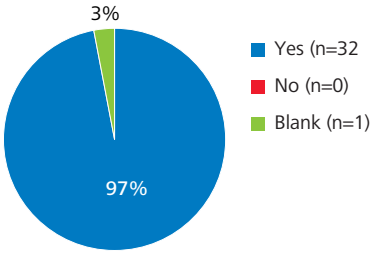
"Losing weight, not eating anything sugary."

"Very much."

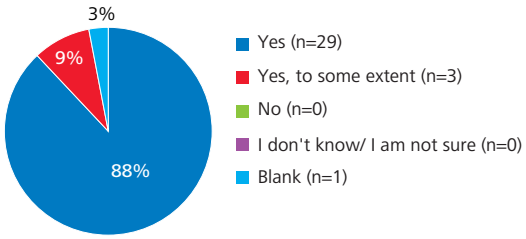
Question 7: Since seeing a health trainer, how confident are you about making changes to your lifestyle?



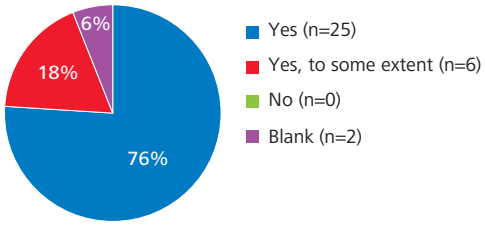
Question 8: As a result of seeing a health trainer, do you think you understand the lifestyle choices that raise your risk of developing diabetes?



Question 9: Do you think your health trainer gave you useful and up-to-date advice about how to reduce your risk of developing type 2 diabetes?



Question 10: After seeing your health trainer, do you think that you will be able to reduce your risk of developing diabetes?

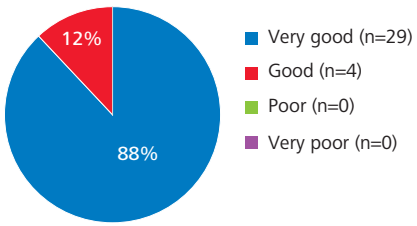


"I sincerely hope so."

"I hope so. I will try."

Two clients reported to have already developed diabetes.

Question 11: How would you rate the Health Trainer Service overall?



Two clients rated the service as 'Excellent'.

Question 12: What were the best things about the Health Trainer Service?

Category	n	%
Advice/ information given; knowledge gained	12	36
Being taken seriously, not being told off	10	30
Motivation/ encouragement and confidence given	7	21
Being listened to, relaxed setting, time available	7	21
Goal setting and regular reviews	5	15
One to one support/ personal approach	5	15
Friendly and polite manner	5	15
Total	**33**	**100**

"I feel as though I have been genuinely helped."

"Lots of useful information, reviews of the goals set and if they were achieved; health trainer is extremely knowledgeable and helpful in setting realistic targets and talking through the benefits of lifestyle changes."

"(The Health Trainer) allowed time to talk, we discussed lots of helpful issues and he really motivated me. So different from a 5 minute appointment with the GP. I felt as though I mattered."

"The (Health) Trainer I saw explained everything thoroughly. He/she listened. Give me confidence. Give me ideas of food to eat instead of biscuits which did help."

"My health trainer was very reassuring (…). He/she never judged me. If I felt I hadn't done as well one month s/he was always supportive and generous with praise each time I saw (the Health Trainer)."

"Actually sitting down and talking about my case on a personal level. After information was given, I was greatly encouraged to make changes – not 'told' to. Going back each month to discuss progress. I was made to feel confident about the goals and that I could achieve them."

"Regular reviews and setting goals gave me extra incentive to achieve goals by set date e.g. next review and weight and measurements every time showed me actual results."

"The advice about weight loss, eating the correct food and getting a positive result. They are always nice to you and encourage you to want to succeed in your health programme."

"I could talk to (the) Health Trainer and knew he/she listened."

"Feeling relaxed with (the Health Trainer) and how making change would help; not telling me to do this or that and explaining about fat being on the inside of my body as well as on the outside."

Question 13: How could we improve our service for people who are at risk of developing type 2 diabetes?

Working well as it is:

"I think it is fine as it is."

"Carry on what you are already doing."

"I don't know really. Health Trainer is very good."

Publicity/communication/ education:

"More coverage on TV."

"Publicise it more. It sounds very trendy to have a Health Trainer."

"Distribute more leaflets on the dangers of developing diabetes."

"Keep giving people the facts and stress that type 2 diabetes is largely preventable by individuals who are prepared to take the correct action."

"Run fitness courses/advice in fitness courses."

Encourage more to take part!:

"By making them aware of lifestyle changes for the better."

"Tell them to see a health trainer."

"Refer people sooner if possible (this might be the responsibility of the GP surgery). I did not realise that diet and exercise could reduce my risk of becoming diabetic."

"Please let them know about it. I was lucky I had a doctor that cared that the way I feel."

"I don't think there is anything else you could do. It is up to the individual to realise how serious this is and act upon it now."

"I think that health trainers are the best way forward as they give great advice and support."

"Extend the service throughout the borough."

"Retain the 'Health Trainer' Service but ensure monthly reviews."

Other:

"At my last GTT my result was in the normal range. Therefore I felt outside the process. My husband rejected the process because I think he found it stressful. Therefore situations such as these should be considered when planning the process."

