

National Diabetes Audit

Key findings about the quality of care for people with diabetes in England incorporating registrations from Wales

Abridged report for the audit period 2004/05



Prepared in association with:

The Healthcare Commission • Diabetes UK • National Diabetes Support Team • Yorkshire and Humber Public Health Observatory

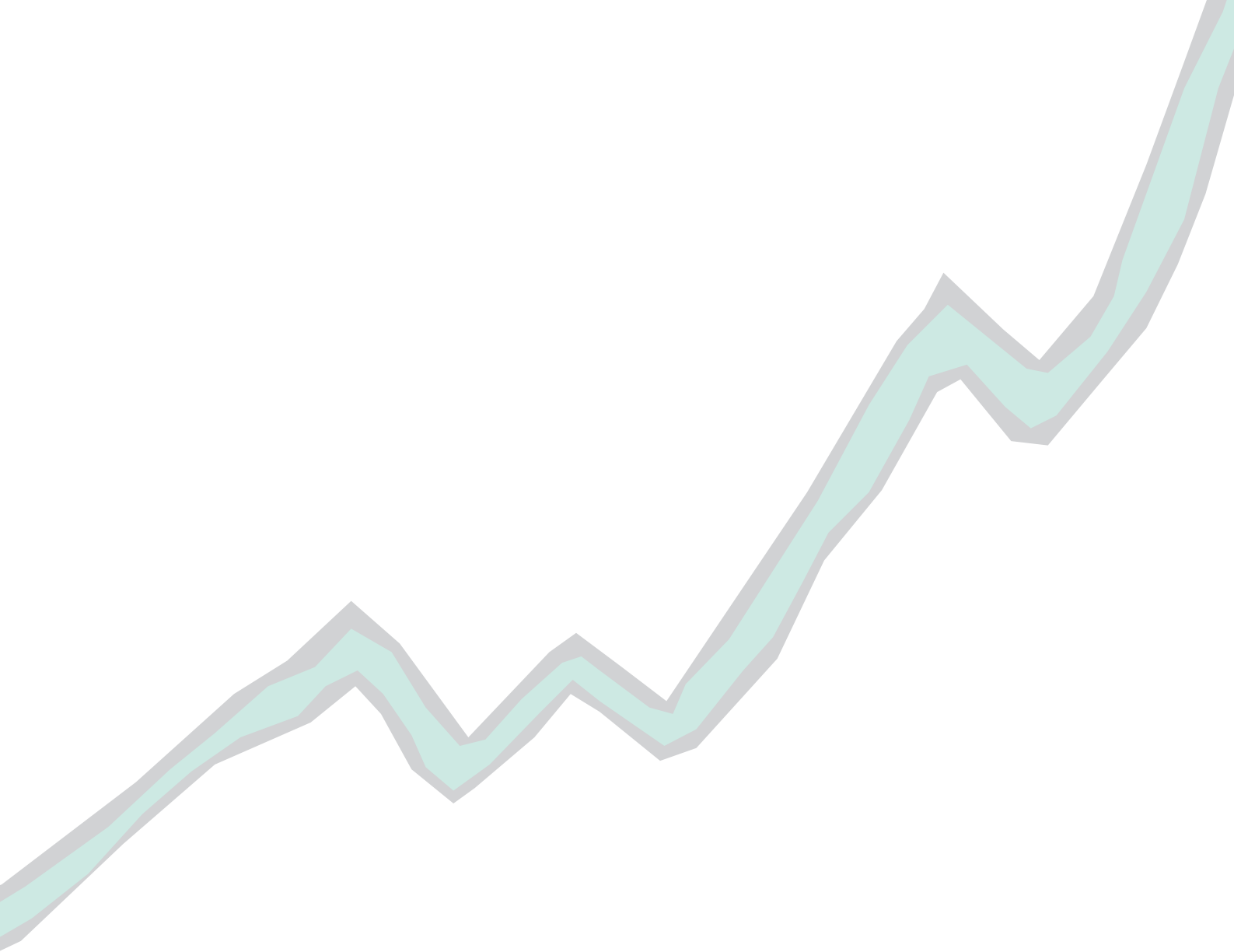
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Abridged report for the audit period 2004/05

