

An Evaluation of the Bolton Health Trainer Service

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1

Executive Summary

In April 2012, the NIHR Collaboration for Leadership in Applied Health Research and Care (CLAHRC) for Greater Manchester was commissioned by NHS Bolton to conduct an evaluation of its Health Trainer service. The evaluation involved two main streams of work: a qualitative stream involving stakeholder interviews with key informants involved in the service and a quantitative analysis of local data extracted from the Data Collection and Reporting System (DCRS); a standardised, national Health Trainer reporting system.

The aim of the qualitative phase was to discover the views and experiences of the service from a wide range of stakeholders' perspectives. These included patients (24), the Health Trainers themselves (22) as well as some ex-Health Trainers (4), and the managers and commissioners of the service (3). Also, since a major plank on which the service was developed was the service's co-location within Primary Care, 12 staff, including General Practitioners (GPs), Practice Nurses and Practice Managers from those practices were also engaged in the study. In total the qualitative phase of the study encompassed 65 individuals.

The interview study was complemented by a quantitative analysis of the data produced by the service and extracted through DCRS. The purpose of this analysis was to assess the overall trends in the data in terms of patient characteristics/demographics, health status and the extent to which patients going through the service had achieved significant changes in health status, as a result of engaging with the Health Trainer service.

The analysis was based on the data collected from 8,894 patients who undertook a Health Trainer intervention during the period between May 2008 to April 2013.

Key findings

- The Bolton Health Trainer Service has been highly successful in targeting those patients who are from the most socioeconomically deprived backgrounds in the community. This is evidenced by an analysis of the socioeconomic profiles of 8,894 patients going through the service since 2008. The vast majority have come from the areas identified as being of greatest deprivation within the community. Furthermore, the Health Trainer service has managed to provide support to a vast number of people in the community who are at the greatest risk of developing serious health problems, and long-term conditions such as diabetes and heart disease. This is borne out by the finding that the majority of patients going through the service are those at highest risk of developing cardiovascular disease (CVD) and type 2 diabetes. The service, working with primary care, actively targets those patients identified at high risk.
- On a wide range of health indices, including risk of developing type 2 diabetes, in terms of blood glucose levels, body mass index (BMI) and CVD risk, statistically significant improvements in health status were observed, in the measures taken before and after patients engaged with the Health Trainer service. In fact, all recorded metrics, which were used to assess health status, were seen to improve by a significant margin during the patients' engagement with the service.

- From the Health Trainers' perspective, the role of Health Trainer is enjoyable, worthwhile and rewarding. The Health Trainers see themselves as providing an effective and valued service to patients and their local community. As opposed to other health services, Health Trainers viewed the strength of their role as being their ability to develop a long-term, supportive working relationship with the patient and being more 'like' the patient themselves in terms of being on a more equal status. All Health Trainers felt that they did make a significant, observable difference to the health and wellbeing of their patients. This is evidenced in a variety of ways, and has been captured by some Health Trainers, in the form of a number of practice case studies based on interventions with patients; examples of which are presented in the findings of this report (pages 25-35). Other positives included the widespread view that the management of the service were very supportive, particularly in enabling them to progress and benefit from development opportunities.
- The greater part of the role of the Health Trainer is based on working within primary care practices in the community. As such, they are relatively isolated in their day to day work. Some Health Trainers felt that there was little opportunity to engage with colleagues and 'touch base'. They felt that they lacked a 'base' where they could meet and share ideas and best practice.
- It is clear from the findings that patients are very positive about the service. Health Trainers are seen more as a supportive 'friend'. From our focus groups with patients it was clear that many had benefitted personally from engaging with the service. There is some evidence also from patients that their engagement with the service has led to an impact on their wider family in also encouraging them to follow a healthier lifestyle.
- From the results of both the interviews with GP practices and the Health Trainers themselves, the service's location in primary care practices has been a major contributor to its success. Having a Health Trainer on site has led to a vast number of patients being identified as being eligible to benefit from the service and this is partially borne out by the vast majority of referrals to the service coming through the primary care pathway (96%). However, it was noted that there have been varying degrees of 'buy-in' and understanding of the service within primary care practices and a great deal of groundwork on the part of the leaders of the service was needed to persuade practices of the value of the service.
- It was also noted that other pathways to the service may need further development, since it was generally perceived that knowledge of the service among the people of Bolton may be limited. It was suggested that other pathways such as health clubs, community pharmacies and the third sector could be developed further. This may, however, be a function also of a wider issue in that promotion of the Health Trainer service at the national level has been very limited.
- The Department of Health has supported the development of DCRS so as to provide a broad and in-depth service profile of the Health Trainer programme. Experiences of using the DCRS system were also varied; some Health Trainers felt that the system helped instil a structure to their activities in terms of tracking patients' progress, managing appointments and recording. There were also problems highlighted, such as the observation that the requirements for entering data were felt to be long winded and repetitive. Also, some of the fields are not popular and therefore are not completed during contacts with patients. In addition, there was the general view that there were problems with the system 'timing out', with the result that data inputted on the most current page was lost if the Health Trainer was not constantly attentive to the system. The need to engage with the DCRS system also made some Health Trainers feel that this broke the contact with the patient.

2

Introduction

Background

Prevention, health and wellbeing and health inequalities are key national and regional priorities for the future of our nation and for the NHS.

This was highlighted recently in Fair Society, Healthy Lives: The Marmot Review (2010).¹ The Marmot Review was, in fact, one of many reports that gave strong evidence to the view that lifestyle behaviour choices relating to tobacco, alcohol, food and physical activity are intrinsic to the aetiology of a very large number of preventable early deaths and morbidity.²

Many previous reports and government papers indicated that these forms of mortality and morbidity have a disproportionate impact on the most disadvantaged sections of the community.³ The importance of preventative interventions in improving the health of the population has been an accepted part of recent health policy in the UK.

The emergence of the Health Trainer service

The 2004 Public Health White Paper Choosing Health: making healthier choices easier (2004)⁴ introduced, for the first time, the idea of a new role in public health delivery, one which would be there to support members of communities to make changes in their lifestyle behaviours, in order to improve their health.

The concept and the design of the proposed service was described as such in the report:

“First, anyone who wants help to make healthier choices and stick to them will have the opportunity to be supported by a new kind of personal health resource, NHS Health Trainers. In keeping with a shift in public health approaches from ‘advice from on high to support from next door’, Health Trainers will be drawn from local communities, understanding the day-to-day concerns and experiences of the people they are supporting on health.

They will be accredited by the NHS to have skills appropriate for helping members of their community to achieve the changes that they want to make. In touch with the realities of the lives of the people they work with and with a shared stake in improving the health of the communities that they live in, Health Trainers will be friendly, approachable, understanding and supportive. Offering practical advice and good connections into the services and support available locally, they will become an essential common sense resource in the community to help out on health choices.”

Choosing Health (2004: p. 103)

The main thrust of Choosing Health’s argument was that a significant positive impact on illness and disease could be achieved if people made specific changes to their lifestyles and behaviours. It identified the main behavioural risk factors to be tobacco and excessive alcohol use, obesity and the concomitant risks associated with excess cholesterol and high blood pressure.

The role of the Health Trainer

Health Trainers were conceived to be a new addition to the public health workforce, recruited from local communities to provide support to enable individuals to adopt healthier lifestyles (DH, 2004). The National Health Trainer programme was subsequently launched in 2005; built on a robust evidence base around ways to support sustainable behaviour change. Focusing on increasing engagement in health behaviour among members of the most deprived communities, as a means of reducing disease and health inequalities, the Health Trainer programme applies principles of behavioural science and psychological techniques to assist people at risk of poor health to assess their health and wellbeing risks, build their motivation and confidence, and promote health behaviour change.⁵ The specific aims were to support lifestyle modification among disadvantaged communities. Health Trainers were, in the main, recruited from local communities, and their focus was to work towards supporting behaviour change amongst disadvantaged patients by:

- offering a health 'stock-take', which assesses levels of engagement in behaviours (e.g. alcohol consumption, physical activity, diet, smoking) which impact on health
- reinforcing behaviours that patients want to change and building the confidence to enable change
- collaborating with patients to set specific and achievable tailored health goals, and action plans to achieve these goals (i.e. 'Personal Health Plans'- PHPs).

The Personal Health Plan is rooted in a personalised care planning approach, as documented in the Our Health, Our Care, Our Say (2006)⁵ which focuses on self-care and empowers patients to make decisions about their health and behaviour, by providing information on the options available for managing their health.

Health Trainers work in partnership with patients in developing customised PHPs, so that the professional/patient relationship is one of collaboration and co-operation rather than paternalism. Health Trainers aim to encourage patients to access the support they require, for example, from their local community or from other dedicated wellbeing services, so as to facilitate achievement of their health goals (Trayers and Lawlor, 2007, p. 219).⁶ These services include:

- Get Active (physical activity)
- Riteweight (weight management)
- Food and Health Team (healthy diet)
- Bolton Integrated Drug and Alcohol Service (BIDAS) (alcohol misuse)
- Stop Smoking Bolton (specialist smoking cessation)
- Think Positive (mental wellbeing).

Background to the Bolton Health Trainer Service

Bolton currently has one of the highest rates of CVD in the North West, accounting for over one third of all deaths - approximately 1,000 people a year. It is also the leading cause of health inequalities in the area. There are currently over 88,000 people over the age of 45 in Bolton who do not have existing CVD or diabetes, and of those, approximately 24,000 are believed to be at high risk of developing these long-term conditions within the next 10 years.^{7,8}

The Bolton Health Trainer Service started operating in January 2007 and the service incorporated a number of innovative features including co-location of Health Trainers within GP surgeries, with full integration into the primary care practice team. To further enhance integration and cohesion, Bolton's Health Trainers are trained to conduct basic clinical procedures such as taking blood pressures checking, pulses, and venipuncture.

The decision to place the Health Trainer service within GP surgeries was taken on the basis of overwhelming evidence that health outcomes can be vastly improved by entrenching health improvement work within primary care settings.

The key objectives of Bolton's Health Trainer service are to:

- Tackle health inequalities by offering support to the population most at risk of developing ill health
- Provide advice and support to people to enable them to make healthier choices, access services and take greater control over their own health and wellbeing
- Recruit local people and promote a skill mix to reflect the local population; providing a flexible and responsive service for individuals
- Develop and increase knowledge and capacity within local communities to improve health and wellbeing.

Service priorities

The Bolton Health Trainer Service Specification outlines clear priorities in terms of the groups which the service should target:

“Those patients with the greatest risk of developing heart disease, stroke or diabetes within the next 10 years should be targeted and should be identifiable from primary care registers.” (p. 11)

In more detail, the service concentrates on those patients:

- a) **With high risk of developing CVD** - any patient identified as being at high risk ($\geq 20\%$) of developing CVD within the next 10 years. These patients are usually identified through the NHS Health Check Programme (anyone over the age of 40, with no existing cardiovascular disease). In such cases, patients are referred directly to the Health Trainer by the GP or Practice Nurse.
- b) **At high risk of developing diabetes** - again, these patients are usually identified through the NHS Health Check programme (see previous bullet) with the patients referred directly to the HT by the GP or Practice Nurse.
- c) **At risk of harm from alcohol misuse** - patients are identified as AUDIT C positive (scoring five or more on the World Health Organization AUDIT C tool). Patients are referred directly to the HT by practice staff and are subsequently supported to undertake the full AUDIT (10 questions). Any patient who scores 8-19 on the full AUDIT (increasing risk or high risk) is offered the opportunity to undertake a comprehensive lifestyle assessment and support to develop a personal health plan, in an attempt to modify their drinking habits.
- d) **Smokers on Best Care Registers** - any patient who has been identified as a smoker on any Triple Aim disease register. These patients are usually identified by a search within the practice system. Any patient who is on a disease register and is a smoker is offered the opportunity to undertake a comprehensive lifestyle assessment and support to develop a personal health plan, in an attempt to quit smoking.
- e) **Hospital pre-assessment clinics** - any patient at NHS Bolton Foundation Trust Hospital who has requested support to change one or more lifestyle factors. These patients will be primarily identified through a health promotion assessment carried out by a hospital nurse, mainly at outpatient appointments. Patients are contacted by the Health Trainer from the GP surgery where they are registered as a patient.
- f) **Workplace health and wellbeing** - any employee of a company, who is signed up to the Clock onto Health Workplace Programme, who wishes to change one or more lifestyle risk factors.

