



***Public Health
Collaboration***

***Public Health Collaboration
Ambassador &
Healthcare Professionals
Case Study Book***

Informing & Implementing Healthy Decisions

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Introduction

The Public Health Collaboration is a UK registered charity (Charity no. 1171887) that is dedicated to informing and implementing healthy decisions for better public health. In September 2017, we set up the Ambassadors Programme with the goal of having a volunteer in every village, town and city in the country to represent the PHC at a local level. Although we haven't quite achieved that goal yet, we've managed to grow the Ambassadors Programme from an initial 60 volunteers to more than 250.

The Ambassadors Programme was inspired by the work of Dr David Unwin. An NHS GP based in Southport, Dr Unwin has been instrumental in demonstrating the impact of lifestyle upon patient health, while saving money for the NHS and improving the work environment of healthcare professionals. Dr Unwin often says that instead of getting complaints from patients about the side effects of drugs, he now gets compliments from patients about the improvements in their health.

Dr Unwin has many peer-reviewed papers, but his most recent, published in *BMJ Nutrition, Prevention & Health* (<http://dx.doi.org/10.1136/bmjnph-2020-000072>), presents data from his patients over the past 6 years. It reveals that 93% of Dr Unwin's patients with prediabetes attained a normal HbA1c, and 46% of patients with type 2 diabetes achieved drug-free remission. The study also calculated that *"Since 2015, there has been a relative reduction in practice prescribing of drugs for diabetes leading to a T2D prescribing budget £50 885 per year less than average for the area."* If all 9,400 NHS GP practices in the country used this approach, it would translate to savings of over £475 million per year for the NHS. For more information on how to adapt diabetes medication we recommend reading an article published in the *British Journal of General Practice* titled *"Adapting diabetes medication for low carbohydrate management of type 2 diabetes: a practical guide"* (<https://doi.org/10.3399/bjgp19X704525>).

Based on Dr Unwin's inspiring work, the Ambassadors Programme aims to show every NHS GP practice in the country what is possible within the current framework. To that end, this document presents case studies of the work done by NHS GP practices, independent healthcare professionals and PHC Ambassador Support Groups. All of which demonstrate the results of using a similar approach to that of Dr Unwin. We hope that their words and data inspire you.

If you'd like to get in touch with your local ambassador you can find their contact details on the PHC website at www.PHCuk.org/ambassadors, or if you'd like to contact someone from one of our case studies, you'll find their email address in the title of their section.

What's more, if you are a healthcare professional using an approach aligned to that outlined here, and you would like to share it with the world by contributing to this ongoing document, then please email info@PHCuk.org. I'd be more than happy to add your case study to the ever-increasing evidence base for lifestyle healthcare.

Best wishes,

Sam Feltham
Director of the Public Health Collaboration
www.PHCuk.org



Why did you set up a support group?

Having put my own type 2 diabetes into remission, I wanted to make a difference by helping others do the same and signpost healthcare professionals to the most up to date scientific evidence.

How did you initially set up your groups?

I met a local GP at a public meeting, who was interested in the work of Dr David Unwin. As a PHC ambassador, I then offered to set up a similar group to Dr Unwin's with their Primary Care Network (PCN).

What do you do in your groups?

Before COVID-19, one group was held in a practice's meeting room and the other group was held in a hall funded by a local parish council. The sessions ran for 90 minutes with each session covering various aspects of the low carb lifestyle, including some basic physiology, practical suggestions on food choices and help in reading food labels to help healthy choices. We also discussed the importance of exercise, mental health, stress-reduction and sleep. On top of this, I took low carb food samples to all sessions and supplied the recipes for everything I made. At every session there was the opportunity for participants to ask questions, share successes and potential obstacles. Since Covid, I have converted the course to an online resource, backed up by regular live Zoom Q&A sessions.

Testimonial from Dr Tim Cooper, GP, Chineham Medical Practice

"Liz has worked closely with 3 GP practices which are part of a newly formed primary care network (PCN). Liz joined the team to offer low carb advice and support to our newly diagnosed and existing type 2 diabetic cohort. Her enthusiasm and initiative has taken over 40 people through the course, with sustained reductions in weight, HbA1c and blood pressure. It's added huge value to our traditional offering of diabetic care and has supported a non medication option for many patients. We have also seen sustained lifestyle change, which can often be a very difficult thing. I would attribute this to Liz's attitude and role modelling, bringing people together and also on her own low carb journey.

She has also ably moved her courses from face to face to online as a response to Covid, ensuring that access to low carb lifestyle and dietary support continued over this challenging period. I would recommend the work that Liz and the PHC do for low carb and see it as an integral part of our offering of both diabetic and personalised care.

As we begin to describe our new future in general practice and community care beyond the covid pandemic, now seems a great time to embed lifestyle initiatives and community support, such as that provided by PHC, into our routine practice."

Testimonials from group participants

"I have lost 2 st 9lb. Thank you so much. I wish I had known what we know now years ago."

"Great initiative and glad to have participated."

"So glad I joined. My whole life has changed with regard to food. Liz is an inspiration to us all"

"Liz inspired me to think I can reverse diabetes by cutting carbs and I am well on the way now. Excellent mentor."

"I was very grateful for the hard work and helpful advice from Liz. Nothing was too much trouble."

"Thought it was excellent overall. Totally changed my lifestyle and sense of well-being. I have told many others about the approach, have recommended it, and I'm sticking to it."

What results have you had?

In our first group, we had 16 people with a diagnosis of type 2 diabetes or pre-diabetes. By the end, 12 were in remission with an HbA1c under 42. All of those were either off or reduced their medication. Of the remaining 4, 3 had significant reductions in HbA1c and corresponding reductions in medication.

