



Re: Mission

**Learning about the NHS Low Calorie
Diet Programme for people living
with type 2 diabetes**

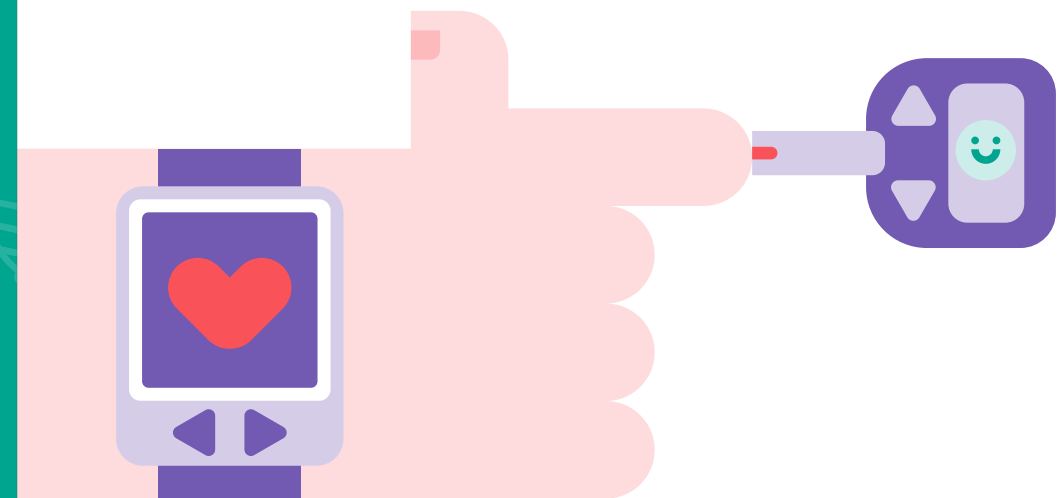
An illustrated summary

The Re:Mission study, alongside work by NHS England, found that the NHS Low Calorie Diet Programme* can support adults with type 2 diabetes in losing weight and improving their blood sugar control, and in some cases, putting their diabetes into remission.

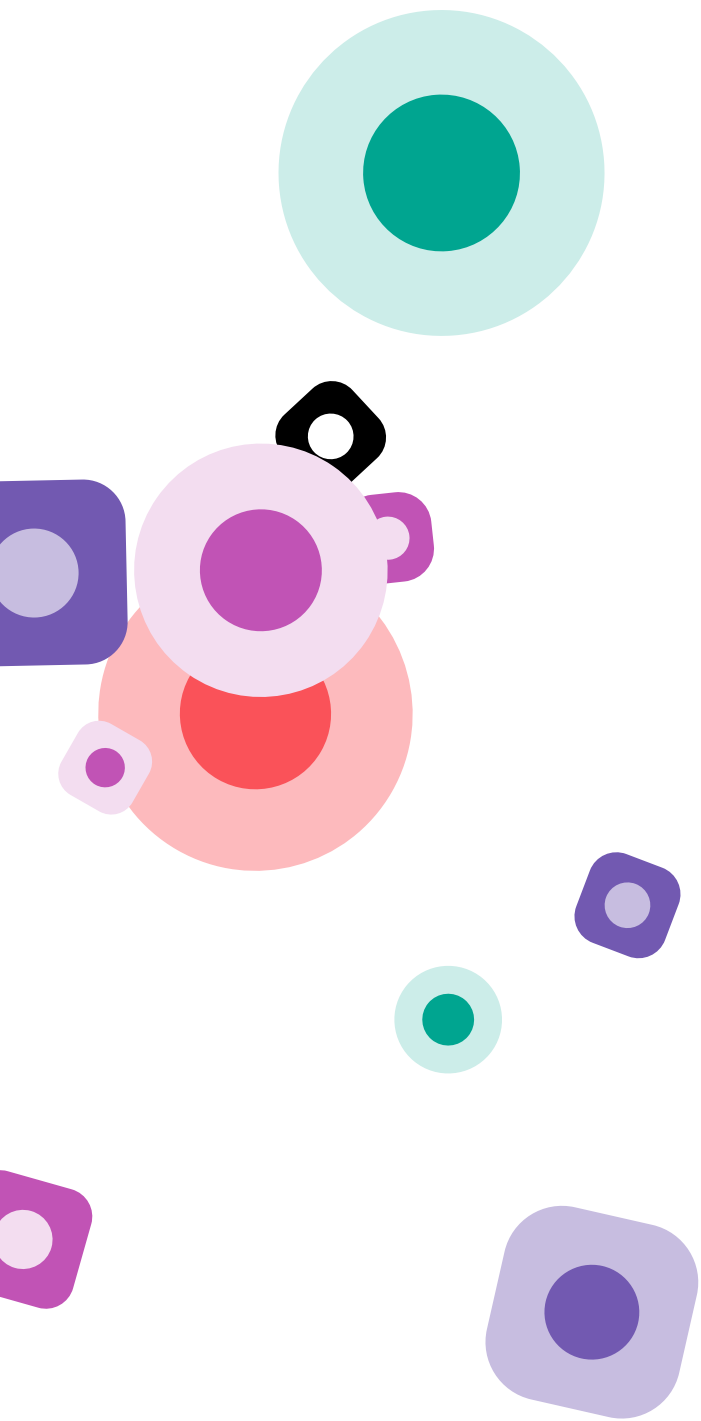
We found some areas that need improvement, and this learning has already helped improve the programme ahead of it being introduced across England.

