

Putting the NSF for Diabetes into practice: a case study

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ARTICLE POINTS

1 The NSF for Diabetes delivery strategy aims to create an environment in which all healthcare professionals are able to provide a universally high quality of care for all people with diabetes.

2 Patients are encouraged to learn about, and take an active part in self-management of their diabetes and decisions regarding their own treatment.

3 This article shows how the quality of life of one individual with diabetes could have been enhanced through meeting the standards of the NSF.

4 The NSF for Diabetes provides healthcare professionals with a clear statement of the standards and interventions which will improve services for people with diabetes, together with an indication of the situations in which they are appropriate.

KEY WORDS

- High quality care
- Patient empowerment
- Quality of life
- NSF for Diabetes

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Introduction

The National Service Framework (NSF) for Diabetes programme was established to improve diabetes services by setting national standards so as to drive up service quality and tackle variations in care. Each NSF identifies the interventions and actions that will help meet those standards and the milestones against which NHS performance can be measured. This case history emphasises issues surrounding best practice in diabetes care and provides a focus for discussion on how the NSF might help spread best practice.

The majority of healthcare professionals already provide high quality care. The NSF for Diabetes delivery strategy (DoH, 2003) aims to extend this to everyone by creating an environment in which all healthcare professionals are able to provide a universally high quality of care. Patient empowerment is also important and patients are encouraged to learn about, and take an active part in, self-management of their diabetes and decisions regarding their own treatment.

Scenario

The patient is David Andrew, a 54-year-old accountant from Swindon.

His mother developed type 2 diabetes aged 45 years. She became blind and developed peripheral vascular disease 10 years later. His sister also has type 2 diabetes.

Mr Andrews is a bachelor and lives alone. He thinks type 2 diabetes will never happen to him.

The case study

David Andrew was a 54-year-old single man from Swindon who had enjoyed a life full of risk. He was overweight, and he smoked and drank heavily. His family and friends told him he should get his act together or he could end up with type 2 diabetes like his mother and sister, but David had always found doctors and nurses intimidating. They suggested that he should attend his

doctor's clinic regularly for check-ups but he did not like being told what to do and felt that regular check-ups were a waste of time. He considered that because of his family history he would know if he 'went diabetic'.

David contracted a severe chest infection one winter aged 59 years. It became rapidly apparent that he had type 2 diabetes as he developed serious complications: hyperglycaemic-hyperosmolar syndrome. He was admitted to hospital where he was found to have severe heart and kidney disease. He was treated with rehydration and insulin injections, and after treatment for his coronary artery disease (with a β -blocker), high cholesterol (with a statin) and diabetes, David was discharged. He was so shocked by this course of events that he stopped smoking and tried to lose weight. Over the next year, however, and despite treatment with additional fibrates, calcium channel blockers and nitrates, his heart condition deteriorated.

David died at the age of 60 years, after developing gangrene of the leg and having had two heart attacks. It was just over 1 year since his diabetes had been diagnosed.

Coroner's verdict:

The coroner concluded that David had died from natural causes. However, he observed that it was likely that David had had type 2 diabetes for at least 10 years before he died. Although he had no symptoms, tests could have revealed the presence of type 2 diabetes, and with the correct treatment he

might not have developed such severe complications. With optimal care, David may have lived much longer.

The alternative story

The NSF for Diabetes aims to ‘enable people with diabetes, or at risk or developing diabetes, to manage their own lifestyle and diabetes, by providing support and structured education as well as drugs and treatments’ (DoH, 2003). It defines 12 standards, many of which are appropriate to this case. Had these standards been applied, David's story might have been completely different.

Standard 1

The NHS will develop, implement and monitor strategies to reduce the risk of developing type 2 diabetes in the population as a whole and to reduce the inequalities in the risk of developing type 2 diabetes.

Action

The GP knew all about David. His family history was recorded on the practice computer and was highlighted whenever he attended the surgery.