Version 1.0





Report for the Audit Period 2004/05

This report presents the main findings from the second 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 containing the detailed analysis and further explanation of the approach used can be found at www.icservices.nhs.uk/ncasp/pages/audit_topics/diabetes

Printed copies of the abridged report can be ordered by quoting reference number (13090603), on **0845 300 6016** or email diabetes@ic.nhs.uk

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Foreword

It is a key part of my philosophy that unless you can measure something accurately then the impact of any changes you make to improve it will never be established. Indeed you will not know whether it has been improved or made worse. By default then any system that captures accurate data about diabetes care and transforms it, through intelligent analysis, into useful information makes a key contribution to achieving the NSF standards. This is what the National Diabetes Audit does.



This second Annual Report of the NDA displays the increasing confidence that the diabetes community has both in signing up to the audit and to the outcomes it produces. There has been a significant uplift in the number of PCTs subscribing to the NDA whilst the analysis produced from the data submitted is of increasing use to the diabetes community. A virtuous circle of more sign ups leading to more data leading to more accurate information is being created that will produce significant benefits for the diabetes community including 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, who have done so much to encourage organisations to engage.

The information produced will be increasingly valuable within the new NHS landscape where commissioning effective quality services will be the touchstone of diabetes care. With establishing the essential needs of the local diabetes user base as the starting point for commissioning services the information the NDA can supply about what standard of care is, and what is not, delivered

in the locality is vital. This can be integrated with information from a range of other sources such as DiabetesE and the Quality and Outcomes Framework indicators to build up a very precise picture of the needs of people with diabetes in the area. The ability to stratify needs by age, gender, ethnicity and deprivation will also be a valuable contribution by ensuring commissioned services are bespoke solutions. Ones that address specific needs not a one size fits all approach that views the needs of people with diabetes as identical with each other.

Although I am encouraged by the increased membership of the NDA I recognise that there is still a long way to go until we have the ideal 100 percent engagement with it. The views of those who see it as time consuming, irrelevant and boring must be overcome through demonstrating its practical application to frontline staff and commissioners.

A handwritten signature in black ink, appearing to read 'Sue Roberts'.

Dr Sue Roberts
National Clinical Director for Diabetes

Introduction

The National Diabetes Audit (NDA), funded by the Healthcare Commission, has now completed its second year. The main findings from the first year of the audit, covering the period from January 2003 to March 2004 were reported in September 2005 and participating organisations have access to local and comparative analysis through the NDA toolkit throughout the audit years. This report presents the main findings from the second year of the audit for children and adults, covering the period from January 2004 to March 2005. It also provides recommendations that arise from the results for national and local organisations. A separate report focusing on findings from the information submitted by paediatric units is also available, document reference 13090602.

Quality information is vital to the success of organisations implementing the Diabetes National Service Framework (NSF) and achieving improvements in 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 and adults with diabetes based on the standards laid out in the Diabetes NSF.

Participation in the NDA allows organisations to check their progress in meeting national standards. It allows measurement of achievements towards implementing NICE guidelines for diabetes and provides analysis of key areas related to the National Service Framework for Diabetes. In particular, primary care has the lead role in registration, recall and regular review of adults with diabetes (NSF standard 4) and are responsible for the provision of diabetes care to all people with diabetes registered with their practices.

NDA participation also allows comparison of delivery of care in your locality and in England. This is based on robust benchmarks and taking into account influences such as age profile, type of diabetes and social class. Furthermore it will allow sharing of best practice through identification of similar organisations that are performing well in diabetes care and complication outcomes. Year-on-year comparisons are available for organisations that submit data over a number of audit years.

NDA will allow organisations to review their patient pathways, if secondary care organisations in an area are participating in the audit, it will help to identify where patients are not included on GP registers. In addition the Hospital Episode Statistics (HES) are linked to NDA data to provide a rich picture of diabetes care and complications in England and at a local level.

