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Why do some people take up a place on the Diabetes Prevention Programme and others do not?

What we knew

The NHS Diabetes Prevention Programme in England invites people at risk of type 2 diabetes to attend a course of face-to-face group education of at least 16 hours, which encourages a change in behaviours (like unhealthy eating, lack of exercise, smoking) that otherwise can lead to type 2 diabetes. We know that diabetes prevention programmes work in people at risk of diabetes, by reducing weight, lowering blood glucose and slowing the conversion to diabetes.

Of 100,000 people referred to the programme, just over half (55,000) took up a place. From our earlier research, using data collected by the NHS Diabetes Prevention Programme service providers, we already know that uptake rates are similar among men and women, and are lower from more deprived areas and among younger people.

We suspect there may be many more characteristics, attitudes and beliefs that affect uptake, but we don't know what they are because the information was not collected from people who were referred to the NHS Diabetes Prevention Programme. Identifying what encourages uptake would be useful in determining the best ways to encourage more people to take up the offer of a place on the programme.

What we did

We developed a postal survey questionnaire to collect data on a wide range of characteristics, attitudes and beliefs that might influence participation in the NHS Diabetes Programme. We sent the questionnaire between March and December 2019 to patients who had been invited onto the programme by a letter from their GP. Patients were selected at random from the lists of 20 GP practices in Manchester and Oxfordshire. Practices were chosen to give us a variety of different patients.

The survey questions included:

- Involvement in the NHS Diabetes Prevention Programme: whether people remembered being invited; whether they made contact and whether they attended the course.
- Patient characteristics: e.g. age, gender, ethnicity, living alone or with others, employment, area deprivation.
- Health needs and barriers: e.g. close relative with type 2 diabtetes, previous involvement in a health or weight loss group, health literacy (ability to understand health information), practical barriers (like disability, cultural barriers, other health problems, lack of time or money).
- Attitudes and beliefs: e.g. perceptions about the NHS Diabetes Prevention Programme; attitudes to the risks associated with type 2 diabetes; perceived ability to change; motivation to reduce risk; belief in taking an active health role.

We tried to make the questions clear and easy to understand for everyone. We did this by using questions that had been tried and tested in previous surveys, and trialling the questionnaire with a few people. We discussed the wording with a patient and public involvement group, and made changes suggested by them.

We used advanced statistical techniques to compare, between those who took up a place and those who did not:

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- Age, gender, ethnicity and other characteristics
- Health needs and potential barriers
- Attitudes and beliefs

What we found

Response: 327 out of 600 patients (55%) returned our questionnaire.

Compared to patients at risk of type 2 diabetes across England[1], the people who responded to our questionnaire were similar:

- Gender (50% male in our sample compared to 48% in England);
- Ethnicity (19% non-white compared to 21% in England);
- Deprivation: people came from both deprived and affluent areas
- Age: our sample tended to be a little older (59% were 65 years and over compared to 52% in England) (see table 1).

A third were in work, 27% had higher qualifications (A levels or above), 82% had a family member or acquaintance with type 2 diabetes, 78% never or rarely needed help reading health information and 25% rated their general health as excellent or very good.

A third of responders attended the programme; a third did not attend and a third told us they didn't remember being invited. Reasons given for not attending included: no need for the course; being undecided; too many other demands on their time; inconvenient place or time.

We found that four attributes were positively associated with uptake of the NHS Diabetes Prevention Programme:

1. Older age,
2. Beliefs about their own risk of developing type 2 diabetes,
3. Beliefs about their own ability to reduce risk of type 2 diabetes,
4. Beliefs about how good the programme is,

After taking account of these 4 attributes, area deprivation, education level, living alone or with others, health needs and potential barriers played only a minor role.

What this means

Unlike the earlier research using routine data, which found that NHS Diabetes Prevention Programme uptake is less likely in younger people and those from deprived areas of England, our study was designed to additionally consider the influence of a broad range of beliefs and attitudes about type 2 diabetes. Our results suggest that uptake is linked to three patient beliefs and

[1] Source: National Diabetes Audit, Non-Diabetic Hyperglycaemia, 2019- 2020, Diabetes Prevention Programme, Data Release

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attitudes, which, if targeted and highlighted for change by health practitioners and wider communications, could potentially increase programme uptake from the current low levels.

1. Patient beliefs about their vulnerability to type 2 diabetes, suggesting a need to explain clearly to people how vulnerable they are to type 2 diabetes and more clarity about their risk of the disease.

2. Patient's belief in their own capacity to carry out behaviours necessary to reduce risk, which could be targeted by supporting people to understand what they can do to improve their own health.

3. Belief in the success of the programme, suggesting it may be beneficial to communicate the benefits of the programme for those who attend it, including ensuring that general practice staff understand the benefits of the programme.

These beliefs could be targeted through messages from primary care at the point of invitation and referral, and in the wording of the invitation letters, as well as being actively targeted when individuals start the programme. Mass and social media communication focussed on these three beliefs could also be beneficial. After taking into account these beliefs, only younger age is associated with lack of programme uptake. Recently the NHS Diabetes Prevention Programme has introduced a digital option which may appeal to a younger cohort of working age.

After people start the programme, there is a high drop-out rate, with two thirds of people not completing the course. We suspect similar beliefs and attitudes may be involved in the decision to drop-out, in which case there may be some benefit targeting those beliefs and attitudes in the programme content.

Our sample size was not large enough to consider whether some patient groups face particular obstacles to uptake, or whether there were differences between areas of England. For example, we cannot say whether people from some ethnic minorities faced particular language or cultural barriers which discouraged uptake. There may have been some topics that we did not include in the questionnaire, such as the influence of peer pressure from friends or relatives, or a fear of being 'shamed' by being publicly weighed.

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