Advised by his primary care team, David had previously been offered group lifestyle advice to help him to maintain his weight and encourage regular exercise. No-one had forced him to make changes but they had pointed out that he could be a lot fitter. David was unimpressed until he met a friend in the pub. The friend had also been diagnosed as having a heart condition. ‘Don’t be stupid,’ his friend argued. ‘It isn’t worth it. Start with one thing – the smoking, then move on to your weight’. What he had to say made a lot of sense to David. David also saw a very good television programme on diabetes and obesity. Empowered in this way, David made his own decision to stop smoking and attended a stop smoking group run by his local primary care trust.

Standard 2

The NHS will develop, implement and monitor strategies to identify people who do not know they have diabetes.

Action

David knew of his likely risk and of the warning signs of diabetes. He had been provided with full educational material from Diabetes UK which helped him understand the significance of his lifestyle to his condition and the importance of regular treatment.

Two years later, at the age of 56 years, he checked his urine regularly for glucose and attended the practice for a yearly cardiovascular health screen. One day, David discovered glucose in his urine during a routine self-test and knew he had developed diabetes. He had no symptoms at this time but had gained approximately 10kg in the last year. His body mass index (BMI) was 32 kg/m² which put him into the obese category.

Standard 3

People should receive services which encourage partnership in decision-making, support them in managing their diabetes and help them to adopt and maintain a healthy lifestyle. This will be reflected in an agreed and shared care plan in an appropriate format and language.

Action

David attended the diabetes clinic where he received full clinical and biochemical evaluation. This had helped him to understand his current level of risk.

Guided by the diabetes specialist nurse, David decided that the most important thing was to lose weight, and began a diet and exercise regimen. He saw the dietitian and in view of his raised blood glucose levels he started to take an oral biguanide treatment for diabetes. He was also taught how to measure his own blood glucose.

Standard 4

All adults with diabetes will receive high-quality care throughout their lifetime, including support to optimise the control of their blood glucose, blood pressure and other risk factors for developing the complications of diabetes.

PAGE POINTS

1 If the NSF standards had been applied, David’s story might have been completely different.

2 It was not until he was empowered that David gave up smoking; at this point he joined a stop smoking group run by his local PCT.

3 David was provided with educational material which helped him understand the significance of his lifestyle to his condition and the importance of regular treatment.

4 Guided by the diabetes specialist nurse, David decided that the most important thing was to lose weight and began a diet and exercise regimen.

PAGE POINTS

1 David understood that insulin resistance might underlie many of the complications of diabetes.

2 In view of his family history, prevention of complications was very important for David.

3 The early signs of complications were explained thoroughly so that David was in a position to recognise them should they occur.

Action

Over the next 3 months and despite losing 7 kg, David's blood sugar remained high. His blood pressure was checked with 24h blood pressure monitoring and was higher than normal. The cholesterol and lipid levels in his blood were also raised. David had a full range of risk factors for type 2 diabetes: obesity, high blood pressure and raised cholesterol.

David received a lot of information from Diabetes UK and discussed the subject of insulin resistance with his doctor. He understood that insulin resistance might underlie many of the complications of diabetes. David was not keen on insulin therapy and preferred to continue with tablet treatments for the time being. He had read about the older sulphonylurea medicines and about the newer glitazone treatments. He understood that these might have greater potential for reducing the long-term complications of diabetes. In view of what happened to his mother, prevention of complications was very important for him.

David's care plan showed that he was now taking two oral treatments for diabetes (a biguanide and a glitazone), a third tablet for blood pressure and a fourth for raised lipid levels.

Standard 10

All people with diabetes will receive regular surveillance for the long-term complications of diabetes.

Action

For the next 5 years David continued to monitor his own blood glucose levels regularly. His diabetes remained well controlled and he entered the details conscientiously on his care plan. He also attended his GP's diabetes clinic every 6 months, where his blood pressure, lipid levels, kidney function, nervous system and circulation were screened regularly.

