NHS England Diabetes Prevention Programme

Professor Jonathan Valabhji  OBE MD FRCP
National Clinical Director for Diabetes and Obesity

Dr Liz Martin
GP with Specialist Interest in Diabetes

Mr Tom Newbound,
Deputy Director, NHS Diabetes Programme, NHS England and NHS Improvement

NHS England and NHS Improvement
For diabetes, the NHS Long Term Plan sets out a range of improvements for those at risk of Type 2 diabetes and living with Type 1 and Type 2 diabetes; many of which we have already started to implement with our partners across the health system.

For obesity, there are a range of actions outlined, comprising a significant program of work.
Evolution

• Financial Year 2016/2017 = First wave of national roll-out
• 51% geographical coverage of England
• Financial Year 2017/2018 = Second wave
• 75% geographical coverage of England
• Financial Year 2018/2019 = Third wave
• Universal coverage of England by Summer 2018

0-12 month interval between Referral and attendance at Intervention Session

- Referrals
- Attended Initial Assessment
- Attended at least one Intervention Session
- Associated with cohorts that have finished the Programme
- Completed the Programme = Attended at least 60% of sessions

9-12 month intervention duration

Number of participants at each stage by end of December 2018

<table>
<thead>
<tr>
<th>Stage</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referrals</td>
<td>324,706</td>
</tr>
<tr>
<td>Initial Assessment</td>
<td>152,294</td>
</tr>
<tr>
<td>Intervention Session</td>
<td>96,442</td>
</tr>
<tr>
<td>Completed Programme</td>
<td>32,665</td>
</tr>
<tr>
<td>Completed programme</td>
<td>17,252</td>
</tr>
</tbody>
</table>

Percentage retained at each stage allowing sufficient time to elapse

<table>
<thead>
<tr>
<th>Stage</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referrals</td>
<td>100%</td>
</tr>
<tr>
<td>Initial Assessment</td>
<td>53%</td>
</tr>
<tr>
<td>Intervention Session</td>
<td>36%</td>
</tr>
<tr>
<td>Completed Programme</td>
<td>36%</td>
</tr>
<tr>
<td>Completed programme</td>
<td>19%</td>
</tr>
</tbody>
</table>

NHS England and NHS Improvement
Completion / Retention

• 32,665 participants associated with cohorts that have finished the Programme
• 17,252 attended at least 60% sessions, giving a 53% completion rate
Completion of the programme, Mixed effects logistic regression

- No significant difference in completion by sex
- Increased as the age of the participant increased
- Asian and mixed ethnicity significantly lower completion. No significant difference in completion between black, other and white ethnic groups.
- Increased as deprivation decreased
- Significantly lower for obese participants

*Analysis based on complete case data. Provider also included in the logistic regression model as a fixed effect and local health economy as a random effect

NHS England and NHS Improvement
Weight Change

Completer Analysis
• Mean weight change of -3.3kg (-3.4 to -3.2kg)
• % Mean weight change of -4.0% (-4.0 to -3.9%)
• 37% achieving a weight loss of 5% or more

Intention-to-treat analysis
• Mean weight change of -2.3kg (-2.3 to -2.2kg)
• % Mean weight change of -2.7% (-2.7% to -2.6%)
• 24% achieving a weight loss of 5% or more

*Using complete case data

NHS England and NHS Improvement
• No significant difference by sex
• Larger weight loss as the age of the participant increases
• Asian and black ethnicity have a significantly smaller weight loss. No significant difference for mixed, other and white ethnic groups.
• Increased weight loss as deprivation decreased
• Significantly larger weight loss for overweight and obese participants

*Analysis based on complete case data. Provider, number of sessions and baseline weight measurement also included in the regression model as fixed effects and local health economy as a random effect

NHS England and NHS Improvement
HbA1c Change

Completer Analysis
• Mean Hba1c change of -2.0mmol/mol
  (-2.0mmol/mol to -1.9mmol/mol)

Intention-to-treat analysis
• Mean Hba1c change of -1.3mmol/mol
  (-1.3mmol/mol to -1.2mmol/mol)

*Using complete case data
Hba1c change, Mixed effects linear regression for completers

- Significantly smaller decrease for women
- Smaller decrease for older participants
- Asian and black ethnicity have significantly smaller Hba1c decrease. No significant difference between mixed, other and white ethnic groups
- Significant differences by deprivation
- Significantly smaller Hba1c decrease for overweight and obese participants

*Analysis based on complete case data. Provider, number of sessions, baseline Hba1c measurement and weight change also included in the regression model as fixed effects and local health economy as a random effect

NHS England and NHS Improvement
Conclusions

• Encouraging retention, weight change and HbA1c change data
• Need further actions to address equity of access

New Provider Framework from April 2019
• Digital modes of delivery to improve retention of
  People of working age
• Pay-for-Performance to incentivise retention of:
  People of BAME groups
  People of more deprived socioeconomic status
  People who are obese


NHS England and NHS Improvement
NHS England Diabetes Prevention Programme

Dr Liz Martin
GPWSI

NHS England and NHS Improvement
Overweight and obesity among adults
Health Survey for England 2012 to 2014 (three-year average)

Almost 7 out of 10 men are overweight or obese (66.4%)

Almost 6 out of 10 women are overweight or obese (57.5%)
Adult waist circumference

Health Survey for England

1993: 26%
2014: 45%

Estimated NHS costs

Diabetes: £10 billion
Diabetes Complications: £8 billion
Obesity:  £5.1 billion
Smoking: £3.3 billion
Alcohol:  £3.3 billion

NHS England and NHS Improvement
Obesity believed to account for **80-85%** of risk of developing type 2 DM;

People with BMI > **30** (=obese) are up to **80%** more likely to develop Type2 DM than BMI < **22**;

**Other risk Factors:** Sedentary lifestyle; Older age; Male sex; Family history; Ethnicity; Hypertension; High risk drugs.