Hook	HbA1c Start	HbA1c End	Weight Start	Weight End	Extra Benefits
Pt. 1	51 mmol/mol	40 mmol/mol	120 kg	111 kg	Off metformin and ezetimibe.
Pt. 2	42 mmol/mol	36 mmol/mol	97 kg	87 kg	HDL 1.7
Pt. 3	45 mmol/mol	40 mmol/mol	84 kg	78.8 kg	Trigs 1.44 HDL 1.46
Pt. 4	45 mmol/mol	49 mmol/mol	100.7 kg	101.6 kg	N/A
Pt. 5	N/A	N/A	N/A	-7 kg	Improved mood.
Pt. 6	47 mmol/mol	40 mmol/mol	105.5 kg	99.3 kg	Improved energy.
Pt. 7	48 mmol/mol	42 mmol/mol	73 kg	70 kg	Improved mood.
Pt. 8	44 mmol/mol	40 mmol/mol	113 kg	109 kg	N/A
Pt. 9	68 mmol/mol	58 mmol/mol	87 kg	83 kg	BP 136/70 down to 120/66

Chineham	HbA1c Start	HbA1c End	Weight Start	Weight End	Extra Benefits
Pt. 1	55 mmol/mol	43 mmol/mol	96 kg	92.5 kg	Reduced insulin by 10%.
Pt. 2	N/A	N/A	Size 16	Size 12/14	Improved sleep, less hungry, more energy.
Pt. 3	N/A	N/A	N/A	-17.2 kg	Feel better and brighter.
Pt. 4	N/A	N/A	82.5 kg	65.3 kg	Stopped rapid insulin. Reduced long acting from 80 to 20 units.
Pt. 5	63 mmol/mol	41 mmol/mol	N/A	N/A	N/A
Pt. 6	48 mmol/mol	39 mmol/mol	88.9 kg	78.4 kg	Stopped metformin.
Pt. 7	N/A	N/A	92 kg	84 kg	Reduced BP 135/90 to 130/80. More energy, fitter, greater well-being, improved sleep. Improved dental health.
Pt. 8	48 mmol/mol	39 mmol/mol	63.6 kg	59.2 kg	Metformin down from 4 to 1. More energy, more alert, no more bloating. Whole life changed.
Pt. 9	N/A	N/A	104.8 kg	97.5 kg	BP 165/92 down to 146/88
Pt. 10	47 mmol/mol	39 mmol/mol	N/A	N/A	Lost weight.
Pt. 11	48 mmol/mol	40 mmol/mol	N/A	N/A	N/A
Pt. 12	41 mmol/mol	36 mmol/mol	92 kg	83 kg	HDL 2.7 , Trigs 0.86

Why did you set up a support group?

I want to help people better understand how the food you eat impacts the way you think, feel and look. Also, to bring more awareness to the fact that our food environment in the UK is currently creating ill-health.

How did you initially set up your groups?

I asked my practice manager and lead GP if I could run groups, and they said yes.

What do you do in your groups?

Each session is up to an hour with a brief check in for each participant at the start. We usually talk about what recipes they've been cooking and what successes they've had. Then we get into that session's presentation and at the end we have a discussion on recipes, challenges, suggestions and further research. I present 8 sessions that cover; low-carb basics, low-carb food swaps, food labeling and advertising, stress management, movement/exercise, sleep and intermittent fasting, how to eat and lastly, a recap of all the sessions.

What results have you had?

Anecdotally, good results from the 5 who finished the first course of 8 sessions.

Testimonial from a group participant

"Since changing my diet I seem to have been able to stabilise my glucose readings. I think it is a slow process but I will not try to tackle lowering them even more. It seems the low-carb diet is having a good effect on me as I have managed to lose about 4kg over the period."

"I am glad to say that overall I have been enjoying the foods in the green zone [from Dr Peter Brukner's book 'A Fat Lot of Good' (<https://www.fatlotofgood.com.au/resources-1>)] for some months now and whilst the weight loss is slow it is going down and not up. The main thing is that I actually really enjoy my low-carb food, I don't feel like I am on a diet and I am definitely feeling better for being 3 stone lighter and getting out for a 5 mile walk most days."

*Carol Freeman (General Practitioner, PHC Ambassador - carol.freeman6@nhs.net)
& Linda Bridges (Nurse Practitioner, PHC Ambassador - linda.bridges@nhs.net)
Woburn Sands, Milton Keynes*

Why did you set up a support group?

We were very impressed by the results of Dr David Unwin's team and wanted to replicate them for our own patients as well as helping transform dietary guidelines for the better through the PHC.

How do you go about advising your patients?

Individual appointments and signposting to resources like the Freshwell Project website (www.LowCarbFreshwell.co.uk). We also run a virtual group education program, which we recently trialled for the GP practice staff.

What do you do in your groups?

On our online 6 week courses, we go through Dr Unwin's diet sheet and infographics as well as resources from the Freshwell Project (www.LowCarbFreshwell.co.uk), DietDoctor.com and cook books such as What The Fat (www.WhatTheFatBook.com).

What results have you had?

Really positive! Reduced HbA1C, pre-diabetes reversal, weight loss, reduced blood pressure, reduced medication and better wellbeing.

8 out of 9 participants found the group extremely useful, with 1 finding it very useful. All 9 participants felt like they had achieved something as well as all participants feeling more interested about food. 8 participants also felt as though their overall mood had improved and 7 participants said their energy levels had increased as well as being able to handle stress better. Although all participants lost weight only 2 had increased their level of physical activity. The average weight loss was 3.2kg with 5.4kg being the most lost by one person and 1kg being the least lost. Lastly, all participants said that they would like to do a follow up session in 2-3 months time.

Why did you set up a support group?

After a PHC conference in 2018 I learnt about the value of the real food low-carb approach and wanted to share it more widely. A prime example was being able to help an 84 year old man come off of insulin and improve his kidney function. Using a continuous glucose monitor (CGM) some of my GP patients and private clients have seen this different way of eating in action. I am hopeful local NHS services will soon benefit from it.

How did you initially set up your group?

I hired a local village hall where I hosted talks and cookery workshops. I also organised cafe trips for our diabetic patients. I invited interested people to join a support group in the hall and ran another in the waiting room after surgery time. The latest two are now run online.

What do you do in your group?

I start by inviting participants to write down their hopes, aims and measurements. I send short videos by email on “fats”, “food labels”, “protecting your metabolism holistically”, “fasting” and simple explanations of physiology. In the groups we discuss and support rather than simply disseminating information. I also signpost to websites with lots of resources such as the PHC (www.PHCuk.org) and DietDoctor.com, David Unwin’s sugar infographics and the Real Meal Revolution and Caldesi Books.

Also, I find testing people with an ECAL indirect calorimeter gives them valuable insights, helping them monitor changes in their metabolism and successful improvements in fat burning even before they see any weight loss.

