

National Diabetes Audit Abridged Report

Key findings about the quality of care for
people with diabetes in England and Wales

Report for the audit period 2005-2006



Prepared in association with:



“The national diabetes audit is an important tool giving a clear picture of the quality of care at a local level. Access to accurate and timely information on where gaps still exist is essential if decision makers are to bring about changes and plan services that will improve the health outcomes of people with diabetes in their local community.”

Bridget Turner - *Head of Healthcare and Policy, Diabetes UK*

“The NDA is an essential part of Salford Diabetes Care’s annual self-assessment. We use the results along with DiabetesE, progress against our NSF implementation plan and local audit to set priorities for the forthcoming year. Last year the comparative data drew attention to our suboptimal performance in ascertainment of people with Type 2 diabetes. We have devised and implemented a plan and will use the next NDA data to assess our progress.”

Dr Bob Young - *Consultant Diabetologist, Hope Hospital, Salford*

“The NDA has been an invaluable tool as we support healthcare professionals to better understand the needs of their diabetes communities. It has been essential in helping them identify service improvements, how progress is made and how they are performing in comparison with others.”

Bev Bookless - *Director, National Diabetes Support Team*

“It is vital that clinicians engage with making sense of all the diabetes information available. The NDA is a massive piece of this puzzle, with its focus on crucial clinical outcomes.”

Simon Eaton - *Consultant Diabetologist, Northumbria Healthcare NHS Foundation Trust*

“Our participation in the National Diabetes Audit has allowed our Trust to take a big step forward with our Audit control procedures, and has provided us with a clear view of future Diabetes and audit priorities with our GP Practices.”

Craig Deerfield - *Clinical Audit Facilitator, Birmingham East and North PCT*

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National Diabetes Audit

Abridged Report

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Report for the audit period 2005-2006

This report presents the main findings from the third year of the audit. It also provides recommendations for both national and local organisations based on the analysis of the audit data.

The Full Report, the Executive Summary and the Key Findings about the quality of care for children and young people with diabetes in England and Wales will compliment this report. The Full Report is available as a PDF file download only and can be found at: <http://www.ic.nhs.uk/our-services/improving-patient-care/the-national-clinical-audit-support-programme-ncasp/audit-reports/diabetes>. For further information about the report contact The Information Centre for health and social care's (The IC) Contact Centre 0845 300 6016 or email: enquiries@ic.nhs.uk quoting document reference 19040507.

The Executive Summary is available to download from: <http://www.ic.nhs.uk/our-services/improving-patient-care/the-national-clinical-audit-support-programme-ncasp/audit-reports/diabetes>. Printed copies of the report can be ordered from The IC's Contact Centre 0845 300 6016 or email: enquiries@ic.nhs.uk quoting document reference 05070107.

The Paediatric Report is available to download from: <http://www.ic.nhs.uk/our-services/improving-patient-care/the-national-clinical-audit-support-programme-ncasp/audit-reports/diabetes>. Printed copies of the report can be ordered from The IC's Contact Centre 0845 300 6016 or email: enquiries@ic.nhs.uk quoting document reference 19040607.

Electronic copies of this report can be found at: <http://www.ic.nhs.uk/our-services/improving-patient-care/the-national-clinical-audit-support-programme-ncasp/audit-reports/diabetes>. Printed copies of this report can be ordered from The Information Centre for health and social care's Contact Centre 0845 300 6016 or email: enquiries@ic.nhs.uk quoting document reference 19040707.

For further information about this report, contact The IC's Contact Centre 0845 300 6016 or email: enquiries@ic.nhs.uk.

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Acknowledgments

The project wishes to acknowledge the following individuals and groups that have supported the National Diabetes Audit (NDA) and provided guidance and direction over the audit year.

Dick Waite and Helen Laing of the Healthcare Commission for their continued sponsorship and support for the audit.

The Service Management Board for providing governance and strategic direction for the audit, including: Martin Old, Dr Sue Roberts, Dr Bob Young, Bridget Turner, Dr Dick Waite, Helen Laing and Phil Moores. (Full details can be found in Appendix A).

The NDA also wishes to thank the Paediatric Advisory Group for providing advice and guidance for the paediatric elements of the audit and the Paediatric Steering Group for its support and development of the paediatric analysis. Full details of membership can be found in Appendix A.

The National Diabetes Support Team (NDST), for their support and collaboration over the last 12 months, including Bev Bookless (National Programme Director), Alex Findlay (Assistant Director), Bill O'Leary (Head of Communications), Sally Brooks (Writer), Clare Beard (Child and Adolescent Diabetes Programme manager), Liz Allan (Project Manager) and the Regional Programme Managers, for their tireless efforts to encourage participation in the NDA: Atiya Chaudry-Green, Debbie Cook, Navinder Dhillon, Michelle Greenwood, Andy Howard, Abbey Kitt (Bissill), Chris Lambourne, Winsome Stack and Juliet Webb.

Dr Justin Warner and Heather O'Connell at the Brecon Group Registry, for their efforts in developing Welsh paediatric participation in the audit.

The Yorkshire and Humber Public Health Observatory, in particular David Merrick, for his collaboration on incorporation of the PBS2 diabetes prediction prevalence model into the NDA analysis.

Connecting for Health Systems and Service Delivery (CfHSSD - formerly NHSIA) for their support and development of the technical infrastructure for the audit, including Phil Moores, Julian Van Tienhoven, Bev Bowen and in particular Simon Netley and Darren Reddick for their support and encouragement to all those organisations participating in the audit throughout the data submission period.

The NDA User Group was established in the audit year and their input and support for the audit has been valued, in particular Dr Douglas Russell, for his support in testing automated data extract from primary care. Full membership of the NDA User Group can be found in Appendix A.

The NDA has benefited from the support of staff throughout The Information Centre for health and social care (The IC). The project would like to thank them all, including the Geographic Demography and Population Statistics Team, in particular Nick Armitage for his support on NDA development of Super Output Area analysis for the audit and David Wheatley for designing the NDA participation maps. Also, Charlotte Tye and Nick Worner of the Marketing and Communications Team for their work on NDA publicity, materials, communications and supporting conference attendance. Louise Phillips and Caroline McGregor-Johnson in the NCASP programme support office and Laurence Dolman for his work on developing NDA system requirements. Alison Roe, of the National Datasets Service, for her work on developing the NDA dataset application for full operational standard and steering its progress through the Information Standards Board process. Emma Hirst, the NDA Business Analyst for her encouragement and support to participating organisations and ongoing development of NDA analysis and Julie Henderson, Diabetes Senior Project Manager.

Helen Atkinson and Mandy Marshall at PRIMIS+, for their development of the MIQUEST queries for primary care data extraction and Pat Potts for her work on testing the queries before their release. James Barrett, for his considered development of the NDA analysis toolkit.

And finally, thanks to all those who have worked hard to encourage participation and submit data to the audit, including clinicians, managers, diabetes leads, clinical audit, service improvement and administrative staff. Their efforts and commitment have contributed to the ongoing development of the NDA at a particularly difficult period of NHS reorganisation.

Foreword

I believe that high quality information is at the heart of a successful diabetes service. Up to date and accurate data is the only way to truly know your diabetes population. It means that you can identify gaps in commissioning and find out a service's strengths and weaknesses. Knowing your outcomes and using information intelligently can help a service drive forward for the good of the whole diabetes community. The National Diabetes Audit provides a unique information resource, and with each year it becomes more valuable.

The National Diabetes Audit (NDA) is now the largest annual audit of diabetes services in the world, recording anonymised information on the health and well being of nearly 700,000 individual patients. At the end of the audit period in 2006, 220 primary care trusts, 4,972 individual practices, 81 hospitals and 127 paediatric units were registered. The data submitted provides a wealth of information on the care that people are receiving in this country.

This third annual report of the NDA shows that the diabetes community is continuing to come on board. There has been a 30 per cent increase in GP practice registrations this year and a 34 per cent increase in patient records submitted, meaning the analysis produced from the resulting data is of even more use to the diabetes community. More sign-ups lead to more data, which means the information is yet more representative, producing significant benefits for both healthcare professionals and people with diabetes. Tribute goes to the hard work of the NDA team at the Information Centre, with the support of the National Diabetes Support Team, which has done so much to encourage organisations to get involved.

With the commissioning agenda gathering pace information produced will be increasingly valuable in establishing effective services. The starting point of the commissioning process is discovering the essential needs of the local diabetes population. The NDA can provide information about what standard of care is and is not delivered in the area.

Used with other information sources, the NDA can help the diabetes community to build a detailed picture of the status quo, showing areas of strength and weakness. DiabetesE and the Quality and

Outcomes Framework can add to a very precise picture of the needs of people with diabetes in the area. The better understood a diabetes population is, the better the service provision can be. It can lead to the development of a bespoke service and move away from the one size fits all approach that assumes all people with diabetes are the same.

I am encouraged by the increase in membership of the NDA, but we still have work to do to get 100 per cent of the diabetes community engaged in it. It is now easier than ever to benefit from the NDA, with the new free Automated Data Extraction Tool available from the NDA website. We must continue to strive to ensure that uptake and coverage is as complete as possible.



Dr Sue Roberts

National Clinical Director for Diabetes
Department of Health

Supporting care for diabetics in North Tyneside



The National Diabetes Audit is helping clinicians in North Tyneside review the way services are developed for people with diabetes in the area.

The local diabetes service had been concerned about poor Quality and Outcomes Framework results for foot screening.

However, the audit shows rates of foot amputations for patients from the area are lower than the national average.

“The statistics have reassured us that our model of care, which involves targeting foot care at the most high risk patients, is effective,” said consultant diabetologist Simon Eaton.

“Previously this information was not available as patients may go to a range of hospitals, including some outside our area, for procedures such as amputations. The audit helped us by providing data for our patients wherever they go for treatment and gives us a much richer picture of care for people with diabetes locally.

“The combined information has helped us review our services and think through how we need to develop in the future. For example, we are currently focusing on supporting an increase in foot screening rates by giving training to GPs locally.”



SERVICE REVIEW: Diabetologist Simon Eaton

August 2007

Introduction

The National Diabetes Audit (NDA) is commissioned and sponsored by the Healthcare Commission and developed in partnership with Diabetes UK and clinical representatives. The audit has completed its third year of data collection. The main findings from the audit are contained in this report. Access to local and national comparative analysis is available through the NDA toolkit.

Participation

Participation in the third year of the NDA has increased, with over 750,000 individual patient records submitted to the audit from primary and secondary care organisations. After data linkage of multiple records almost 656,000 records are included in the NDA analysis, with 85 per cent (555,726) of records submitted from primary care.

In total, data was submitted from 131 PCTs in England, based on the PCT structure before reorganisation in October 2006. Full details of PCT participating organisations can be found in Appendix B.

The GP participation range for registered PCTs is from 1.32 per cent to 100 per cent. The national mean for GP participation is 37.81 per cent.