David attended the eye clinic yearly where his retinas were examined for the complications of diabetes. The early signs of this and other complications were explained thoroughly so that David was in a position to recognise

them should they occur. He settled into a routine of full preventive care for type 2 diabetes.

Standard 7

The NHS will develop, implement and monitor agreed protocols for rapid and effective treatment of diabetic emergencies by appropriately trained healthcare professionals.

Action

Five years later, aged 59 years, David was found to have protein in his urine (an early sign of diabetic kidney damage). He began to take ACE inhibitors in order to reduce the risk of develop kidney failure. Ten years later, aged 64 years, the eye clinic discovered minor diabetic complications in the back of his eyes. These were easily removed with laser treatment. In diabetic retinopathy, early treatment like this has the potential to retain eyesight and prevent blindness.

One winter, 12 years later, when he was 66 years of age, David developed a chest infection with hyperglycaemia and dehydration. He recognised early on that this was happening and was able to be managed at home by the diabetic liaison team according to an established protocol. Later, he was transferred on to insulin treatment to minimise the risk of recurrence.

Standard 8

All people admitted to hospital, for whatever reason, will receive effective care of their diabetes. Wherever possible, they will be involved in decisions concerning the management of their diabetes.

Standard 11

The NHS will develop, implement and monitor agreed protocols and systems of care to ensure that all people who develop long-term complications of diabetes receive timely, appropriate and effective investigation and treatment to reduce their risk of disability and premature death.

Action

At the age of 68 years, David suffered a myocardial infarction and was admitted to hospital. While on the ward, he tested his own blood glucose levels four times daily and administered his own insulin. He was informed of the results of other blood tests and agreed with his doctors that control of his blood pressure and lipids seemed inadequate. Accordingly, the doses of his treatments were increased.

Standard 12

All people with diabetes requiring multi-agency support will receive integrated health and social care.

Action

At the age of 68 years, after being discharged from hospital, David was visited at home by the occupational therapy team to ensure that this was suitable in every way; by the social work team to ensure that he was able to care for himself; and by his friend the dietitian. Until he was fit to attend the diabetic clinic, he continued to be reviewed at home.

A happy ending

Although his eyesight and circulation deteriorated further, David lived comfortably for another 10 years to the age of 78 years. He had no further heart attacks and died of a condition unrelated to diabetes. He survived to see his sister's children have children of their own.

Conclusion

The NSF for Diabetes provides healthcare professionals with a clear statement of the standards and interventions which will improve services for people with diabetes together with an indication of the situations in which they are appropriate. Application of such high quality care in a systematic manner

should enable patients to live more full and independent lives and to suffer fewer of the long-term consequences of this multi-organ disease. ■

Standards not relevant to this case

Standard 5

All children and young people with diabetes will receive consistently high-quality care and they, with their families and others involved in their day-to-day care, will be supported to optimise the control of their blood glucose and their physical, psychological, intellectual, educational and social development.

Standard 6

All young people with diabetes will experience a smooth transition of care from paediatric diabetes services to adult diabetes services, whether hospital or community-based, either directly or via a young people's clinic. The transition will be organised in partnership with each individual and at an age appropriate to and agreed with them.

Standard 9

The NHS will develop, implement and monitor policies that seek to empower and support women with pre-existing diabetes and those who develop diabetes during pregnancy to optimise the outcomes of their pregnancy.

PAGE POINTS

1 While on the ward, David tested his own blood glucose levels four times daily and administered his own insulin.

2 After being discharged from hospital, David was visited at home by the occupational therapy team to ensure that this was suitable in every way, and by the social work team to ensure that he was able to care for himself.

3 Application of high quality care in a systematic manner should enable patients to live more full and independent lives and to suffer fewer of the long-term consequences of this multi-organ disease.

Department of Health (2003) National Service Framework for Diabetes: Delivery Strategy (<http://www.doh.gov.uk/nsf/diabetes>)