Testimonial from Dr Martin Beckers (Senior Partner)

“Dr Sue Beckers has acquired a wealth of knowledge on nutrition through validated study and constantly reviews the evidence. She is proving highly effective in helping people improve and even reverse their diabetes and prediabetes with and without weight loss through a low carb approach. I know many very grateful patients.”

Testimonial from group participants

“My energy levels have increased hugely and my appetite has reduced. With diets I have tried in the past, I feel like I’m constantly craving food, but with this diet I don’t tend to think about food at all between mealtimes. I am really enjoying the food I’m eating, it’s fresher and tastier than the food I was eating before the diet and I don’t feel like I’m depriving myself of anything.”

“Being 79 years old, I was very anti-changing and saw no good reason to lower my weight but now I have learned to cope with the changes in my food menu and it does not impinge too much on the family. Learning to balance the carbs and understanding their value in each day’s menu helps me not to see it as a diet but a comfortable way of eating. It gave me a slimmer body shape (2 stone lighter) and I’m able to move more easily to tie up my shoes! After a meal, I feel full but not bloated and don’t look for quick snacks.”

“After 10 months and 5 stones lighter, my HbA1c went from 54 to 46, which is still pre-diabetic but

is officially 2 below diabetes. Tying up shoelaces, bending over and walking upstairs are now as if I was twenty again - well, not quite, but almost! I have more energy, more staying power, can stand much longer and have not had any indigestion or recurring back problems. Also, the diabetic neurological symptoms such as tingling fingers and toes disappeared. What's more, many people have said how well I look which is most encouraging and certainly how I feel."

"I have recently switched to a low-carb diet, and can honestly say it was the best decision I've ever made. I have so much more mental and physical energy. I am no longer craving the next meal to give my brain a boost, and don't feel hungry in the same way at all. My mood is stable throughout the day, I don't get faint and nauseous at all. Weight loss has been steady. My skin is glowing, and I am the happiest I have ever been! People have commented on how much more happy and energetic I seem. I would never go back to a 'balanced healthy diet' that is traditionally recommended; low-carb is definitely the way forward!"

What results have you had?

2018-2019: 67% experienced an overall reduction in HbA1c at 1 year. 78% reduced weight. x5 reduced or stopped their diabetic medication. 25% of the diabetics no longer had an HbA1c in the diabetic range.

2019-2020: Please see table below for interim results.

	Months On Low-Carb	HbA1c Start (mmol/mol)	HbA1c Current (mmol/mol)	Weight Start (kg)	Weight Current (kg)
Patient 1	2	128	47	96	96
Started on insulin at 26iu in May. Since LCHF with monitoring dose reduced to 8iu a day with better BG control. Stopped amlodipine and gliclazide. Improved liver and kidney BT and exercise capacity.					
Patient 2	6	63	61	81.6	73.9
Using CGM stopped gliclazide and sitagliptin. Only on metformin now. <i>"No sweet cravings, and full of energy for the first time in years."</i>					
Patient 3	7	47	43	53	50
<i>"Exciting to be taking control of health and avoiding diabetes with the right information."</i>					
Patient 4	15	47	42	70	74
<i>"Able to reduce omeprazole by 50% Great to be doing this with support and the group."</i>					
Patient 5	5	56	52	96.6	83.5
<i>"Easy and delicious. Feeling re-energised, positive and slimmer."</i>					

Table continues on the next page.

	Months On Low-Carb	HbA1c Start (mmol/mol)	HbA1c Current (mmol/mol)	Weight Start (kg)	Weight Current (kg)
Patient 6	18	N/A	44	92	77.8
<i>Waist reduced from 112 to 95cm. "More energy, better mood, enjoying food, feeling more alive, much reduced paracetamol for my joint pains, improved self-image. Enjoying being more in control of appetite."</i>					
Patient 7	1.5	37	N/A	91.5	89
Patient 8	1.5	49	N/A	119.3	117
Patient 9	2	44	42.1	57	56.1
<i>"Exciting to no longer crave carbs."</i>					
Patient 10	2	N/A	N/A	59	57
<i>"Waist reduced 96 to 90.7cm without feeling hungry. Improved digestion. Feel more in control."</i>					

Why did you set up your support group?

To help more people discover the health benefits of a real food approach.

How did you initially set up your group?

Regular contact with a local GP for my initial group and then the Primary Care Network Clinical Director in a different PCN contacted the PHC to ask for help setting up support groups.

What do you do in your group?

We start with an information session, explaining the programme and approach. We then ask people to register online and host 6 sessions, which run for 90 minutes each on a fortnightly basis. We cover carbohydrate physiology, how to live a low-carb lifestyle, avoiding processed food, how to read food labels, behaviour change, dealing with eating out and holidays, lapse and relapse, sleep, exercise, intermittent fasting, stress reduction and gut health.

What results have you had?

In the most recent group, we had huge interest and were able to run five groups simultaneously via Zoom, with two PHC ambassadors to facilitate each group. We weren't sure how well it would work, but just about everyone preferred it to face to face sessions. If anything, Zoom has made these sessions more accessible to participants, and easier for ambassadors from around the UK to collaborate.

All participants (including those who joined the group to support a partner or family member) lost weight, which ranged between 2.7kg and 11.3kg. With waist circumference, blood pressure and HbA1c all trending downwards. The two participants who were on insulin both reduced their requirements. One individual went from 68 units a day to 58, and the other went from 120 units a day to just 20 units a day. 28 participants are now enrolled on the subsequent course in the same Primary Care Network.

Testimonial from Dr Natalie Smith (General Practitioner & Primary Care Network Clinical Director for A31 Group, North Hampshire)

"I asked Lou if she could run a Low-Carb course for some of our patients. We had great plans to go ahead, and then covid-19 arrived and we went into lockdown. After discussion we went ahead, with 5 separate groups, run remotely over Zoom – and I'm so glad we did! Lou and her team of facilitators led the patients through a series of 6 highly informative and interactive sessions over 12 weeks and the results and feedback were so positive. At the end of the course an average weight loss of 6.6% of body weight, and an average reduction in systolic blood pressure of 12mmHg. One participant reduced their daily insulin dosage by 100 units! We will certainly be running another course soon and spreading the word about the all-round health benefits of a low-carb approach."