Figure 1: PCT Participation in the 2005-2006 NDA

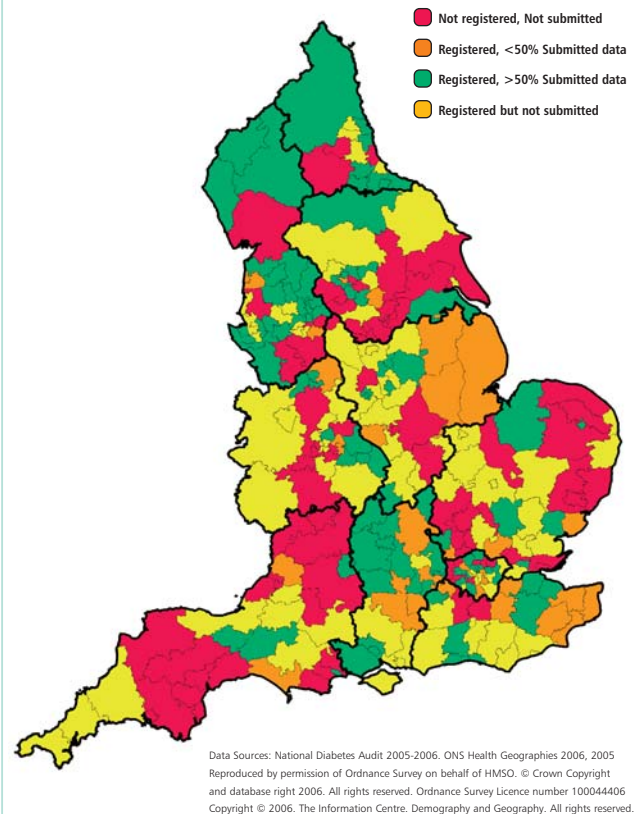
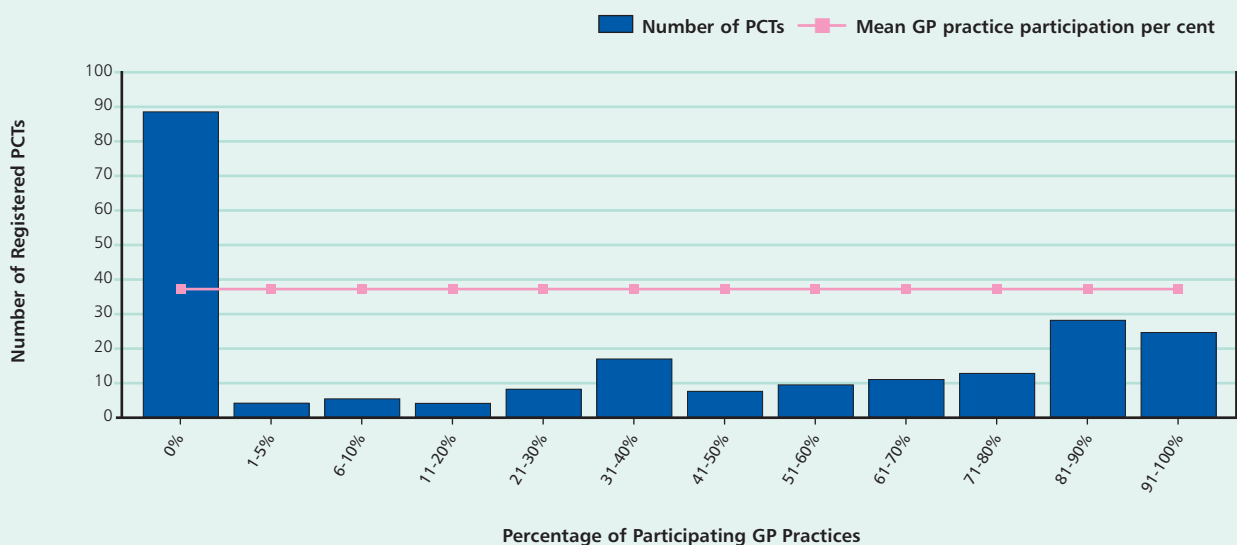


Figure 2: Percentage of participating GP practices



There was a 29.7 per cent increase in registrations for GP practices from the 2004-2005 audit:

Audit Year	2004-2005	2005-2006
GP Practice Registrations	3,833	4,972

However, only 49 per cent (2,416) of registered GP practices submitted data to the 2005-2006 audit.

There has also been an increase in individual patient records submitted to the audit:

Audit Year	2003-2004	2004-2005	2005-2006
Patient Records	252,198	489,401	655,953

655,953 individual patient records were submitted to the 2005-2006 audit. This is a 34 per cent increase on the 2004-2005 audit figure of 489,401 patient records.

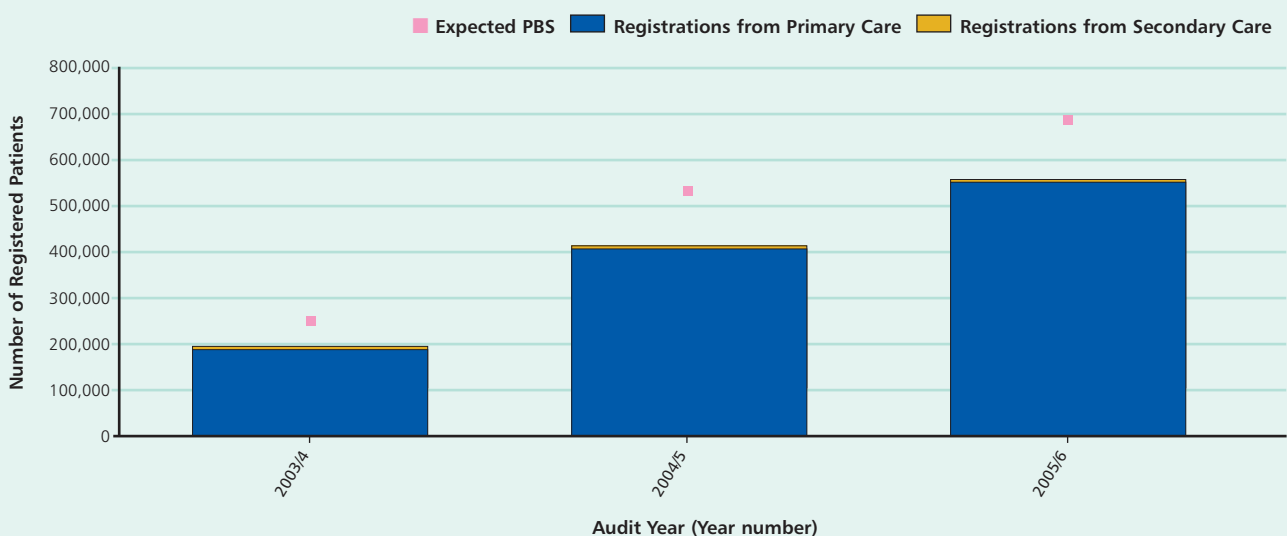
This increase reflects the hard work of all those who have encouraged participation and submitted data to the audit. They are to be congratulated for their achievements in what has been a difficult year due to reorganisation.

It is clear that participation is increasing year-on-year (Figure 3), but full national coverage remains problematic. Achieving data analysis in the NDA requires a number of steps, these are outlined below.

- PCTs need to register their practices.
- Data extract queries are run for the practice to submit data.
- Data quality reports are made available to support local data improvement, if required; the NDA extract can be re-submitted.
- The NDA undertakes data triangulation (linking records from primary care and secondary care, including specialist paediatric units) and analysis, which is then made available in the NDA online toolkit.

There is the potential for falling-off of participation at any stage in the process. The PCT operating environment over the last 12 months has placed further pressure on participation in the NDA as key staff have been affected by the reorganisation.

Figure 3: Number of registrations from all sources by audit year



The NDA asks a number of questions that support implementation of the National Service Framework (NSF)¹ for diabetes:

Identification and registration of people with diabetes

Is everyone with diabetes diagnosed and recorded on a practice diabetes register?

Of the practices that have submitted data to the NDA, it is predicted that 4.58 per cent of the population will have diabetes.

The prevalence of diabetes, of those areas participating in the audit, ranges from 2.40 per cent to 6.14 per cent. This represents a mean prevalence of 3.74 per cent compared to the 2004-2005 audit prevalence of 3.51 per cent.

Prevalence from the Quality and Outcomes Framework (QOF) data for the 2005-2006 year is 3.60 per cent. The slight differences between QOF and the NDA could be due to a variety of reasons:

- QOF data allows adjustments up until June following closure of the audit year, the NDA collects data as it stands at the close of the audit year
- there may be differences in recording between audit years for both QOF and NDA
- it may be a factor of the PCTs and practices that participate in the audit and the demographics of these organisations
- the NDA collects information on all children, young people and adults with diabetes; QOF data is based on all those aged 17 and over.

When data is received from both primary and secondary care sources the NDA can identify whether all those with diabetes are recorded on a practice based register. Of the data submitted to the audit there were 55,468 people diagnosed within the audit year, which is 9.90 per cent of the audit records. 55,276 of the records were recorded in primary care leaving 192 people being diagnosed in secondary care and not known to a GP practice register. Those diagnosed in secondary care, but not known in primary care are a very small number of the total population of people with diabetes.

The NDA can also identify the total numbers of people with diabetes who are known to secondary care, but not known on a practice based diabetes register (Figure 4).

Figure 4: Secondary care registrations in NDA not included in a primary care register

Audit Year	Registrations	Number of registrations not on GP register	Per cent of registrations not on GP register
2003-2004	195,124	2,952	1.51
2004-2005	417,561	3,799	0.91
2005-2006	559,716	3,990	0.71

In the 2005-2006 audit year, 0.71 per cent of the number of total registrations are not recorded on a GP practice based register. This is a decrease of 19 per cent on the 2004-2005 audit.

It is increasingly apparent that newly diagnosed patients are no longer lost in secondary care. However, it appears that little is being done at the local level to investigate where patients are known to secondary care only. Each PCT needs to compare their records at the local level. Data quality reports in the NDA toolkit will identify the NHS number of people with diabetes recorded in secondary care but not in primary care to facilitate local improvements.

Recommendation

It is recommended that PCTs review their data quality reports within the NDA analysis toolkit to identify whether any people with diabetes are known only in secondary care. Where this occurs each instance should be addressed to ensure that the primary care diabetes register is updated.

Information on registered prevalence by ethnicity is generally poor, but varies significantly across PCTs; from 0.18 per cent to 100 per cent. Ethnicity is of crucial significance to understanding diabetes prevalence and service planning. The Audit Commission Patient Survey found that gaps in patient knowledge, understanding and confidence in managing diabetes were substantially more pronounced for ethnic minorities than the white population².

Recommendation

It is recommended that clinicians record the ethnicity of people with diabetes.

Figure 5: NDA registered prevalence and expected prevalence of diabetes using PBS phase 2 diabetes prediction prevalence model (registration data from all sources)

Sex	2004-2005 Actual prevalence per cent	2005-2006 Actual prevalence per cent	Expected prevalence per cent 2005-2006	Variance in 2005-2006 and 2004-2005 actual per cent	Variance in 2005-2006 Actual and Expected PBS Prevalence per cent
Male	3.91	4.17	3.80	0.26	0.37
Female	3.13	3.33	5.32	0.20	-1.99

Analysis of the data submitted to the NDA for 2005-2006 reveals a greater registered prevalence (0.37 per cent higher) of males than anticipated. There is also lower registered prevalence (1.99 per cent lower) of females than anticipated (Figure 5 above). This pattern is observed in the data from previous audit years.

Complications associated with diabetes

For people with diabetes what is the annual rate of specific complications?

The NDA collects and analyses data on the following complications:

- angina
- cardiac failure
- myocardial infarction
- stroke
- ketoacidosis
- diabetic retinopathy
- renal failure
- minor amputation
- major amputation

People with diabetes are more likely to experience adverse health outcomes than the general population (Figure 6 below). However, outcomes can be modified by action that is part of routine care.

Figure 6: Complication prevalence (National) by complication type for 2005-2006 audit, data from all sources

Complication Type	Prevalence per cent (people with Diabetes)	Prevalence percent (National)
Ketoacidosis	0.68	0.02
Angina	2.90	0.53
Myocardial Infarction	0.58	0.17
Cardiac Failure	1.43	0.33
Stroke	0.48	0.17
Renal Failure	0.31	0.05
Diabetic Retinopathy Treatments	0.56	0.04
Amputation Minor	0.14	0.01
Amputation Major	0.08	0.01

The prevalence of adverse health outcomes in people with diabetes can be tracked over time with the NDA data (Figure 7).

There has been a pleasing downward trend in the prevalence of stroke and myocardial infarction amongst people with diabetes over the three audit years (Figure 8).

This trend is not observed in other adverse outcomes of diabetes. However, it can take a number of years for improvements in outcomes for people with diabetes to be seen following improvements in

delivery of care and self-management. It is likely that the development of retinopathy screening programmes has impacted on the numbers seen within the audit data.

The NDA analysis can also highlight where prevalence of stroke and myocardial infarction for people with diabetes is higher or lower than anticipated. The analysis toolkit provides this information for the audit year and over the last 5 years. Details of the outliers can be found in the toolkit and in Appendix D.