3

Methodology: How the evaluation was conducted

This chapter outlines how the evaluation was conducted. The evaluation was commissioned by NHS Bolton Primary Care Trust and conducted by Dr Adrian Nelson, a Research Fellow at Manchester Business School, Anna Betzlbacher, Improvement Manager for the NIHR CLAHRC for Greater Manchester. Research Support was also provided by Dr Rebecca Askew.

Stakeholder analysis and sampling

The initial stage of the evaluation involved identifying the key stakeholders involved in the Bolton Health Trainer Service with the aim of engaging them in the evaluation and thus, hopefully, creating a robust and inclusive picture of these stakeholders' views and experiences of the service. In the case of Bolton's Health Trainer service, the relevant stakeholders can be individuals, groups or whole institutions. In effect, these stakeholders constitute the 'system' in which the service operates and form the potential groups of informants we would target in our research. In tentatively drawing up a 'map' of potential stakeholders we identified the following:

- 1 NHS Bolton: the service's instigator/commissioner/manager
- 2 Health Trainers currently in service including the local area/team leads
- 3 Health Trainers who had left the service
- 4 GP practice staff, including the lead GP, Practice Manager and Practice Nurse
- 5 The patients engaged with the service
- 6 Bolton Royal Foundation Trust: the service provider.

Methods

The primary approach to gathering data for this evaluation was through semi-structured interviews. The exception was in the case of our engagement with patients, in which we utilised a focus group approach in order to capture a larger representative group of patients from a range of different communities and ethnic backgrounds. The breakdown of the numbers of participants is shown in Table 1.

Evaluation participants		Number
Managers and Commissioners of the service		3
Health Trainers		22
Ex-Health Trainers		4
GP Practice staff:	Practice Nurses	4
	General Practitioners	3
	Practice Managers	5
Patients		24
Total		65

Table 1: Evaluation Participants

Health Trainer case studies

To gain a clearer impression of the activities, processes and outcomes of the Health Trainer service, the authors asked the Health Trainers to submit written case studies of one of their engagements with their patients. The case study did not have to be one in which the outcome was seen as successful; rather they were mainly selected for their inherent diversity in terms of patient, presenting problem and pathway. Five of these case studies have been included in the chapter outlining the main findings of the evaluation. They hopefully serve as a window into the real life activities of Health Trainers.

Analysis of the DCRS dataset for the Bolton Health Trainer Service

The qualitative phase and case studies were complemented by a quantitative analysis of the data produced by the service and extracted through DCRS.

The purpose of this analysis was to assess the overall trends in the data in terms of patient characteristics/demographics, health status and the extent to which patients going through the service had achieved significant changes in health status, as a result of engaging with the Health Trainer service. The analysis was based on the data collected from 8,894 patients who engaged with the service between May 2008 to April 2013.



4 Findings

The findings for the evaluation are presented in the form of a range of themes which emerge from the study. In each section, we incorporate the perspective of each of the stakeholder groups with the aim of creating a rounded and inclusive picture of the most prominent issues to emerge.

The first section looks at the Health Trainers' introduction and recruitment to the service.

Entering the service

The aim, as laid out in Choosing Health (2004) was for Health Trainers to be recruited from the communities which they serve. The aim was to create a more level playing field between patients and health practitioners, providing 'support from next door' rather than 'advice from on high'.⁴

The recruitment strategy would be based more on the affinity with those communities rather than prior experience in a healthcare role. As such they would represent an 'additional' service and resource, rather than 'more of the same'. Familiarity with those communities was seen as a benefit in being able to empathise with and support patients from those communities.

The Health Trainer service was also seen as a way of building capacity within the NHS from the 'bottom up', offering new recruitment opportunities to people who might not have considered, or been qualified, to enter the service.

At the time of the evaluation the Bolton Health Trainer Service employed 22 Health Trainers. It soon became apparent that very few had come into the service with any prior experience of healthcare. The backgrounds were exceedingly diverse, for example:

- Sport and sport science
- Police officer
- Self-employment
- Personal Adviser - Job Centre
- Accessories designer
- Banking
- Hairdressing
- Shop assistant
- Market employee

What seemed more important than any background experience was the capability and motivation to work with people. People recruited to the Health Trainer service generally wanted to be working with people and had been in their previous roles, e.g. sales, front line civil service, the local market, and bar work are examples.

The Health Trainers we spoke to felt it was an exciting role, that the NHS was a good employer and supported its staff, that it was an organisation that people wanted to be part of and the Health Trainer role was seen as a worthwhile job and very fulfilling.

Recruitment and training

The Health Trainers' views on the recruitment process were that it was generally seen as fair, yet very rigorous and tapped into some of the key skills required of the role e.g. the examination of non-judgemental attitudes and prejudices and the scenarios were seen as interesting and worthwhile.

The Health Trainers' views about their preparation for the role were mixed. The early cohorts were required to complete a Foundation Degree in Health and Social Care at the University of Bolton. Experiences indicated the programme was too theoretical and was not tailored to the skills and knowledge required of the Health Trainer role; which were largely health promotion, social, motivational skills and behaviour change techniques. However, some Health Trainers felt it was valuable as an accredited and recognised qualification which would help in their future careers, should the Health Trainer wish to progress to other similar roles.

"Yeah, definitely because then, obviously, you've got a (foundation) degree at the end of it as well. So if you want to progress, which is something I think we're all keen on doing, it's a lot easier if you've already got that in your arsenal really."

Health Trainer

Many Health Trainers did have positive views about the preparation for the role. All trainee Health Trainers undertake, as a minimum, the nationally recognised Royal Institute of Public Health (RIPH) Level 2 Basic Award in Understanding Health Improvement, followed by the City & Guilds NVQ Level 3 Health Trainer Qualification (C&G).

Health Trainers were asked about their experiences of the training and whether they felt it prepared them sufficiently

for the role. Although the impressions were generally positive, some felt that the training did not fully equip them for working within GP practices, particularly in terms of the routines and systems in operation:

"Just having been in practice for about nine months now, one of the things that wasn't really covered in the training, although it was excellent in sort of explaining the role and how we'd interact with patients and things like that, was the practicalities of actually using the systems that we're going to be using in practice. So on the first day that I started at my new surgeries, I sat down in front of my computer, having never used either of those two systems before, and had a full day of patients ready to come in. So you can imagine how difficult that was. Because they all work in a completely different way, they're all coded differently, particularly things that we have to... that are quite important for the practice for us to log, in terms of the practice getting paid."

Health Trainer

Some Health Trainers felt that the C&G did not cover one of the key requirements of the role in being able to use motivational interviewing techniques to support patients:

"I think the motivational interviewing training needs to be far more extensive."

Health Trainer

There was also the view that some patients' problems went deeper than just physical health problems and some expressed a concern that they were not really qualified to deal with the underlying problems patients displayed, particularly mental health issues:

"We've only recently become aware of mental health in the practice, that, I felt, I don't think we covered that early enough. I've always thought mental health... that's not my remit and now it is... and I wish now we'd had more [training] right at the beginning."

Health Trainer

Some Health Trainers felt that they lacked basic medical knowledge to be able to have an informed conversation about some of the patients' health issues

"Even to the extent of how the heart works, something so small as that just rather than saying, well, if someone comes and it's a blood pressure type, rather than reading from the script, it would be nice to know a little bit more in depth about it." **Health Trainer**

Some felt that a valuable addition to their orientation into the role would have been to be able to shadow more experienced Health Trainers as they carried out their consultations with patients. Experiences of their first days in the role seemed to vary, depending whether you had the support from other Health Trainers, it seems that the early cohort felt left on their own after training, whereas later cohorts had greater support through being mentored by more experienced Health Trainers:

"I mean these new ones had the benefit of people who had been doing it for a while and, you know, so to me that's great that people can come in and be with a Health Trainer and see how they work and then, you know, hopefully instil or, you know, good practice in them and good ways of motivating people and stuff and letting them see how we work which we didn't have the benefit of when we joined, we just had to make it up as we went along." **Health Trainer**

"And also I think it would be a good idea as a training point of view is if we could shadow other Health Trainers just to see whether we can do something differently because you're on your own and, you know, alright you feel confident in your knowledge but like there could be something there what you've missed and you see another Health Trainer speak to a patient about you think well yeah I didn't know that, maybe I could use that." **Health Trainer**

In general, the practice, during training, of shadowing a more experienced Health Trainer was positively received:

"After six months I felt fully equipped for the role." **Health Trainer**

On a more general level the Health Trainers felt that the level of management support they received was excellent and that a good level of team spirit and camaraderie had developed. More than one mentioned that support with specific regard to their further progression and personal development was clearly apparent. Some Health Trainers felt dropped in at the deep end with a day booked up with patients, which felt overwhelming:

"I don't think on your first day of your surgery you should have a full clinic booked in when you've not even said hello and been shown where the toilets are, or anything. So, I think, it should be more gradual, maybe, even the first day you don't have anyone booked in, because there's always things to do." **Health Trainer**

Systems/DCRS

The Department of Health has supported the development of DCRS so as to provide a broad and in-depth service profile of the Health Trainer programme. The DCRS system provides managers with valuable local information for demonstrating outcomes. It enables recording of patient profiles in terms of demographic characteristics, health status and tracks the progress of the intervention over specific periods up to sign off and then follow up. Experiences of using the DCRS system were varied; some Health Trainers felt that the system helped instil a structure to their activities in terms of tracking patients' progress, managing appointments and recording:

"It's really good because my memory is horrendous, and if you look at my diary it's like I have to write every single thing down. So for DCRS it's really good that you can put different contacts in, and you always set the contact for the next time you see them and that's where I put all my notes of what we discussed in the previous session, things I said I might look into for them, even personal things that they might have told you so you can remind yourself and you can show an interest in them because that's important that you show an interest in their life really to keep that relationship there."

Health Trainer

Another positive feature of working with the DCRS system was the responsiveness of the Central Shared Services team in Birmingham in terms of their support and willingness to listen to concerns of the service:

"I think, it's a really good tool and with the people in Birmingham, they're very open to suggestions and developments." **Health Trainer**

There were also problems highlighted such as the observation that the requirements for entering data were felt to be long winded and repetitive - entering the same data on more than one occasion. Also some of the fields (e.g. self-efficacy) are not popular and therefore are not completed during meetings with patients. Also there was the general view that there were problems with the system 'timing out' with the result that data inputted on a current page was lost if the Health Trainer was not constantly attentive to the system. The need to engage with the DCRS system also made some Health Trainers feel that this broke the interaction and contact with the patient.

"It times out quickly, that's annoying, because you lose the data that you've put in if you've not been quick enough to... because you can imagine, you can ask someone a question, say, about alcohol and you could be there, listening to him for ages and if you've not... you don't want to look away from them, because they're telling you about something that's important to them, but if you don't do it, you've lost everything that you've input on that page, that's the only thing, but, apart from that, no, I think, it works really well. It's a vital tool, for us to keep track of what we're doing and for Lesley and higher up to also keep track, to be able to get reports of what we're doing."

Health Trainer

The role of the Health Trainer in practice

Almost universally, the Health Trainers we interviewed were highly committed to the role and derived great satisfaction out of the fact that they were doing something worthwhile and valuable for people in the community. The length of time that Health Trainers are able to spend with patients and the development of an effective, longer-term, working relationship with them was key to this enjoyment and commitment. Another major part of the fulfilment with the role comes from seeing positive change in patients as a result of working with the Health Trainer:

“Just the satisfaction is when the patient’s seeing results and they know that they’re happy with the results going forward and just knowing that they actually appreciate coming to see a Health Trainer. They’re very grateful when they do, you know, when they’re having a one-to-one with myself and that gives me satisfaction just seeing that they’re happy with, you know, the advice we’re giving them and obviously the support and working together in partnership.” Health Trainer

“I had a particularly good week last week and I had a lot of patients doing very well and you finish at the end of the week and you think well I’m actually making a difference in people’s lives.” Health Trainer

“So you do get the satisfaction when you get end results and you see that people have actually done something about it and taken control for themselves, because we’re facilitators in change but they’re making the change.” Health Trainer



"I did, I loved it, I did love it, I loved the job, you know, it's cracking and even though, you know, people turn around to you and say you've done this for me and I would say I haven't done it, you've done it yourself." **ex-Health Trainer**

"But yeah, I love the job, I think there's huge potential in it. I look forward to coming to work every Monday, and I've never been able to say that about a job before. Go home with a sense of job satisfaction every day. There's very little... without starting nit picking at it, there's little really that I can criticise it for, in terms of the actual job itself." **Health Trainer**

One manager of a practice thought that the Health Trainer offered a new fresh perspective to the service, which was non-judgmental and more supportive:

"Some people just don't like the whole thing about WeightWatchers and the, sort of, going to, sort of, specialist services, I think, that people are quite scared about putting their hands up and saying, yeah, I've got a problem, but if the Health Trainer is able to, in effect, talk them through it, rather than, sort of, people wagging their finger a bit more."