Testimonials from group participants

"It's been the easiest way to lose weight that I have ever tried and I'm delighted with the HbA1c results."

"You can change your lifestyle using this course. They give you help all the way."

"Don't feel bloated after a meal." "Feel better physically." "My confidence has improved."

"Feel positive about my health – have learned how to improve things."

"My resting heart rate has decreased." "An excellent and life changing course."

"Brilliant course." "Eye opening." "Just – thank you."

"Thank you – you got me back on track." "A positive and helpful twelve weeks."

"Course was brilliant and both my wife and I have gained enormously from the content. Thank you."

Why did you set up a support group?

Having felt so much better from putting my pre-diabetes into remission and sustained weight loss, I wanted to share this approach with others.

How did you initially set up your group?

I advertised in my village magazine.

How are your groups run? And what do you do in your groups?

We've been hosting them virtually since March on a monthly basis. We support participants with ideas and help them with goal setting. It's vital that we provide ongoing support for those who want to follow this way of eating.

What results have you had?

In short, we've had great results. One person is no longer facing bariatric surgery alongside reduced blood pressure. Some are now expressing their satiety by only having two meals a day.

Testimonials from local healthcare professionals

"I still feel amazed by the results our patients are getting with this change in lifestyle. Their diabetic readings improve and sometimes even go into remission. They lose weight and their waist circumference shrinks. But most importantly they feel fantastic; full of energy and I can practically see them glow with health. More needs to be done to spread the word and encourage both health care professionals and patients that they are more powerful than any medication when they make lifestyle changes embracing a low carbohydrate real food way of life." Dr Nicky Wilson, General Practitioner at Aspen Medical Practice, Gloucester

"It has been an enormous privilege for me to work with a fantastic bunch of patients and colleagues who all embrace the benefits of managing health through lifestyle change. We never fail to get excited and to celebrate the patients success stories together. Our diabetic nurse team really enjoy the one-to-one work with patients, especially as overall the results are more dramatic with far fewer drugs. Many of our practice staff have embraced Real Food Low Carb and some have put their diabetes into remission.

We have a large team of clinicians at Aspen but they all promote the Eat Real Food programme. The Eat Real Food Patient Support Group run by Millie and team has proven to be an extremely important part of this whole programme because patients value and need the ongoing peer support. Due to safety considerations with the Covid-19 pandemic, we had to pause the structured evening group sessions but we are just about to launch our programme online and it's called Eat Real Food Bite-Size.

For myself, working on lifestyle approaches to manage chronic disease has injected energy back into my career and work life. I humbly submit that my patients are my best teachers as I have

learnt a lot from all the ups and downs in the journey together. Unfortunately patient education alone is not enough for many folk and greater resources have to go into lifestyle nursing and health coaching too. I believe that patient support groups will be the bedrock on which health communities will be built and the way to bring community back into the heart of primary care.” Dr Sam Kuok, General Practitioner at Aspen Medical Practice, Gloucester

Testimonial from a group participant

“After a cruise at the end of last year, I returned having put 4kgs on and I was definitely feeling it. My clothes were feeling uncomfortable and I was well into the overweight range.

I started the diet soon afterwards – basically by limiting obvious carbohydrates such as potato, pasta and rice but also by checking the carbohydrate/sugar content on all packaging.

I lost nearly 13kg in around four months. I am still maintaining the diet and have lost another 1kg since then. My clothes, need it be said, are loose and I feel a lot healthier and happier because of it.” Anonymous 70 Year Old Man

Why did you become a PHC ambassador?

We wanted to increase awareness in the local north Leeds community about how making simple diet and lifestyle changes could positively impact health. We support those living with pre-diabetes or type 2 diabetes to make healthier food choices, and create a community group where members can support each other with their health journeys.

How did you initially set up your group?

Through local networking we were fortunate to be offered use of a meeting room at a health clinic. In October 2018 we held our first Low Carb Leeds group meeting. We've held monthly meetings ever since and when the group expanded in size we moved to a larger room at the local university.

What do you do in your group?

We cover all aspects of healthy low-carb eating, including the why and how, plus many other topics including sleep, stress, what are healthy fats, how to understand food labels. We also have break-out sessions where table groups get to know one another better by completing tasks such as designing a low-carb daily menu or coming up with low-carb breakfast ideas.

What results have you had?

From member's feedback we know that many have lost weight as a result of becoming carb-aware. Especially the fat from around their middle. Some have even put their type 2 diabetes into remission. The feedback I hear most often from members is they love the support that they get from each other, especially those newly diagnosed, as it can be a very scary time. We have also given talks to GPs in Leeds and Doncaster to spread awareness of the PHC message and the positive impact on health outcomes.

Testimonial from Dr Neil Shaw, Leeds

"I am greatly indebted to all of those people of the Low Carb Leeds group, particularly Glyn Wainwright and Sarah Thomas, who have shared their knowledge and experiences and have provided superb support to put the 'pieces of the jigsaw together' to enable me to successfully make lifestyle changes for the betterment of my health."

Testimonial from a group participants

"One year after starting my low-carb way of life my latest HbA1C reading is 42mmol/L. This means that not only have my blood sugars stayed under the diabetic range without requiring any medication since January of this year, but they've improved further during that time."

"Thanks to Low-Carb Leeds (www.LowCarbLeeds.co.uk) I've dropped five inches from my waist and I'm now wearing those beautiful clothes I put to the back of the wardrobe years ago!"

Why did you become a PHC ambassador?

Having already been a volunteer for PHC, I joined the ambassador program to help inform healthcare professionals and the public about the impact a real food low-carb lifestyle can have on health. Following this lifestyle has enabled me to put my type 2 diabetes into remission for over 4 years.

How did you initially set up your group?

With the support from my local GP, we designed a very practical 8 week group course. As a result of COVID, the groups are now being delivered online.

What do you do in your group?

Over 8 sessions we cover goal setting, how to track your progress, what foods affect blood glucose, how and what to cook, low-carb food tasting, food labels and marketing, alcohol, being more active, intermittent fasting, eating out and what to do when you've regressed.

Testimonial from healthcare professionals.

"Andy ran two consecutive 8 week programmes, which saw a take up of over 40 patients who either significantly reduced their HBA1C or made lifelong eating habit changes to do so.