Figure 7: Prevalence (per cent) by complication type – time trend, data from all sources, Hospital Episode Statistics (HES) 1 year

Complication Type	Prevalence per cent 2003-2004	Prevalence per cent 2004-2005	Prevalence per cent 2005-2006
Ketoacidosis	0.69	0.66	0.68
Angina	2.42	2.91	2.90
Myocardial Infarction	0.72	0.65	0.58
Cardiac Failure	1.48	1.40	1.43
Stroke	0.58	0.53	0.48
Renal Failure	0.29	0.31	0.31
Diabetic Retinopathy Treatments	0.39	0.40	0.56
Amputation Minor	0.14	0.13	0.14
Amputation Major	0.10	0.09	0.08

Figure 8: Complication prevalence time trend, by complication type, data from all sources, HES 5 years

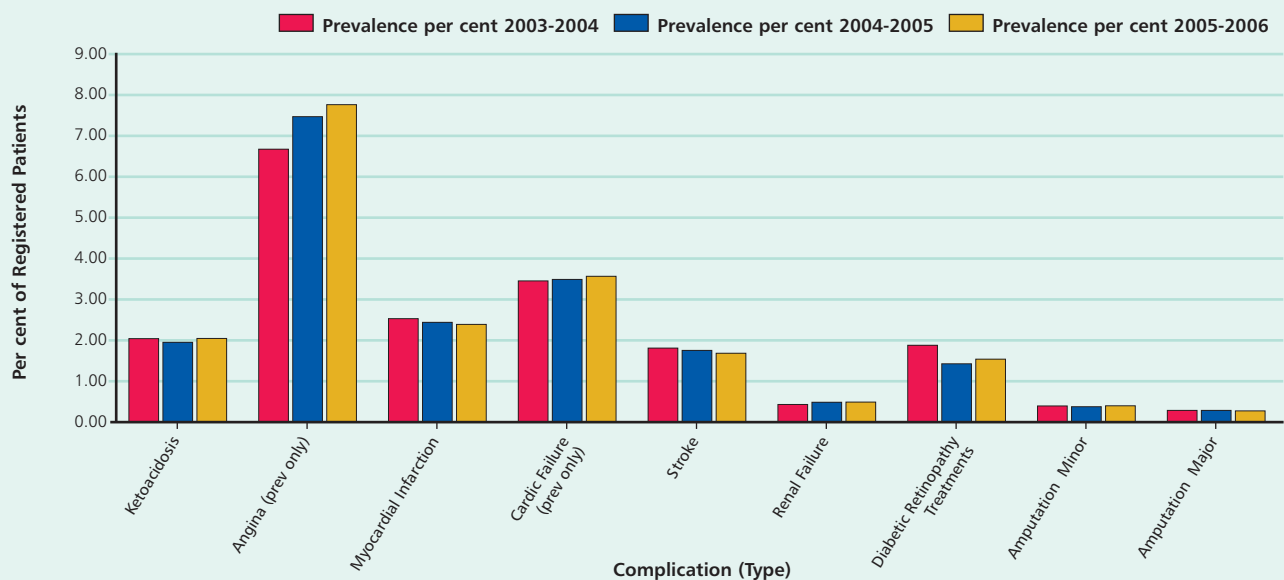


Figure 9: Prevalence SPC of MI by PCT, HES 1 year, data from all sources

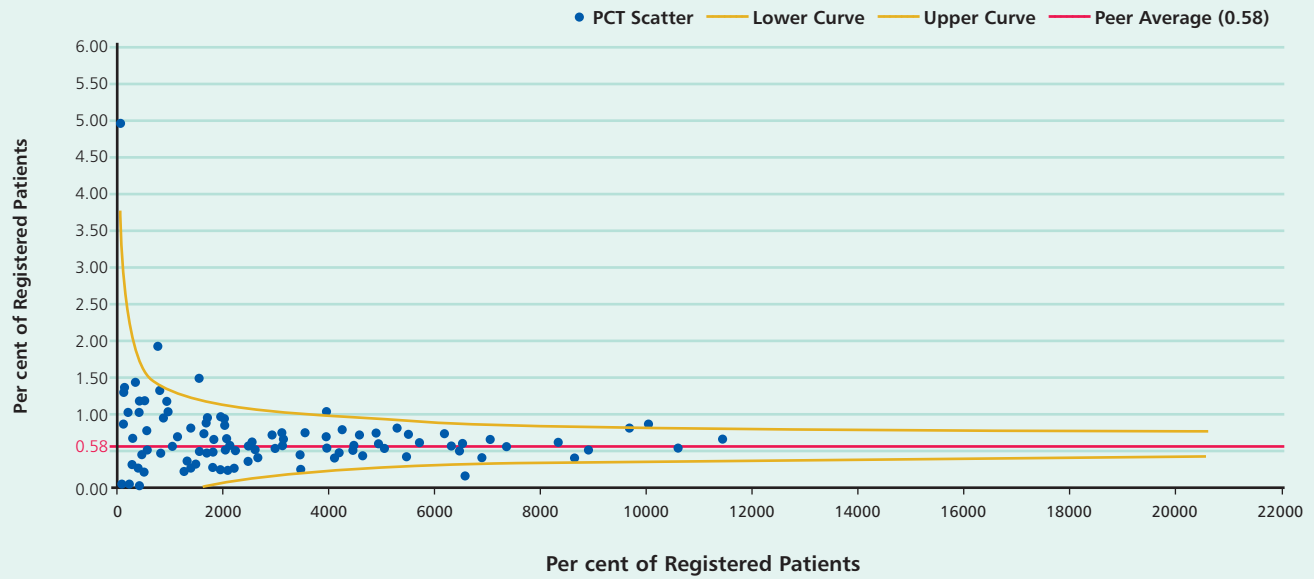
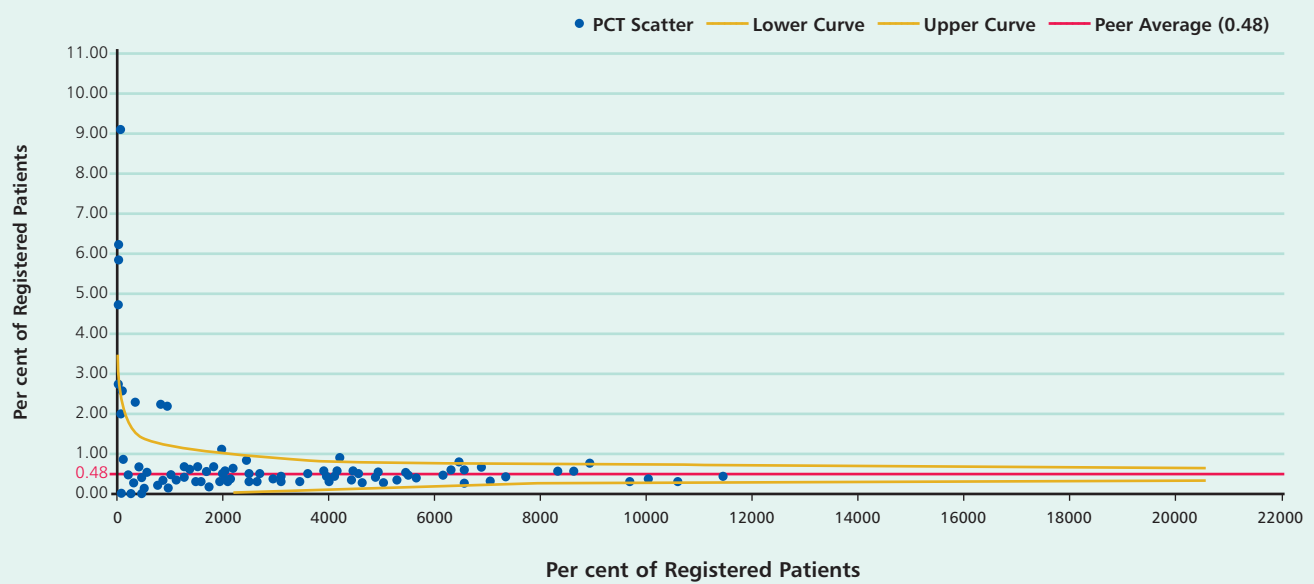


Figure 10: Prevalence SPC of stroke by PCT, HES 1 year, data from all sources



Structured care for people with diabetes

What proportion of people registered with diabetes receive the key processes of diabetes care?

There is an increasing trend of delivery and recording of the key elements of the annual surveillance review that can be seen across the audit years. Although only 30 per cent of people have had All Care Processes carried out in the audit year, the level of achievement is increasing year-on-year. The NDA data will differ

from QOF reports as no data are excluded from the audit. QOF exception reporting excludes data, but at variable levels between individual practices, which makes comparative analysis difficult.

Further analysis of the NDA data illustrates that those at the extremes of age are not getting the care they require. While the implications differ for each age group this can have serious consequences for the control of their diabetes, their general well being, and ultimately for adverse outcomes (Figure 12).

Figure 11: All sources data – time trend by care process type

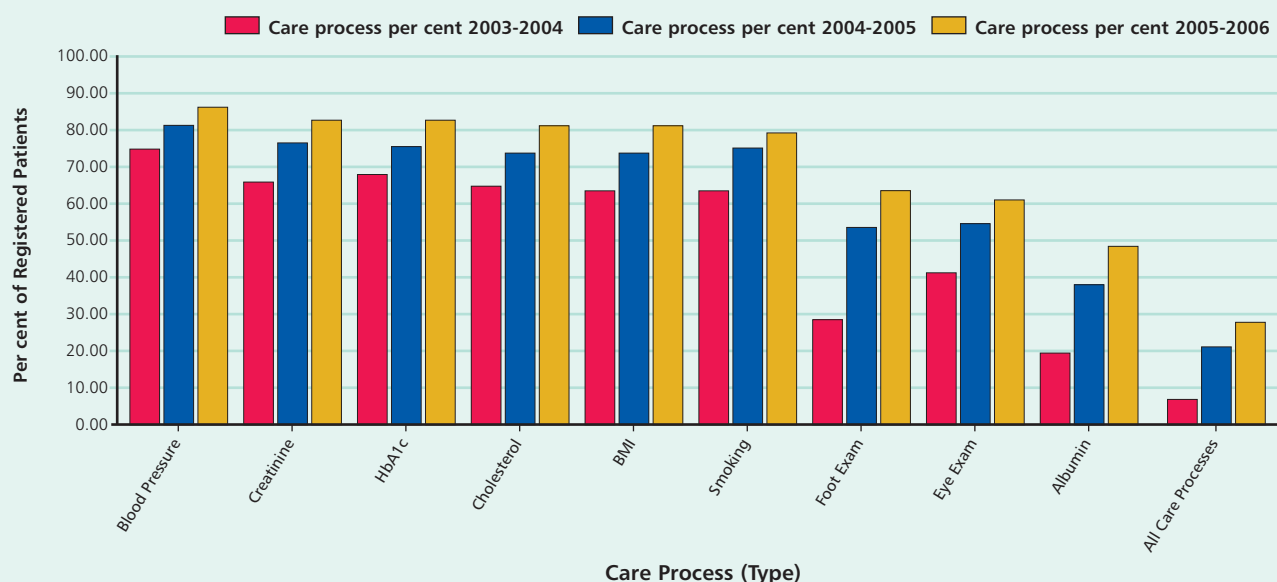
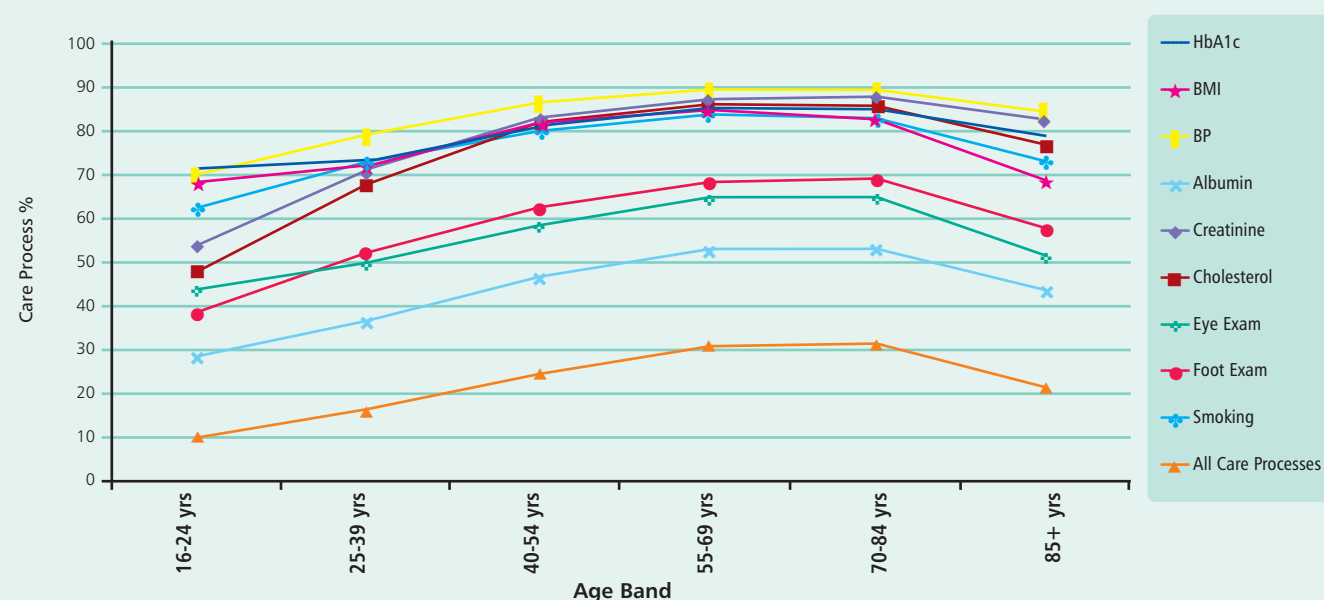