Practice Manager

The views of the Health Trainers about working with patients were universally positive. It was seen as a real innovation and a different approach to health - helping rather than treating - a one-to-one relationship on more equal grounds.

Some Health Trainers, patients and some of the GP practice staff felt that there may be the opportunity to work with patients not necessarily in the Health Trainers' target groups but who still could benefit from their help before becoming at risk.

Similarly, some patients might benefit who are already diagnosed with, for example COPD or diabetes:

"Yeah, I mean just a top of the head example is like if there's obese school children who could perhaps be put back on track, because if you've got overweight children then it's storing up problems for the future probably, isn't it?" **Patient**

"... and those patients that have a medium risk in five or ten years they might be a high risk so why not target them now before they turn into a high risk, you know. I couldn't understand why that was, you know, changed."

Practice Manager

"And if we've got a patient who we think the Health Trainer would be able to help, but they're not over 40, and you think, well, you're the Health Trainer ideally placed, you've got the knowledge to help this person and they'll say, well, it's not on my pathway and, I think... if they were more flexible?" **Practice Manager**

"There is a lot of lifestyle work. They do not work with diabetics and it might be helpful to extend dietary advice to those who have diabetes. The number of patients with diabetes has increased and the advice you give is basically the same." **GP**

The less positive aspects of the role were also explored with Health Trainers. One ex-Health Trainer felt that the role had changed since he started from one which focused on the patient to one more driven by targets:

"... for me, it turned into targets, et cetera, it basically turned into a production line of health checks,

which, yeah, it was great, and it gave me loads of experience, but I didn't have the time to spend with the people, which is what I like doing, you know."

ex-Health Trainer

Another issue for Health Trainers has been the relative isolation of the role without a place to touch base and meet other Health Trainers and share experiences.

"... in Bolton we never had a base, we never had somewhere we could go... To me that's really important, somewhere where we touch base, where we hot-desk and the other Health Trainers are around, and if you want to offload you can offload, if you've got issues you've got issues, and you can chat, and, you know, can you give me this advice, that advice, we never had that in Bolton..."

ex-Health Trainer

Others felt that the knowledge of the Health Trainer service in the wider community could be improved since their feedback from patients was that they were sometimes unaware of the service until they came into the GP practice:

"Yeah, so we are seen as, we are seen as a very integral role within surgeries, hospitals, and we're in the community as well, you know, people recognise us and there's an awful lot of people are very, they still don't know what Health Trainers do, I don't think the name gives much away anyway."

Health Trainer

"So, I think there's still, out there, a lot of misinformation or misunderstanding, about what our role is about." **Health Trainer**

Patients' Views of the Health Trainer service

One of the aspects of the evaluation which proved particularly valuable in terms of understanding the benefits of the service was through conducting focus groups with current and recent patients. Four focus groups were carried out with a range of patients - both male and female and from different ethnic groups. The vast majority of the patients we talked to had been referred to the service by their GP or practice nurse.

The views of the service of these patients were universally positive. All of the patients felt that the service had helped them improve their health and that the one-to-one support and non-judgemental approach was a key factor in helping them make the changes they had set as goals (for example 'reduce eating magnums!').

Those benefits most often included supporting them in changes in eating habits, for example portion sizes and the greater awareness of healthy food options. This was coupled with supporting patients to do more exercise in order to improve their fitness and lose weight. Some patients particularly valued the support in setting goals, for example starting a food diary.

"[The Health Trainer] didn't give me a hard time... very gently... less painful than expected." **Patient**

Patients generally felt that the quality of the relationship with the Health Trainer was a key to their positive view of the service. The greater amount of time that they had to build a good working relationship and work with the patient was greatly valued. Patients felt that they 'never felt rushed' with enough time to examine the issues in more detail:

"They do, yeah; you do spend more time with them. I mean ten, fifteen, quarter of an hour at times and you went, whereas you were seeing the doctor for five, six minutes, then out." **Patient**

Also the Health Trainer was seen more as a supportive friend and the rapport built up between them meant that they were more likely to adhere to their goals. In addition, for some patients, the improvements in their health status had extended to other members of their families:

"It was a bit of a friend... not as a friend, but I'm saying you can talk to someone like that, that's what I said before, it goes no further, that's it." Patient

"Had I not seen her I would have kept eating unhealthy food. I changed to healthy food. All the family have changed." Patient

"It has changed my children's eating habits as well. My husband now takes five fruit in a bag to work." Patient

The fact that the Health Trainer explained the outcome of their health check clearly meant that for many of the patients it had changed their views about their health and made them think more seriously about changing their habits - in some cases it was a bit of a shock:

"The Health Trainer changed my views. I used to think I did not need to exercise but now I think I need to." Patient.

Another aspect cited by some patients was the feeling that Health Trainers were more accessible than say their GP, that the relationship was more on 'equal grounds' and that they did not feel they were wasting the GP's time if they were not in fact ill. Some cited the value of getting reminder letters and text messages for their next appointment and that the next appointment was booked on the day they were there. Suggestions from patients included the wish to extend the period of the consultation further than the six months allocated:

"The need to extend the consultation... like nine months, maybe a year for follow up. It's

only once a month you see this person, they should be... well, I reckon they should be at least twice, at least a fortnight, twice a month. Yeah, because you feel better now. If you... go and see her and all that, you do everything she says, then you go back in a month, but sometimes you don't always do it week in, week out. So if I want to see her every fortnight, I reckon I would've lost more weight. Because I need to be pushed, that's what I'm saying. I haven't got the willpower on my own." Patient

Another suggestion from the Asian groups was to develop outreach activities to reach communities where they gathered, for example local mosques, since the feeling was that many more people in those communities could benefit from the service, but may be less likely to engage with the service at present. Concerns were also raised by patients about a lack of continuity of the relationship in some cases, due to Health Trainers being reallocated to different surgeries. This was seen as disruptive to the rapport that they had built up with that Health Trainer and ultimately to their progress in achieving their goals.

In all cases the outcomes of engaging with the service had been positive. Health improvements such as improving diet and losing weight, lowering blood pressure and increasing exercise were mentioned:

"I think from my point of view, the impact of my wife, she's always been good at trying to keep me healthy, she's really concerned if you like that I try and stay fit and healthy. And I think to some extent having somebody else back her up and help in that process has been good." Patient

"It was for me. It changed my life completely. An investment." Patient

Working with GP practices

Although not a unique innovation in terms of service design, location within general practice of the Bolton Health Trainer Service was, from a very early stage, seen as important to the success of the service in terms of targeting the right people with sufficient motivation to change their behaviour. The practices were incentivised to develop primary prevention registers and the fact that there was a resource supporting the development of these registers was seen as an incentive to integrating the Health Trainer service within primary care. The rationale was based on the closer interplay between consultation with the person's GP and the service. For example, the diagnosis of being at high risk of future ill health by the GP and the direct link with a Health Trainer in the practice, was felt to lead to greater integration of the service to patients and a greater likelihood that the patient would be motivated to do something to change their behaviour.

"So, the doctor says, 'You're at high risk of circulatory disease in the next ten years.' There isn't a patient in the world who doesn't say, 'Tell me what I can do about it'." GP

However, it was reported that the process of 'selling the service' to GP practices had been challenging and a great deal of groundwork had to be done, with consistent communication to persuade practices of the benefits of having the Health Trainer service on site:

"So the period of engaging the GPs was quite a lengthy one and, at times, quite a difficult one to try and explain to the GPs, the concept of having somebody who would focus purely on prevention, i.e. working with people who didn't have established disease. So trying to encourage the GPs to take a prevention focus and to understand what the role is, and

is some of them found it quite difficult in challenging times of not having enough nursing staff, they couldn't understand why the government would put all this money into a preventative role rather than possibly buy in extra practice nurses." Service Manager

There seems to have been some variation in terms of acceptance and understanding of the Health Trainer role in practices. Even after the decision had been made to locate the service within GP practices, there were some difficulties in communicating the aims of the service to those practices, to get buy in:

"I suppose it relates to how enthusiastic the GP is about improving population health. Remember that the original GP contract says that the job of a GP is to look after people who are ill, or people who think they're ill. Well, none of these groups fall into that category. So that's the first thing. So, it's new, it doesn't happen everywhere. So they might have differing amounts of enthusiasm for that... and some think prevention is not our business." Health Trainer

It seems that there was some variation between practices in terms of their perceptions of the Health Trainers. Some immediately saw the value of the service, while other practices were more sceptical:

"I've got Health Trainers out there, who one practice say, 'I don't know what they're doing, they're not very good,' and things like that, and exactly the same person, another practice around the corner says, 'This girl's fantastic!' So, to some extent it's... the practice's fault." GP

"I think if you say practice-wise sometimes it's doctors not being on board. I have worked in those surgeries that no matter what you do you can't seem to get through to them. That's hard work when you're having to generate a lot of work yourself. Health Trainers really shouldn't be drumming up their own business, there's enough business out there for them to be working with." **Health Trainer**

The key to integrating into the GP practices seems to be partly due to the willingness of the practice to recognise the value of the service to their patients, and partly on the part of the Health Trainer to engage with the practice and become part of the team and on some occasions 'muck in' and help out:

"Anybody in a busy place who will say 'I'll help you' will fit in even better, won't they?"

Practice Nurse

"Just that if they're more interactive with the practice, you know, coming in and sitting with the GPs and saying, right, this is what we do, you know? These are the patients who we want to see and, you know, just forming a really good relationship with everybody in the practice and then I feel like, you know, it would work better." **Practice Manager**

"I think this was a downfall of the surgery, was that I never felt part of that surgery, I never felt part of the team. It was quite a lonely, it was quite a lonely position to be in actually where I was, but then again other Health Trainers became a really integral part of the, you know, the environment they were in." **ex-Health Trainer**

"It's very difficult to become part of a practice when you're only there one day a week, but it's just making sure that you're friendly and that they know, still being part of the team and a broad communicator, that's all. I think if we all communicated more, life would be a lot easier, wouldn't it?" **Health Trainer**

Concern was raised by some GP practices, however that the service was becoming stretched, with longer waiting lists to see Health Trainers. Concerns were also raised by some of the Health Trainers that since they were not always perceived to be part of the practice, there was a lack of consistency in where they were accommodated and the equipment they were allocated.

"Well rooms, rooms are always an issue here, we are short of rooms and unfortunately I've had to, in fact that was another example of how accommodating [the Health Trainer] is, I had to sort of cut part of her time in a room because I needed it for running an extra GP session." **Practice Manager**

"A large number of practices struggle with accommodation - for that extra bit of space. And that's a problem in some practices. They would like to accommodate the Health Trainer at different times, but the rooms aren't available. So, that's a problem." **GP**

"Yeah, and also it doesn't do much for your, like, self-esteem, it's like you're just not a permanent, I don't know it's just like you're an afterthought, oh, where shall we shove the Health Trainer today [laughing]?" **Health Trainer**

A concern was also raised by both Health Trainers and practice staff that the Health Trainers were moved from practice to practice in order to cover for gaps or absences. It was felt this led to a lack of continuity in building effective working relationships within the practices. Just as the staff had developed a working relationship with one Health Trainer, they were allocated to another practice, often at short notice:

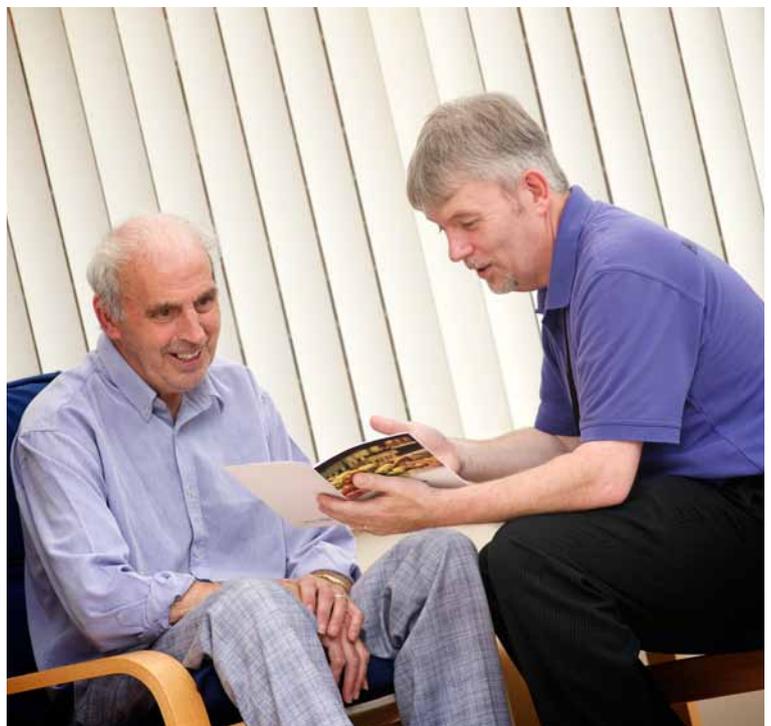
“I mean I would have loved it and there was also another point where people were getting shifted, staff were getting shifted about for no apparent reason to fill a gap somewhere else and there was one day when our team were asked to, three of my team we were told, one of you has got to move to somewhere else to fill a gap and leave your surgery.”
ex-Health Trainer

“We have two practices... They get used to one Health Trainer and it works really well and then they get moved around. I think that’s what it needs really because like your practice nurse in practice, you know, patients get used to them, you know. They build a relationship with them.” **Practice Manager**

The model of locating the Health Trainer service within primary care seems to have been a success in terms of the service being in the right place and Health Trainers in general agreed that being located in GP practices meant that they were more effective at targeting those people at most risk.

