How NICE is combining clinical and public health interventions to tackle the growing burden of diabetes

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NICE guidance on "Preventing type 2 diabetes – risk identification and interventions for individuals at high risk" can be found at:
www.nice.org.uk/PH38

Draft guidance on "Managing overweight and obesity in adults" is available at:
guidance.nice.org.uk/PHG/67
(final guidance is expected to be published in May 2014)

Over 360 years ago, the philosopher Thomas Hobbes described the natural state of life as "nasty, brutish and short" – a great sound-bite for his times. Hobbes lived during the Civil War, which doubtless explains his overly pessimistic view of the world. Modern Britain is very different. We have peace, stable government, and high-quality healthcare based on tried-and-tested science and robust evidence.

But Hobbes' state of nature and our state of comfort are linked. His book *Leviathan* was an early and influential tract in the unfolding of the Enlightenment, a period which ignited the explosion of science, commerce and progress. Indeed, Hobbes was defining a social contract between people and their leaders which still resonates today. Government is expected to address Hobbes' state of nature by keeping the peace, educating our children, encouraging commerce and keeping us healthy. Thanks to science and stability, governments in the West have largely succeeded.

But times change. Today, perhaps the greatest challenges now facing government lie in its role in keeping us healthy. The challenge does not come from strife but from stability. It does not come from war but from security, not from hunger but from prosperity. And as we have learned from the Enlightenment – the answer lies in science and evidence.

Healthcare in the UK has been changing quite dramatically. Looked at very simplistically, we spent 50 years dealing with infectious disease and 50 years dealing with acute diseases (often needing hospital admission) and we are now in the phase of dealing primarily with long-term medical conditions.

Perhaps the rise of diabetes illustrates the change in the nation's health better than any other condition. Over my years as a GP, I witnessed an exponential rise in cases, and diabetes is now one of the fastest-growing public health problems, and it is increasing everywhere. It currently affects over 380 million people worldwide, and by 2030 that number is predicted to have risen to nearly 600 million (International Diabetes Federation, 2013). Left unmanaged, people with diabetes are at risk of developing retinopathy, cardiovascular disease, nephropathy and neuropathy.

In the UK, over 3 million people now have a diagnosis of diabetes (Diabetes UK, 2013). It is estimated that this will rise to 5 million – nearly 10% of the population – by 2025, about 90% of whom will have type 2 diabetes (Diabetes UK, 2012). Diabetes (type 1 and type 2) accounts for approximately £10 billion in NHS spending, around a tenth of the NHS budget each year (Diabetes UK, 2012). Between 1 April 2012 and 31 March 2013, there were 42.5 million items prescribed for diabetes in England, at a net ingredient cost of £764.1 million (Health and Social Care Information Centre [HSCIC], 2013).

Along with diabetes, we are also seeing more and more people classified as being obese – an important risk factor for type 2 diabetes. In 2012, just over one-quarter of adults in England (24.4% of men and 25.1% of women) were classified as obese (BMI ≥30 kg/m^2). A further 42.2% of men and 32.1% of women were overweight (BMI of 25–29.9 kg/m^2; HSCIC, 2014). The cost of overweight and obesity to society and the economy was estimated at almost £16 billion in 2007 (over 1% of gross domestic product). It could rise to just under £50 billion in 2050, if obesity rates continue to rise unchecked (Department of Health, 2011). These are staggering figures, and both conditions present unprecedented challenges to primary care.

Tackling the growing burden of diabetes

Addressing these problems is far from straightforward and presents a massive challenge for government and healthcare professionals. There

is no simple solution, because there are so many inter-related factors. For example, although local authorities were given responsibility for public health in 2013, a significant number of them don't appear to have allocated any funds to programmes to tackle child obesity. How do you stop people's addiction to fast food and sugar in the first place? What is the role of the food industry? How do you encourage people to walk more and exercise more when their local public transport is inadequate and they are "time poor"? And how do you address the inequalities in diet and physical activity that are a major contributor to disparities in health?