Figure 12: Rates of carrying out care process, by age band



There is national recognition that transition of care for children and young people and care for the very elderly in residential and rest homes are very important.

Recommendation

It is recommended that PCTs, clinicians and commissioners review their data and ensure that the key processes of care are carried out for people with diabetes, in particular for those at the extremes of age (the young and the elderly).

The NDA has incorporated new analysis into the audit. This includes information on structured education for people with diabetes. The analysis has been developed from the National Institute for Clinical Excellence (NICE) Technology Appraisal 60³. Currently there is limited information on the offer and uptake of structured education held within the primary care data submitted to the NDA. This analysis is based on a small subset of audit data.

The NDA data analysis found that of the data on structured education submitted to the audit, 61.17 per cent of people who had been diagnosed for less than 1 year attended structured education.

Overall, 32.6 per cent of people with diabetes had attended structured education within the audit year.

The Healthcare Commission Patient Survey⁴ found that only 11 per cent of respondents said that they had participated in a course to help manage their diabetes, although the figure varied considerably by PCT. 26 per cent of those who had not participated in a course said that they wanted to.

It is likely that those areas that submitted data on structured education to the NDA have established structured education programmes and are therefore more likely to make this available for people with diabetes. There may also be differences in interpretation of the meaning of structured education between the Healthcare Commission Patient Survey and those recording and submitting data to the audit. The increasing availability of data on structured education will improve the analysis and understanding of this element of care provision for those with diabetes.

Recommendation

It is recommended that PCTs, clinicians and commissioners ensure that appropriate structured education is made available to people with diabetes. Accurate recording of structured education should also be encouraged within the primary care diabetes register.

Achievement of treatment targets

What proportions of people with diabetes achieve treatment targets?

Again, there is a general increasing trend for people with diabetes to achieve the National Institute for Health and Clinical Excellence (NICE) recommended guidelines for HbA1c control, cholesterol levels and blood pressure control. However, this is variable across the age bands (Figure 13).

For primary care, 60.31 per cent of people with diabetes achieved the recommended HbA1c measurement of ≤ 7.5 per cent. This means that 39.69 per cent of people have HbA1c results higher than 7.5 per cent. If this situation continued over time these people are at higher risk of complications and adverse outcomes of diabetes.

Figure 13: Achievement of NICE guidelines for HbA1c, cholesterol and blood pressure, by age band

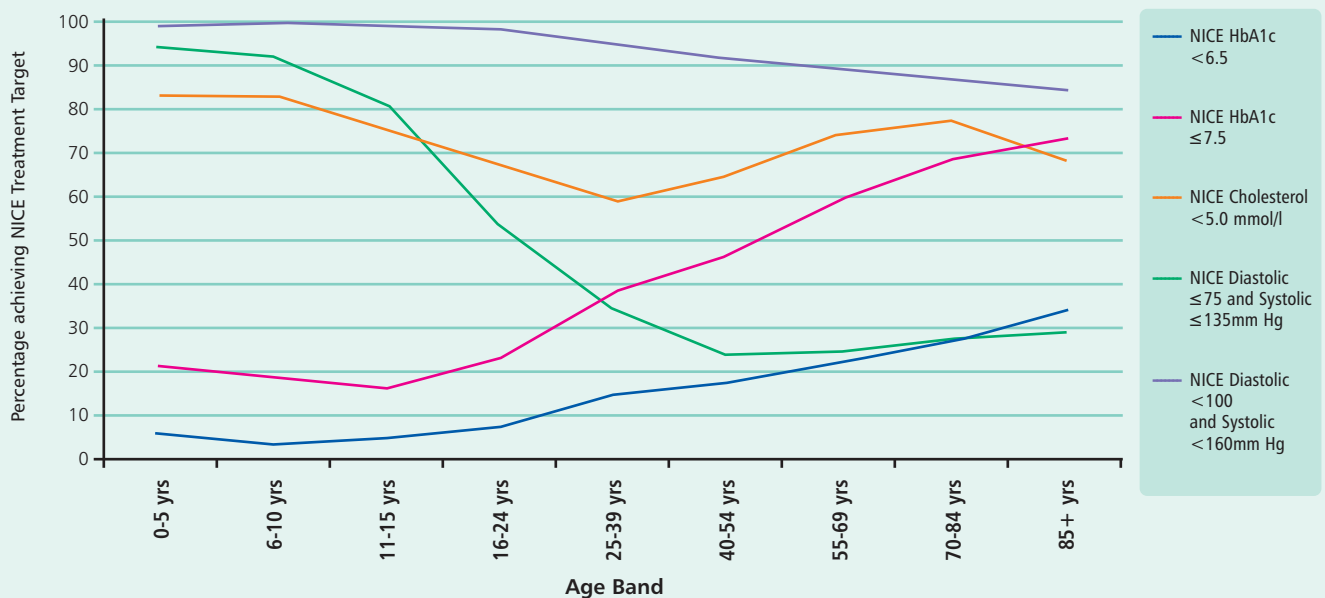
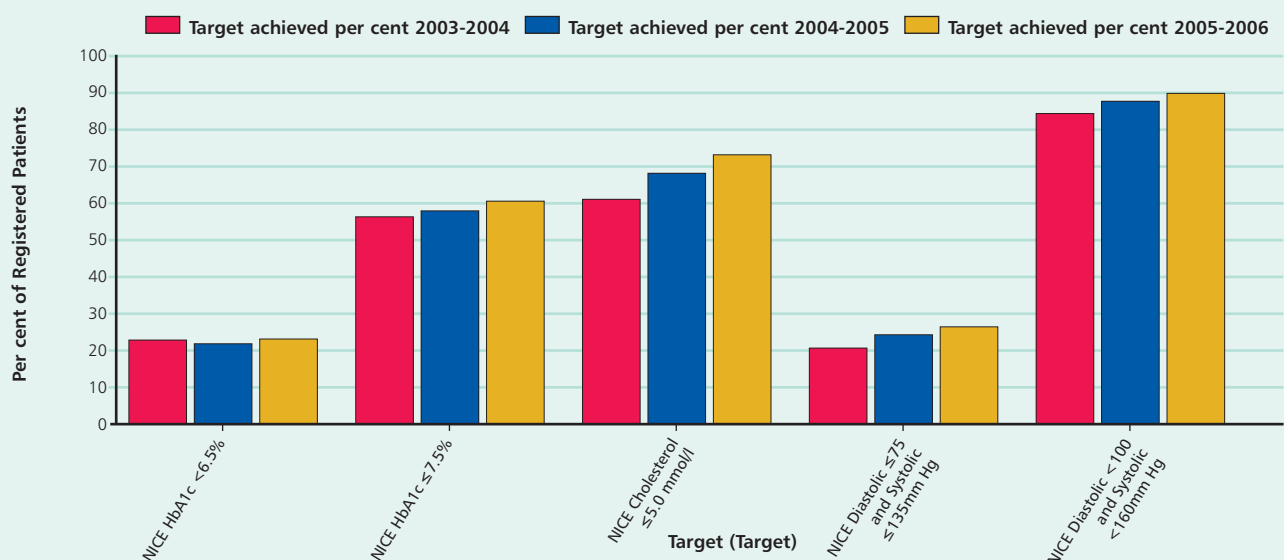


Figure 14: Time trend: per cent of people with diabetes achieving NICE recommended guidelines for treatment targets, data from primary care only



Children and young people

The NDA analysis of paediatric unit data asks:

- how many children and young people with diabetes are cared for in specialist paediatric units?
- what is the rate of ketoacidosis for children and young people with diabetes?
- what proportion of children and young people with diabetes receiving care from specialist paediatric units are getting the key processes of care?
- what proportions of children and young people with diabetes achieve treatment targets?

In total, 102 Specialist Paediatric Units across England and Wales submitted data to the audit which is an increase of 37 per cent from the previous audit year.

Analysis of Diabetic Ketoacidosis (DKA) for England and Wales combined, using 1 year of Hospital Episode Statistics (HES) and PEDW data, shows that 8.71 per cent of children aged under 16 years and 8.89 per cent of children and young people under 24 years experienced at least one episode of DKA.

There is a year-on-year increase in the numbers of children and young people with an HbA1c recording submitted to the audit. This is found across all age bands.

16.63 per cent of children and young people achieved the HbA1c NICE target of <7.5 per cent.

53.66 per cent of children and young people had HbA1c levels of ≤ 7.5 per cent and ≤ 9.5 per cent.

29.65 per cent of children and young people have HbA1c readings of over 9.5 per cent.

Overall, 79.03 per cent of children and young people achieved the NICE cholesterol guideline of <5.0mmol/litre.

Recommendations

It is recommended clinicians and the multidisciplinary care team ensure that children and young people with HbA1c levels consistently above 9.5 per cent are offered additional support by their diabetes team in order to help them improve their glycaemic control and minimise the risk of diabetic ketoacidosis and long-term complications.

It is recommended that commissioners ensure effective models of care are procured and equitably monitored with a view to improving outcomes for all children and young people with diabetes across England and Wales.

The Paediatric report is available to download from the NDA web pages: <http://www.ic.nhs.uk/our-services/improving-patient-care/the-national-clinical-audit-support-programme-ncasp/audit-reports/diabetes> and printed copies of the report can be ordered from The IC's Contact Centre. Please see page 4 for further information.

The Full Report and analysis, which incorporates all data submitted to the audit, is available to download from: <http://www.ic.nhs.uk/our-services/improving-patient-care/the-national-clinical-audit-support-programme-ncasp/audit-reports/diabetes>.

Benefits of participating in the NDA

Quality information is vital to the success of organisations implementing the diabetes National Service Framework (NSF) and key to improving services for people with diabetes. The NDA provides one of the key means of collating, analysing, benchmarking and feeding back information about the effectiveness of diabetes services and their impact on children, young people and adults with diabetes. The NDA supports the implementation of the Diabetes NSF and aims to improve the quality of patient care by enabling organisations to:

- ensure that clinical standards are met
- compare the processes and outcomes of diabetes care with similar NHS organisations
- identify and share good practice of the care for people with diabetes.

The second Innove report on DiabetesE⁵ found that PCTS rate low for direct links between practice information systems and systems to enable triangulation of data and ensure capture of all complications. The average percentage for this module was 16 per cent. However, this process is a core part of the NDA data collection and processing. When PCTs participate in the NDA the triangulation of data is undertaken for them and the analysis provided in the NDA toolkit, which is available online.