There were concerns expressed from all quarters about the future of the Health Trainer service in Bolton, given the lack of resources and the financial problems of Bolton Royal Foundation Trust, where the service is currently located:

“The other problem that is going to increasingly occur, the Health Trainers are quite mistakenly being passed to the Foundation Trust... The Foundation Trust has severe financial problems, and severe performance problems, and has Monitor crawling all over it. The last four Health Trainers to leave haven’t been replaced, so that shrinks the resource. I now hear, outside my control, they’re going to be partially taken away to work in the hospital. This is all a disaster.” **GP**



The Big Bolton Health Check (BBHC)

NHS Bolton (formerly Bolton PCT) commissioned and developed an ambitious, large-scale initiative to address the problem of health inequalities mentioned earlier. This initiative would tackle inequalities in health 'head on' by systematically inviting every person over 45, without existing circulatory disease or diabetes, to attend a free health check. Launched in April 2008, the Big Bolton Health Check (BBHC) was supported by Bolton Council and the Bolton News and largely administered and supported by GP practices in the area under a Local Enhanced Scheme (LES).

The one year campaign aimed to reach out to as many people as possible, particularly those unlikely to regularly visit their GP. Invitations to attend a health check were generated electronically from practices and screening was offered at every GP surgery. The service was also provided in a wide range of convenient community settings including pubs, supermarkets, betting shops, churches and workplaces.

A team of 30 Health Trainers and other health professionals delivered the service, completing health questionnaires and performing blood tests and physical measurements. In addition to relevant demographic information, the local health check was designed to capture information of each person's age, sex, ethnicity, smoking status, blood pressure, body mass index (BMI), family history of CVD, lipid profile and blood sugar. Take-up of the scheme was very successful, reaching 73,000 (almost 82%) of the Bolton population over 45 years of age. Approximately 20% (19,000) of those assessed were identified as 'at risk' (i.e. with a risk score of 20% or over in the next 10 years) of CVD. The return on investment in terms of preventing circulatory events is therefore expected to be considerable.

As mentioned previously, Bolton's Health Trainers played a key role in delivering the BBHC. The initiative probably did raise the profile of the service in Bolton and the GP practices. They provided an additional resource through helping with physiological measurement - blood pressure and blood tests. As part of our interviews with Health Trainers, they were asked about their experiences of the BBHC. In general, it was seen as a valuable and enjoyable initiative to be involved in, if at times 'manic' as one Health Trainer described it:

"Yeah. I've no real negatives about it. Sometimes maybe carrying all the equipment we had to, to different venues, and especially if a venue were up about 20 flights of stairs and there was no lift [laughingly] and things like that; because we used to have to take scales, height charts, we had these step machines and things like that; but on the whole the majority of it was quite positive."

Health Trainer

Some felt that the BBHC did a lot to raise the profile of the Health Trainer service among Bolton's GP practices and in addition, identified a vast number of people who were then eligible for the support of the Health Trainer service:

"It put us in a place within the community of Bolton to step forward, and step forward with accurate lists of knowing that the right people are identified for the right things. And when we had to go back at that time to go to the doctors I said 'Look, well, we've done this for you, now can you do this for us?' So give and take."

Health Trainer

“We produced better health stats in Bolton, radically, we raised our profile, a lot of GP practices really saw and appreciated what we did, because they earned money from it, they got money for every health check they did, so, I think, we boosted our reputation, boosted our profile and most importantly we improved health in Bolton.”

Health Trainer

Moving on: the career pathways of Bolton’s Health Trainers

One of the central tenets of the National Health Trainer service was to develop a new source of recruitment into the NHS workforce with transferrable skills, capable, with the appropriate grounding, of moving into a variety of more established healthcare roles. Thus, one of the indicators for the success of the Health Trainer programme would be the number of Health Trainers taking up other roles within the NHS. Between January 2007, the launch of the Bolton Health Trainer Service, and April 2013, out of a total of 48 who had been recruited into the service, 30 had left the service to take up new roles. Of those 30, 16 had moved to other positions in healthcare. These included Health Trainer Roles in other localities (2), nursing (6), and other public and applied health roles (8). This suggests that a significant number felt encouraged to develop their career in a healthcare setting.

Team meetings

Initially, to enable briefing and wider communication and to provide updates on information and training, team meetings were built into the schedule of the Health Trainers’ week, most usually on a Wednesday afternoon, once a month. These were to be chaired by a team leader (Band 5) who set the agenda for the meetings and managed the process. When asked about the positive aspects of these meetings, since they were for the most part

located in different locations, some Health Trainers saw them as a rare opportunity to touch base and share experience. They also cited the value of training updates in order to keep up with new knowledge and developments:

“You know, we’re all based here, there and everywhere in surgeries. And I think it’s important that a group of people like us should see each other, and offload stuff to each other, and best practice sharing and things like that, which I don’t think we do enough of. But it needs a proper structuring.”

Health Trainer

“Yes, I think so, because we work in isolation, we don’t know what each other is doing, so it’s quite a good way of networking with other Health Trainers and getting, as you see, across a table, you get good and bad things and you can have that where we can... I think, we need to come together for team meetings, I think, it’s very important, I think, the training sessions are delivered at the team meetings and that’s useful, yeah, I find it, on the whole, a very positive thing.”

Health Trainer

“I think the training sessions when outside trainers come in and do refreshers, I think that’s really good because like, you do need that constant reminder you know, like with smoking you know what nicotine replacements are available and you know the background of smoking and you know different things like nutrition whatever it’ll be. I think sometimes in the team meetings maybe, let me think about this. I think it should be more structured round training really what we need as Health Trainers.”

Health Trainer

One feature of the team meetings which had changed was their duration. Originally these meetings were designated to run for the whole of the afternoon. However, indications suggested that shorter more focused meetings, would be welcomed since fatigue was in danger of setting in and in many cases it was dominated by presentations and the potential for 'death by PowerPoint!':

"Because they've shortened them by about two hours because otherwise it was just, you'd get there at half 12, constant speakers until 5 o'clock. You're locked in a sweaty little room and come 5 o'clock; the person that's talking last hasn't got a cat in hell's chance of any attention. But now they've shortened them to, I think it's two and a half hours or one and a half hours whatever it is now. It's a lot better."

Health Trainer

There were concerns also, expressed both from the management and some of the Health Trainers, themselves that some of the meetings were not fulfilling their objectives and were deteriorating into disorganised opportunities for banter and chatting. It seemed to be a result of the ability of the person chairing the meeting to keep to the agenda and keep order; which seemed to vary across the groups:

"But we all need... it needs pulling together occasionally and, I think, one or two of the Health Trainers, sorry, the team leaders, do it very effectively. I can think of one particularly. So, yeah, I think, it's necessary, you know, bring it to order - 'shut up guys, somebody is trying to talk', so, yeah, it does need... just basic chairing, I don't think it needs Lesley to be there all the time, it's nice for her to come, because we miss her, she was our... I mean, the word God, at the beginning." Health Trainer

It seems that a gap in experience and leadership emerged as a result of the service's manager handing over the reins to possibly less experienced chairs. It was suggested that some of these team leaders might benefit from some basic training in chairing meetings to enable them to keep the team meetings on track.

5

Health Trainer case studies

Case study 1: A patient with impaired glucose tolerance**Health Trainer: Alex Meace**

The patient was female, 64 years of age and retired. She had been referred to Alex by the practice nurse.

The patient was anxious about the diagnosis of impaired glucose tolerance and said 'definitely didn't want diabetes if I can help it'. They discussed ways in which she could make changes to her lifestyle. They felt that diet was an area that could be improved. The patient loved butter, and used it in cooking. She also said she spreads butter thickly on bread so they looked at high saturated fat content in butter and spent time discussing healthier options.

The Health Trainer provided her with a food diary and the next appointment made for one month's time. At the next appointment they reviewed her food diary. She said she had already made some changes and is more conscious of food now. She made an effort to reduce butter and also cheese and changed to Flora spread. Overall her changes in diet were good and included plenty of fruit and vegetables. They discussed suggestions where changes could be made. She agreed to keep up with Flora spread instead of butter and agreed not to skip lunch and discussed the benefits and reasons for this.

They discussed portion sizes and what is classed as a portion. She also agreed to try to reduce portion sizes at her evening meal. Then they discussed food labelling and looked at ways to reduce saturated fat, sugar and salt from diet. The patient

consumed alcohol on a daily basis so she was encouraged to have at least two days alcohol free. She agreed to also swap to Flora Cuisine when cooking. She said she was going to make a big effort to take on board as much as she can. The Health Trainer also advised her on wholemeal and wholegrain products.

Future appointments were made as she wanted to come in monthly as felt would keep her 'on track'.

Outcomes

The patient has made some very positive changes. She cut out butter completely. She said that strangely she didn't find it too difficult as she now uses Flora Cuisine which she finds a good substitute. She feels pleased in herself as she thought this was the one that she was going to have the most difficulty with. She has also not had any cream or cheese and felt a little deprived by not having any cheese but felt as though this was the way that she needed to do it to start off. She understands that she can have cheese in smaller amounts.

She was pleased with the weight loss, and accepted it is now a lifestyle change that was needed and no longer dieting. She is also eating regular meals and thinking more about food in general. The Health Trainer made sure to praise her achievements and she was given encouragement to continue.

The next appointment was a three month review and she was still doing very well and she was pleased with the progress made. She was still maintaining healthy eating, still no butter and was reading food labels and choosing healthier options. She felt a lot more confident in doing this and didn't

feel as though this is depriving herself of anything; she keeps telling herself she is not on a diet and said this helps a lot. She is cooking meals in a lot healthier way with nowhere near as much fat as she no longer cooks with butter. She now enjoys cooking and eating healthily and feels she can sustain this for life. She has also reduced alcohol intake and now has a drink every other day. She said looks forward to the days when she can drink and therefore enjoys it more.

She agreed to continue coming in monthly and the progress was maintained for the next two months. She has stayed off butter, has got into a very good routine in terms of eating at regular times, and using healthier recipes. Her husband was also pleased they have been making changes together. He has also lost weight and felt a lot better too.

Recently, she came in for a six month review. She had stopped smoking on Christmas Eve and praise was given for this. She had been thinking about it for a while and made decision on Christmas Eve that she no longer wanted to smoke and hasn't had a cigarette since. However she says as a result she is snacking more and noticed an increase in weight.

The Health Trainer explained this is common when stopping smoking, and discussed healthier options for snacking. Overall she was feeling positive and had reduced alcohol intake further. She was doing very well and knows these changes are for life and that is not just on a diet. She says this helps her, and she has had good support from her family.

The future

The progress continues and she has passed on the lessons of cooking and eating healthier to her husband and granddaughter.

Her husband has also reduced his weight and waist size as a result. They are both feeling a lot better and her husband now accompanies her on walks. Her granddaughter is pleased too since she wanted her grandma to stop smoking for long while. She said that her granddaughter is an extra incentive as wants to be around as long as possible for her.

The future has a very positive outlook she knows the changes that she has made are lifelong and most importantly, feels she can stick to them.

