

Has the nGMS contract improved diabetes care in general practice?

Catriona Hilton, David Russell-Jones, Victoria Hordern, John Williams

Systematic and structured changes have been taking place in diabetes care over the last 6 years. The national service framework for diabetes was introduced in 2001 and set out key standards to improve overall quality of care, leaving a large part of the implementation to be decided locally (DoH [Department of Health], 2001; DoH, 2003a). At present there is still a lack of longitudinal evidence to suggest what effect reforms within the NHS have had on data recording and quality of care. This study examines changing standards of diabetes care in general practice between 2001 and 2007.

In 2004 the new GMS contract was negotiated. Under this contract GPs are offered financial rewards for achieving clearly defined targets for the management of chronic conditions. The number of points on offer for diabetes reflects the growing prevalence and burden of this condition (DoH, 2003b).

This prospective longitudinal observational study collected data in 2001, 2003 and 2007 from nine practices in the Guildford and Waverly area in the south of England. *Figure 1* shows the timing of data collection in relation to national initiatives. Data were collected for all patients registered

at each practice. The records studied were 91 499 in 2001, 92 996 in 2003 and 97 511 in 2007. Informed consent was obtained from practices prior to data collection. Anonymised data were extracted using MIQUEST queries to provide information on predefined indicators of diabetes care:

- absolute value for HbA_{1c}
- cholesterol
- blood pressure
- smoking status
- BMI.

To be included, data must have been recorded in the previous 15 months, in

Article points

1. In 2004 the new General Medical Services (GMS) contract was negotiated. Under this contract GPs are offered financial rewards for achieving clearly defined targets for the management of chronic conditions.
2. This prospective study shows that standards of care and data recording have improved substantially since 2001.
3. Our results add to the evidence that suggests that financial incentives may be an effective way of improving quality of care.

Key words

- nGMS contract
- Improvement of care

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Page points

1. This prospective study shows that standards of care and data recording have improved substantially since 2001.
2. By 2003 GPs were well placed to respond to the nGMS contract, and standards have continued to rise with its implementation.

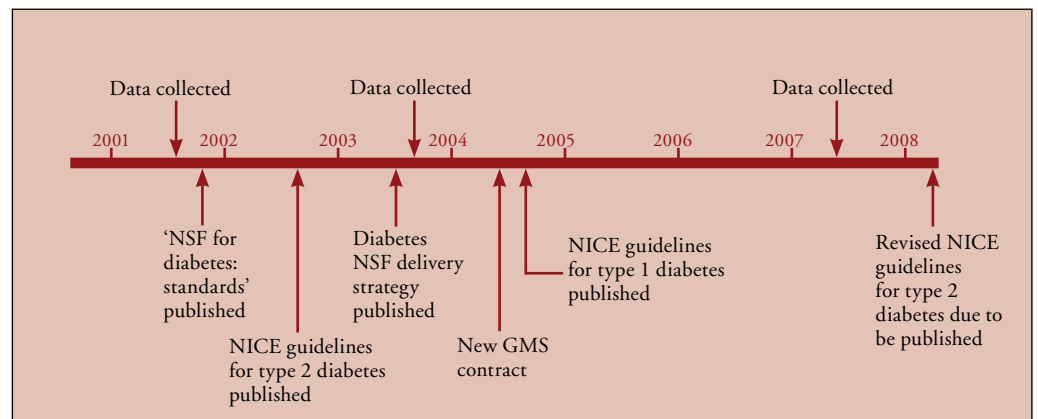


Figure 1. Data collection in relation to national initiatives

line with nGMS targets (DoH, 2003b). Demographic data were also collected. People with diabetes were identified by the presence of a diagnostic computer read code, and the time since diagnosis was calculated as the time since the first diagnostic diabetes code was entered. No restriction was placed on age range.

Under the nGMS contract, practices are able to exclude patients from certain indicators – if, for example, a patient refuses monitoring. Exception reporting was not taken into account as this information was not available for the earlier years of data collection, and because there is evidence that practices with high exception reporting rates perform better (Doran et al, 2006).

Statistical analyses were performed using SPSS 14.0 software. Data were compared using independent sample t-tests, or

Mann–Whitney U tests for skewed data. Chi-squared tests were used for categorical data.

Results

Between 2001 and 2007 the recorded prevalence of diabetes rose from 1.89% to 2.55%. Table 1 shows demographic data for the population with diabetes. Table 2 shows mean values and the percentage of people with diabetes who have had each parameter recorded in a given time period, together with the level of statistical significance.

There was a significant increase in the recording of all parameters over the 15 months preceding data collection, although the recording of blood pressure dropped between 2001 and 2003 before rising from 2003 to 2007. A substantial decrease in HbA_{1c} occurred, from 8.1% in 2001 to 7.2% in 2007. During this period the average blood pressure fell from 143.4/79.3mmHg to 135.7/76.4mmHg. Mean cholesterol fell from 5.0mmol/l to 4.5mmol/l over the course of the study. The average BMI of the population with diabetes rose slightly but significantly from 28.6kg/m² to 29.4kg/m². In addition, there was a marked decrease in the number of people recorded as being current smokers, from 25.1% in 2001 to 13.5% in 2007.