Participation in the NDA enables organisations to measure progress towards implementing national standards established in the National Institute for Clinical Excellence (NICE) guidelines for diabetes and provides analysis relevant to key objectives of the NSF for Diabetes. In addition, it provides information for interested stakeholders, the public and patients on the delivery of paediatric diabetes care in regions and localities throughout England and Wales. NDA participation also allows comparison of care delivery within a locality in England (and for England and Wales for specialist paediatric services). This is based on robust benchmarks and taking into account influences such as age profile, type of diabetes and deprivation.

Furthermore, it will allow sharing of best practice through identification of similar organisations that are performing well in diabetes care and complication outcomes and local communities will want to review their local models and pathways of care in light of the feedback from the audit. In addition if secondary care organisations in an area are participating in the audit, it will provide an additional way to identify patients not already included on GP registers. The Hospital Episode Statistics (HES) are linked to NDA data to provide a rich picture of diabetes care and complications in England and also at a local level.

One of the questions asked about the NDA is what it can provide in addition to The Quality and Outcomes Framework (QOF) data.

- The NDA data are not aggregated and can therefore be stratified in many different ways to provide a rich analysis of local data and national comparisons e.g. by age, sex, ethnicity, deprivation, duration of diabetes, diabetes type etc.
- The NDA collects data on patients under 17 years old, which provides a holistic view of the local health economy for conducting needs assessments and developing service delivery forecasts, requirements provision and capacity planning. It supports the need for commissioning services across all age groups and can be a mechanism for auditing service delivery and driving service improvement.
- The NDA incorporates data from both primary and secondary care and provides detailed information on which to assess outcome measures.
- QOF is not a clinical audit tool. There are limitations in the use of QOF data for clinical audit due to the use of exceptions and exclusions. Although QOF provides incentives for practices to improve performance, it is principally a funding mechanism.
- The NDA does not allow for exclusions, which is a critical factor in audit.

The IC has produced an analysis of QOF exception rates for 2005-2006; the following information is an extract:

- the overall effective exception rate for England was 5.55 per cent in 2005-2006, although the rates were variable across PCTs
- the total number of exceptions for diabetes was 1,704,062, with an effective exception rate of 6.01 per cent
- the achievement of the QOF HbA1c outcome target was amongst the highest exception rates at 12.03 per cent (range 0 per cent to 80 per cent)
- QOF exception reporting for the percentage of patients with diabetes who have a record of microalbuminuria testing ranged from 0 per cent to 99 per cent.

It must be noted that unusually high or low rates can result from very small numbers of patients. In addition, there are limitations of the available data, such as practices missing from the analysis; the derivation of exception counts (in particular for zero exceptions) and the potential for amendments to indicator denominators not mirrored by changes to counts of exceptions. Exception reporting is only allowed for clinical indicators in QOF, not for diabetes prevalence figures.

Further details on QOF and exception reporting can be found on the IC website: <http://www.ic.nhs.uk/statistics-and-data-collections/audits-and-performance/the-quality-and-outcomes-framework-QOF>.

The NDA data can also be used to prepare reports for and inform discussions with commissioners. Local data from NDA can be used to support recommendations for service changes and improvements.

The NDA can inform the wider requirements for diabetes strategies, service development, improvement, delivery and assessment. The NDA provides critical data for conducting health needs assessments at a local level. Comparing actual achievement of service provision against expected or commissioned services allows organisations to understand where achievement is good or where it can be improved and can establish a baseline for future development. This can assist in the development of service improvement action plans.

Data analysis and limitations

We do not know the true prevalence of type 1 and type 2 diabetes in the UK. The Yorkshire and Humber Public Health Observatory (YHPHO) phase 2 diabetes prevalence prediction model aims to provide modelled estimates for these.

The NDA incorporates the YHPHO phase 2 diabetes prevalence prediction model into the analysis toolkit. The model provides the expected total numbers of cases of both diagnoses and undiagnosed diabetes at a local authority, PCT and SHA level. It takes into account the age, sex and ethnic group profile of each population with an adjustment for geographical variations in socio-economic deprivation.

This is not a straightforward process. The prevalence model must be applied to a registered patient population, based on the numbers of people registered with GPs for each area. The model incorporates an uplift to account for the presumed increase in type 2 diabetes, using prevalence of obesity and overweight as a marker for increasing diabetes prevalence. Linear interpolation is used to develop the 'in-year' forecasts of prevalence based on projected trends in obesity between 2001 and 2010. This is not a particularly precise method of calculation.

Absolute increases in prevalence should not be assumed as the NDA does not have 100 per cent coverage across PCTs. The effect of this may be to skew the results in some areas. Several factors may increase the rate of prevalence in the audit, such as: increasing case detection, increasing diabetes prevalence, improved data quality and changes in the sample practices participating in the NDA.

The method of calculating registrations compared to predicted prevalence of diabetes without 100 per cent coverage of data, an adjustment must be made to take account for the percentage of participating practices in the area. This may tend to inflate the diagnosis rate. Predicted prevalence has not been calculated for PCTs that have submitted data from 5 practices or fewer.

Also, a single practice may have a higher than predicted prevalence recorded as:

- it may be a specialist diabetes practice
- its population profile may be very different from the PCT population profile

- data quality issues may lead to an over-recording of diabetes. Although there could be a counter-effect if diabetes is under-recorded at the practice.

Each year the prevalence model in the NDA predicts that there is under-recording of diabetes in women aged 40 and over. This could be as a result of the following factors:

- the prediction model (PBS phase 2) based on an epidemiological study, which found a higher prevalence of diabetes in women than in men
- currently the only systematic screening for diabetes across the UK is among the population with known Coronary Heart Disease (CHD) which includes a much greater proportion of men than women. This could result in greater diagnosis of diabetes in men.

The prevalence model has a number of assumptions and limitations:

- the smaller the geographical area it is applied to, the less reliable it will be
- the epidemiological studies used for reference prevalence rates used the standardised World Health Organisation (WHO) 1985 criteria. Subsequent revisions of this would increase the estimated prevalence
- there is no prevalence estimate for type 2 diabetes in people under 19 years old.

The NDA incorporates complication information from the Hospital Episode Statistics (HES) database for England, for all people with diabetes and the Patient Episode Database for Wales (PEDW), for children and young people with diabetes. The data are linked to submitted patient records by NHS number to give one patient, one record (with the exception of complication incidence).

There are some known limitations with this approach to analysing complications:

- complications for patients who have diabetes but who have not been included on the GP practice or acute trust data submitted to the audit will not be included

- only admitted patients will be identified. The HES extract incorporated into the audit does not include outpatient information due to the poor coding inherent within this data.

Any over coding or incorrect coding of complications will affect the analysis, either resulting in an over or under-statement of the true rates.

For the 2005-2006 audit, the NDA has not taken complication information from primary care, where treatment of some diabetic complications are likely to be carried out.

Analysis of complication rates at the level of SHA and PCT can be undertaken using statistical process control methodology.

Analysis for complication incidence in the NDA toolkit is at the level of incidence per 100.

Each distinct release of the data stands alone and changes cannot necessarily be tracked back through earlier releases. Each release will accord with the relevant annual report. However, ongoing changes to the dataset and the analysis may change the outcomes. In order to build comparative time trends within each release the historical data are run against the same criteria as the data from the audit year. The latest release of the toolkit will provide the most valid method of data comparison across audit years.

Care should be taken not to draw false inferences from headline figures in the analysis. For example, complication prevalence rates which appear to be very high or very low may simply be a function of very small numbers of patients. Care must be taken when interpreting the data analysis at an organisational level.

Analysis of paediatric data may be based on submissions of incomplete datasets and care should be taken in interpreting the results due to this.

Appendix A

NDA Governance and Stakeholder Groups

NDA Service Management Board

The NDA Service Management Board provides strategic direction and gives vital input into the development of the audit.

Members

Dr Sue Roberts National Clinical Director for Diabetes, Department of Health

Martin Old NCASP Programme Manager, The Information Centre for health and social care

Dr Dick Waite Clinical Audit and Patients' Outcomes Lead, Healthcare Commission

Helen Laing Clinical Audit Commissioning Manager, Healthcare Commission

Dr Bob Young Consultant Physician, Diabetes and Endocrinology, Salford Royal Hospital, clinical lead for the NDA

Phil Moores Service Delivery Manager, NHS Connecting for Health Systems and Service Delivery

Bridget Turner Head of Healthcare and Policy, Diabetes UK

NDA Paediatric Advisory Group

The NDA Paediatric Advisory Group provides vital knowledge on issues surrounding children and young people with Diabetes. Members provide strategic direction to the paediatric audit.

Members

Dr Jeremy Allgrove Consultant in Paediatric Endocrinology and Diabetes, East London Centre for Paediatric and Adolescent Diabetes, Royal London Hospital; Representative of Royal College of Paediatrics and Child Health

Dr Julie Edge Consultant in Paediatric Diabetes and Endocrinology, John Radcliffe Hospital, Oxford

Dr Fiona Campbell Consultant Paediatrician and Clinical Director of Paediatric Medicine, St James' University Hospital, Leeds

Dr Justin Warner Consultant Paediatric Endocrinologist, University Hospital of Wales

Professor Tricia McKinney Paediatric Epidemiologist, University of Leeds

Jo Dalton Children's Diabetes Nurse, Cumbria

Jonathan Mimmagh Children's Diabetes Nurse, North West

Clare Beard Child and Adolescent Diabetes Programme Manager, National Diabetes Support Team (NDST)

Charlotte Gosden Diabetes UK

NDA Paediatric Steering Group

The majority of the NDA Paediatric Steering Group members are clinicians. They encourage participation and submission of data to the audit. Members also act as regional focal points for clinical queries regarding the NDA.

Members

Jeremy Allgrove [North Thames](#)

Fiona Campbell [Yorkshire](#)

Julie Edge [Oxford](#)

Kath Price [Trent](#)

Christine Burren [South West](#)

Nicola Trevelyan [Wessex](#)

Murray Bain [South Thames \(West\)](#)

Bill Lamb [Northern](#)

Jo Blair [North West](#)

Justin Warner [Wales](#)

Tricia McKinney [Paediatric Epidemiologist, University of Leeds](#)

Carlo Acerini [Anglia](#)

Charles Buchanan [South Thames \(East\)](#)

Gill Challener [Anglia](#)

Antoinette Macaulay [Wessex](#)

Gill Salt [West Midlands](#)

Martha Ford-Adams [South Thames \(East\)](#)

Jo Dalton [Children's Diabetes Nurse, Cumbria](#)

Jonathan Mimmagh [Children's Diabetes Nurse, North West](#)

Charlotte Gosden [Diabetes UK](#)

Clare Beard [Child and Adolescent Diabetes Programme Manager, National Diabetes Support Team \(NDST\)](#)

NDA User Group

The NDA User Group represent the views of the NDA users and contribute to the ongoing development of the audit. The group encourages participation in the NDA and the sharing of best practice.