Measures	Initial metrics	Outcome metrics
HBA1c (blood Glucose)	41	Awaiting follow up
Weight	98kg	92kg
BMI	34.7	32.6
CVD Risk score	22%	20%
Food and diet	Eats plenty of fruit and veg. Skips lunch. Snacks. Loves, butter and cheese	Eating regular meals with no butter, little cheese and using healthier cooking oils
Physical activity	Very little - occasional walk	Walks 2-3 times per week
Smoking status	20 cigarettes per day	Non-smoker
Alcohol	20 units per week	6 units per week
Waist circumference	112cm	106.5cm

Case study 2: A patient with a serious alcohol problem

Health Trainer: Fiona Ashton

The patient was male, aged 51 years and in full-time work. He was referred to the Health Trainer following a primary prevention health check with the practice nurse, during which she had completed an Audit C and identified that he was drinking heavily.

The patient was very relieved to be offered some assistance with his alcohol consumption. He knew he was drinking more than was good for him, but didn't know how to go about reducing his intake.

At first, when the Health Trainer and patient met, he was very quiet, unwilling to make eye contact with the Health Trainer and seemed so low in fact that she advised him to see the GP about his mood. His answers to the wellbeing questions on the Data Collection and Reporting System were very negative. The patient described how since he left the armed forces his life had lacked direction and he had suffered a personal tragedy.

The Health Trainer convinced the patient to take an alcohol diary and reassured him that by making small adjustments he could improve his lifestyle.

The Health Trainer gave the patient decisional balance sheets to act as a motivational tool, so that he could really understand why he wanted to cut down on his alcohol consumption and, if he was struggling, return to these sheets to reinforce his motivation. She also gave him 'barriers and facilitators' sheets to help him anticipate when he might be tempted to drink more and how he might either avoid these situations or deal with them better.

The patient gave the impression of being a very determined personality, who

soon made strong plans to overcome his problems with alcohol and promised the Health Trainer that he would stick to his plan. He worked very hard, keeping the alcohol diaries for several months, he did not succeed with his plan every week and some adjustments were made over time to keep his motivation going by making his goals tough but achievable.

The Health Trainer and patient planned how he would handle a family occasion where he would be expected to drink heavily and made robust plans for his Christmas celebrations with work colleagues and ex-comrades from his days in the forces, where he would again be expected to drink heavily. They also planned together how he would handle the long Christmas break where boredom would tempt him to drink. He was especially worried about Christmas as the previous year he had drunk steadily from mid-morning onwards each day.

The consultation period lasted six months, with meetings on a weekly basis for the first four weeks and then monthly thereafter.

Outcomes

This patient achieved his goal of reducing his alcohol consumption drastically. His mood has improved greatly; his answers to the wellbeing questions on the Health Trainer data base showed a 100% improvement in his mood.

He put a little weight on during the intervention period as his appetite improved, but he has now lost that weight by cutting down on snacks.

His blood pressure remains high, but he thinks, that this is because he starts to be anxious about having it taken up to a day before. He is going to speak to the GP about this.

Measures	Initial metrics	Outcome metrics
HBA1c (blood Glucose)	NA	NA
Weight	102kg	100.5kg
BMI	30.1	29.6
CVD Risk score	14	16
Food and diet	Lots of fruit but also lots of crisps	No change
Physical activity	As active as possible, walks every day	No change
Smoking status	Non-smoker	Non-smoker
Alcohol	70 units per week	20 units per week
Waist circumference	107cm	110cm

The future

The patient maintains that the GP practice saved his life by inviting him for a health check and that the practice nurse's intervention with him, receiving a diagnosis of rheumatoid arthritis and the Health Trainer's work with him on his issues with alcohol have turned his life around. To the Health Trainer he seems a different person, positive about the future ready to take up new hobbies and lose some more weight. The patient also reports a much improved relationship with his wife and family.

Case study 3: A patient with impaired glucose tolerance

Health Trainer: Zoe Chadwick

The patient was male, 67 years old, white, British and retired. He was identified as having Impaired Glucose Tolerance following a Glucose Tolerance Test.

He was happy to work with the Health Trainer, expressing the view that he was keen to lose weight and prevent diabetes. He was unsure of how he could achieve this without upping his physical activity, which due to his COPD, he was unable to do. He also explained that he would be unable to commit to regular appointments since he was out of the country on holiday for at least four months of the year.

Using the 'Impaired Glucose Tolerance' information leaflet the Health Trainer explained to him about the certain lifestyle factors that could put him at increased risk of developing diabetes. The Health Trainer then carried out the HYW introductory online questionnaire with the patient which highlighted areas for improvement in his lifestyle.

At the next appointment, a Personal Health Plan was created, with diet being the primary issue addressed, in the hope of achieving some weight loss and improving his GTT result. The Health Trainer talked at length with him about his current diet and discovered that he was eating breakfast up to three hours after waking and was leaving long gaps between meals. The Health Trainer explained that eating regular meals was important to help control blood sugar levels, avoid cravings and could even boost his metabolism.

Together they set initial goals around changing his eating patterns and the patient agreed to complete a food diary.

Over the following interventions he expressed a desire to do more physical activity but explained that he felt it was near impossible due to his COPD. He had previously mentioned that due to the different weather conditions, he found his breathing to be much improved when on holiday. The Health Trainer suggested maybe setting a goal to do some walking on his upcoming extended holiday. He seemed pleased with this idea and decided that a realistic goal would be to achieve 30 minutes walking per day, this being the amount of time it would take to walk down to the promenade.

On returning from his holiday he seemed to be in particularly high spirits and took delight in telling the Health Trainer how much walking he had managed. The patient decided that he would build walking into his daily routine when he is both on holiday and at home.

Further goals were set around limiting high sugar/ fatty snack foods and reducing portion sizes.

In preparation for his next holiday, the Health Trainer and the patient discussed the need to maintain a good diet whilst on holiday, particularly as he spent up to four months of the year away. He agreed that he would maintain the changes whilst away but would allow himself occasional treats so that he didn't feel 'too deprived'.

The Health Trainer worked with the patient over the initial six months which has now been extended. The patient expressed how happy he was with his progress and how he would be glad of the extra support to maintain his changes.

Outcomes

The patient has achieved a weight loss of 15.5kg (to date), a 5" loss from his waist circumference and has achieved a normal GTT result. He has increased his moderate intense exercise from 0 to seven 30-minute sessions per week by starting brisk walking.

Measures	Initial metrics	Outcome metrics
Blood sugars	9.1	7.4
Weight	145kg	129.5kg
BMI	50.8	45.3
Blood pressure	128/70	138/62
Food and diet	Achieves recommended '5 a day' and eats a fairly balanced diet but with regular high fat/sugar snacks. Leaves long periods before eating breakfast	Maintains a balanced diet with occasional treats. Now has regular eating patterns, achieves 3 meals plus 2 healthy snacks per day and eats breakfast within half an hour of waking
Physical activity	Retired, no physical activity due to COPD so finds it difficult to walk even short distances	Although retired, reaches moderate intensity for 30 minutes every day by incorporating brisk walking into his daily routine
Smoking status	Ex-smoker	Ex-smoker
Alcohol	20 units per week	20 units per week
Waist circumference	156cm	146cm

The future

He is currently still working with the Health Trainer and continues to lose weight at a steady pace. He says that he feels his fitness is much better and he no longer struggles to walk since his weight loss as his breathing has improved so much. He is also delighted at being able to fit into clothes that he has not worn for at least 10 years and has noticed that his stomach no longer rubs on the steering wheel when he is driving!

Case study 4: A patient with high CVD risk referred from hospital

Health Trainer: Ian Davies

The patient was a male, aged 75, white, British and retired. He was referred to the service after hearing about the Health Trainer service following surgery at hospital.

His CVD risk was very high at 50%. The patient had opted into the service and was keen to make improvements to his lifestyle. However, he was suffering from depression and anxiety, feelings which had been exacerbated in the period during his convalescence, following a recent operation.

The initial sessions were challenging given the emotional state of the patient. He was frequently tearful and described feelings of self-loathing and low self-esteem. He also felt isolated from his family following retirement. These thoughts were reflected in his somewhat low scores in his initial wellbeing questions. Although he reassured the Health Trainer that he had no thoughts of self-harm, the Health Trainer advised him that should these feelings become overwhelming, help was on hand from his GP who would be able to offer further advice. The Health Trainer also let him know that if he found it helpful, he could use these sessions to talk about how he was feeling and that he would offer what support he could. Although this meant that the beginning of the pathway was somewhat disrupted, taking this time to talk about mental health went a long way in improving the sense of trust and rapport between the Health Trainer and the patient, and the patient seemed to visibly relax over these opening encounters.

After describing the service to the patient and having a conversation about what his goals might be, the patient set out weight reduction as a long-term goal.

His weight had been increasing steadily over the past few years, especially since his surgery, and this was an area he was keen and motivated to address. In talking about the patient's motivation for change, it became clear that he was somewhat embarrassed by the image he had of his own body and worried that his anxieties about this were 'not very masculine'. They spent some time exploring this issue, and the Health Trainer gave examples - whilst maintaining patient confidentiality - of other male patients who had expressed similar concerns.

They discussed aspects of his lifestyle which might be contributing to his weight gain and how these might have a knock on effect in increasing the risk factors associated with a high CVD risk. This involved using motivational interviewing techniques. Whenever the patient made a suggestion about how he might make a change for the better, the Health Trainer tried to positively reinforce it and relate it back to his own motivations for change, explaining how what he had suggested would improve not only his physical wellbeing, but his emotional wellbeing too.

"I remember using the phrase that I could see how these changes would help him 'get back on an upward spiral' and encouraged him that this would gain momentum as time went by. By this stage, I could see a lift in the patient's mood and demeanour. He was sat more upright in his chair, more engaged in the process and was coming to the sessions with his own ideas and suggestions; some of which he had already put into practice."
Ian Davies, Health Trainer

The Health Trainer supplied the patient with diaries so that he could record both his food intake and physical activity levels. The patient set specific goals for himself around:

- Increasing fruit and vegetable intake
- Eliminating deep fried food from his diet
- Reducing foods high in saturated fats to a minimum
- To take some light walking exercise four times per week
- Attending a Riteweight session

Once these initial goals were set, it became apparent that the patient was improving on these each week. The Health Trainer felt that rather than getting bogged down by trying to log each of these changes on DCRS, their sessions would be better spent encouraging this behaviour. However, the patient soon became bored of his daily walks and was not keen on any of the activities he had seen on the Get Active website. Having been a tradesman all his life, he explained that he would prefer to get his exercise through working.

The Health Trainer reassured him that this would be a fantastic way to get fit; particularly if it was something he enjoyed doing. The patient said his granddaughter had recently moved into a new house and there was lots of decorating work that he could do on it. It was agreed that it would also be a fabulous way to help build a positive relationship with her. The patient threw himself into this with great enthusiasm and it was obvious how much he enjoyed the feeling of achievement working gave to him. Since then, the patient has continued working on other projects and has become something of a local handyman!

Outcomes

The patient's outcomes were good. There was a significant reduction in the risk factors associated with his chance of cardiovascular disease. Most notably, his mental wellbeing has improved significantly. The patient described feeling fitter, happier, less sleepy and more mobile.

Measures	Initial metrics	Outcome metrics
HbA1c	N/A	32 - normal
Weight	97kg	94kg
BMI	34	32.9
CVD Risk	50%	31%
Food and diet	Varied. Lots of fruit and vegetables, but a lot of fried, high fat dairy and snack type foods	As before with complete reduction in fried foods, very little high fat dairy/ snack type food
Physical activity	Less than 1 hour low intensity a week	More than 21 hours moderate intensity per week and 6 hours high intensity
Smoking status	Ex-smoker	Ex-smoker
Alcohol	2 units per week	8 units per week
Waist circumference	124cm	116cm

The future

Ian recently met up with the patient for his maintenance check, six months after signing off from the service. He was a bit annoyed with himself as he had put on a bit of weight over Christmas. The key thing, however, was that he told Ian that now the New Year had turned, he was ready to get back to his 'normal lifestyle'. This was a key change: Not his diet or his fitness regime, his 'normal lifestyle'. He knew what he wanted to do, how to do it, and importantly, no longer needed the Health Trainer's help to put it into practice.

"We left on great terms. I often see him out for a walk on my way into the surgery and we have a quick chat about how he's doing. He knows he can come back and see me if he needs to in the future, but in a way I'm pleased to say I don't think he will."