Diabetes.co.uk 2018
Can we prevent Type 2 Diabetes?

NHS England and NHS Improvement
Three large studies of individuals with impaired glucose tolerance: Da Qing China, DPS Finland, DPP America

**consistently found that diet and exercise reduce risk of diabetes**

**Da Qing:** 6 year lifestyle intervention of diet, exercise or diet & exercise cumulative prevalence of diabetes

- 6 years: 43 v 66%
- 20 years: 80 v 93%

Intervention resulted in an average 3.6 fewer years with diabetes

**DPS:** 4 year intervention

- At 2 years prevalence of diabetes was 6 v 14%
- At 4 years: 11 v 23%
- At 6 years: 23 v 38%

**DPP:** 3 year intervention (achieved initial 7kg weight loss)

- At 3 years prevalence of diabetes was 14 v 29%
- At 15 years: 55 v 62%

NHS England and NHS Improvement
Turning the tide of Type 2 diabetes

The Healthier You: NHS Diabetes Prevention Programme – who it’s for, what it is, what’s next

NHS England and NHS Improvement
Eligibility for the NHS DDP

Eligible participants identified through 3 primary routes and must be:

• Be aged 18 or over;
• Not be pregnant;
• Not have a blood result suggesting Type 2 diabetes;
• Have Non Diabetic Hyperglycaemia (Pre-Diabetes) identified by blood test within the last 12.

Existing registers of patients with NDH

Opportunistic identification

NHS Health check Programme

NHS England and NHS Improvement
Non-diabetic hyperglycaemia (NDH)

Also known as ‘pre-diabetes’:

- HbA1c of 42-47mmol/mol (6.0%-6.4%), or;
- Fasting Plasma Glucose (FPG) of 5.5-6.9mmol/l, or;
- Oral Glucose Tolerance Test (75g load) 2hr result of 7.8-11.0mmol/l.

- Includes previous definitions of impaired fasting glycaemia and impaired glucose tolerance as well as an additional cohort with FPG 5.5-6.0mmol/l;
- Tests identify different cohort of individuals therefore **pick a test and stick with it**;
- One reading indicating NDH, from any test, is needed for referral to the DPP.
- Someone diagnosed with diabetes in their 50s has an average reduced life expectancy of 6 years.

NHS England and NHS Improvement
Why is NDH important?

Impaired glucose regulation (below threshold for diabetes) associated with higher CVD event rate than normoglycaemia (Barr et al, 2007)

Evidence that HbA1c based definitions of NDH perform better in predicting cardiovascular disease and all cause mortality

Association with increased risk of CKD and neuropathies (Bansal, 2015)

High risk of progression to Type 2 Diabetes – therefore important that people with NDH are retested annually

Diabetes is a leading cause of blindness, kidney disease and amputations.

Someone diagnosed with diabetes in their 50s has an average reduced life expectancy of 6 years


NHS England and NHS Improvement
Turning the tide of Type 2 diabetes

The Healthier You: NHS Diabetes Prevention Programme – who it’s for, what it is, what’s next

NHS England and NHS Improvement
NHS Diabetes Prevention Programme

- Branded as **Healthier You**;
- Designed to provide lasting behaviour changes which will achieve:
  - **Healthy weight**
  - **Good dietary choices**
  - **And physical activity**
- Intervention over **9 months** with minimum of **13 sessions** and **16 hours contact**.
- Delivered in **groups** with tailored support and available nationwide.

NHS England and NHS Improvement
NHS Diabetes Prevention Programme: A user perspective

Contribution from Diabetes UK

NHS England and NHS Improvement
Referral

“People need to know more. It was too vague why the course is 9 months.”

“Tell them why it is important – it is about continual support; emphasise the lifestyle element – about making a lifestyle change. Then there is a perception from day 1 about how it is for your life longer term. Focus your mind.”

NHS England and NHS Improvement
Referral

“GPs should attend too.”

“They didn’t know much about it. It was quite frightening, I knew something was wrong but they just gave me a phone number to ring.”

NHS England and NHS Improvement
My perspective as a clinician?

• At last- something to offer!
• Local and accessible
• Commitment - from referring clinician
  from participant
• Need follow on/longer term support
Tom Newbound
Deputy Director - Diabetes,
NHS England & Improvement

NHS England and NHS Improvement
Currently up to half of referrals decline and more fail to progress to group sessions.

We have undertaken analysis of characteristics of those who decline or do not progress through to the current face to face service.

Analysis shows these people are (in order of importance):

- Working age
- Deprived and
- From a BAME background

If we can show that digital delivery routes boost uptake for these demographics we can raise overall performance and target health inequalities.

NHS England and NHS Improvement
Age profile: Digital
Pilot Findings

• Digital provision is reaching a younger (working age demographic)

• Good representation of BAME groups;

• Outcomes in line with those observed in the F2F service;

• Differences in outcomes for demographic characteristics closely resemble those observed in F2F service.
Key headlines

- NHS England will continue to commission and fund the NHS DPP nationally for at least a further 4 years from 19/20;

- Digital included to widen access, but will not replace face to face;

- Clear focus on widening access and supporting our working age cohort;

- New providers and framework;

- Weight loss thus far in line with the RCT evidence base.

NHS England and NHS Improvement
Thank you

For further information on the NHS Diabetes Programme please sign up to the NHS Diabetes Programme bulletin:


NHS England and NHS Improvement