His work enabled group members to continue to support each other by providing them with a tool kit of steps to make informed lifestyle choices about low carb which in turn saw reduced visits to GPs and Diabetic nurses.

The groups are still running remotely during the pandemic as a result of his initial support to them."
Dr Faisal Maassarani (GP) & Cathy Connolly (CEO Care Merseyside)

"We were delighted to pilot the Low Carb Programme at Belle Vale Medical Centre, it was a 6week course held for patients who were recently diagnosed with diabetes and who were overweight. The programme was informative for both patients and staff. Some of the information went against traditional 'dieting' and diabetic advice, but provided current and up to date evidence on how to help people improve their sugar levels, cholesterol, lose weight and improve their overall wellbeing. We had very positive feedback from patients and are looking to repeat this course in the future. Not only did it encourage our patients, but it also inspired our staff members – one of our GP's has lost 3stone and now runs the ParkRun most weekends!" *Dr Naomi Rankin (GP)*

Testimonials from group participants.

"I enjoyed the support from the group, and learning about how food labels have tricked us."

"Learning about sugar and hidden sugars has been incredibly eye opening."

"This course has been an eye opener to what I have been doing wrong since being diagnosed with diabetes."

"Andy helped me so much and Gemma was a lovely support."

“Have discovered I don't need potatoes, and the alternatives to the regular unhealthy foods.”

“Very pleased. I am going to change the way I cook. Starting from scratch, real foods. I am going to share what I have learned with my family to help them live a healthy life.

“I can now touch my toes! I cannot remember the last time I could do that! I can get up from my chair quicker. For five years I let myself go after my husband died. This group has given me a new lease of life.”

“I have lost 12lb in the 8 weeks and feel mentally clearer and a lot more motivated to exercise.”

What results have you had?

Patient Number	Starting HbA1c	Current HbA1c	Starting Weight	Current Weight	Will you continue?
1	94 mmol/mol	71 mmol/mol	78 kg	70.1 kg	N/A (Insulin down from 32 to 14 units.)
2	N/A	N/A	79.8 kg	77.1	Yes
3	39 mmol/mol	N/A	86.2 kg	83 kg	Yes
4	N/A	N/A	N/A	N/A	Yes
5	33 mmol/mol	N/A	62.6 kg	61.2 kg	No
6	46 mmol/mol	N/A	101.2 kg	103 kg	N/A (Had stress, anxiety and sleep issues.)
7	44 mmol/mol	N/A	90.7	84.4	Yes
8	47 mmol/mol	39 mmol/mol	157kg	145.1kg	Yes
9	37 mmol/mol	N/A	104.8 kg	100.7 kg	Yes
10	62 mmol/mol	N/A	86.2 kg	82.6 kg	Yes
11	63 mmol/mol	N/A	88.9 kg	79.4 kg	Yes
12	50 mmol/mol	49 mmol/mol	90kg	90kg	Yes
13	N/A	N/A	N/A	N/A	Yes
14	40 mmol/mol	N/A	N/A	N/A	Yes
15	N/A	N/A	92.1 kg	86.6 kg	Yes

Why did you start using this approach with your patients?

After years as a practising community pharmacist, I reached the conclusion that this "pill for every ill" approach isn't actually healthy. Nor is it financially sustainable for the NHS. There had to be a better way. So I went back to the basic science I'd learnt all that time ago at University and looked for the root causes of our problems. It turns out that lifestyle is key. If you know what spikes your sugar, you can prevent so many lifestyle-related diseases which we find clustered together.

How do you go about advising your patients?

Currently I advise on a one-to-one basis, mostly via virtual appointments.

What and how do you advise your patients?

I've developed my own resources but I frequently use PHC resources, such as Dr David Unwin's sugar infographics and the YouTube channel (www.youtube.com/PHCukorg). Also, I recommend DietDoctor.com and the Caldesi diabetes cookbooks (www.caldesi.com/shop/cookery-books).

What results have you had?

We haven't been able to compile results yet but using standard GP biometric data, we know we can reverse metabolic syndrome in 8 weeks.

Testimonials from patients

"Lost a total of 10kg, my visceral fat is now well within the normal range and my BMI is under 25 for the first time in about 3 decades!" Lynne (Ex-Nurse)

"After three months I had lost around 23kg and my blood pressure had dropped. A year after starting the programme my weight is stable." Jeremy

"I've lost 8kg, my blood pressure has come down so far that I've been able to reduce my medications. My liver enzyme tests are now normal and I am no longer pre-diabetic." Mariola (Diabetes Nurse)

"Over the last three months: my blood pressure has returned to healthy levels, according to my doctor, my fatty liver has all but gone, I've lost nearly two stone and I've enjoyed it!" Chris

"My blood pressure has reduced, my weights reduced, my skins better, mentally I feel better, I physically feel better and I'm receiving all the nutrients." Roshni

"3 months on I have dropped my waist size to 36 inches and my sleep apnoea seems to have gone! I feel 10 years younger." Stuart (NHS GP)

Why did you start this approach with your patients?

Due to diabetes and morbid obesity being very high risk for COVID mortality and morbidity. I decided to try and target those most at risk to reduce their BMI in preparation for the second wave.

How do you go about advising your patients?

These are done face to face in a planned session, with a GP and diabetes practice nurse. We were going to do video conference calls, but visiting restrictions were removed by the time we started.

What and how do you advise your patients?

The diabetes practice nurse screens the patients in her general diabetes clinic to assess if they are prepared to consider low-carb nutrition. We also recommend patients purchase their own copy of the Caldesi diabetes weight-loss cookbook (www.caldesi.com/shop/cookery-books). I wish I could give it out for free, as it would save the NHS money.

Also, where possible, I encourage the use of a smart watch and fitnesses apps, mainly to count steps and quantify carbs. Seeing this type of data is great for motivation and they also provide graphs of weight loss.

What results have you had?

We have only just started, so the numbers are small but we already have one patient who's been able to discontinue their insulin treatment. Based on the 5 patients we've been working with, the average duration on the diet so far is 9 weeks with an average weight loss of 7.96kg, which ranges between 15.4kg and 3.8kg.

Why did you start this approach with your patients?

We were inspired by Dr David Unwin's success in reducing type 2 diabetes using a low-carb approach. Our previous approach (switch white carbs to brown, reduce fat, count calories, exercise more) wasn't working.