The Re:Mission study is one of the first and largest studies of this kind. It shows that the results seen in the real world can match those from earlier, smaller studies. However, it is important that we look at the effects of the programme for different patients over the long term.

*now called the NHS Type 2 Diabetes Path to Remission Programme



This journal provides an illustrated summary of learning from the Re:Mission Study and data from NHS England. It is for anyone interested in finding out more about what the Re:Mission study did, what was found and the impact it had.



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What did the NHS Low Calorie Diet Programme pilot look like?

The NHS Low Calorie Diet Programme pilot that this study examined is summarised in the following diagram.

Before starting the programme



1 Referral

The patient's eligibility was assessed and their medication was reviewed, and adjusted as necessary for when they start Total Diet Replacement.



2 Contact

The provider(s) made initial contact with the patient within 5 days of the referral.



3 Assessment

The provider(s) delivered the initial patient assessments, these usually took place within 30 days of initial contact.

Stages of the programme



8 Support Sessions minimum

Patients replaced their current diet with free, low calorie products such as soups, shakes, and bars — they also took additional fibre supplements to support their gut health. This approach provided a safe way to lose weight, which helped kick-start improved glucose control.

Before patients started the programme, their GP or nurse talked to them about whether they needed to stop or reduce their diabetes and blood pressure medication.

In this first phase, weight loss and improvements in blood sugar levels were expected. The rate at which these changes occurred varied for different people.

During the programme, a coach provided support, advice and guidance to the patients.



4 Support Sessions minimum

Patients gradually reintroduced healthy regular foods back into their diet — this was done in steps, starting by reducing the use of low calorie products until they were no longer required. Being more active was encouraged in this phase to support individual weight goals.



8 Support Sessions minimum

The main goal was to make newly found habits around food and physical activity a part of daily life — this was necessary to maintain long-term control over blood sugar levels and weight.

Patients were offered a low calorie product rescue package if their weight regain exceeded 2kg (until week 44).

Rescue package

Life at the end of the programme

Reduction in weight, medication, improved glucose control, and remission where possible.

Some people experienced weight loss and successfully maintained it, others may have re-gained some weight over time. Some people achieved diabetes remission and others didn't.

Why was the Re:Mission study needed?

Recent studies have shown that for some people who live with obesity and type 2 diabetes, a low calorie diet can help them lose weight, reduce their risk of heart disease, and put their diabetes into remission.

The NHS wanted to test whether or not a low calorie diet used in research studies could work when delivered as a service in the real world. To do this, they tested the diet in 10 areas across England. Eligible patients in these areas received low calorie total diet replacement products (e.g. bars, shakes, soups) for 12 weeks, followed by support to reintroduce food and maintain their weight loss for one year. The support was delivered and tested in three different ways: digital technology, group support, and one-to-one support.

The Re:Mission study was set up to find out whether the NHS Low Calorie Diet Programme worked or didn't work, for which groups of people and why.

What was the Re:Mission study?

Re:Mission was a large-scale research study that took place over three years (2020–2023) to help better understand how the Low Calorie Diet Programme worked for different people and whether it was of good value for money for the NHS.

The Re:Mission study team worked with the NHS to answer the following questions.

- Was the programme delivered as the NHS intended?
- Does the NHS Low Calorie Diet Programme help patients to lose weight and improve their diabetes?
- Who does the programme work and not work for, and why?
- What do patients and staff involved in the programme think about it?
- How much does the programme cost the NHS, and were there any unintended patient costs?
- How can the programme be improved for the future?

How did we answer these questions?

- We asked staff involved and looked at patient records to find out what worked and didn't, for whom and why.
- All referred patients were invited to complete a short survey to ask for their views about the programme.
- We looked at the experiences of 67 patients from different backgrounds who took part in the programme. This involved talking to them and asking some of them to share photographs or video diaries that documented their journeys.
- We looked at how much the programme cost the NHS and any unintended patient costs and whether it offers value for money.
- We spoke to different people to understand what could be improved.





The following shows the timeline from the Low Calorie Diet Programme development and where the Re:Mission study was involved:

1 DiRECT trial informed the development of the NHS Low Calorie Diet Programme.

2 The programme was delivered in 10 areas from 2020 and a further 11 areas from 2022.

3 Re:Mission study examined the programme to understand who the programme works or doesn't work for and why, and whether it is good value for money for the NHS.