Discussion

This prospective longitudinal observational study shows that standards of care and

Table 1. Demographic data for the records analysed with diabetes.

	Year			Significance	
	2001	2003	2007	2001–3, <i>P</i>	2003–7, <i>P</i>
Number of records analysed	91 499	92 996	97 511		
Number of people with diabetes	1729	2080	2488		
Prevalence of diabetes (%)	1.89	2.23	2.55		
Male:Female ratio	1.11	1.21	1.17	0.176	0.546
Mean age (years)	62.51	63.03	64.37	0.497	0.019
Mean time since diagnosis (years)	7.47	7.41	8.44	0.032	0.004

Page points

1. The increase in prevalence of diabetes demonstrated by this study is in line with that seen in larger local and national epidemiological studies.
2. This is the first completed longitudinal study with data collected prospectively between the introduction of the NSF and nGMS contract, up until the present day.

Table 2. Absolute value for each parameter and percentage of patients having the parameter recorded within the last 15 months for the population with diabetes.

	Year			Significance	
	2001	2003	2007	2001–2003, P	2003–2007, P
Mean HbA _{1c} in the last 15 months (%)	8.1	7.6	7.2	<0.001	<0.001
Percentage of patients with an HbA _{1c} recorded in the last 15 months (%)	74.1	83.7	92.4	<0.001	<0.001
Mean systolic blood pressure in the last 15 months (mm Hg)	143.4	139.0	135.7	<0.001	<0.001
Mean diastolic blood pressure in the last 15 months (mm Hg)	79.3	78.1	76.4	0.001	<0.001
Percentage of patients with a blood pressure recorded in the last 15 months (%)	83.2	80.2	95.9	0.011	<0.001
Mean cholesterol recorded in the last 15 months (mmol/l)	5.0	5.1	4.5	0.103	<0.001
Percentage of patients with a cholesterol recorded in the last 15 months (%)	59.2	73.9	91.5	<0.001	<0.001
Mean BMI recorded in the last 15 months (kg/m ²)	28.6	28.9	29.4	0.363	0.006
Percentage of patients with a BMI recorded in the last 15 months (%)	57.5	69.2	89.6	<0.001	<0.001
Percentage of patients recorded as being current smokers (%)	25.1	19.3	13.5	<0.001	<0.001
Percentage of patients with a smoking status recorded in the last 15 months (%)	42.2	62.9	87.8	<0.001	<0.001

data recording have improved substantially since 2001. By 2003 GPs were well placed to respond to the nGMS contract, and standards have continued to rise with its implementation. In many cases this has led to a significant improvement in modifiable risk factors for the long-term complications of diabetes. Our results add to the evidence base suggesting that financial incentives may be an effective way of improving quality of care (Chaix-Couturier et al, 2000). The increase in prevalence of diabetes demonstrated by this study is in line with that seen in larger local and national epidemiological studies (Amos et al, 1997; Gatling et al, 1998). It is likely that to some degree the increase in prevalence is due to better detection and improved data governance. However, this in itself is still significant, as it means that more people are being diagnosed and

offered appropriate management.

This decade has been a time of rapid change in health care in the UK, making it impossible to attribute improvements to any one initiative. Standards of care certainly have improved with the introduction of the nGMS contract, however, standards were already improving prior to its introduction. As the new contract did not have a geographically staggered introduction it is difficult to confidently isolate and assess its impact. It may be that the improvements in quality of care observed between 2001 and 2003 were as a result of GPs ‘gearing up’ for the introduction of the nGMS contract.

This is the first completed longitudinal study with data collected prospectively between the introduction of the NSF and nGMS contract, up until the present day. This study was powered by a large sample size, with all of the practices electing to take

Page points

1. Our results confirm those of other studies that have demonstrated that the standard of diabetes care was already improving prior to the instigation of the GMS contract.
2. The many changes to health care over the last six years have resulted in improved standards of care for diabetes patients in general practice.

part in data collection throughout the study. The prospective design and data collection strengthens this study and we are confident the data represents accurately GP practices' performance at each time point.

An important consideration when assessing the improvements in care is that, for many parameters, the recording was poor in the early years covered by this study. As there is likely to be preferential recording of patients with poor control, this may have resulted in artificially high values earlier in the study. As demonstrated in *Table 1* there was a change in the characteristics of the population with diabetes over the course of the study, which included a small but significant increase in age and in time since diagnosis. It was not possible to link individual patients in the separate data collections, and as such it is impossible to quantify the flux of patients in the practices. The improvements observed reflect real improvements in patient care.

Conclusions

Our results confirm those of other studies that have demonstrated that the standard of diabetes care was already improving prior to the instigation of the nGMS contract (Seddon et al 2001; Campbell et al 2005; Doran et al 2006; Gray et al, 2006). The many changes to health care over the last 6 years have resulted in improved standards of care for people with diabetes in general practice. The NSF placed an emphasis on patient-centred care and developing a therapeutic relationship. The nGMS moved away from this towards a more biomedical model of care, focusing on easily quantifiable targets. Alongside this, the various guidelines that were introduced – including the NICE guidelines – equipped clinicians with evidence based methods for achieving the targets. ■

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