How do you go about advising your patients?

We use a combination of telephone/face to face appointments, emails, AccuRX. We did run group sessions in January and February but these stopped due to the pandemic. We're about to restart the group sessions.

What and how do you advise your patients?

Alongside Dr Unwin's sugar infographics (www.PHCuk.org/sugar) we use the brilliant Unwin diet sheet (www.PHCuk.org/UnwinDietSheet). On top of this we host our own website (www.HealthyHart.co.uk) to share our recommended resources.

What results have you had?

We have observed significant improvements in control of type 2 diabetes in our patients since we began recommending carbohydrate restriction in 2018. It is apparent that patients who follow a carbohydrate restricted diet gain better control than patients who do not. 18.5% of our patients living with type 2 diabetes have reduced their HbA1c to less than 48mmol/mol using diet alone. We have also seen significant improvements in weight, and in several cases, lipid profile, blood pressure, migraines and joint pains.

As a GP, it's really rewarding to be seeing improvements in my patients' health since using a low-carb approach. This feels a much safer approach particularly as it involves using less medication. Prescribing multiple drugs, particularly in elderly patients can sometimes lead to side effects/adverse events. It's also very rewarding to see patients taking back control of their health.

Testimonial from the Hartland Surgery Nurse Practitioners Team

"It definitely works!"

Testimonials from patients

"I wish I'd known about this sooner."

"This type of eating really makes sense."

"Thank you for opening our eyes."

Why did you start this approach with your patients?

Working with patients who are living with insulin resistance and type 2 diabetes, I have seen the benefits of a low carbohydrate diet. Dr David Unwin's sugar infographics (www.PHCuk.org/sugar) have helped with consultations, patients have related to the clear information and results have improved.

How do you go about advising your patients?

One to one appointment's enable an individualised approach, which is often appropriate. However I am aware that often information is repeated and losing the opportunity of patients learning from shared experience through group sessions.

What and how do you advise your patients?

Timing of advice is key and patients may be ready to take control after a new diagnosis or lifestyle change. Small achievable, patient chosen goals with measurable follow up. Following the consultation, I usually send the link or print out resources from the PHC website (www.PHCuk.org/booklets). Some patients like seeing their anonymous data in comparison to others and sometimes have a competitive drive to improve their results. Deprescribing medication following improved results, generally feeling better and the ability to be more active having lost weight can be an incentive to maintain this approach.

What results have you had?

Starting Date	Most Recent Date	Starting Weight (kg)	Most Recent Weight	Starting HbA1C (mmol/mol)	Most Recent HbA1C	Comments
1/18	10/19	N/A	N/A	106	45	Able to have knee op. and stopped medications.
7/19	01/20	72	64	98	48	More energy for walking and grandchildren.
8/18	01/20	103	94	85	61	Reduced blood pressure medications.
12/15	02/20	N/A	N/A	116	57	Anxiety reduced and is able to work full time.
01/18	12/19	N/A	N/A	70	49	<i>"I feel so much better and have more energy."</i>
09/19	02/20	N/A	N/A	106	51	<i>"I didn't realise how much sugar was in stuff."</i>
05/19	03/20	N/A	N/A	57	44	N/A
01/20	04/20	147	140	63	59	<i>"No carbs, feels good, more energy."</i>
12/19	05/20	84	78	86	40	N/A
10/19	06/20	87	75	54	39	N/A
05/20	07/20	N/A	N/A	60	48	N/A
01/20	07/20	N/A	N/A	60	48	N/A
10/19	06/20	87	75	54	39	N/A

Why did you start this approach with your patients?

Discovery of a low-carb lifestyle approach via external reading.

How do you go about advising your patients?

Appointments.

What and how do you advise your patients?

We signpost patients to our own website (www.LowCarbFreshwell.co.uk), which has lots of resources on it. We are also in the process of starting health coaching groups via Zoom and have developed our own Low-Carb Coaching Facebook page and Whatsapp support group.

In addition, we use Dr David Unwin's sugar infographics (www.PHCuk.org/sugar) regularly to educate patients and our own information sheets to get patients started, which includes our 4 week meal planner with recipes.

What results have you had?

Personally, I've been able to de-prescribe many patients' medications and have taken 6 patients with type 2 diabetes off insulin but our patient community at large have lost over a tonne in weight (1,000kg) over a 12 month period. You can read our full results via the audit on our website (www.LowCarbFreshwell.co.uk/freshwell-low-carb-audit-oct-2019/).

Discovering how this approach can help my patients has been a life and career changing event. In 20 years of medical practice I have never been able to de-prescribe previously and seeing the smile on a patients face when you can tell them their diabetes or hypertension has gone into remission and they no longer require medication is priceless. I would encourage any healthcare professional to try this approach - they won't look back and their practice will never be the same again.

Testimonials from Dr David Oliver, General Practitioner at Freshwell Health Centre.

"I am a 52 year old GP working at Freshwell Health Centre. As I have been recommending the low carb lifestyle to my patients, I thought I'd better try it myself. I have enjoyed long distance running for many years, but even with all that exercise (typically 30 miles a week), I have never managed to get down to my target "racing weight" of 11st 2lb.

I've now been living a low carb lifestyle for only a few weeks and I have also been experimenting with time restricted eating but I am already down to my target "racing weight". I was never fat on the outside, so I can only assume that I must have been Thin on the Outside Fat on the Inside ("TOFI").

It's early days, but I am quite staggered by the transformation I feel in other ways too. I feel healthy, younger and I have so much more energy than I have had for years. I don't get gastric reflux any more. My blood pressure was borderline for a while but has now normalised. My muscles hurt much less when I run. I'm looking forward to seeing what happens when I run my next marathon burning fat not carbs. A low carb lifestyle is so much more than just losing weight. I'm hooked!"

Testimonial from a patient.

"I have tried many diets before including the Cabbage Diet and the Slimfast plan. The Cabbage Diet worked well and I did lose weight, but once off the diet, the weight crept back on again.

The best thing for me about the low-carbohydrate diet is that it was simple – I just had to cut out flour products, rice, pasta and potatoes and could eat fat and protein, which taste good. The first few weeks the weight just fell off, then it started to slow down until I reached my target weight of 13 stone. I now feel so much better in myself and have bought new clothes and am always looking in the mirror at myself and asking myself 'Where has that belly gone?!'