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 is designed to complement DiabetesE, a standardised web-based, self-assessment quality improvement tool. Taken together the NDA and DiabetesE provide a comprehensive and integrated view of the quality of diabetes services. In addition, the Quality and Outcomes Framework (QOF) provides information relevant to payment for primary care diabetes services that achieve quality targets. Further information about the different information initiatives to support diabetes is available from the National Diabetes Support Team http://www.diabetes.nhs.uk/downloads/Factsheet_info_to_improve_care.pdf

Participation

Information about more than 500,000 patients with diabetes has been collected from primary and secondary care organisations participating in the second year of the audit. This represents a two-fold increase in participation over the 2003/04 audit and creates a valuable source of information to enable organisations to compare the quality performance of their services with peer services across England. It also provides a baseline upon which trends over time can be identified. This data represents information on 28 percent of the 1.8 million people who make up the registered diabetic population of England.

A large number of organisations have now submitted data to the audit and it is hoped that the significant increase in participation will encourage other organisations who have not yet taken part to see the value of being involved in the 2005/06 audit. Use of MIQUEST queries for extracting the data from GP systems has been proven to be straightforward with 106 PCTs submitting data from 1,868 GP practices, an average of 18 practices per PCT.

Paediatric units in Wales have for the first time submitted registration information to the audit. It is hoped that primary care and adult specialist services caring for people with diabetes in Wales will also participate in the future audits. Again, the participation of both primary and secondary care organisations will provide a complete view of diabetes care throughout the local health economy.

Extending participation has been the major focus for the audit in order to increase the benefits for all those involved. The Healthcare Commission, which commissions the NDA, has committed to a further two years funding of the audit covering the 2005/06 and 2006/07 periods. Increasing participation in NDA will allow more effective time-trend analysis for diabetes care and outcomes. It will also provide a valuable resource to support commissioning of diabetes services.

Summary of Key Findings

A number of important findings including significant variations in services have been identified in this audit:

- Of the data submitted to the NDA, on average only four out of five (81 percent) of the people predicted (utilising the PBS phase 2 diabetes population prevalence model at SHA level) to have diabetes are actually recorded as having diabetes at GP practices. This is a 4% increase on the 2003/04 audit, which showed 77 percent of the people predicted by the PBS Phase 2 model at SHA level to be recorded on practice based registers. There is also considerable variation between practices with predicted registrations varying from less than two out of five (40 percent), whilst others have registered all those who are predicted to have diabetes. People who have diabetes but do not have their diagnosis recorded on practice registers will be unlikely to receive the routine care and monitoring required for optimising wellbeing and minimising long term complications. This report will identify some of the issues raised by NDA data for diabetes registrations in more detail.
- Significant differences in complications rates for MI, cardiac failure, stroke, renal failure and major amputations were seen for some PCTs, even accounting for differences in deprivation. There is a tendency to see a sharp rise in complication rates at 25 years of age, which continues throughout the age bands. The highest prevalence rates for renal failure are found in the middle age bands, starting with a sharp rise at age 25-39 years, which also shows a higher complication rate in males (0.34%) compared to females (0.23%). Known preventative care interventions for people with diabetes from a young age could result in a reduction in these rates.
- The introduction of the QOF in primary care may have led to the increase in recording of all care processes in primary care for people with diabetes this year compared with 2003/4. Three out of

five (61 percent) people with diabetes were recorded as having received an eye exam in the audit year, this compares with less than half (47 percent) in 2003/4.

- Just over half (58 percent) of people with diabetes achieved an HbA1c of less than 7.5%, the primary target level of glucose control recommended in NICE clinical guidelines. Of those one in five (21 percent) achieved the secondary target of less than 6.5%. However, 42 percent of people with diabetes have recorded HbA1c readings of over 7.5%. This shows a high percentage of people with diabetes having poor glucose control. However, this is 1% lower than the 43 percent achieved in the 2003/04 audit. Maintaining controlled blood glucose levels reduces the risk of long term complications such as blindness, renal failure and nerve damage, which may in extreme cases lead to the need for amputations.
- In the audit of specialist paediatric units less than one in five (16 percent) of children with diabetes under 16 years achieved the HbA1c target of less than 7.5%. 28 percent of children and young people have HbA1c recordings of over 9.5%, children with HbA1c levels consistently above 9.5% are at greater risk of developing diabetic ketoacidosis and long-term complications such as blindness, renal failure and nerve damage.
- On average, less than one in ten (8.2%) of children and young adults with diabetes experienced at least one episode of ketoacidosis in the audit period. NDA analysis shows that ketoacidosis occurs more in girls than boys.

