

'Going the Distance' – engagement and drop out among the first 100,000 referrals into the NHS Diabetes Prevention Programme

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NHS Diabetes Prevention Programme

- Evidence-based lifestyle behaviour change intervention
- Groups: healthy eating and lifestyle, help to lose weight and physical exercise
- People at high risk for type 2 diabetes referred from primary care
- At least 16 hours of contact over 9 months
- Delivered by four provider organisations



Image: www.clahrc-gm.nihr.ac.uk/projects/diploma-evaluation-national-nhs-diabetes-prevention-programme

Research Aims

- We use data collected by NHS DPP service providers to investigate:
 - Participation in the NHS DPP intervention
 - How participation varies with patient characteristics and by provider and site.

Sample

- ~388,000 referrals April 2016 to March 2019
- Analysis cohort ~99,000 referred to September 2017
- Of these ~55,000 attended at least once – ‘attenders’

Participation outcomes

- Uptake: (among referred) attended initial assessment or at least one intervention session
- Retention (among attenders): attended at least 60% intervention sessions
- Completion (among attenders): 60% attendance & either
 - Attendance at final session, OR
 - Final health outcome measure recorded

Analysis

- Descriptive & exploratory analysis to investigate:
 - extent of participation in the NHS DPP
- Logistic regression to report variation in participation among patient subgroups and between different providers and sites
 - Multiple models per outcome for appropriate adjustment
 - Linear splines for continuous variables
 - Random effects allow for clustering by site
- Multiple imputation used to impute missing data assuming MAR

Results: Participation

- 99,473 people at risk of diabetes were referred
- of whom 55,275 (56%) took up a place
- Median attendance among participants was 31% of the course.
- Of those who took up a place, 34% were retained to 60% attendance (regarded by DPP as completion) and 22% completed the full course.

Uptake:

- **Providers:** substantial heterogeneity (ORs 1.77 (1.33, 2.34), 4.30 (3.01, 6.15) and 1.45 (1.07, 1.97) compared with the reference provider)
- **Sites:** predicted uptake for a typical individual ranged from 32% to 78% for the middle 95% of sites.



Uptake increased with **age** up to 70 (OR 1.17 (1.15 1.20) per five years) and decreased with older age.



Decreased with **deprivation**, OR 0.65 (0.61, 0.68) for the most deprived compared with the least deprived quintile.

Gender and weight had little association with uptake.

Retention to 60%

- Providers: substantial heterogeneity
 - ORs 1.38 (1.15, 1.66), 1.86 (1.49, 2.32) and 0.74 (0.60, 0.91)
- Sites: predicted retention for a typical individual ranged from 40% and 67% for the middle 95% of sites.
- Higher levels of retention were seen where out-of-hours provision was offered (OR 1.32 (1.25, 1.39)).

Similar associations with age, deprivation, gender as for uptake.

- ↓ Lower among Asian (OR 0.75 (0.63, 0.91)) and black (OR 0.83 (0.71, 0.99)) compared with white participants
- ↓ Employed (OR 0.74 (0.69, 0.80)) than retired people.
- ↓ People with a disability (OR 0.81 (0.77, 0.86)).

Weight and blood glucose were not associated with retention.

Implications

- Heterogeneity in service provision between different providers and sites can result in variable participation beyond that attributable to case mix.
- Extending out-of-hours provision may improve participation.
- Measures to improve uptake from deprived areas may be needed.
- Measures to improve retention may be needed among minority ethnic groups, deprived areas, those with a disability and people in work.

The DIPLOMA Evaluation

- **D**iabetes **P**revention – **L**ong term **M**ultimethod **A**ssessment (NIHR funded)
- Mixed methods research programme, 2017 to 2021
- <https://www.arc-gm.nihr.ac.uk/projects/diploma-evaluation-national-nhs-diabetes-prevention-programme>



Thank you for listening.

If you have any questions or comments, please add them as a comment below the video and we will read and respond.

More information about DIPLOMA available at:

www.clahrc-gm.nihr.ac.uk/projects/diploma-evaluation-national-nhs-diabetes-prevention-programme