Question 14: Is there anything else you would like to tell us about the Health Trainer service?

Positive experience with good results:

"I found the service to be useful and informative. Keep up the good work."

"No, I thought it went very well indeed."

"It helped me to lose inches and also 1 ½ stone."

"I hope I am able to continue with my health trainer, 'great service'."

"It learned me to be more aware with what I eat."

"(Health Trainer) is the best Trainer, he/she gives me confidence, he/she is more of a friend so understanding."

"The Health Trainer I saw was very helpful, about diet what food is better for you and exercise. It made me realise what food was good for you and would help me prevent developing type 2 diabetes."

"I thought my health trainer had a very good manner. He/she was positive when discussing both health and well being – also giving praise for any progress made."

"For me it was an effective service that has helped motivate me into corrective action. I believe I would have taken the right steps even without this service, but I am sure there are others who would have done nothing without this service. You should monitor this service also by checking end results i.e. did people avoid getting diabetes."

Negative experience:

"Overall it is excellent one minor point is I had to change an appointment but found it difficult. I could cancel but I was told I would be contacted with new appointment (rather than to give me a new) – but was never contacted despite seven calls made by me."

appendix 2

IGT leaflet

NHS Direct - 24 hour advice and health information service
Tel No: **0845 46 47**

Local Pharmacy - Your local pharmacies offer a wide range of services including information and general advice on symptom relief medicines as well as a prescription collection and delivery service.

For impartial and confidential advice or information about local health services call our Patient Advice and Liaison Service (PALS) line on **01942 482778**

This leaflet is available in alternative formats, for further information contact PALS **01942 482778**.

Please contact us if you require any help interpreting this leaflet.

Bridgewater Community Healthcare NHS
NHS Trust

Impaired Glucose Tolerance

Information for Patients

Bridgewater
Healthcare at the heart of your community

Visit our website at: **www.bridgewater.nhs.uk**

This leaflet was collaboratively developed with NIHR CLAHRC for Greater Manchester
www.clahrc-gm.nihr.ac.uk

What is Impaired Glucose Tolerance?

Impaired Glucose Tolerance (IGT) is a condition where glucose (sugar) levels in the blood are higher than normal but not high enough to be diagnosed with type 2 diabetes. IGT occurs when the body either doesn't use insulin very well (insulin resistance) or doesn't produce enough insulin. Insulin is a hormone produced in the pancreas which enables body cells to use glucose and provide us with energy.

Do I have diabetes?

No, being diagnosed with IGT does not mean you have diabetes. However, having IGT means you are at a higher risk of developing type 2 diabetes. Your risk of developing heart disease or having a stroke is also increased.

Why am I at risk of developing type 2 diabetes?

This list shows you all the things that make you more at risk of developing type 2 diabetes. The more risk factors you have the more likely you are to develop type 2 diabetes.

These include:

- Being diagnosed with IGT
- Being overweight or obese
- Doing little physical activity or exercise
- Having high blood pressure or having previously had a heart attack or stroke
- Being a smoker
- Having family members who have been diagnosed with diabetes
- Having previously had gestational (pregnancy related) diabetes
- Having polycystic ovary syndrome and being overweight
- Having severe mental health problems.

Additionally, carrying too much weight around your waist increases your risk of developing type 2 diabetes. Use the table below to see if you are at risk. You should measure your waist at the level of the navel.

Individuals who meet these criteria are at risk of diabetes. Other groups are at lower risk but should aim to maintain a healthy weight and waist size to minimise any risk.

Increased risk if you are	
Group	Waist size
All women	80 cm (32") or over
South Asian men	90 cm (36") or over
White or Black men	94 cm (37") or over

How can I reduce my risk of developing type 2 diabetes?

For many people with IGT, intervening early can actually turn back the clock and return higher blood sugar to normal levels. You can achieve this by following these simple steps:

- Reduce your body weight
- Eat a healthy, balanced diet
- Get more active and try to do at least 30 minutes of exercise five times a week, e.g. walking or cycling
- Stop smoking.

> *My Health Trainer is extremely knowledgeable and helpful in setting realistic targets and talking through the benefits of lifestyle changes.*

Further information

Make sure that you have your blood sugar levels checked regularly at your GP practice.

If you notice any of the symptoms listed below it is advisable to see either your practice nurse or GP for further tests. However, these symptoms do not necessarily mean you have developed diabetes:

- Feeling thirstier than normal
- Going to the toilet more often to urinate, especially at night
- Feeling tired.

Health Trainer Service

Whether you want to lose weight, get more active, eat healthier or stop smoking, a local Health Trainer can help you make positive health and well being changes to your lifestyle

You can see a Health Trainer at a range of venues across Ashton, Leigh and Wigan, including community centres, GP surgeries, libraries and children's centres.

To find out more about the service or to arrange an appointment call 01942 481712 or visit the 'Our Services' section of Bridgewater Community Healthcare NHS Trust's website.
www.bridgewater.nhs.uk

The Collaboration for Leadership in Applied Health Research and Care for Greater Manchester is a partnership between the Greater Manchester NHS Trusts and the University of Manchester and is part of the National Institute for Health Research.

Contact Details: clahrc@srft.nhs.uk