Discussion of Key Findings

The National Diabetes Audit was designed to provide quality performance information about the four key Diabetes NSF objectives:

- Is everyone with diabetes diagnosed and recorded on a practice diabetes register?
- For people with diabetes what is the annual rate of specific complications?
- What proportions of people with diabetes receive key processes of diabetes care?
- What proportions of people with diabetes achieve treatment targets?

The following sections provide details of the audit findings relating to these questions.

Further work is required nationally to determine whether there is systematic under-identification of women aged 40 and above and to develop appropriate recommendations. This issue has been referred to the National Diabetes Public Health Intelligence Group for further exploration.

There is a difference of almost 1% in the observed prevalence of diabetes between areas which are least (Quintile 1) and most deprived (Quintile 5) having the highest prevalence of diabetes. There are higher numbers of registrations of people with diabetes in Quintile 5 in the data submitted to NDA. However, this represents only a small increase of just over 10,000 registrations compared to Quintile 1. This is indicative of the potential impact on the burden of treating diabetes in deprived areas.

It is important that the diabetes type and ethnicity of patients are recorded on diabetes registers. Currently the recording of these items is generally poor although there are some practices that have submitted information with high levels of completeness. Overall, 43 percent of records did not have diabetes type recorded, which is a 17 percent improvement on the 60 percent unrecorded in the previous audit. In addition 83 percent did not have an ethnic code recorded, which is comparable with the previous audit. Until an improvement in the completeness of recording is achieved, effective analysis by diabetes type and by ethnicity cannot be developed. The recording of ethnicity and diabetes type are now partial requirements for QOF. This should lead to improved recording and data completeness.

Complications Associated with Diabetes

Understanding the continuing burden of complications associated with diabetes that are susceptible to preventative care was the second most important objective of the audit.

Complications rates calculated using one year of HES data for those patients included in the audit are shown in Figure 2. These rates are comparable to those seen in the first year of the audit providing confidence in their validity.

The three most common complications for people with diabetes are all related to coronary heart disease; for example, angina in 2.37% of patients, though this rate is thought to be overstated due to the known over-use of angina codes e.g. for chest pain, cardiac failure and myocardial infarction. Having diabetes greatly increases the risk of suffering from all the complications listed, affecting the quality of life for people with the condition. For example, a person with diabetes is about three times more likely to have a stroke and 11 times more likely to have a minor amputation.

These findings accord with other published results, summarised in the Yorkshire and Humber Public Health Observatory Diabetes Key Facts document, published in March 2006.

Complication type	Prevalence in people with Diabetes (%) (Source NDA)	National prevalence (%) (Source HES)	Difference (%)	Relative increase in risk
Angina	2.37	0.50	1.87	474%
Cardiac Failure	1.18	0.33	0.85	358%
Myocardial Infarction	0.55	0.17	0.38	324%
Ketoacidosis	0.49	N/A	N/A	N/A
Stroke	0.48	0.17	0.31	282%
Diabetic Retinopathy	0.33	N/A	N/A	N/A
Renal Failure	0.21	0.05	0.16	420%
Amputation (minor)	0.11	0.01	0.10	1100%
Amputation (major)	0.07	0.01	0.06	700%

Figure 2: Complication rates

Complications and Age

An increase in the prevalence of Myocardial Infarction, Angina, Cardiac Failure and Stroke is observed with increasing age as is the case for all people nationally. There is a tendency to see a sharp rise in complication rates at 25 years which continues throughout the age bands. The highest prevalence rates for renal failure are found in the middle age bands, starting with a sharp rise at age 25-39 years, which also shows a higher complication rate in males (0.34%) compared to females (0.23%). Prevalence rates for ketoacidosis were highest in the younger age bands particularly under 24 years of age.

Variations in Complication Rates

Use of statistical process control (SPC) methodology revealed a number of SHAs and PCTs with statistically significant increased rates for MI, cardiac failure, stroke, renal failure and major amputations. As noted in the detailed analysis in the full version of the NDA Annual Report, this will be discussed in further detail with the National Clinical Director for Diabetes in order to consider how best to support local services in seeking to achieve improvements.