Ian Davies, Health Trainer



Case study 5: A workplace referral for weight loss

Health Trainer: Sandip Tailor

The patient was a female, 39 years of age, in full employment. The patient was referred to the Health Trainer service through the 'Clock on 2 Health' scheme as a workplace patient looking to lose weight.

At the outset, the patient felt that she required support to lower her BMI and also to gain a healthier diet/lifestyle, not just for herself but also for her husband and children. She had tried many times to lower her BMI through various diets and was following WeightWatchers at the time of her initial assessment. She had very low self-esteem but wanted to lose weight to get into the 'red dress' which she bought a few years ago but has never been able to wear.

After a brief discussion and completing the initial assessment it was noted her diet was erratic and consisted of high fat, sugary foods and the alcohol units she consumed on a weekly basis were too high. Her initial weight was 90kg and she had a target weight of 65kg, and although she realised that this is not possible in six months she would like to be this weight in the future.

Her alcohol consumption was discussed and she was advised that the number of units needed to be lowered and they may cause health implications in the future and may also be playing a contributory role in her weight gain. The patient was having wine every night, so was advised to have three alcohol free days and to also lower the units consumed on one occasion.

The patient didn't prepare lunches for herself and snacked on 'junk' foods e.g. biscuits, Jaffa Cakes, crisps and sweets and for lunch she would go to the shop and buy ready-made sandwiches (cheese based).

The Health Trainer advised the patient to complete a food diary and to meet again in three weeks to review further.

They reviewed the food diary together and agreed that there were three areas in which improvements can be made: Alcohol, portion size and exercise.

Sandip also suggested if it would be possible for the patient to bring in a sample of food labels of things that she was snacking on, to review and discuss at the next session. The patient was happy to bring in a sample of food labels. On the next appointment they reviewed the amount of sugar that was being consumed within the snacks, it made the patient aware that these sugars can be a factor to weight control.

The patient was reviewed on three more occasions in the community after the first review and food labelling, exercise, portion size, eat well plate, saturated fats, water intake were all discussed and over this time the patient started to show positive mental wellbeing and was losing weight on every review. She was struggling to do exercise due to an old shoulder injury but was trying to go swimming twice a week.

She is now preparing meals for herself at lunch times, snacking on fruits and crab sticks. The Health Trainer gave the patient a fruit cake recipe that contains no fat and no sugar using Splenda®. The patient tried this and enjoyed it as a snack.

The contact with the patient lasted six months over six appointments.

Outcomes

She now feels she has changed her whole lifestyle and she feels better for herself, although she would like to do more exercise in the future when her shoulder improves.

The number of alcohol units has been lowered vastly and 'junk' foods are now a rarity. She is now having a much more balanced diet consisting of 100% increase in fruit and 90% increase in vegetables. She is now reading food labels in detail and understands what foods are 'better' than others.

Both children and husband are benefiting from her lifestyle changes as meals are now prepared fresh and saturated fats have been reduced for everyone. The patient was, on her first appointment, a size 18 and is now a size 12.

The future

She wishes to continue her progress to reach her target weight of 65kg. She has booked a cruise and is looking forward to spending some time with her family and wearing the 'red dress' she has wanted to wear for a very long time.

Measures	Initial metrics	Outcome metrics
Blood sugars	N/A	N/A
Weight	90kg	78kg
BMI	36.3	30.6
Food and diet	Has no fruit in diet and very little vegetables. Doesn't prepare meals so diet consists of fast foods, high fat foods, ready meals and sugary snacks	Has a variety of fruit throughout the day every day. Has very few sugary snacks and now prepares meals from scratch
Physical activity	Little or no activity	Is now going to the gym once or twice a week and is enjoying swimming. Always uses the stairs rather than the lift at work
Smoking status	Non-smoker	Non smoker
Alcohol	35 units per week	9 units per week
Waist circumference	98cm	87cm

6

Analysis of the DCRS dataset for the Bolton Health Trainer Service

DCRS, as mentioned in Chapter 5, is a bespoke data recording system for the Heath Trainer service.

The analysis of the data which specifically pertains to the Bolton Health Trainer Service was based on a total of 8,894 patient cases which had engaged with the Service between the 8th of May 2008 and the 5th of April 2013.ⁱ The analysis was carried out by the authors with three key aims in mind:

- 1 To examine the demographic characteristics and health status of all patients who had been recorded on the system since May 2008.
- 2 To discover the main pathways or referral sources by which patients entered the service with a view to highlighting where the main routes to the service were and where more resources could be targeted to improve pathways.
- 3 To assess the level of success of the service in enabling patients to achieve their health goals. This was done by comparing some of the key health related indices for patients at two points during their engagement with the Health Trainer service; (a) at the point of their initial assessment, and (b) at their sign off in order to assess the success of the outcomes of the intervention.

ⁱ We are grateful to Ertan Fidan and David Hopkinson at the central DCRS unit for patiently supporting us by supplying the relevant data for our analysis.

Background characteristics of patients

Deprivation quintile

One of the key tenets of Choosing Health was that the Health Trainer service, at a national level, should reach out to those sections of the community deemed to be most deprived in socioeconomic terms. The link between poor health status and levels of socioeconomic deprivation has been well documented in Choosing Health and in the wider general public health literature. These levels of deprivation, for the purposes of this analysis are codified into five categories (quintiles), from 1, as being most deprived to 5, the least deprived. The analysis shows (Table 2) that approximately 57% of patients lived in areas assessed as either quintile 1 or 2.

	Frequency	Percent	Valid Percent	Cumulative Percent
No fixed abode	12	.1	.1	.1
Not recognised	11	.1	.1	.3
Q1 - Most deprived	3608	40.6	40.6	40.8
Q2	1473	16.6	16.6	57.4
Q3	1299	14.6	14.6	72.0
Q4	1200	13.5	13.5	85.5
Q5 - Least deprived	1266	14.2	14.2	99.7
Unknown	25	.3	.3	100.0
Total	8894	100.0	100.0	

Table 2:
Deprivation Quintile

Ethnic origin

The vast, significant majority of people engaging with the service were of white British origin. The second largest ethnic group were Asians of Indian origin, followed by Asians of Pakistani origin. The acid test as to whether the service is accessing a representative portion of the population of the Bolton community will be in comparing this with the ethnic profile of Bolton as a whole.

	Frequency	Percent	Valid Percent
A: White - British	7536	84.7	84.7
B: White - Irish	99	1.1	1.1
C: Other White Background	76	.9	.9
D: Mixed - White and Black Caribbean	21	.2	.2
E: Mixed - White and Black African	8	.1	.1
F: Mixed - White and Asian	16	.2	.2
G: Mixed - Any Other Mixed Background	13	.1	.1
H: Asian or Asian British - Indian	629	7.1	7.1
I: Asian or Asian British - Pakistani	293	3.3	3.3
J: Asian or Asian British - Bangladeshi	16	.2	.2
K: Any Other Asian Background	29	.3	.3
L: Black or Black British - Caribbean	24	.3	.3
M: Black or Black British - African	26	.3	.3
N: Any Other Black Background	7	.1	.1
O: Chinese	5	.1	.1
P: Any Other Ethnic Group	47	.5	.5
Z: Not Stated	49	.6	.6
Total	8894	100.0	100.0

Table 3:
Patient Ethnicity

Patients' age profiles

As can be seen from Table 4, the vast majority of patients were of the ages of 56 years and above (60.7%).

Age	Frequency	Percent	Valid Percent	Cumulative Percent
< 18	7	.1	.1	.1
18 - 25	170	1.9	1.9	2.0
26 - 35	407	4.6	4.6	6.6
36 - 45	1149	12.9	12.9	19.5
46 - 55	1741	19.6	19.6	39.1
56 - 65	2618	29.4	29.4	68.5
Declined	22	.2	.2	68.7
Over 65	2780	31.3	31.3	100.0
Total	8894	100.0	100.0	

Table 4:
Patient Age Bands

There was an almost equally proportionate representation of males and females in the patient numbers as can be seen in Table 5. And of the 8,894 cases from the Bolton service, 8843 (99.4%) were registered with a GP practice.

	Frequency	Percent	Valid Percent	Cumulative Percent
Female	4164	46.8	46.8	46.8
Male	4730	53.2	53.2	100.0
Total	8894	100.0	100.0	

Table 5:
Patient gender

As can be seen in Table 6, a significant majority of patients were not in work at the time of their initial assessment and most of these people were retired.

	Frequency	Percent	Valid Percent
Missing data	1327	14.9	14.9
Employed full-time	2163	24.3	24.3
Employed part-time	642	7.2	7.2
Full time carer	89	1.0	1.0
Looking after home or family full-time	311	3.5	3.5
N/A - Offender health	1	.0	.0
Other	83	.9	.9
Permanently Sick/Disabled	394	4.4	4.4
Response declined	12	.1	.1
Retired	3052	34.3	34.3
Self-employed	182	2.0	2.0
Student	36	.4	.4
Unemployed	577	6.5	6.5
Volunteer	25	.3	.3
Total	8894	100.0	100.0

Table 6:
Employment status of patients

How did patients enter the service?

An important factor in assessing the success of the service has been to discover not only what types of patients were entering the service, but also from where they had been given the initial impetus to engage with the service.

The argument behind locating the Health Trainer service within primary care practices was that it would represent a 'small step' for patients to access the service, the GP would have the service in-situ and therefore was more likely to refer patients with relevant health problems to the Health Trainer service. Thus, we analysed the data to discover the main source/pathway where patients first accessed the service.

The overwhelming finding was that the main source of referral was through initial contact and referral with primary care. Table 7 shows that 95.6% of the 8,894 patients entering the service had come to the service through referral from their GP or other primary care services. This lends considerable weight to the rationale for locating the Health Trainer service within primary care.

	Frequency	Percent	Valid Percent
Missing data	1	.0	.0
Health Trainer Services	3	.0	.0
Lifestyle Risk Management Services	13	.1	.1
Self	90	1.0	1.0
Hospital services	287	3.2	3.2
GP or other primary care services	8500	95.6	95.6
Total	8894	100.0	100.0

Table 7:
Source of referral to Health Trainer service

We then analysed referral source in more detail. This highlighted the specifically cited reasons for the referrals to the Health Trainer service. Table 8 shows the primary reasons for referral to the service. Again, the overwhelming response was either through direct referral from primary care, or an introductory letter from their GP to the service.

Promotional activities and media outside of primary care do not seem to have created very much response in encouraging members of the community to access the service.

	Frequency	Percent	Valid Percent
Local paper - Bolton News	1	.0	.0
Referred by GM West	1	.0	.0
Other media (not local paper)	2	.0	.0
Referred by hospital/Acute Adult	7	.1	.1
Poster/leaflet - other	8	.1	.1
Promotional event - other	8	.1	.1
Referred by hospital/Elective	40	.4	.4
Poster/leaflet - in surgery	52	.6	.6
Word of mouth	88	1.0	1.0
Alcohol Audit 10	182	2.0	2.0
Other	191	2.1	2.1
Referred by hospital	229	2.6	2.6
Promotional event - in workplace	360	4.0	4.0
Invite letter from GP practice	2076	23.3	23.3
From GP/practice nurse	5649	63.5	63.5
Total	8894	100.0	100.0

Table 8:
How did patients hear about the Health Trainer service?

The primary reason for referral to the Health Trainer service was found to be a direct referral from primary care practices on the basis of the outcome of an impaired glucose tolerance test (IGT), followed by a finding of CVD risk. Other specific reasons such as smoking or alcohol use were a

small proportion of the total. This may be due to the fact that specialist services exist to support patients to give up smoking and reduce alcohol consumption. Table 10 shows that the main focus of discussion within the intervention, was on diet and the intention to lose weight.

	Frequency	Percent	Valid Percent
Missing data	1	.0	.0
GP/Practice nurse	1	.0	.0
Hospital - other	1	.0	.0
Get Active	2	.0	.0
Referred from HT champion	3	.0	.0
GM West	4	.0	.0
Services outside of Bolton area	5	.1	.1
Bolton Stop Smoking Service	6	.1	.1
Hospital - Acute Adult	13	.1	.1
Hospital - Elective	67	.8	.8
Self	90	1.0	1.0
PC - Smoking	132	1.5	1.5
Hospital	202	2.3	2.3
Primary Care - other	218	2.5	2.5
Primary Care - Alcohol	298	3.4	3.4
Primary Care - CVD/IGT None (Archive)	307	3.5	3.5
Clock onto health (workplace)	341	3.8	3.8
Primary Care - CVD Med	1128	12.7	12.7
Primary Care - CVD Low	1277	14.4	14.4
Primary Care - CVD High	1861	20.9	20.9
Primary Care - IGT	2937	33.0	33.0
Total	8894	100.0	100.0

Table 9:
Referral Source (reason for referral)

	Frequency	Percent	Valid Percent
Missing	1856	20.9	20.9
Alcohol	862	9.7	9.7
Diet	5158	58.0	58.0
Exercise	518	5.8	5.8
Local issue	20	.2	.2
Smoking	480	5.4	5.4
Total	8894	100.0	100.0

Table 10:
Main topic of discussion

Assessing the success of the outcomes of the service

DCRS records a range of measures of health status. These measures are taken at an initial assessment stage, when the patient enters the service and again on sign off from the service - usually after six months. As part of the analysis of the DCRS data for the Bolton Health Trainer Service we analysed this data to assess the extent to which patients overall had shown significant improvements in these key indices.

