

# The National Diabetes Prevention Programme:

a pathway for prevention and wellbeing

### INTRODUCTION

There are currently around 2.5 million people in England with diagnosed type 2 diabetes, and a further estimated 500 000 as yet undiagnosed.<sup>1</sup> Type 2 diabetes constitutes over 90% of all those with diabetes in England and the prevalence continues to rise at an alarming rate. Diabetes is the commonest cause of lower limb amputation, and a major contributor to incident blindness, end-stage renal failure, heart attack, stroke, and premature mortality in England. As well as the human cost, the annual NHS costs of treating diabetes are estimated to be £10 billion, around 10% of the NHS budget, 80% of which is spent on treating the microvascular and cardiovascular complications.<sup>2</sup>

### EVIDENCE

It is now well established that type 2 diabetes can be prevented or delayed in high-risk adults. At least five major randomised controlled trials, conducted in China,<sup>3</sup> Finland,<sup>4</sup> US,<sup>5</sup> Japan,<sup>6</sup> and India<sup>7</sup> have documented 30–60% reductions in type 2 diabetes incidence in adults with impaired fasting glucose or impaired glucose tolerance through intensive lifestyle change programme interventions. The US-based Diabetes Prevention Programme (DPP), the largest of the five studies, showed that people with impaired glucose tolerance who lost 5–7% of their body weight and achieved 150 minutes of moderate physical activity per week through a structured lifestyle change programme reduced their chance of getting type 2 diabetes by 58% over an average 2.8 years of follow-up.<sup>5</sup>

At least three of these major randomised controlled trials have conducted further follow-up of participants long after the intervention ended.<sup>3–5</sup> Intensive lifestyle intervention delayed onset of type 2 diabetes by about 4 years. Not only is the cumulative incidence of type 2 diabetes still significantly lower at up to 23 years follow-up, but also one of the studies has recently demonstrated lower incidence of severe diabetic retinopathy<sup>8</sup> and lower cardiovascular and all-cause mortality<sup>9</sup> in those that had been part of the original lifestyle intervention group, compared to those that had been part of the control group.

The NHS' Five Year Forward View<sup>10</sup> has suggested different approaches needed to

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ensure the future sustainability of our NHS; acknowledging that increasing demand for health care, increasing cost, and increasing public expectations must be accommodated within a financially-challenged environment. One such approach is a greater focus on disease prevention, with a commitment to implementing at scale a type 2 diabetes prevention programme.

### NATIONAL DIABETES PREVENTION PROGRAMME

The National Diabetes Prevention Programme (NDPP) was launched in England on Thursday 12 March 2015 as a collaborative programme between NHS England, Public Health England, and Diabetes UK. Seven initial demonstrator sites have been selected across England to implement the first phase of the programme and represent a portfolio of diverse geographic and population characteristics. These are Birmingham South and Central Clinical Commissioning Group (CCG), Bradford City CCG, Durham County Council, Herefordshire CCG and Local Authority (LA), Medway CCG and LA, Salford CCG and LA, and Southwark Council and CCG. The population covered by these sites includes almost 1.8 million people with obesity prevalence ranging from 8.2–13.6% and the proportion of South Asian origin, in whom incidence of type 2 diabetes is around five times that of white European

populations, ranging from 1.0–60.9%. These demonstrator sites will test the real-world applications of the approaches described in the randomised controlled trials. A national roll-out is planned from April 2016 with a goal to have 10 000 high risk individuals from demonstrator sites enrolled onto the programme within the next year. A robust evaluation will be incorporated into the design of the programme, to assess the real-world effectiveness.

With an ambitious goal and a significant investment, the NDPP also provides the NHS with an opportunity to look beyond diabetes and pave the way for a broad prevention agenda. In Finland, the national diabetes programme<sup>11</sup> subsequently evolved into a more integrated preventative approach. In 2012, the OneLife project brought together health promotion campaigns of the Finnish Brain Association, the Finnish Diabetes Association, and the Finnish Heart Association into a single programme. The key aim of this programme was to improve prevention, increase early diagnosis, reduce complications, and support rehabilitation in a range of diseases.

### NHS PREVENTION AND WELLBEING

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wellbeing. While promoting weight loss and encouraging physical activity will prevent type 2 diabetes, it has the clear potential in the longer term to contribute to reducing prevalence of heart disease, stroke, liver disease, and some of the common cancers. Furthermore, the NHS contribution to the prevention agenda can compliment the wider system approaches involving local and national government in their public health roles. Local authorities can work with CCGs to create environments that promote good health and change population behaviour through nudges and marketing campaigns for their local health economies. A proactive primary care system is central to achieving this, as is the more systematic use of evidence-based intervention strategies.

In 2004 it was highlighted that unless the UK took prevention seriously we would be faced with a sharply rising burden of avoidable illness.<sup>12</sup> As the advice was not heeded, the NHS is now on the hook for the consequences. The NDPP should enable us to explore a comprehensive range of preventative interventions. If the nation fails to get serious about the prevention agenda, then recent progress in healthy life expectancies will stall, health inequalities will widen, and our ability to fund beneficial new treatments will be crowded-out by the need to spend billions of pounds on wholly avoidable illness.

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**Provenance**

Freely submitted; not externally peer reviewed.

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DOI: 10.3399/bjgp15X685537