The pattern for MI cardiac failure and stroke is consistent with the findings from the first year of the audit. Even taking into account factors such as deprivation, significantly high prevalence rates for these complications are still apparent.

It has not been possible to consider ethnicity in assessing complication rates due to the current poor recording of this. Improved recording of ethnicity is one of the key recommendations of this report.

When considering trends it will also take time for improvements in care to impact on improvements in some of the diabetic complications. There are also different time intervals for improvements in complications such as amputations, renal disease and myocardial infarction.

Structured Care for People with Diabetes

This audit question seeks to analyse whether the most basic components of care as outlined in the Diabetes NSF Delivery Strategy (section 3.25) have been delivered and recorded.

As predicted last year, an increase in the recording of all the care processes in primary care has been seen in 2004/05 compared with 2003/04. This may be related to the introduction in primary care of the new General Medical Services (GMS) contract in 2004/05.

With the exception of eye and foot examination both of which were recorded in around 60 percent of patients and urinary albumin, which was recorded in 42 percent of patients, all other care processes were recorded in at least 80 percent of patients with diabetes in 2004/05.

A 14 percent improvement in the recording of eye examinations was seen and 61 percent of people with diabetes had an eye exam carried out during the 2004/05 audit period. A further increase of 19 percent is needed to achieve the NSF standard of 80 percent for 2006 followed by an additional 20 percent for 2007 to achieve all people having this care process.

A quarter (24.4 percent) of people with diabetes had all care processes recorded during 2004/05, which was equivalent to a full annual surveillance review. Although this proportion is still small it represents an improvement of over 17 percent compared with the baseline year.

The rates of carrying out and recording care processes increases with the age of the patients. People in the 55 to 84 year age band are more likely to have care processes recorded than other age bands.

Variation in carrying out care processes was seen across PCTs, with the greatest degree of variation seen in the care processes which had the lowest rates of being carried out, namely eye exam, foot exam and urinary albumin.

Achievement of Treatment Targets

The final aim for the audit was to understand what proportions of people with diabetes achieved treatment targets. This checks whether care processes achieved their objective. Targets for HbA1c, cholesterol and blood pressure for people with diabetes have been published in NICE guidelines, with other targets set within the General Medical Services (GMS) Quality and Outcomes Framework (QOF) for primary care. It must be remembered that there are differences between the NICE and QOF targets. The results below and NDA toolkit analysis are based on NICE guidelines.

Maintaining controlled blood glucose levels reduces the risk of long-term complications of diabetes such as blindness, renal failure and nerve damage, which may in extreme cases lead to the need for amputations. HbA1c provides a measure of overall levels of blood glucose and is an indicator of glycaemic control. NICE clinical guidelines recommend that the HbA1c level should be less than 7.5%.

Maintaining controlled blood pressure and cholesterol levels reduces the risk of long-term vascular disease. When compared to the 2003/04 audit results have improved in all areas except the target of lower than 6.5% for HbA1c for those at higher risk of arterial disease.

When compared to the NICE guidelines the results of the audit show:

HbA1c:

- 22 percent of people with diabetes achieved the lower HbA1c target of less than 6.5%, recommended, where appropriate, for those at higher risk of arterial disease
- 58 percent achieved the target of less than or equal to 7.5%.

Blood pressure:

- 24 percent of people with diabetes achieved the blood pressure target of less than or equal to 135/75 mm Hg;
- 88 percent of people achieved the target of less than 160/100 mm Hg.

Cholesterol:

- 68 percent of people achieved the target of less than 5mmol/litre;
- 10 percent more men achieved the cholesterol target than women. A possible explanation for this may be the greater screening for and prevalence of coronary heart disease amongst men and a resulting use of statins.

Children with Diabetes

The NDA includes the audit of paediatric services that was previously carried out by Diabetes UK. A separate report detailing the findings specifically for paediatric units is available in the NDA Report for children and young people.