These data included the following measures taken before and after the patient's engagement with the service:

- Waist circumference in CMs
- Number of cigarettes smoked per day
- Units of alcohol consumed per week
- Cardiovascular Disease (CVD) risk score
- Body Mass Index (BMI)
- Diabetes risk score
- Number of times 30 minutes per week moderate exercise
- Number of times intensive exercise of 20 minutes duration per week
- Score for amount of fruit and vegetables consumed in a week
- A combination score for amount of fried food, high fat dairy products and snacks consumed in a week
- World Health Organization General Health Score (0 = poor health - 100 = perfect health)

Findings

For all the indices, positive changes in health status were observed between the point of initial assessment and sign off six months later. In all cases, for each measure, the physiological and behavioural changes were of the magnitude to indicate that these were not purely random or due to chance, i.e. were 'statistically significant'.

The following section shows the extent of change in each measure in terms of the average or mean levels recorded pre and post-intervention from the DCRS data for the Bolton Health Trainer Service.

Figure 1: Changes in waist circumference pre and post-intervention

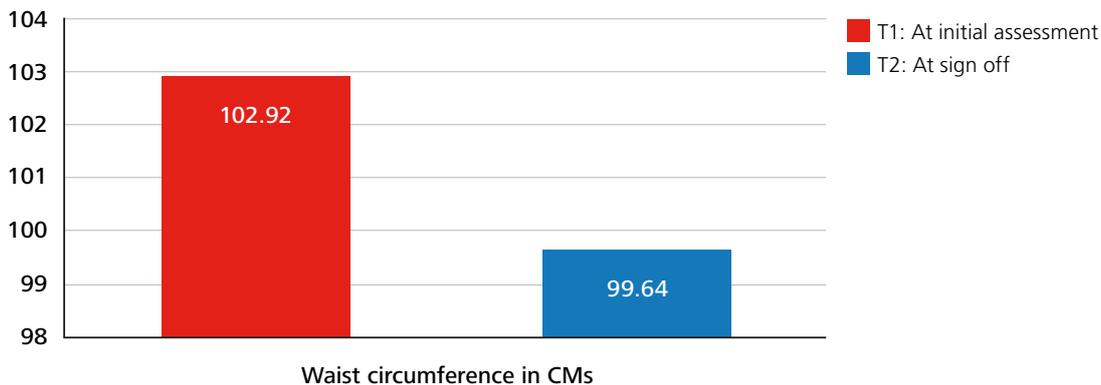


Figure 2: Changes in smoking levels pre and post-intervention

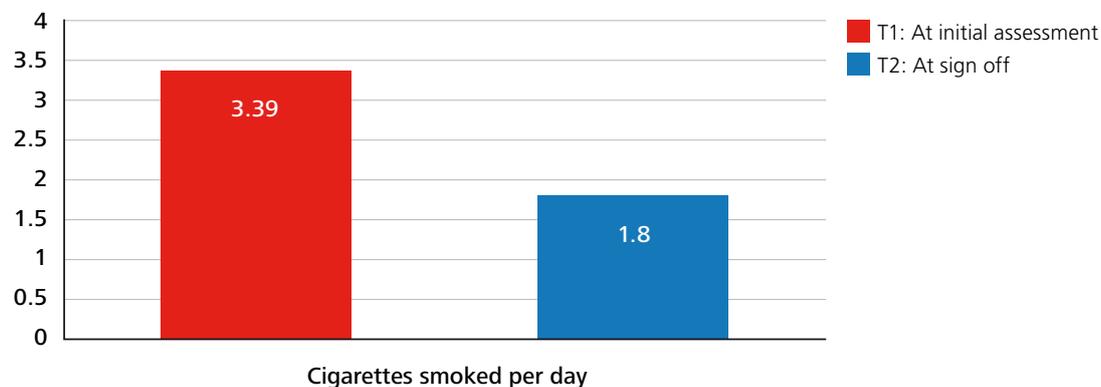


Figure 3: Changes in alcohol consumption pre and post-intervention

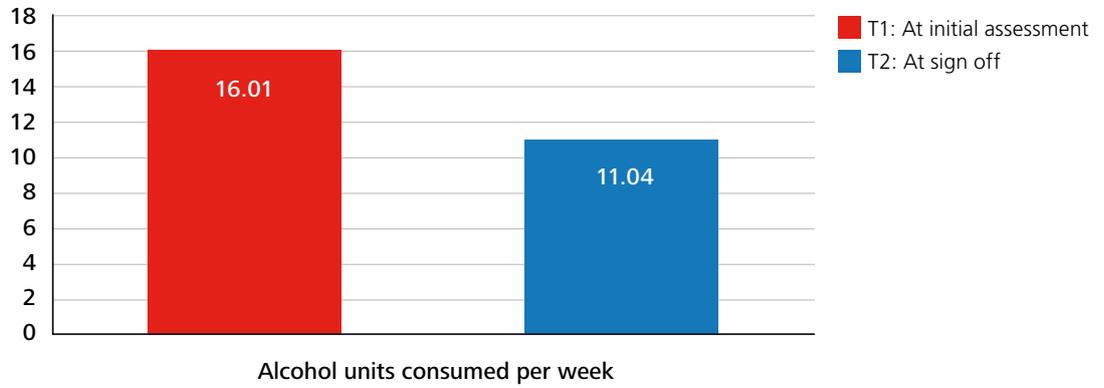


Figure 4: Changes in CVD risk pre and post-intervention

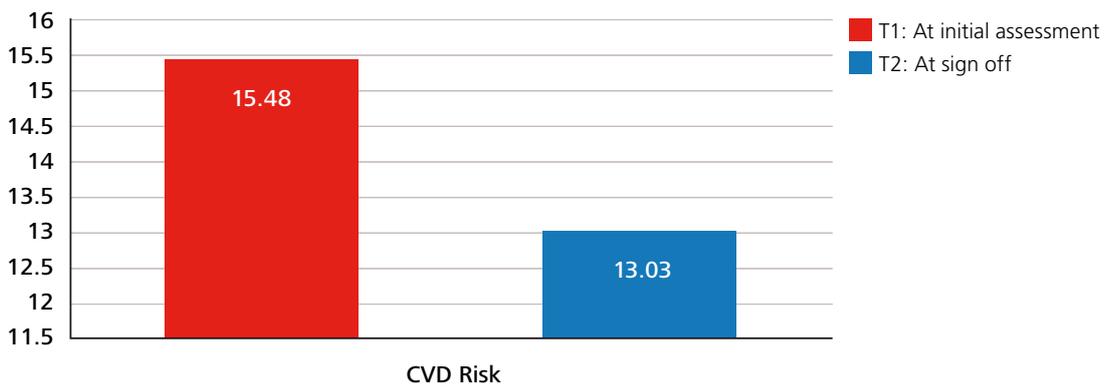


Figure 5: Changes in Body Mass Index pre and post-intervention

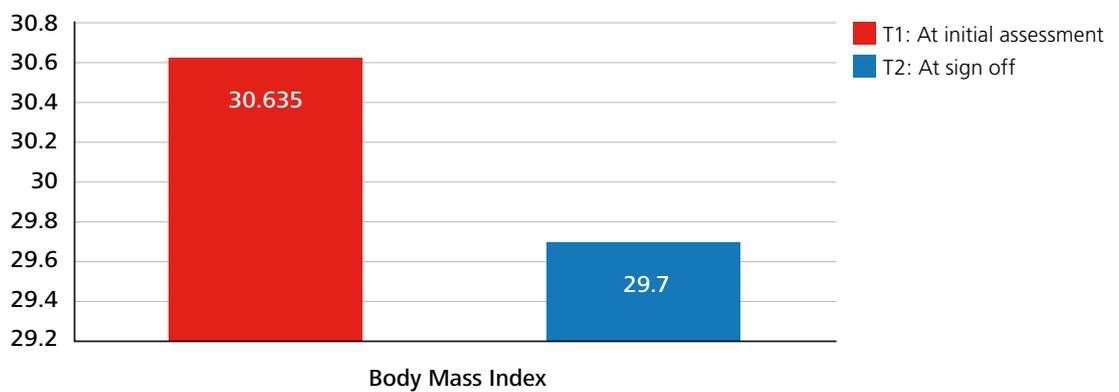


Figure 6: Changes in diabetes risk score pre and post-intervention

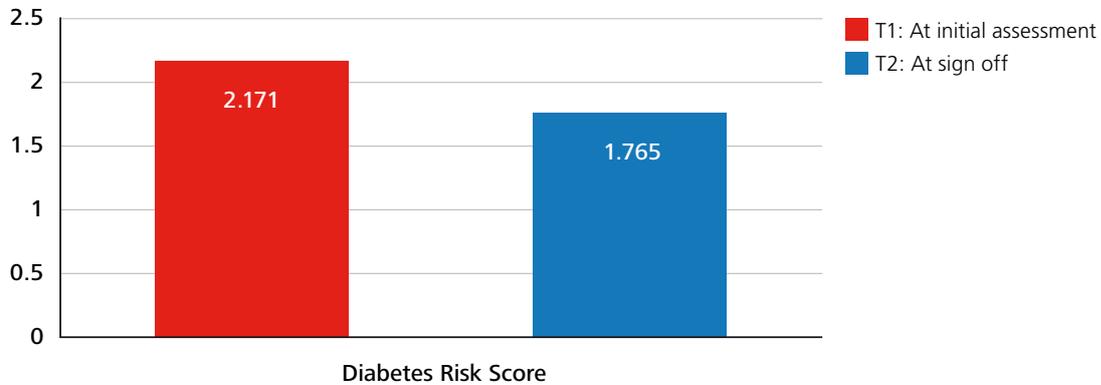


Figure 7: Changes in instance of 30 mins moderate exercise per week

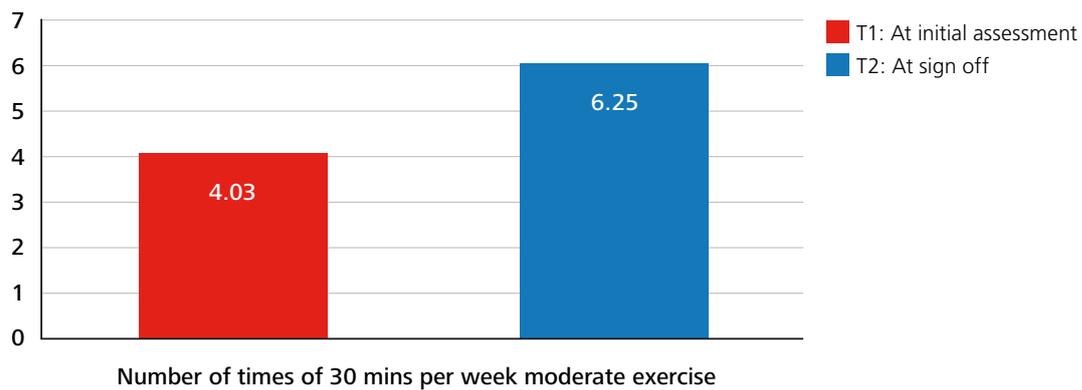


Figure 8: Changes in instance of 20 mins intensive exercise per week

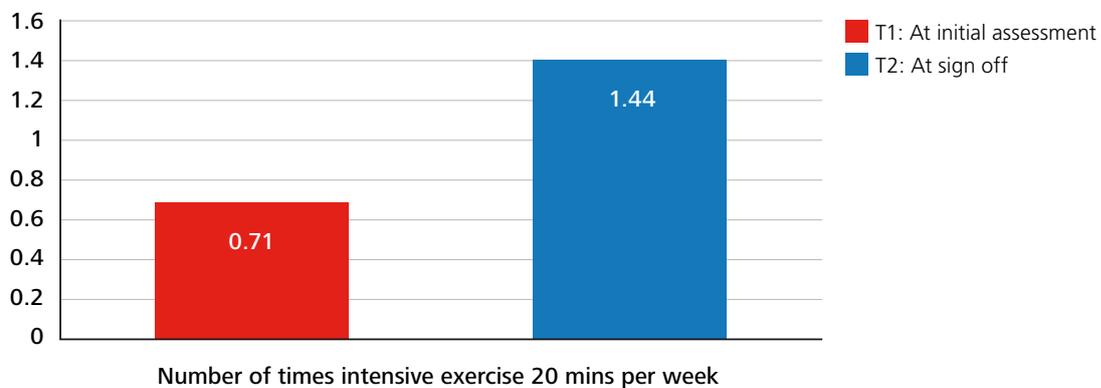


Figure 9: Changes in amount of fruit and vegetables per week

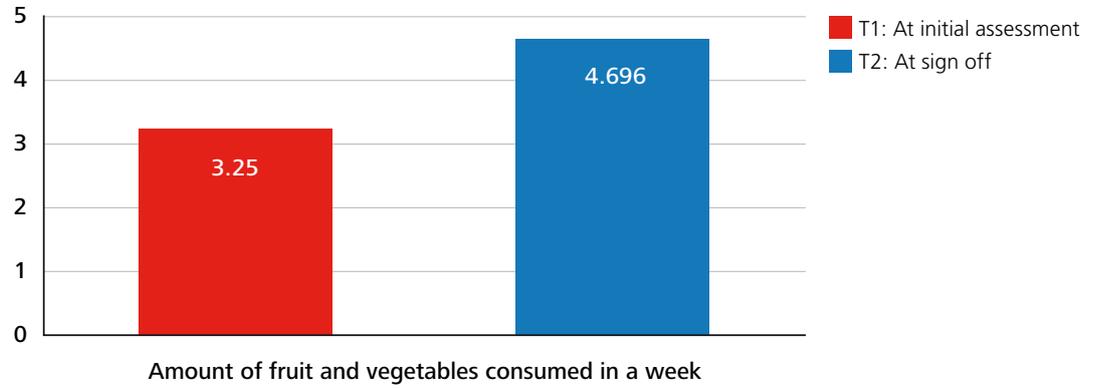


Figure 10: Changes in amount of fried food, high fat and dairy per week

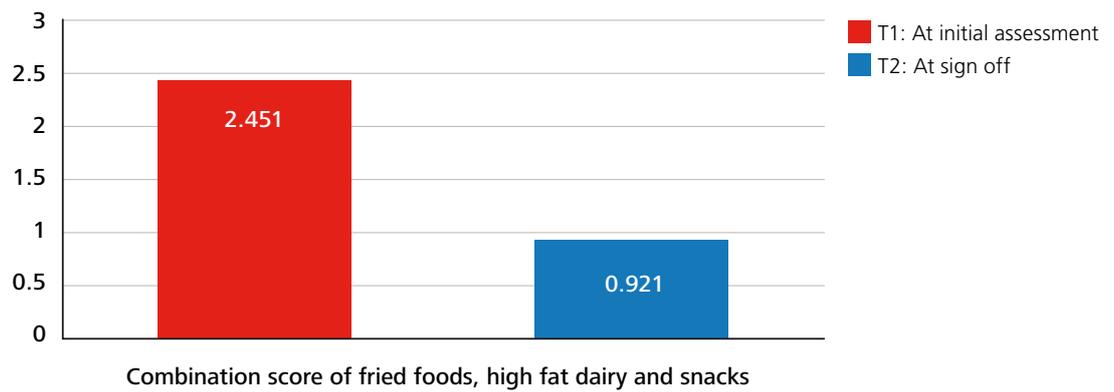


Figure 11: Changes in WHO wellbeing score pre and post-intervention

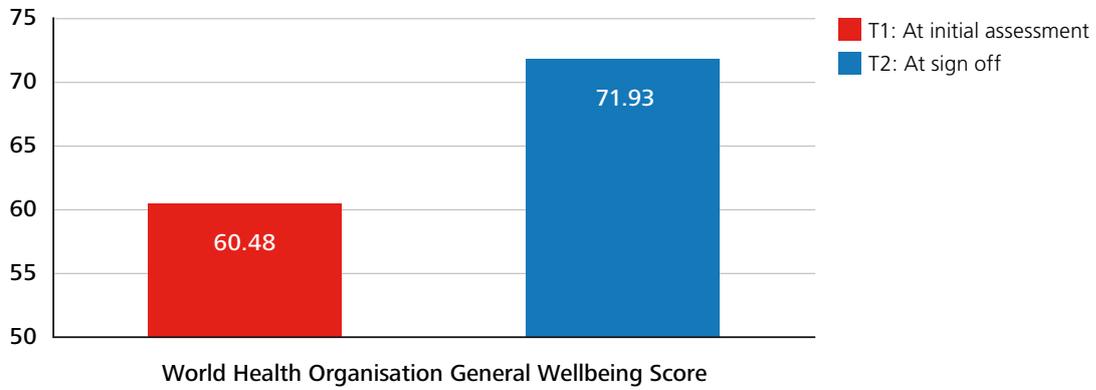
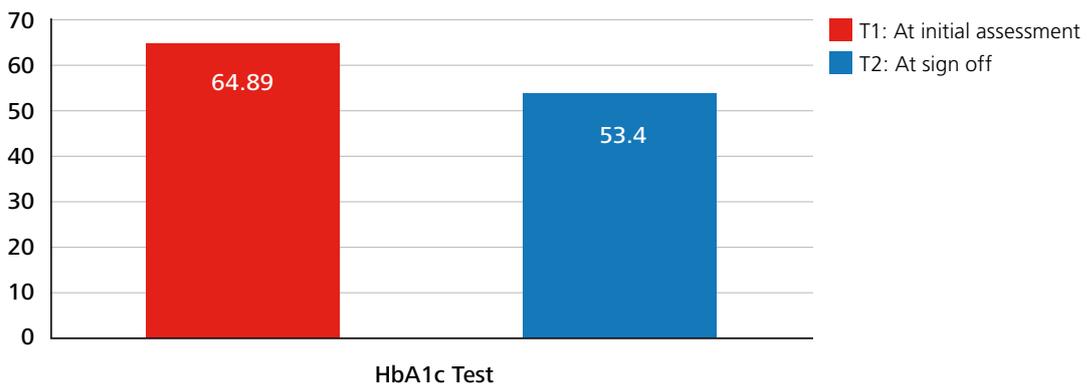


Figure 12: Changes in HbA1c Test Scores pre and post-intervention



We are extremely grateful to Anita Tyldesley for converting the data to HbA1c from previous measures of glucose tolerance.

7

Appendices

Appendix 1: Statistical analysis of the DCRS data set for the Bolton Health Trainer Service

A note on the interpretation of the following findings:

- The bulk of the findings of this chapter have been largely descriptive - they map some of the characteristics of the service and the profiles of the patients' health status and pathways. The following section assesses the extent to which the service has supported those patients in achieving changes in health status on a number of key health related indices taken before and after the intervention.
 - Measures taken before and after an intervention such the Health Trainer service are ultimately going to be different for a wide variety of reasons since the chance of them being the same on both occasions is unlikely.
 - The aim of this analysis is to assess whether any differences observed in these indices are significantly large and systematic (i.e. show an overall trend in the expected direction) and are not due to random factors outside of the intervention or to chance.
 - The analysis outlined in table 11 shows the results of a comparison between measures taken before and after the Health Trainer intervention. The means (or average scores) for each measure for (a) the initial assessment and (b) sign off are shown with the number of patients this analysis was carried out on (N).
- All statistics are based on the principle that the higher the probability that a result is not due to chance, the more probable that it is as a result of the intervention. The level of this probability is termed 'statistical significance'.
 - The extent to which the recorded differences are statistically significant (i.e. not due to chance) and therefore likely to be a result of the Health Trainer service intervention is denoted by the statistic 't'. The size of t denotes the size of the difference over time. Thus the higher the t value - the larger the change.
 - The final column (sig) denotes the extent to which the result of the analysis is statistically significant. In all cases, the differences between measures taken before and after were statistically significant to the level of probability of one in 1000 (denoted by three stars).