4 Learning from the Re:Mission study informed the further development of the programme which is now called the NHS Type 2 Diabetes Path to Remission Programme and is available for eligible patients across all of England.



Patient Experience



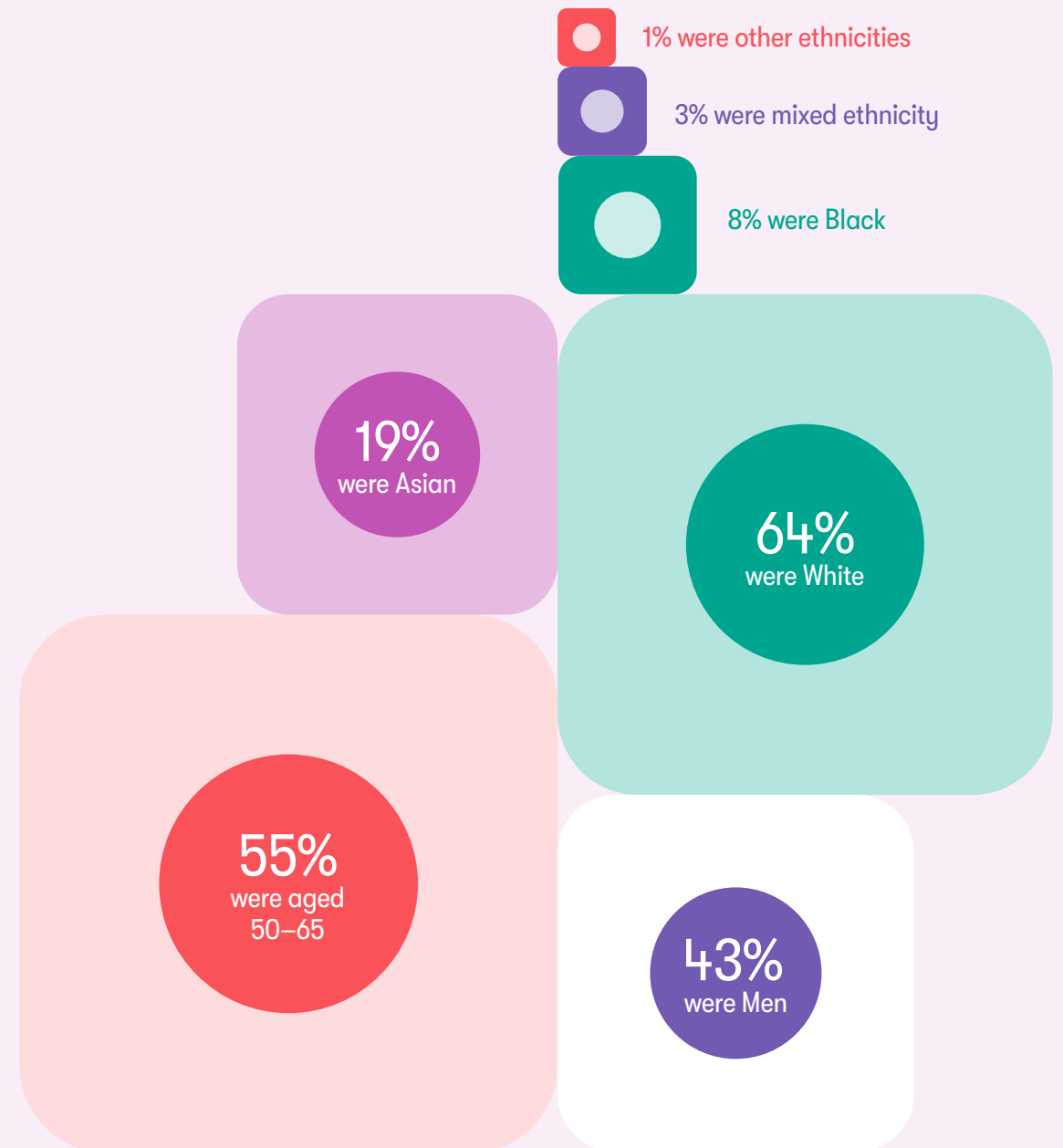
To learn more about life on the programme, follow the QR code to watch our short patient journey film.

This film was developed from the lived experiences of the patients who took part in the Low Calorie Diet Programme and were involved in the Re:Mission study.

remission.study/patient-journey

Referral Experience

Of the first 7,540 people referred to the programme (September 2020 –December 2022):



Referral Experience

People were motivated to be referred to the programme to improve their type 2 diabetes, weight and health.

Although most patients were satisfied with the referral process, some felt more information would help them to make a choice about joining the programme.

A higher proportion of referrals were from those living in the most deprived areas...

26%



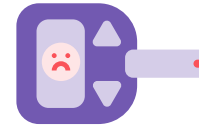
compared to the least deprived areas.

14%

‘My family have been incredibly supportive, and I can’t I stress that enough. It’s really helped me.’

Patient quote

Nearly half (47%) of those referred had a type 2 diabetes diagnosis of less than one year.