Members

Dr Douglas Russell [Medical Director, Tower Hamlets PCT](#)

Dr Ivor Lewis [Consultant Paediatrician, East Surrey Hospital](#)

Amanda McGough [Hambleton and Richmondshire PCT](#)

Gill Saunders [Diabetes Network Manager, Swindon PCT](#)

Jacqueline Watson [Clinical Audit Facilitator, Sunderland PCT](#)

Jacquie Everett [Quality and Improvement Facilitator, Oldham PCT](#)

Georgina Mvere [Clinical Audit and Service Development Facilitator, Basildon PCT](#)

Craig Deerfield [Clinical Audit Facilitator, Birmingham PCT](#)

Afaf Boutros [Quality Improvement Lead, Southwark PCT](#)

Chris Soper [Diabetes Lead, Central Cornwall PCT](#)

Teresa Dodd [IT Development Specialist, Sheffield Teaching Hospital](#)

Dr Adrian Scott [Consultant Physician in Diabetes and General Medicine, Sheffield Teaching Hospital](#)

Appendix B

NDA Participation by PCT 2005-2006

POST REORGANISATION OCTOBER 2006			PRE REORGANISATION	
STRATEGIC HEALTH AUTHORITY	PCT CODE	PCT NAME	OLD PCT CODE	OLD PCT NAME
NORTH EAST	5D7	NEWCASTLE PCT	5D7	NEWCASTLE PCT
	5D8	NORTH TYNESIDE PCT	5D8	NORTH TYNESIDE PCT
	5D9	HARTLEPOOL PCT	5D9	HARTLEPOOL PCT
	5E1	NORTH TEES PCT	5E1	NORTH TEES PCT
	5J9	DARLINGTON PCT	5J9	DARLINGTON PCT
	5KF	GATESHEAD PCT	5KF	GATESHEAD PCT
	5KG	SOUTH TYNESIDE PCT	5KG	SOUTH TYNESIDE PCT
	5KL	SUNDERLAND TEACHING PCT	5KL	SUNDERLAND TEACHING PCT
	5KM	MIDDLESBROUGH PCT	5KM	MIDDLESBROUGH PCT
	5ND	COUNTY DURHAM PCT	5J8 5KA 5KC 5KE 5KD	DURHAM DALES PCT DERWENTSIDE PCT DURHAM AND CHESTER-LE-STREET PCT SEDFIELD EASINGTON
	5QR	REDCAR AND CLEVELAND PCT	5KN	LANGBAURGH PCT
	TAC	NORTHUMBERLAND CARE TRUST	TAC	NORTHUMBERLAND CARE TRUST
	NORTH WEST	5CC	BLACKBURN WITH DARWEN PCT	5CC
5F5		SALFORD PCT	5F5	SALFORD PCT
5F7		STOCKPORT PCT	5F7	STOCKPORT PCT
5HG		ASHTON LEIGH AND WIGAN PCT	5HG	ASHTON LEIGH and WIGAN PCT
5HP		BLACKPOOL PCT	5HP	BLACKPOOL PCT
5HQ		BOLTON PCT	5HQ	BOLTON PCT
5J2		WARRINGTON PCT	5J2	WARRINGTON PCT
5J4		KNOWSLEY PCT	5J4	KNOWSLEY PCT
5J5		OLDHAM PCT	5J5	OLDHAM PCT
5JX		BURY PCT	5JX	BURY PCT
5LH		TAMESIDE AND GLOSSOP PCT	5LH	TAMESIDE AND GLOSSOP PCT
5NE		CUMBRIA PCT	5D4 5D5 5D6 5DD	CARLISLE and DISTRICT PCT EDEN VALLEY PCT WEST CUMBRIA PCT MORECAMBE BAY PCT (Sth Lakeland only)
5NF		NORTH LANCASHIRE PCT	5DD 5HF 5HE	MORECAMBE BAY PCT (Lancaster) WYRE PCT FYLDE PCT
5NG		CENTRAL LANCASHIRE PCT	5HD 5F2 5F3	PRESTON PCT CHORLEY and SOUTH RIBBLE PCT WEST LANCASHIRE PCT

Key: **Not Registered, Not Submitted**
Registered, >50% Submitted Data

Registered, <50% Submitted Data
Registered but Not Submitted

POST REORGANISATION OCTOBER 2006			PRE REORGANISATION	
STRATEGIC HEALTH AUTHORITY	PCT CODE	PCT NAME	OLD PCT CODE	OLD PCT NAME
NORTH WEST <i>Cont.</i>	5NH	EAST LANCASHIRE PCT	5G7 5G8	HYNDBURN and RIBBLE VALLEY PCT BURNLEY, PENDLE and ROSSENDALE PCT
	5NJ	SEFTON PCT	5F9 5M5	SOUTHPORT and FORMBY PCT SOUTH SEFTON PCT
	5NK	WIRRAL PCT	5H2 5F8	BIRKENHEAD and WALLSEY PCT BEBINGTON and WEST WIRRAL PCT
	5NL	LIVERPOOL PCT	5G9 5HA 5HC	NORTH LIVERPOOL PCT CENTRAL LIVERPOOL PCT SOUTH LIVERPOOL PCT
	5NM	HALTON AND ST HELENS PCT	5J3 5J1	ST. HELENS PCT HALTON PCT
	5NN	WESTERN CHESHIRE PCT	5H6 5H3	ELLESMERE PORT and NESTON PCT CHESHIRE WEST PCT
	5NP	CENTRAL AND EASTERN CHESHIRE PCT	5H4 5H5	CENTRAL CHESHIRE PCT EASTERN CHESHIRE PCT
	5NQ	HEYWOOD MIDDLETON AND ROCHDALE PCT	5F4 5JY	HEYWOOD and MIDDLETON PCT ROCHDALE PCT
	5NR	TRAFFORD PCT	5F6 5CX	TRAFFORD NORTH PCT TRAFFORD SOUTH PCT
	5NT	MANCHESTER PCT	5CR 5CL 5AA	NORTH MANCHESTER PCT CENTRAL MANCHESTER PCT SOUTH MANCHESTER PCT
YORKSHIRE AND THE HUMBER	5AN	NORTH EAST LINCOLNSHIRE PCT	5AN	NORTH EAST LINCOLNSHIRE PCT
	5EF	NORTH LINCOLNSHIRE PCT	5EF	NORTH LINCOLNSHIRE PCT
	5H8	ROTHERHAM PCT	5H8	ROTHERHAM PCT
	5J6	CALDERDALE PCT	5J6	CALDERDALE PCT
	5JE	BARNSLEY PCT	5JE	BARNSLEY PCT
	5N1	LEEDS PCT	5HM 5HH 5HJ 5HK 5HL	LEEDS NORTH WEST PCT LEEDS WEST PCT LEEDS NORTH EAST PCT EAST LEEDS PCT SOUTH LEEDS PCT
	5N2	KIRKLEES PCT	5LJ 5LK 5J7	HUDDERSFIELD CENTRAL PCT SOUTH HUDDERSFIELD PCT NORTH KIRKLEES PCT
	5N3	WAKEFIELD DISTRICT PCT	5E8 5E7	WAKEFIELD WEST PCT EASTERN WAKEFIELD PCT
	5N4	SHEFFIELD PCT	5EN 5EE 5EP 5EQ	SHEFFIELD WEST PCT NORTH SHEFFIELD PCT SHEFFIELD SOUTH WEST PCT SOUTH EAST SHEFFIELD PCT

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POST REORGANISATION OCTOBER 2006			PRE REORGANISATION	
STRATEGIC HEALTH AUTHORITY	PCT CODE	PCT NAME	OLD PCT CODE	OLD PCT NAME
YORKSHIRE AND THE HUMBER <i>Cont.</i>	5N5	DONCASTER PCT	5EL 5CK 5EK	DONCASTER WEST PCT DONCASTER CENTRAL PCT DONCASTER EAST PCT
	5NV	NORTH YORKSHIRE AND YORK PCT	5KH 5KJ 5KK 5E2	HAMBLETON and RICHMONDSHIRE PCT CRAVEN, HARROGATE and RURAL DISTRICT PCT SCARBOROUGH, WHITBY and RYEDALE PCT SELBY and YORK PCT
	5NW	EAST RIDING OF YORKSHIRE PCT	5E4 5E3	YORKSHIRE WOLDS and COAST PCT EAST YORKSHIRE PCT
	5NX	HULL PCT	5E6 5E5	WEST HULL PCT EASTERN HULL PCT
	5NY	BRADFORD AND AIRESDALE PCT	5AW 5CG 5CH 5CF	AIREDALE PCT BRADFORD SOUTH and WEST PCT NORTH BRADFORD PCT BRADFORD CITY TEACHING PCT
	EAST MIDLANDS	5EM	NOTTINGHAM CITY PCT	5EM
5ET		BASSETLAW PCT	5ET	BASSETLAW PCT
5N6		DERBYSHIRE COUNTY PCT	5HN 5EA 5EG 5H7 5ED 5ER	HIGH PEAK and DALES PCT CHESTERFIELD PCT NORTH EASTERN DERBYSHIRE PCT DERBYSHIRE DALES and SOUTH DERBYSHIRE PCT AMBER VALLEY PCT EREWASH PCT
5N7		DERBY CITY PCT	5AL 5EX	CENTRAL DERBY PCT GREATER DERBY PCT
5N8		NOTTINGHAMSHIRE COUNTY PCT	5FC 5EV 5EC 5FA 5AP 5AM	RUSHCLIFFE PCT BROXTOWE and HUCKNALL PCT GEDLING PCT ASHFIELD PCT NEWARK and SHERWOOD PCT MANSFIELD DISTRICT PCT
5N9		LINCOLNSHIRE PCT	5D2 5H9 5D3	WEST LINCOLNSHIRE PCT EAST LINCOLNSHIRE PCT LINCOLNSHIRE SOUTH WEST TEACHING PCT
5PA		LEICESTERSHIRE COUNTY AND RUTLAND PCT	5JC	CHARNWOOD and NORTH WEST LEICESTERSHIRE PCT

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POST REORGANISATION OCTOBER 2006			PRE REORGANISATION	
STRATEGIC HEALTH AUTHORITY	PCT CODE	PCT NAME	OLD PCT CODE	OLD PCT NAME
EAST MIDLANDS <i>Cont.</i>			5EH	MELTON, RUTLAND and HARBOROUGH PCT
			5JA 5JD	HINCKLEY and BOSWORTH PCT SOUTH LEICESTERSHIRE PCT
	5PC	LEICESTER CITY PCT	5EJ 5EY	LEICESTER CITY WEST PCT EASTERN LEICESTER PCT
	5PD	NORTHAMPTONSHIRE PCT	5LV 5AC 5LW 5DV	NORTHAMPTONSHIRE HEARTLANDS PCT DAVENTRY and SOUTH NORTHAMPTONSHIRE PCT NORTHAMPTON TEACHING PCT CHERWELL VALE PCT
WEST MIDLANDS	5CN	HEREFORDSHIRE PCT	5CN	HEREFORDSHIRE PCT
	5M1	SOUTH BIRMINGHAM PCT	5M1	SOUTH BIRMINGHAM PCT
	5M2	SHROPSHIRE COUNTY PCT	5M2	SHROPSHIRE COUNTY PCT
	5M3	WALSALL TEACHING PCT	5M3	WALSALL TEACHING PCT
	5MD	COVENTRY TEACHING PCT	5MD	COVENTRY TEACHING PCT
	5MK	TELFORD AND WREKIN PCT	5MK	TELFORD AND WREKIN PCT
	5MV	WOLVERHAMPTON CITY PCT	5MV	WOLVERHAMPTON CITY PCT
	5MX	HEART OF BIRMINGHAM TEACHING PCT	5MX	HEART OF BIRMINGHAM TEACHING PCT
	5PE	DUDLEY PCT	5HV 5HT	DUDLEY BEACON and CASTLE PCT DUDLEY SOUTH PCT
	5PF	SANDWELL PCT	5MJ 5MH 5MG	WEDNESBURY and WEST BROMWICH PCT ROWLEY REGIS and TIPTON PCT OLDBURY and SMETHWICK PCT
	5PG	BIRMINGHAM EAST AND NORTH PCT	5MW 5MY	NORTH BIRMINGHAM PCT EASTERN BIRMINGHAM PCT
	5PH	NORTH STAFFORDSHIRE PCT	5HW 5HR	NEWCASTLE-UNDER-LYME PCT STAFFORDSHIRE MOORLANDS PCT
	5PJ	STOKE ON TRENT PCT	5MF 5ME	SOUTH STOKE PCT NORTH STOKE PCT
	5PK	SOUTH STAFFORDSHIRE PCT	5MN 5ML 5MM 5DQ	SOUTH WESTERN STAFFORDSHIRE PCT EAST STAFFORDSHIRE PCT CANNOCK CHASE PCT BURNTWOOD, LICHFIELD and TAMWORTH PCT
	5PL	WORCESTERSHIRE PCT	5MT 5DR 5MR	SOUTH WORCESTERSHIRE PCT WYRE FOREST PCT REDDITCH and BROMSGROVE PCT
	5PM	WARWICKSHIRE PCT	5MQ 5M9 5MP	SOUTH WARWICKSHIRE PCT RUGBY PCT NORTH WARWICKSHIRE PCT
	TAM	SOLIHULL CARE TRUST	5D1	SOLIHULL PCT