A joined-up approach combining both clinical and public health interventions is essential if we are to tackle the growing menace of diabetes. NICE is central to that approach. NICE guidance is developed using a rigorous process centred on the best available evidence. It includes the views of experts, patients, carers and industry. We have an open and transparent consultation process throughout the development of our guidance, and this allows individuals, patient groups, charities and industry to comment on our recommendations.

In 2012, NICE published guidance on identifying people at high risk of developing type 2 diabetes and on the provision of clinically and cost-effective interventions to help reduce the risk or delay the onset of the condition. The guidance recommends that specific groups (all adults aged 40 and over [except pregnant women], those aged 25–39 from certain communities* who are genetically more predisposed to developing diabetes, and all adults with pre-existing conditions that increase the risk of type 2 diabetes, including cardiovascular disease, hypertension, and obesity) should be encouraged to have a risk assessment for diabetes, so they can be offered advice from their GP surgery to help them prevent or delay the condition. GP practices can use a validated, computerised practice risk assessment tool to identify such groups. Individuals can do their own assessment online (at www.diabetes.org.uk/riskscore [accessed 26.03.14]) or through questionnaires that they will be able to access throughout the community, for example in faith centres, dental surgeries and pharmacies.

People who have a low or intermediate risk score can be given brief advice on making healthy lifestyle choices; such people should be reassessed every 5 years. People who have a high risk score should be offered a blood test to establish whether they either have asymptomatic diabetes or are at high risk and should be offered an intensive lifestyle change programme. The NICE guidance recommends that the blood test can be either fasting plasma glucose or HbA_{1c}. Measuring HbA_{1c} levels has been used in diabetes management for a number of years, but it has not been widely used for the identification of people who are at high risk of developing diabetes.

NICE is also developing four separate pieces of guidance on diabetes over the next 2 years. Each piece of guidance will focus on a different element of the care pathway: diabetes in children and young people; diabetes in pregnancy; type 1 diabetes in adults; and type 2 diabetes in adults.

New NICE public health guidance on lifestyle weight management services is also being developed to help overweight and obese people achieve and maintain a healthier weight. The draft guidance focuses on the provision of such services and makes a number of recommendations to ensure that the providers of programmes – whether from the private, public or voluntary sector – follow good evidence-based practice.

GPs and providers of weight management programmes should explain to adults who are considering an option how much motivation and commitment is needed to lose weight and maintain weight loss, and that no programme provides a "magic bullet". They should also explain how much weight a person might realistically expect to lose if the individual adheres to the programme, as well as the benefits of losing even relatively small amounts of weight or preventing any further weight gain in the long term. People's preferences should be taken into account along with their experience of such programmes and their motivation to change.

A reality as demanding as Hobbes'

Diabetes is emblematic of the cost to our society of stability and plenty. But its prevention and treatment also demonstrate that progress and understanding can never stand still. Hobbes' concept of a nasty, brutish and short life may now seem alien to us, but it has been replaced by a reality which is just as demanding – the fall-out from plenty. It is just as well that we have the ideas that developed from the Enlightenment to help us meet the challenge. ■

Department of Health (2011) *Healthy Lives, Healthy People: A call to action on obesity*. DH, London

Diabetes UK (2012) *Diabetes in the UK 2012: Key statistics on diabetes*. Diabetes UK, London

Diabetes UK (2013) *Statistics: Diabetes prevalence 2012 (March 2013)*. Diabetes UK, London. Available at: http://bit.ly/1hAWVxg (accessed 26.03.14)

Health and Social Care Information Centre (2013) *Prescribing for Diabetes, England – 2005–06 to 2012–13*. HSCIC, Leeds

Health and Social Care Information Centre (2014) *Statistics on Obesity, Physical Activity and Diet: England 2014*. HSCIC, Leeds

International Diabetes Federation (2013) *IDF Diabetes Atlas* (6th edition). IDF, Brussels, Belgium

*These include people of South Asian, African-Caribbean, black African and Chinese origin.