A number of important findings have been identified from the 2004/05 data based on the paediatric units that participated in the audit:

- Participation in the audit has more than doubled this year with information received for 7,841 children and young people in England and Wales.
- On average, around 8.2% of children and young adults with diabetes experienced at least one episode of ketoacidosis in the audit period. There is a tendency for ketoacidosis to occur more in girls than boys.
- 81 percent of children and young people had their HbA1c recorded at least once in the audit period. This is an increase of 15 percent compared with last year.
- Not all care processes are recommended for all ages. However, only 17 percent of 12-15 year olds received eye and foot exams, or had their cholesterol checked in the audit year.
- There is a tendency for more males to achieve the treatment targets for both HbA1c and cholesterol. 16 percent of children and young people under 16 years achieved the HbA1c target of less than 7.5%, which represents a higher percentage of males (17 percent) achieving the target than females (15 percent). Alongside this, 72 percent of children and young people under 16 years achieved the HbA1c target of less than or equal to 9.5% which also shows a higher achievement in males (74 percent) than females (71 percent).

Key Recommendations

The results of the two years of National Diabetes Audit provide a useful evidence base on which to make recommendations for local service improvements and commissioning.

It is recommended that Diabetes networks, clinicians and PCTs should:

1. Continue the improvements in diagnosing and recording people with diabetes and aim to ensure that at least 90 percent of the PBS phase 2 predicted numbers are identified and registered.
2. Strive to improve the accuracy and completeness of recording diabetes type in order to better understand the population of people with diabetes and their needs.
3. Also improve the accuracy and recording of ethnicity in order to better understand the population of people with diabetes and evaluate their needs.
4. Use detailed local knowledge to:
 - identify and investigate reasons for significantly high complications rates where they occur (outliers above the control limits in the statistical process control charts). The NDA Analysis toolkit, PIANO, contains the relevant statistical process charts.
 - share understanding of the factors contributing to the achievement of significantly low complications rates (outliers below the control limits in the Statistical process control charts). The NDA Analysis toolkit, PIANO, contains the relevant statistical process charts.
5. Review rates of carrying out and recording key processes of care and aim to make further improvements to aspire to achieve the benchmarks as set by the upper quartiles seen in the audit (figure 3).

Local services should aim to complete the gaps in undertaking the key care processes, particularly where they are poorly filled. The upper quartiles in the audit should be considered as a minimum to achieve and continued improvement should be based on this. Where services are clearly lagging local organisations should examine the specific reasons for this.

Care Process	Minimum rate to aim to achieve:
Blood Pressure	93%
Smoking status	87%
Creatinine	88%
Cholesterol	87%
HbA1c	85%
BMI	85%
Eye exam	66%
Foot exam	68%
Urinary Albumin	58%
All care processes	34%

Figure 3: Care process rates

6. Consider the provision of services for people in the younger age bands (under 16 years) and aim to maximise the rates of carrying out the key processes of diabetic care in order to minimise complications. Consideration must also be given to provision of services for the 16 to 24 years agebands in order to ensure ease of transition of care into adulthood.
7. Aspire to achieve the upper quartile rates for each of the treatment targets (figure 4).

Again, the upper quartiles in the audit should be considered as a minimum to achieve and continued improvement should be based on this. Where local services are achieving the upper quartile targets they should show year-on-year improvement in order to meet NICE guidelines and implementation of the Diabetes NSF.

Treatment targets	Minimum rate to aim to achieve:
HbA1c < 6.5%	26%
HbA1c ≤ 7.5%	62%
Cholesterol < 5 mmol/litre	72%
Blood Pressure ≤ 135/75 mmHg	26%
Blood Pressure < 160/100 mmHg	90%

Figure 4: Treatment targets: Minimum Rate to achieve

Considerations for bodies involved in providing advice and guidance to PCTs and Commissioners including the Department of Health (DH) and the National Diabetes Support Team (NDST):

1. Support continued participation in the NDA and aim to improve participation, particularly in areas where organisations are not currently registered for the audit.
2. Support initiatives that seek to improve data quality and standardise diabetic coding.
3. Consider inclusion of NDA as a data source that can be used for commissioning purposes in any relevant documentation.

Paediatric specialist units

It is recommended that paediatric units should:

1. Strive to continue improving rates of recording HbA1c results.
2. Use detailed local knowledge to:
 - identify and investigate reasons for significantly high ketoacidosis rates where they occur (outliers below the control limits in the statistical process control charts).
 - share understanding of the factors contributing to the achievement of significantly low rates for ketoacidosis (outliers below the control limits in the statistical process control charts).
3. Aim to achieve the NICE guidelines for HbA1c ie. Less than 7.5%, without frequent disabling hypoglycaemia.