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POST REORGANISATION OCTOBER 2006			PRE REORGANISATION	
STRATEGIC HEALTH AUTHORITY	PCT CODE	PCT NAME	OLD PCT CODE	OLD PCT NAME
EAST OF ENGLAND	5GC	LUTON PCT	5GC	LUTON PCT
	5P1	SOUTH EAST ESSEX PCT	5JP 5AK	CASTLE POINT and ROCHFORD PCT SOUTHEND ON SEA PCT
	5P2	BEDFORDSHIRE PCT	5GD 5GE	BEDFORD PCT BEDFORDSHIRE HEARTLANDS PCT
	5P3	EAST AND NORTH HERTFORDSHIRE PCT	5GH 5GK 5GJ 5GG	NORTH HERTFORDSHIRE and STEVENAGE PCT ROYSTON, BUNTINGFORD and BISHOP'S STORTFORD PCT SOUTH EAST HERTFORDSHIRE PCT WELWYN HATFIELD PCT
	5P4	WEST HERTFORDSHIRE PCT	5GX 5GW 5GV 5CP	ST. ALBANS and HARPENDEN PCT DACORUM PCT WATFORD and THREE RIVERS PCT HERTSMERE PCT
	5PN	PETERBOROUGH PCT	5AG 5AF	SOUTH PETERBOROUGH PCT NORTH PETERBOROUGH PCT
	5PP	CAMBRIDGESHIRE PCT	5GF 5JJ 5JH 5JK	HUNTINGDONSHIRE PCT SOUTH CAMBRIDGESHIRE PCT CAMBRIDGE CITY PCT EAST CAMBRIDGESHIRE and FENLAND PCT
	5PQ	NORFOLK PCT	5CY 5JM 5G1 5JL 5A2	WEST NORFOLK PCT NORTH NORFOLK PCT SOUTHERN NORFOLK PCT BROADLAND PCT NORWICH PCT
	5PR	GREAT YARMOUTH AND WAVENEY PCT	5GT 5JV	GREAT YARMOUTH PCT WAVENEY PCT
	5PT	SUFFOLK PCT	5JR 5JQ 5JT 5JW	SUFFOLK COASTAL PCT IPSWICH PCT CENTRAL SUFFOLK PCT SUFFOLK WEST PCT
	5PV	WEST ESSEX PCT	5GN 5DC 5AJ	UTTLESFORD PCT HARLOW PCT EPPING FOREST PCT
	5PW	NORTH EAST ESSEX PCT	5GM 5AH	COLCHESTER PCT TENDRING PCT
	5PX	MID ESSEX PCT	TAG 5JN 5GL	WITHAM, BRAINTREE and HALSTEAD CARE TRUST CHELMSFORD PCT MALDON and SOUTH CHELMSFORD PCT

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POST REORGANISATION OCTOBER 2006			PRE REORGANISATION	
STRATEGIC HEALTH AUTHORITY	PCT CODE	PCT NAME	OLD PCT CODE	OLD PCT NAME
EAST OF ENGLAND <i>Cont.</i>	5PY	SOUTH WEST ESSEX PCT	5GP	BILLERICAY, BRENTWOOD and WICKFORD PCT
			5GQ	THURROCK PCT
			5GR	BASILDON PCT
LONDON	5A4	HAVERING PCT	5A4	HAVERING PCT
	5A5	KINGSTON PCT	5A5	KINGSTON PCT
	5A7	BROMLEY PCT	5A7	BROMLEY PCT
	5A8	GREENWICH TEACHING PCT	5A8	GREENWICH TEACHING PCT
	5A9	BARNET PCT	5A9	BARNET PCT
	5AT	HILLINGDON PCT	5AT	HILLINGDON PCT
	5C1	ENFIELD PCT	5C1	ENFIELD PCT
	5C2	BARKING AND DAGENHAM PCT	5C2	BARKING AND DAGENHAM PCT
	5C3	CITY AND HACKNEY TEACHING PCT	5C3	CITY AND HACKNEY TEACHING PCT
	5C4	TOWER HAMLETS PCT	5C4	TOWER HAMLETS PCT
	5C5	NEWHAM PCT	5C5	NEWHAM PCT
	5C9	HARINGEY TEACHING PCT	5C9	HARINGEY TEACHING PCT
	5H1	HAMMERSMITH AND FULHAM PCT	5H1	HAMMERSMITH AND FULHAM PCT
	5HX	EALING PCT	5HX	EALING PCT
	5HY	HOUNSLOW PCT	5HY	HOUNSLOW PCT
	5K5	BRENT TEACHING PCT	5K5	BRENT TEACHING PCT
	5K6	HARROW PCT	5K6	HARROW PCT
	5K7	CAMDEN PCT	5K7	CAMDEN PCT
	5K8	ISLINGTON PCT	5K8	ISLINGTON PCT
	5K9	CROYDON PCT	5K9	CROYDON PCT
	5LA	KENSINGTON AND CHELSEA PCT	5LA	KENSINGTON AND CHELSEA PCT
	5LC	WESTMINSTER PCT	5LC	WESTMINSTER PCT
	5LD	LAMBETH PCT	5LD	LAMBETH PCT
	5LE	SOUTHWARK PCT	5LE	SOUTHWARK PCT
	5LF	LEWISHAM PCT	5LF	LEWISHAM PCT
	5LG	WANDSWORTH PCT	5LG	WANDSWORTH PCT
	5M6	RICHMOND AND TWICKENHAM PCT	5M6	RICHMOND AND TWICKENHAM PCT
	5M7	SUTTON AND MERTON PCT	5M7	SUTTON AND MERTON PCT
	5NA	REDBRIDGE PCT	5NA	REDBRIDGE PCT
5NC	WALTHAM FOREST PCT	5NC	WALTHAM FOREST PCT	
TAK	BEXLEY CARE TRUST	TAK	BEXLEY CARE TRUST	
SOUTH EAST COAST	5L3	MEDWAY PCT	5L3	MEDWAY PCT
	5LQ	BRIGHTON AND HOVE CITY PCT	5LQ	BRIGHTON AND HOVE CITY PCT
	5P5	SURREY PCT	5L6	NORTH SURREY PCT
5L7			SURREY HEATH and WOKING PCT	

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POST REORGANISATION OCTOBER 2006			PRE REORGANISATION	
STRATEGIC HEALTH AUTHORITY	PCT CODE	PCT NAME	OLD PCT CODE	OLD PCT NAME
SOUTH EAST COAST <i>Cont.</i>			5KP 5KQ 5L5	EAST ELMBRIDGE and MID SURREY PCT EAST SURREY PCT GUILDFORD and WAVERLEY PCT
	5P6	WEST SUSSEX PCT	5L9 5L8 5MC 5MA 5FK	WESTERN SUSSEX PCT ADUR, ARUN and WORTHING PCT HORSHAM and CHANCTONBURY PCT CRAWLEY PCT MID-SUSSEX PCT
	5P7	EAST SUSSEX DOWNS AND WEALD PCT	5LT 5LR	SUSSEX DOWNS and WEALD PCT EASTBOURNE DOWNS PCT
	5P8	HASTINGS AND ROTHER PCT	5FH 5FJ	BEXHILL and ROTHER PCT HASTINGS and ST LEONARDS PCT
	5P9	WEST KENT PCT	5CM 5FF 5L2	DARTFORD, GRAVESHAM and SWANLEY PCT SOUTH WEST KENT PCT MAIDSTONE WEALD PCT
	5QA	EASTERN AND COASTAL KENT PCT	5L4 5LL 5LM 5LN 5LP	SWALE PCT ASHFORD PCT CANTERBURY and COASTAL PCT EAST KENT COASTAL PCT SHEPWAY PCT
SOUTH CENTRAL	5CQ	MILTON KEYNES PCT	5CQ	MILTON KEYNES PCT
	5FE	PORTSMOUTH CITY TEACHING PCT	5FE	PORTSMOUTH CITY TEACHING PCT
	5L1	SOUTHAMPTON CITY PCT	5L1	SOUTHAMPTON CITY PCT
	5QC	HAMPSHIRE PCT	5G6 5DF 5E9 5FD 5LY 5A1 5LX	BLACKWATER VALLEY and HART PCT NORTH HAMPSHIRE PCT MID-HAMPSHIRE PCT EAST HAMPSHIRE PCT EASTLEIGH and TEST VALLEY SOUTH PCT NEW FOREST PCT FAREHAM and GOSPORT PCT
	5QD	BUCKINGHAMSHIRE PCT	5DP 5G5 5G4	VALE OF AYLESBURY PCT WYCOMBE PCT CHILTERN and SOUTH BUCKINGHAMSHIRE PCT
	5QE	OXFORDSHIRE PCT	5DV 5DT 5DW 5DY 5DX	CHERWELL VALE PCT (Oxfordshire part only) NORTH EAST OXFORDSHIRE PCT OXFORD CITY PCT SOUTH WEST OXFORDSHIRE PCT SOUTH EAST OXFORDSHIRE PCT

Key: **Not Registered, Not Submitted**
Registered, >50% Submitted Data

Registered, <50% Submitted Data
Registered but Not Submitted

POST REORGANISATION OCTOBER 2006			PRE REORGANISATION	
STRATEGIC HEALTH AUTHORITY	PCT CODE	PCT NAME	OLD PCT CODE	OLD PCT NAME
SOUTH CENTRAL <i>Cont.</i>	5QF	BERKSHIRE WEST PCT	5DK 5DL 5DN	NEWBURY and COMMUNITY PCT READING PCT WOKINGHAM PCT
	5QG	BERKSHIRE EAST PCT	5G2 5G3 5DM	BRACKNELL FOREST PCT WINDSOR, ASCOT and MAIDENHEAD PCT SLOUGH PCT
	5QT	ISLE OF WIGHT NHS PCT	5DG	ISLE OF WIGHT PCT
SOUTH WEST	5A3	SOUTH GLOUCESTERSHIRE PCT	5A3	SOUTH GLOUCESTERSHIRE PCT
	5F1	PLYMOUTH TEACHING PCT	5F1	PLYMOUTH TEACHING PCT
	5FL	BATH AND NORTH EAST SOMERSET PCT	5FL	BATH AND NORTH EAST SOMERSET PCT
	5K3	SWINDON PCT	5K3	SWINDON PCT
	5M8	NORTH SOMERSET PCT	5M8	NORTH SOMERSET PCT
	5QH	GLOUCESTERSHIRE PCT	5KX 5KW 5KY	WEST GLOUCESTERSHIRE PCT CHELTENHAM and TEWKESBURY PCT COTSWOLD and VALE PCT
	5QJ	BRISTOL PCT	5JF 5JG	BRISTOL NORTH PCT BRISTOL SOUTH and WEST PCT
	5QK	WILTSHIRE PCT	5K4 5DH 5DJ	KENNET and NORTH WILTSHIRE PCT WEST WILTSHIRE PCT SOUTH WILTSHIRE PCT
	5QL	SOMERSET PCT	5FW 5FX 5K2 5K1	SOMERSET COAST PCT MENDIP PCT TAUNTON DEANE PCT SOUTH SOMERSET PCT
	5QM	DORSET PCT	5CD 5FP 5FN	NORTH DORSET PCT SOUTH WEST DORSET PCT SOUTH and EAST DORSET PCT
	5QN	BOURNEMOUTH AND POOLE PCT	5KV 5CE	POOLE PCT BOURNEMOUTH TEACHING PCT
	5QP	CORNWALL AND ISLES OF SCILLY PCT	5FM 5KT 5KR	WEST OF CORNWALL PCT CENTRAL CORNWALL PCT NORTH and EAST CORNWALL PCT
	5QQ	DEVON PCT	5FQ 5FV 5CV 5FY 5FR 5FT	NORTH DEVON PCT MID DEVON PCT SOUTH HAMS and WEST DEVON PCT TEIGNBRIDGE PCT EXETER PCT EAST DEVON PCT
	TAL	TORBAY CARE TRUST	5CW	TORBAY PCT