Lastly, I am also off my blood pressure tablets as they are no longer needed. If you are struggling to lose weight or want to try and reduce your medication I would highly recommend you give the low-carb lifestyle a go – it has changed my life."

Why did you start this approach with your patients?

When I came to the UK, I offered my nutrition guidance services voluntarily to the more deprived communities and began to see the extent of malnutrition and misinformation amongst young families in particular. I saw children's lunch boxes that looked like they had been created in a sweet shop and with my own personal experience of food addiction I felt compelled to find a platform where parents and adults would be likely to take more notice.

I contacted our local MP who referred me to a surgery in Crawley, where I launched the concept of my services that became known as the *Salutogenic Model of Healthcare* as opposed to the traditional pathogenic focus on pathogens. By basing myself in a primary care setting, I could focus on helping patients with salutogenesis, ie; focusing on wellness through nutrition and lifestyle, whilst the clinicians could continue to do their bit helping eradicate the pathogens.

Although my dream was to continue working with families with young children, to avert further nutrition and lifestyle disasters for individuals as well as society as a whole, and that I was seeing in the making, the surgery in question preferred to use my services for diabetic and prediabetic patients as a priority.

It is a very simple concept: Where a nurse or doctor considers the patient is not controlling their blood glucose, and has the capacity and motivation to try to make dietary and lifestyle changes, they refer the patient to me.

How do you go about advising your patients?

I work with a set of programmes and try to tailor these to the needs of the patient. No one-size fits all, but there is a lot of common educational ground as well as common challenges and experiences that allow patients to also benefit from participating in sessions together with others. A crucial part of what I offer is also to engage a partner, spouse or family member, especially if the patient either does not get involved in food choices, shopping or cooking or does not speak sufficient English to participate alone.

I use structured educational programmes such as X-PERT Diabetes (www.XpertHealth.org.uk) and I supplement this with Huntsland Nutrition material and discussion workshops based on subjects of interest to the groups. This involves reviewing topics as diverse as why fats don't make you fat, the gut-brain connection, analysing restaurant and take-away menus, sleep and downtime and many more. I use a mixture of lectures, facilitated discussions and external speakers.

Most patients are mature adults with plenty of life experience, often sadly including plenty of experience of countless tried and failed diets. But this means that the patients themselves are fonts of knowledge that is worth sharing. As such, patients also advise and inspire each other. So, I have worked in 'classroom settings' for group consultations and workshops but since COVID struck, I have done all group consultations via Zoom. I also provide 1-2-1 consultations where I see that is needed - also via Zoom or other virtual meeting platforms.

What do you advise your patients?

One of my 'soap box' subjects is taking responsibility for our own health. I want all my patients to know their "Health Numbers" like they know their bank number & balance. So, I spend time on building understanding of the link between physiology, nutrition and lifestyle. I am also originally a Chemical Engineer, so I like the biochemical aspect of how natural nutrients form the building blocks of natural healthy bodies and brains.

In diabetes it boils down to simple messages like the fact that it makes no sense to continue eating the foods that put glucose directly into our blood or increase our production of the fat storage hormone insulin, if we want to reduce blood glucose or use up our fat stores.

Patients get that, because it is based on simple logic and as long as they are helped to understand the connection between macronutrients and their purpose in the human body and brain.

I also do not mince my words about the power of advertising and the purpose of most (processed) food packaging: The 5th P in Marketing: Packaging is for Profit. I try to help people become analytical about what they are about to spend their money on - whether it is in a restaurant or in the shop - so they themselves make the decision based on knowledge not on advertising slogans or ignorance.

I also advise patients to use their sessions with me to get to know themselves better. I always try to help convert the theory into 'what does this mean for me?'. Food addiction is a horrible and often life-long battle, but it can be dealt with successfully if people learn to see the signs and acknowledge their struggles, so they can seek help. Most people are so busy working, looking after children or ageing parents or rushing from one activity to another, to set aside time to get their own house in order before their disease leads to the terrible comorbidities we dread in diabetes. I consider their sessions with me are their 'breathing space' to focus on themselves and their own health for once. I try to encourage people to; 'put their own oxygen mask on first, before trying to help others, or before trying to do anything else for that matter!

What results have you had?

We currently have 27 patients on the programme from 2 participating surgeries. In the first 6 months, 14 patients lost an average of 9.1 kg with 11 patients having reduced their waist circumference by an average of 9.7 cm. From the data available, 6 patients have reduced their HbA1c by an average of 21 mmol/mol. 3 patients have so far reduced insulin and 2 managed to reduce other diabetic medications. One patient has come off all diabetic meds and one has reduced his blood pressure medication.

Testimonials from patients

"For the first time in my life I understand different food groups and their impact." Sue

"I've completely changed my approach towards carbs, and now eating much better. I don't have a craving for sweet treats and more plus my weight has reduced on the course! Also, I now have a much better understanding of blood glucose levels. This is a great course because you become your own expert!" Mark

"I managed to reduce my weight by 9kg and my blood glucose from 41mmol/mol to 37mmol/mol. After years and years of not being able to shift any weight at all, to suddenly find I had managed to reduce my weight. I would recommend the consultations to anyone who has a weight or eating disorder, and as soon as the occasion arises, I most certainly will do so." Pauline

"When I was first diagnosed with type 2 diabetes I attended a course run by the NHS (DESMOND) and tried to follow the recommendations as best I could. I reduced my sugar intake to a bare minimum and cut out fat totally. The result of this was basically nothing changed. I found I could not lose weight and my blood glucose fluctuated a lot but never really decreased. I attended this X-PERT Diabetes course with a little scepticism (which is generally my nature). Well did I feel stupid. After 2 weeks I understood more about diabetes than I had done in 6 years. Everything was explained in a clear and concise way which made understanding very easy. Every session was different and very interesting to such an extent that I really looked forward to every new session knowing I was going to learn something new and very worthwhile.