66%

of people were taking glucose-lowering medication at referral

Average weight was 109.2kg
Average BMI was 38.0 kg/m²
Average HbA1c was 58.5 mmol/mol

Initial Assessment and Total Diet Replacement Experience

Of the patients who attended an initial (first) assessment (5,115 patients) and started total diet replacement (4,340 patients) during the first 27 months of the programme (September 2020–December 2022):




Younger people, those diagnosed with diabetes 4–6 years before referral, those of mixed ethnicity, and those from less deprived backgrounds were more likely to start total diet replacement.

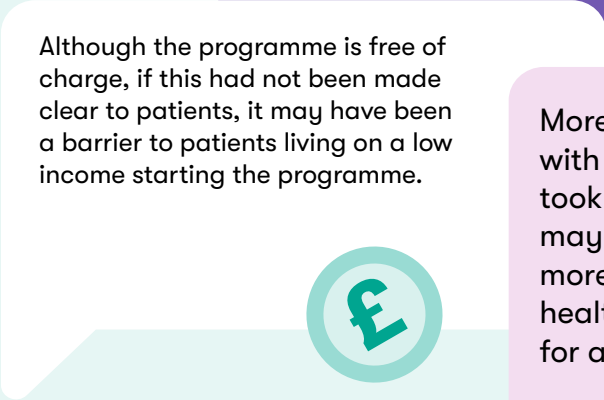
Men, older people, those with a lower starting BMI (25–29) and those of Asian, Black, or other ethnicity were less likely to start.

‘We completely stopped going out because I thought I just can’t, I can’t go in a restaurant or a bar and not order anything.’

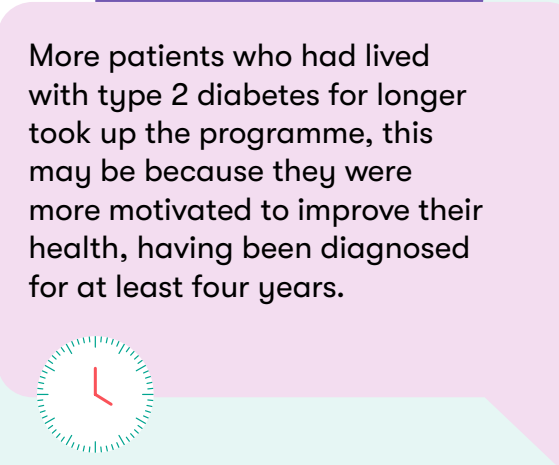
Patient quote



Some patients we spoke to felt the programme could be tailored more for different ethnic and cultural groups – this may explain why fewer people from some ethnic groups started the programme.



Although the programme is free of charge, if this had not been made clear to patients, it may have been a barrier to patients living on a low income starting the programme.



More patients who had lived with type 2 diabetes for longer took up the programme, this may be because they were more motivated to improve their health, having been diagnosed for at least four years.

‘It would be good to have someone to contact rather than “we’ll give you a call back”. And sometimes you know it’s a call centre phoning you back rather than somebody else that’s got any knowledge.’

Patient quote

‘My husband was kind enough to take over all the cooking and shopping and groceries, so I didn’t have to look at food. I would have food at different times. I wouldn’t even sit in the kitchen to have my shake, I would have to bring it to the other room.’

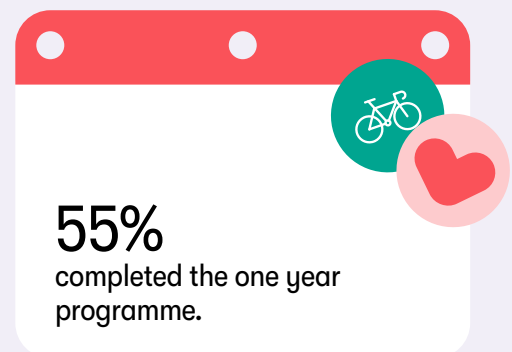
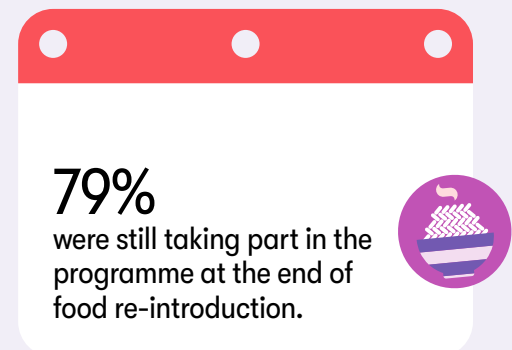
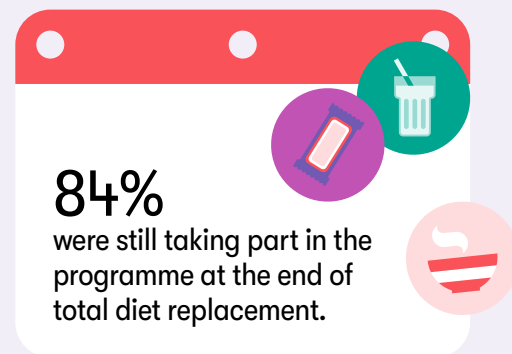
Patient quote

‘I would seriously suggest looking at psychological support. Whether that be about emotional eating or whether that be about depression or mental health or whatever, I would definitely say there’s something missing there about psychological support. It may be that there is in the background, but it’s not made clear to people that this is available to access.’