Key: **Not Registered, Not Submitted**
Registered, >50% Submitted Data

Registered, <50% Submitted Data
Registered but Not Submitted

Appendix C

NDA Participation by Paediatric Unit 2005-2006

ENGLAND

North East Strategic Health Authority

PZ160 Bishop Auckland General Hospital

PZ161 Darlington Memorial Hospital

PZ027 Friarage Hospital, Northallerton

PZ163 North Tees General Hospital,
Stockton-on-Tees

PZ120 North Tyneside General Hospital

PZ107 Queen Elizabeth Hospital, Gateshead

PZ032 Royal Victoria Infirmary,
Newcastle-Upon-Tyne

PZ141 South Tyneside District Hospital

PZ080 Sunderland Royal Hospital

PZ133 James Cook University Hospital,
Middlesbrough

PZ210 University Hospital of Hartlepool

PZ162 University Hospital Of North Durham

North West Strategic Health Authority

PZ170 Arrowe Park Hospital

PZ106 Victoria Hospital, Blackpool

PZ204 Booth Hall Childrens Hospital

PZ205 Burnley General Hospital

PZ179 Countess of Chester Hospital NHS
Foundation Trust

PZ150 Cumberland Infirmary

PZ029 Fairfield General Hospital

PZ030 Leighton Hospital

PZ009 Macclesfield District General Hospital

PZ167 Morecambe Bay Trust

PZ110 Ormskirk and District General Hospital

PZ091 Queen's Park Hospital, Blackburn

PZ074 Royal Liverpool Children's NHS Trust

PZ206 Rochdale Infirmary

PZ104 Royal Albert Edward Infirmary

PZ177 Royal Bolton Hospital

PZ136 Royal Manchester Children's Hospital

PZ044 Royal Oldham Hospital

PZ183 Royal Preston Hospital

PZ063 Southport District General Hospital

PZ043 St Mary's Hospital for Women and
Children, Manchester

PZ069 Stepping Hill Hospital, Stockport

PZ140 Tameside General Hospital

PZ134 Trafford General Hospital

PZ049 Warrington General Hospital

PZ022 West Cumberland Hospital

PZ208 Westmorland General Hospital

PZ153 Whiston Hospital

PZ015 Wythenshawe Hospital

East of England Strategic Health Authority

PZ041 Addenbrooke's Hospital

PZ019 Basildon and Thurrock Hospital

PZ220 Bedford Hospital

PZ076 Colchester General hospital

PZ099 East and North Hertfordshire NHS Trust

PZ172 Watford General Hospital

PZ198 Herts and Essex Hospital

PZ086 Hinchingsbrooke Hospital

Key: **Not Registered** **Registered but Not Submitted** **Registered and Submitted**

PZ181 Ipswich Hospital NHS Trust
PZ127 James Paget Healthcare Trust
PZ010 Luton and Dunstable Hospital
PZ171 Mid Essex Hospital
PZ002 Norfolk and Norwich University Hospital
PZ131 Peterborough District Hospital
PZ200 Princess Alexandra Hospital, Harlow
PZ156 Queen Elizabeth Hospital, Kings Lynn
PZ146 Southend Hospital
PZ201 St Margaret's Hospital, Essex
PZ072 West Suffolk Hospital, Bury St Edmunds

Yorkshire and Humber Strategic Health Authority

PZ047 Airedale General Hospital
PZ149 Barnsley District General Hospital
PZ016 Bassetlaw District General Hospital
PZ166 Calderdale Royal Hospital
PZ226 Dewsbury and District Hospital
PZ020 Diana, Princess of Wales Hospital, Grimsby
PZ006 Doncaster Royal Infirmary
PZ129 Harrogate District Hospital
PZ186 Huddersfield Royal Infirmary
PZ026 Hull Royal Infirmary
PZ101 Leeds General Infirmary
PZ003 Pinderfields General Hospital
PZ090 Pontefract General Infirmary
PZ164 Rotherham General Hospital
PZ123 Ryegate Children's Centre

PZ112 Scarborough General Hospital
PZ053 Scunthorpe General Hospital
PZ219 Sheffield Children's Hospital
PZ155 St James's University Hospital, Leeds
PZ105 St Luke's Hospital, Bradford
PZ114 York District Hospital

East Midlands Strategic Health Authority

PZ064 Chesterfield Royal Hospital
PZ005 Derbyshire Children's Hospital
PZ168 Grantham and District Hospital
PZ174 Kettering General Hospital
PZ180 Kings Mill Hospital, Sutton-in-Ashfield
PZ055 Leicester Royal Infirmary
PZ048 Lincoln County Hospital
PZ004 Northampton General Hospital
PZ116 Nottingham University Hospital
PZ128 Pilgrim Hospital, Nottingham
PZ042 Queen's Medical Centre, Nottingham

West Midlands Strategic Health Authority

PZ073 The Alexandra Hospital, Redditch
PZ108 Birmingham Children's Hospital
PZ097 Birmingham City Hospital Trust
PZ040 Birmingham Heartlands Hospital
PZ121 George Eliot Hospital
PZ078 City General Hospital, Stoke-on-Trent
PZ144 Good Hope Hospital
PZ111 Hereford County Hospital

Key: **Not Registered** **Registered but Not Submitted** **Registered and Submitted**

PZ084 Kidderminster General Hospital
 PZ222 New Cross Hospital, Wolverhampton
 PZ094 Princess Royal Hospital, Telford
 PZ095 Royal Shrewsbury
 PZ223 Sandwell General Hospital
 PZ065 Staffordshire General Hospital
 PZ178 The Manor Hospital
 PZ122 Walsgrave Hospital
 PZ138 Warwick Hospital
 PZ225 Worcestershire Royal Hospital

South Central Strategic Health Authority

PZ046 Horton General Hospital
 PZ007 John Radcliffe Hospital, Oxford
 PZ066 King Edward VII Hospital, Windsor
 PZ145 Milton Keynes General Hospital
 PZ159 North Hampshire Hospitals NHS Trust
 PZ035 Royal Berkshire Hospital
 PZ034 Royal Hampshire County Hospital
 PZ109 Southampton General Hospital
 PZ075 St Mary's Hospital, Isle of Wight
 PZ148 St Mary's Hospital, Portsmouth
 PZ028 Stoke Mandeville Hospital
 PZ021 Wexham Park Hospital
 PZ038 Wycombe General Hospital

London Strategic Health Authority

PZ033 Barking, Havering and Redbridge NHS Trust
 PZ012 Barnet and Chase Farm NHS Trust

PZ195 Central Middlesex Hospital
 PZ130 Chelsea and Westminster Hospital, London
 PZ191 Ealing Hospital NHS Trust
 PZ196 Great Ormond Street Hospital
 PZ082 Guy's and St Thomas
 PZ197 Hammersmith Hospital
 PZ102 Hillingdon Hospital
 PZ215 Kings College Hospital, London
 PZ057 Kingston Hospital
 PZ062 Mayday University Hospital
 PZ058 Newham General Hospital
 PZ199 North Middlesex University Hospital
 PZ089 Northwick Park Hospital
 PZ142 Oldchurch Hospital
 PZ085 Princess Royal University Hospital
 PZ151 Queen Elizabeth Hospital, London
 PZ175 Queen Mary's Hospital, Sidcup
 PZ050 Queen Mary's Hospital for Children, Epsom and St Helier Trust
 PZ157 Royal Free and University College Hospital, London
 PZ023 St George's Hospital, London
 PZ051 The General Hospital, St Helier
 PZ202 St Mary's Hospital, London
 PZ059 The Royal London Hospital
 PZ203 University College Hospital, London
 PZ118 University Hospital Lewisham
 PZ182 West Middlesex University Hospital
 PZ036 Whipps Cross University Hospital
 PZ045 Whittington Hospital

Key: **Not Registered** **Registered but Not Submitted** **Registered and Submitted**

South East Coast Strategic Health Authority

PZ119 Darent Valley Hospital
PZ024 East Kent Hospitals NHS Trust
PZ184 Eastbourne District General Hospital
PZ218 Frimley Park Hospital
PZ214 Gravesend and north Kent Hospital
PZ125 Maidstone Hospital
PZ126 Medway Maritime Hospital
PZ216 Pembury Hospital
PZ135 Royal Alexandra Children's Hospital
PZ088 Royal Surrey County hospital
PZ176 St Peter's Hospital, Chertsey
PZ031 St Richard's Hospital, Chichester
PZ213 Surrey and Sussex NHS Trust
PZ018 Worthing Hospital

South West Strategic Health Authority

PZ139 Bristol Royal Hospital for Children
PZ192 Cheltenham General Hospital
PZ096 Derriford Hospital
PZ017 Dorset County Hospital
PZ229 Gloucestershire Royal Infirmary
PZ137 Musgrove Park Hospital
PZ100 North Devon District Hospital
PZ054 Poole Hospital NHS Trust
PZ067 Royal Cornwall Hospital
PZ060 Royal Devon and Exeter Hospital
PZ068 Royal United Hospital, Bath
PZ169 Salisbury District Hospital

PZ221 The Great Western Hospital, Swindon

PZ152 Torbay Hospital

PZ173 Yeovil District Hospital

WALES

North Wales Regional Office

PZ011 Glan Clwyd District General Hospital
PZ187 Wrexham Maelor Hospital
PZ132 Ysbyty Gwyneda Hospital

Mid and West Wales Regional Office

PZ092 Princess Of Wales, Bridgend
PZ185 Bronglais General Hospital
PZ193 Neath Port Talbot Hospital
PZ001 Singleton Hospital
PZ056 West Wales General Hospital
PZ190 Withybush General Hospital

South East Wales Regional Office

PZ052 Nevill Hall Hospital
PZ228 Prince Charles Hospital
PZ189 Royal Glamorgan Hospital
PZ188 Royal Gwent Hospital
PZ113 University Hospital of Wales

Key: **Not Registered** **Registered but Not Submitted** **Registered and Submitted**

Appendix D

Analysis of SPC Outliers

Prevalence SPC of MI by PCT, HES 1 years, data from all sources (Reference: Figure 9)

Primary Care Trust	Registrations	Prevalence %
Newcastle PCT	13	7.69
E Hants PCT	20	5.00
Scarborough Whitby & Ryedale PCT	272	2.21
Poole PCT	779	1.93
Yorks Wolds & Coast PCT	828	1.81
Tameside & Glossop PCT	1,531	1.50
N Sheffield PCT	1,390	1.29
E Lincolnshire PCT	2,712	1.07
Vale of Aylesbury PCT	2,812	1.07
NE Lincolnshire PCT	5,294	1.04
S Gloucestershire PCT	3,962	1.03
Burnley Pendle & Rossendale PCT	10,033	0.88
Solihull PCT	6,556	0.15
National Figures	655,953	0.58

Prevalence SPC of stroke by PCT, HES 1 years, data from all sources (Reference: Figure 10)

Primary Care Trust	Registrations	Prevalence %
Hartlepool PCT	11	9.09
Northants Heartlands PCT	32	6.25
Fareham & Gosport PCT	17	5.88
Cotswold & Vale PCT	21	4.76
Chesterfield PCT	27	3.7
N Dorset PCT	344	2.33
E Yorks PCT	825	2.3
Eastern Hull PCT	932	2.25
W Hull PCT	1,122	1.87
Eden Valley PCT	2,003	1.15
S Somerset PCT	4,170	0.89
N Tees PCT	6,465	0.82
City & Hackney Teaching PCT	8,820	0.79
National Figures	655,953	0.48

Key: **Prevalence higher than National average** **Prevalence lower than National average**

References

- 1 Department of Health (2001), National Service Framework for Diabetes: Standards.
- 2 Audit Commission Patient Survey (2004), Healthcare Commission.
- 3 Technology Appraisal Guidance 60: Guidance on the use of Patient-education models for diabetes (2003). <http://guidance.nice.org.uk/TA60>.
- 4 The Healthcare Commission (2007) Diabetes: The views of people with diabetes: key findings from the 2006 survey.
- 5 Innove (2007). How PCTs are improving their performance: Findings from DiabetesE, second national report. www.innove.co.uk.

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