By adopting this course the cost saving to the NHS could be enormous by the reduction in cost to medication and the reduction in the amount of time being spent with the nurse. This course is a win win situation for both the NHS and all patients suffering from type 2 diabetes." Stewart

"I was at my wits end when I started the course 7 weeks ago. My glucose levels had hit double digits, something that I could not get down despite eating healthy (or so I thought), I was constantly fatigued, I ached all over and it took all my strength just to get through the day. I resigned myself into thinking this was it, I had no choice but to resort to insulin. 7 weeks later I have lost 10kg, my diabetic levels are down to 7 and staying there, and it is still early days, I know now I can get this into remission!! I have no more aches or pains and I have so much energy now it's incredible, I haven't felt this good in years!!" Jaz

"I think it is great for partners to do it to understand what the other half has to do, make changes for them to their diet, force food changes and then discuss menus together. I would recommend it to anyone with diabetes as I know how quickly he started to lose weight and get better stats. For me as a WeightWatchers girl it threw everything up in the air that both of us had been taught. For the first time I understood why carbs are such an issue. A lightbulb moment and hoping it helps me lose weight too." Carolyn

Why did you set up a support group?

I wanted to help others. I'd been incredibly fortunate to discover low carb and put my own Type 2 diabetes into remission and I desperately wanted others to see the same benefit. It was important to take the 'chance' out of it and offer patients this proven approach through their surgery.

How did you initially set up your groups?

Sue Cradock, a Diabetes Clinical Nurse Specialist, approached me after seeing a few of my talks and we chatted over coffee. We quickly realised we had the same passion for finding a better option for patients beyond the usual diabetes treatments. We wanted to offer patients an option to set their future health on a different path and the idea of working with her PCN and team of diabetes nurses was born. We put together a 6 week programme and it's been lovely to see the nurses having little trouble in engaging curious patients.

What do you do in your groups?

Patients are offered an introduction week by their nurse via a Zoom video call which gives them the opportunity to hear my story and find out what the 6 week programme is all about. Most are then keen to sign up to the programme where we cover a range of topics and virtually hold their hand through the process. Two of the diabetes nurses within the PCN run the groups with me from start to finish. We also offer a WhatsApp group to post those important meal pics and ask questions along the way.

Testimonial from Sue Cradock, Diabetes Clinical Nurse Specialist

"I have been working in the field of diabetes care since the early 1980's and since the turn of the millennium, I have been increasingly aware of the 'failure' of our traditional approach to supporting people with Type 2 diabetes. My role has been focused on supporting people to live with diabetes and yet over the years I have watched people put a lot of hard work in to improve their health, only for their hard work to make little difference to their diabetes control over time.

I started having doubts about the carbohydrate advice we were giving people many years ago but it was only when I started working in primary care in 2013 that I became really aware of the pressure to prescribe drugs with very little focus on supporting people with lifestyle changes. I was (and still am) fortunate enough to work with a primary care team who trusted my clinical approach to helping people manage their diabetes. Overtime, I became increasingly confident with a lowering carb/increasing healthy fats and eating real food approach. However, this was on a 1:1 basis and I have always been aware of the need to support people through 'group' programmes and the challenge of making this sustainable across an organisation (i.e. that the service didn't rely on one person).

I had seen Mark Hancock deliver talks locally and approached him to see if he would be willing to set and run a group self-management programme focused on a 'lowering carb' approach...and he said yes! We were able to set our groups so that they support people with diabetes across a number of surgeries (primary care network) and now there are a number of practice diabetes

nurses who work with us to deliver the sessions! I am well into my retirement age...however, this work with Mark and my colleagues have given me a sense of purpose and joy in the work...so I am not quite ready to leave it yet! The success of our work can be evidenced not just by the improved metabolic outcomes for people with diabetes but also the commitment of local GPs to keep this work going!

We offer an introductory session to anyone that may be interested and then people can sign up for our 6 week programme (60-90mins in the evening, run via Zoom). We have a structure to the groups in terms of 'content' - the first 2 weeks focus on carbs and fat, and then we move on to exercise, intermittent fasting, stress and sleep. Following our first groups, we have made some changes to the 'process' of delivering the groups (now use break out rooms to ensure that everyone can tell their story) as well as identifying learning needs of those facilitating them!"

Testimonials from patients

"I'm now relaxed and not stressing over what I eat" "I feel better at 71 than I did at 61."

"Love how I now cook from scratch" "It's been easy" "I don't miss the foods I used to eat"

"I was absolutely flabbergasted to the point of tears that after 17 years of diabetes I'd just cut out carbohydrates and it had done it."

"I've got bags of energy, I could hardly trot 50 metres and now I'm running 2 to 3 kilometres a day, and at the end of the run I'm sprinting!"

What results have you had?

	HbA1c Start	HbA1c End	Weight Lost	Medication
Pt. 1	54 mmol/mol	43 mmol/mol	8 kg	N/A
Pt. 2	80 mmol/mol	60 mmol/mol	9 kg	N/A
Pt. 3	63 mmol/mol	46 mmol/mol	3 kg	Reduced
Pt. 4	80 mmol/mol	37 mmol/mol	19 kg	Reduced
Pt. 5	52 mmol/mol	48 mmol/mol	8 kg	All Stopped
Pt. 6	69 mmol/mol	48 mmol/mol	3 kg	No Change
Pt. 7	66 mmol/mol	48 mmol/mol	8 kg	No Change
Pt. 8	60 mmol/mol	44 mmol/mol	8 kg	Reduced
Pt. 9	107 mmol/mol	51 mmol/mol	16 kg	Reduced
Pt. 10	53 mmol/mol	41 mmol/mol	10 kg	Reduced
Pt. 11	78 mmol/mol	54 mmol/mol	11 kg	Reduced
Pt. 12	76 mmol/mol	62 mmol/mol	22 kg	Reduced
Pt. 13	77 mmol/mol	59 mmol/mol	7 kg	No Change

	HbA1c Start	HbA1c End	Weight Lost	Medication
Pt. 14	90 mmol/mol	57 mmol/mol	5 kg	N/A
Pt. 15	64 mmol/mol	52 mmol/mol	5 kg	N/A
Pt. 16	57 mmol/mol	49 mmol/mol	10 kg	N/A
Pt. 17	72 mmol/mol	72 mmol/mol	N/A	N/A
Pt. 18	49 mmol/mol	43 mmol/mol	N/A	N/A
Pt. 19	52 mmol/mol	42 mmol/mol	3 kg	N/A