Patient quote

Food Re-introduction and Weight Maintenance Experience

Of the patients who started diet replacement, (1,710 patients) had enough time to finish the one year programme and had all their data recorded:



Around a third (32%) of patients who completed the programme achieved remission.*

* From the 710 patients who had two HbA1c measurements recorded at the correct timepoints and met the definition of remission where both HbA1c measurements <48 mmol/mol and no glucose-lowering medications prescribed from 3 months before the first HbA1c measurement.

‘It’s hard because, I want the wrong stuff. I wanna go to the naughty but nice food. But again, I’m still educating myself. I’m actually finding these last weeks the hardest. From that phase one to phase two. Getting into kitchen, preparing my snacks.’

Patient quote

People who had lived with Type 2 diabetes for longer than a year were less likely to achieve remission. There were also early signals for potential differences by age, ethnicity and level of deprivation which will need to be assessed further in the future.



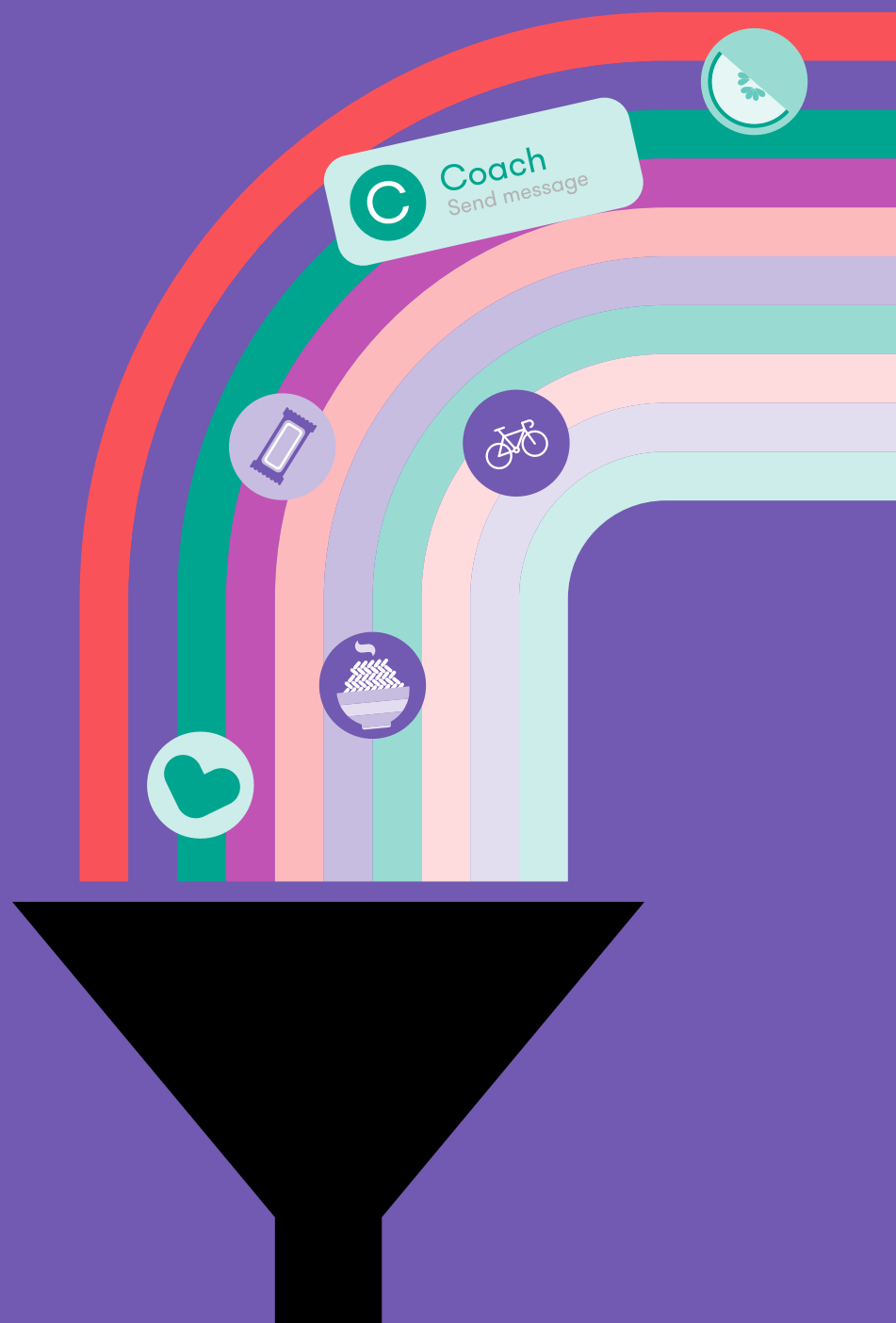
Those living in the least affluent areas, with severe obesity or from a younger age group (18–39 years), were less likely to complete the programme.