National organisations

This includes The Information Centre for health and social care, the National Diabetes Public Health Intelligence Group and Yorkshire and Humber Public Health Observatory.

It is recommended that national organisations:

1. Carry out work to understand the reasons for the apparent under-identification of women aged 40 and above and develop any recommendations if required (Yorkshire and Humber Public Health Observatory, National Diabetes Public Health Intelligence Group)
2. Develop a User Group for the National Diabetes Audit to facilitate the sharing of good practice identified through the audit findings and to develop the audit to support local action planning and the commissioning of diabetes services.

Organisations involved in the care of people with diabetes, including diabetes networks, PCTs, GP practices and hospital trusts, should:

- Participate in the National Diabetes Audit in 2005/06. The service and queries to support the collection and submission of data are all fully available. The deadline for submissions is the end of November 2006. Further information about the audit and how to submit data is available at www.icservices.nhs.uk/ncasp/pages/audit_topics/diabetes
- Identify relevant local issues to improve services both in light of the recommendations identified in this report and information provided to all the NDA users through the NDA Analysis toolkit (PIANO).
- PCTs should analyse the data in the National Diabetes Audit in order to identify the complication rates for their diabetic population and ensure that appropriate interventions are undertaken.

Future Work Programme

The National Diabetes Audit has seen a considerable rise in participation from the 2003/04 audit to the 2004/05 audit periods. The NDA aims to continue this increase and expand the data collection year-on-year. This will provide organisations with a rich source of local and national information to benchmark diabetes services, use as evidence to improve local services and support the commissioning of those services for diabetes.

The NDA is currently working with Dr Sue Roberts (National Clinical Director for Diabetes) and the DH to develop guidance on how the NDA can be used to support the commissioning of Diabetes services.

Alongside this the NDA are working to identify any developments which may be required in the dataset and assess how these developments will improve the information gathered by the audit and how they can be used more effectively to deliver clinical improvements and support monitoring of delivery of the Diabetes NSF and NICE guidelines.

To facilitate future audit developments and audit participation the NDA would welcome the introduction of IT support systems in particular for Paediatric Units, many of which have no clinical IT systems. This would allow effective participation in the NDA and create wider benefits for clinical care.

An NDA user group is being established. This will support development of the NDA and provide valuable end-user perspectives.

References

1. National Service Framework for Diabetes: Standards. London, Department of Health 2001.
2. National Service Framework for Diabetes: Delivery Strategy. Department of Health 2003.
3. How PCTs are Implementing the Diabetes NSF: Findings from DiabetesE; First National Report, 2006.
4. Key Facts: Diabetes. Yorkshire and Humber Public Health Observatory 2006.
5. The National Paediatric Diabetes Audit: Results from the audit year 2002. Diabetes UK 2002.

Appendix A

NDA Service Management Board Membership - 2004/05 Audit Period

Helen Laing Clinical Audit Commissioning Manager, Healthcare Commission

Phil Moores Service Delivery Manager, NHS Connecting for Health

Claire Morris NCASP Project Manager (from November 2005), The Information Centre

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

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

David Stones NCASP Project Manager (to end October 2005), The Information Centre for health and social care

Bridget Turner Head of Policy, Diabetes UK

Dr Bob Young Consultant Physician, Diabetes and Endocrinology, Salford Royal Hospitals

NDA Paediatric Advisory group - 2004/05 Audit Period

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

Trish McKinney Paediatric Epidemiologist, University of Leeds

Pauline Proud Health Information Manager, Diabetes UK

Chris Lambourne Regional Programme Manager, National Diabetes Support Team

Claire Morris NCASP Project Manager, Medical Mosaic, on behalf of The Information Centre for health and social care