		Mean	Standard deviation	N	t value	sig
Waist circumference in CMs	T1: At initial assessment	102.92	16.49	1713	11.857	***
	T2: At sign off	99.64	15.95	1713		
Cigarettes smoked per day	T1: At initial assessment	3.39	7.773	2160	13.58	***
	T2: At sign off	1.80	5.379	2160		
Alcohol units consumed per week	T1: At initial assessment	16.01	18.793	1446	13.78	***
	T2: At sign off	11.04	12.421	1446		
CVD Risk	T1: At initial assessment	15.48	12.41	5494	21.85	***
	T2: At sign off	13.03	11.77	5494		
Body Mass Index	T1: At initial assessment	30.635	6.1197	2472	28.77	***
	T2: At sign off	29.70	5.872	2472		
Diabetes risk score	T1: At initial assessment	2.171	5.9106	1756	6.53	***
	T2: At sign off	1.765	5.2501	1756		
Number of times of 30 mins per week moderate exercise	T1: At initial assessment	4.03	5.153	2171	-21.49	***
	T2: At sign off	6.25	5.174	2171		
Number of times intensive exercise 20 mins per week	T1: At initial assessment	.71	2.105	1417	-10.11	***
	T2: At sign off	1.44	2.881	1417		
Amount of fruit and vegetables consumed in a week	T1: At initial assessment	3.250	2.0849	2156	-29.2	***
	T2: At sign off	4.696	2.1415	2156		
Combination score of fried foods, high fat dairy and snacks	T1: At initial assessment	2.451	2.3883	1770	27.69	***
	T2: At sign off	.921	.9938	1770		
WHO general wellbeing score	T1: At initial assessment	60.48	17.351	1879	-28.66	***
	T2: At sign off	71.93	13.940	1879		
HbA1c Test	T1: At initial assessment	64.73	17.576	1807	20.27	***
	T2: At sign off	57.35	19.221	1807		

Table 11:
An analysis of key health measures - pre and post-intervention

*** denotes that the findings are statistically significant to the level of 0.001 or one in 1000

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Conclusions

The Bolton Health Trainer Service is highly successful in targeting those patients who are from the most socio-economically deprived backgrounds in the community. Overall, the results of the analysis of the DCRS dataset for Bolton Health Trainer Service have highlighted some very positive results.

The analysis of the DCRS dataset uncovered a number of significant changes in health status across the whole sample of patients who have engaged with the service. Statistically significant changes were observed in all recorded health measures including BMI, CVD risk, blood glucose levels, smoking, alcohol consumption, diet and exercise.

The patient profile, in terms of targeting those of greatest socioeconomic deprivation, shows the majority of patients are from the highest deprivation categories (57% quintiles 1 and 2).

Furthermore, the focus of the majority of referrals are shown to be of the highest priority groups - the primary care prevention register (patients > 20% risk) and IGT register - patients known to be at risk of developing diabetes.

The patients are predominantly white UK residents and this raises the question whether other ethnic groups are as prepared to engage with the service.

Diet and more specifically weight loss is the most common factor for people engaging in the service.

In partial support of the assertion of the benefits of locating the Health Trainer service in primary care practices, it was observed that the vast majority of patients are direct referrals from their GP or other primary care professionals.

From our findings from the interviews with Health Trainers, their patients and colleagues, the role is enjoyed, and seen as worthwhile and rewarding. Furthermore patients are very positive about the service. There is evidence from patients of 'trickle down' of positive lifestyle changes to their families.

The location of the service within Primary Care is a major factor in its continuing success, however there has been varying degrees of 'buy-in' and understanding from practices and a great deal of groundwork was needed to get there. However, knowledge of the service among the people of Bolton in general may be limited. It may be that further promotional work in other areas may be beneficial for example leaflets and posters in GP surgeries, the local authority, libraries and community and religious centres may help in spreading the word to those people who do not visit GP practices regularly. This seems symptomatic of a wider issue since there seems to be little promotion of the service at a national level:

“If you stopped somebody in the street outside, would they know that there are these people? You know, I don’t think I’ve ever had somebody come in and saying, ‘I’d like to see the Health Trainer’.” GP

There is also a great deal of uncertainty about the future of the service, both in terms of its continuation and resourcing, given that the Foundation Trust is in deficit and there are concerns about maintaining a viable service with no vacancies being filled.



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