Patients of Asian, Black or Mixed ethnicity lost a lower proportion of their starting weight compared to those of white ethnicity.



A summary of what patients felt was important, and improvements that could be made:



- A good total diet replacement product range is required, and delivery must be frequent to avoid storage issues and provide opportunities to try different products.
- The allowance of additional foods for example non-starchy vegetables (such as lettuce and cucumber) or the option of a short pause may support some patients in sticking to the programme.
- Some patients may need additional support to help them when going out, socialising, or with family meals and celebrations involving food, which they found difficult during total diet replacement.
- Variations were found in how the programme was tailored for and delivered to different population groups. Examples of good practice included delivering sessions in other languages, matching the background of coaches to patients, and using tailored resources such as supporting guidance for total diet replacement during religious festivals. Areas for improvement included recipes tailored to multi-ethnic foods, adaptations of traditional cooking methods and culturally adapted meal plans.
- Tailoring the programme to meet the needs of each individual patient and developing good patient-coach relationships was seen by patients as key to success. However, there was variation in how much this occurred.
- Some patients felt they needed support and access to coaches more than they received, particularly during food re-introduction and weight maintenance.
- Many patients were concerned about food re-introduction.
- Some patients who experienced mental health and/or life event challenges whilst on the programme felt more support and flexibility in how the programme was delivered would have been helpful.
- Support from family, friends and other people on the programme was really important to patients' success on the programme.
- There needs to be more to support patients on the programme who struggle with emotional and disordered eating.
- Several patients started buying their own total diet replacement products during weight maintenance, therefore more support maybe needed to avoid a long term reliance on total diet replacement products.
- Some patients felt more support around meal planning would be helpful.
- Patients reported other important benefits of the programme, including improved appearance, ability to be active, social relationships, and health benefits that extended to their friends and family.

Programme Delivery

What did NHS staff think about the programme?

- NHS staff who helped to organise the programme and refer patients to it told us that:**
- The COVID-19 pandemic affected the staff's capacity to be involved in the programme.
 - Some areas experienced different challenges and tried different approaches to address them.
 - Staff turnover, time, and confidence in the referral process could be barriers to referring patients, but when all the different people involved in the programme worked together, things ran smoothly.

Was the programme delivered as the NHS intended?

The study found that the different service providers that delivered the NHS programme used various approaches to support patients in changing their behaviour. All followed the key elements of the programme, but there were some aspects that needed improvement.

Things that helped improve delivery included:

- Having a structured plan for each session.
- Having enough time to deliver the session.
- Managing time effectively.
- Sticking to the session plan.

There were differences between service providers in terms of how much they:

- Adapted the programme to fit different cultures
- How much they advised eating non-starchy vegetables when patients were struggling to stick to the programme
- How well they advised patients not to undertake additional exercise during the total diet replacement phase.

One-to-one sessions were generally well received, especially when delivered by skilled coaches who developed good relationships with their patients, and tailored the content to meet their patients' needs.



What did the staff delivering the programme think about it?

Things that helped the programme to be delivered well included:



Good teamwork.

Trusting coach and patient relationship.

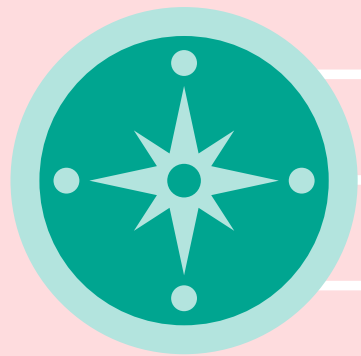
A wider choice of total diet replacement products.

Barriers included:



Encouraging GPs to refer to the programme, receiving enough appropriate referrals.

Supporting patients to stick to the programme through life challenges.



Reasons why patients might struggle whilst on the programme:

Personal characteristics, such as where they lived, their ethnicity, environment, skills and preferences (for example, mental health support needs, multiple life events, busy lifestyles, work commitments that revolve around food, and family commitments).

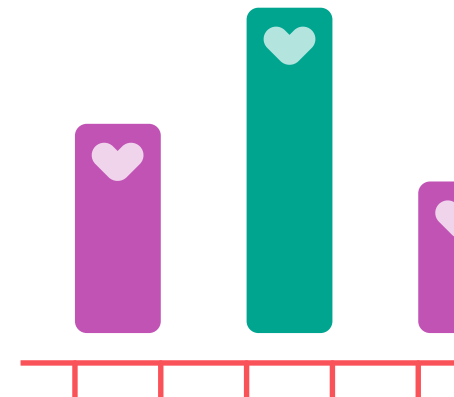
Challenges, such as cultural differences, language barriers, digital skills, dietary needs, taste preferences, family needs, and family commitments, may be experienced more by patients from certain ethnic groups.

When programme delivery to diverse ethnic groups was explored, the study found it important that:

All coaches are trained to support patients from different ethnic and cultural backgrounds.

All language and digital needs are met.

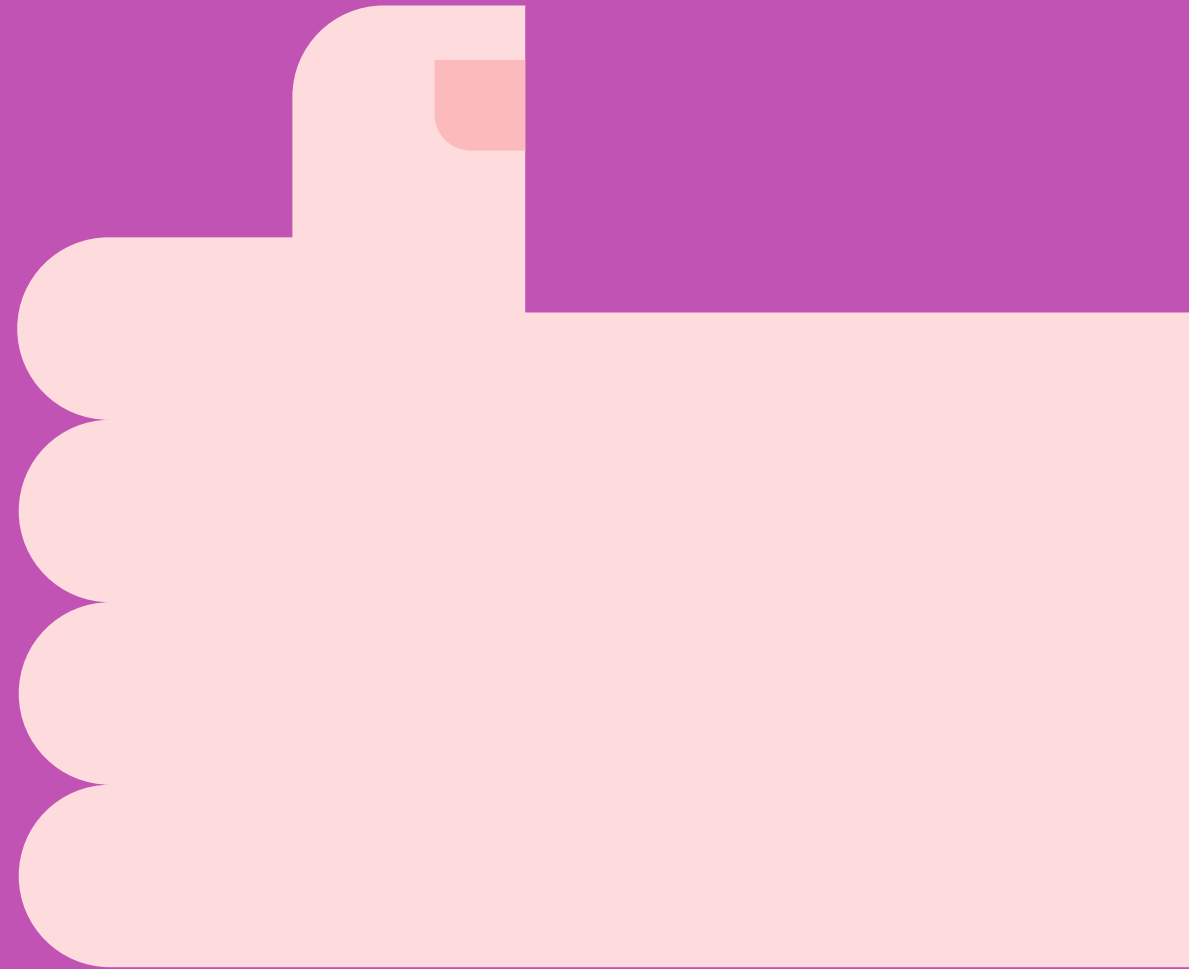
All patient resources are tailored to meet the needs of different ethnic groups.



Did the programme provide good value for money?

We found the programme was cost-effective – the cost of delivering it fell within the same range as identified in the DiRECT research study on which the Low Calorie Diet Programme was first based.

There is no cost to the patient to take part in the programme, as all total diet replacement products are provided free of charge. However, some patients chose to buy additional resources such as additional products, recipe books, and extra glucose monitoring strips.



Impact of the Study

How have we shared learning from the Re:Mission study, and how has this helped improve things?

One of the most important outcomes of this study has been to inform the development and national roll-out of the NHS Low Calorie Diet Programme, now renamed (with the assistance of the Re:Mission study Patient and Public Involvement and Engagement group and Diabetes UK) the NHS Type 2 Diabetes Path to Remission Programme.

As one of the largest real-world studies looking at a low calorie diet approach using total diet replacement products and behaviour change support, it has provided new and valuable learning that has been shared internationally, nationally, and locally.

The Re:Mission team worked in partnership with the Patient and Public Involvement and Engagement (PPIE) group to produce patient films, blogs, and vlogs together.

Being involved in this important study has also supported the development of our staff, students and PPIE members, and informed the development of other important studies.

The study findings have been shared through:



The study website
remission.study



23 papers for academic journals



Talking at many meetings with different people



An illustrated journal

The patient group worked with the Re:Mission team on the production of this document.



A patient journey film
remission.study/patient-journey

What did we learn that helped to set up and deliver the programme across England?

The NHS has used the following important learning from this study to help inform the development and delivery of the programme:

1. Local areas need to ensure that patients being referred to, and starting the programme represent the different communities who are eligible, so that nobody who needs support is left out.

2. All sessions should be delivered one-to-one, as group sessions were difficult to personalise and focus on individual needs.



3. Service providers need to develop their programme based on NHS England's specification that has been updated with the Re:Mission study learning. This includes:



Providing support that is tailored to the individual needs of patients.



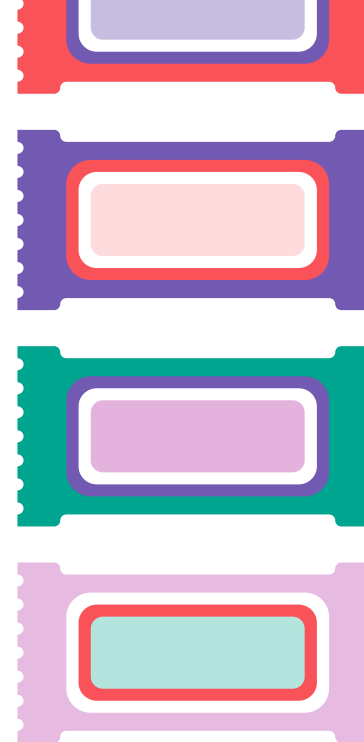
Receiving additional language or digital support where needed.



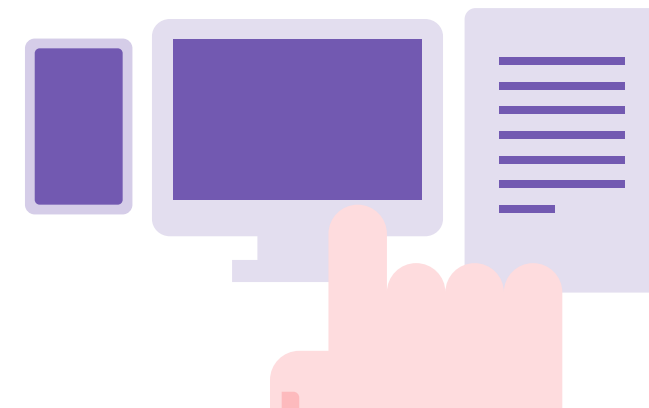
Encouraging and enabling patients to seek support from friends, family, and other programme participants.



To be aware of and support patients who experience mental health challenges, unexpected life events or emotional or disordered eating whilst on the programme.



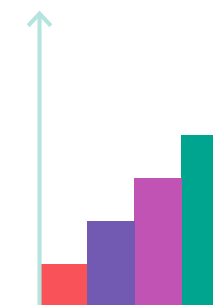
Providing a range of flavours and textures of total diet replacement products, that are regularly delivered so patients can easily store and select different products.



Giving patients a choice in how their programme is delivered.



Providing additional support in planning and cooking meals tailored to meet the needs of different dietary requirements, cultures, religions, and budgets.



Providing consistent, structured support that helps patients to make positive long-term behaviour changes.

Summary

What did we find:

- There were some differences in the extent to which the programme was delivered as the NHS intended.
- Some groups of people were more likely to start and complete the programme than others.
- The programme did help people to lose weight and improve their diabetes, but people who have had diabetes for longer or are from Asian or Black ethnicities may not do as well on the programme.
- Generally, staff and patients spoke positively about the programme but did highlight some areas that could be improved.
- The programme did provide value for money.

What should happen next?

The Re:Mission study has helped answer a lot of questions; however, this learning has uncovered new questions that need further studies to investigate. These questions are:

- How successful is the NHS Type 2 Diabetes Path to Remission Programme in the long term? For example, what happens to different patients after they have completed the programme, and does the programme provide value for money over the longer term?
- What effect did the COVID-19 pandemic have on patient outcomes and programme delivery, and how are they different from the patients on the NHS Type 2 Diabetes Path to Remission Programme now and in the future?
- Can we better understand and improve the number of patients completing the programme, particularly younger adults and patients living in areas of deprivation or with severe obesity?
- Can we better understand and improve the results of patients from Asian and Black backgrounds taking part in the programme?
- Can we understand more about which patients do not take up an offer to be referred to the programme?

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