Appendix B

Participation in the NDA for 2004/05 audit data by PCTs

Norfolk, Suffolk and Cambridgeshire

Norwich

North Peterborough

South Peterborough

West Norfolk

Southern Norfolk

Huntingdonshire

Great Yarmouth

Cambridge City

South Cambridgeshire

East Cambridgeshire and Fenland

Broadland

North Norfolk

Ipswich

Suffolk Coastal

Central Suffolk

Waveney

Suffolk West

Bedfordshire and Hertfordshire

Hertsmere

Luton

Bedford

Bedfordshire Heartlands

Welwyn Hatfield

North Hertfordshire and Stevenage

South East Hertfordshire

Royston, Buntingford and Bishop's Stortford

Watford and Three Rivers

Dacorum

St Albans and Harpenden

Essex

Tendring

Epping Forest

Southend on Sea

Harlow

Maldon and South Chelmsford

Not registered, Not Submitted Registered, <50% Submitted data Registered, >50% Submitted data

Colchester
Uttlesford
Billericay, Brentwood and Wickford
Thurrock
Basildon
Chelmsford
Castle Point and Rochford
Witham, Braintree & Halstead Care Trust

Cheshire & Merseyside

Bebington and West Wirral
Southport and Formby
North Liverpool
Birkenhead and Wallasey
Cheshire West
Central Cheshire
Eastern Cheshire
Ellesmere Port and Neston
Central Liverpool
South Liverpool
Halton
Warrington
St Helens
Knowsley
South Sefton

Thames Valley

Milton Keynes
Newbury and Community
Reading
Slough
Wokingham
Vale of Aylesbury
North East Oxfordshire
Cherwell Vale
Oxford City
South East Oxfordshire
South West Oxfordshire
Bracknell Forest
Windsor, Ascot and Maidenhead
Chiltern and South Bucks
Wycombe

Hampshire and Isle of Wight

New Forest
North Hampshire
Isle of Wight

Mid-Hampshire
East Hampshire
Portsmouth City Teaching
Blackwater Valley and Hart
Southampton City
Fareham and Gosport
Eastleigh and Test Valley South

North West London

Hillingdon
Hammersmith and Fulham
Ealing
Hounslow
Brent Teaching
Harrow
Kensington and Chelsea
Westminster

North Central London

Barnet
Enfield
Haringey Teaching
Camden
Islington

North East London

Havering
Barking and Dagenham
City and Hackney Teaching
Tower Hamlets
Newham
Redbridge
Waltham Forest

South East London

Bromley
Greenwich
Lambeth
Southwark
Lewisham
Bexley Care Trust

South West London

Kingston
Croydon
Wandsworth
Richmond and Twickenham
Sutton and Merton

Not registered, Not Submitted Registered, <50% Submitted data Registered, >50% Submitted data

Northumberland, Tyne & Wear

Newcastle

North Tyneside

Gateshead

South Tyneside

Sunderland Teaching

Northumberland Care Trust

Kent and Medway

Dartford, Gravesham and Swanley

South West Kent

Maidstone Weald

Medway

Swale

Ashford

Canterbury and Coastal

East Kent Coastal

Shepway

Surrey and Sussex

Bexhill and Rother

Hastings and St Leonards

Mid-Sussex

East Elmbridge and Mid Surrey

East Surrey

Guildford and Waverley

North Surrey

Woking Area

Adur, Arun and Worthing

Western Sussex

Brighton and Hove City

Eastbourne Downs

Sussex Downs and Weald

Crawley

Horsham and Chanctonbury

Avon, Gloucestershire and Wiltshire

South Gloucestershire

West Wiltshire

South Wiltshire

Bath and North East Somerset

Bristol North

Bristol South and West

Swindon

Kennet and North Wiltshire

Cheltenham and Tewkesbury

West Gloucestershire

Cotswold and Vale

North Somerset

County Durham and Tees Valley

Hartlepool

North Tees

Durham Dales

Darlington

Derwentside

Durham and Chester-Le-Street

Easington

Sedgefield

Middlesbrough

Langbaugh

North and East Yorkshire and Northern Lincolnshire

North East Lincolnshire

Selby and York

East Yorkshire

Yorkshire Wolds and Coast

Eastern Hull

West Hull

North Lincolnshire

Hambleton and Richmondshire

Craven, Harrogate and Rural District

Scarborough, Whitby and Ryedale

West Yorkshire

Airedale

Bradford City

Bradford South and West

North Bradford

Eastern Wakefield

Wakefield West

Leeds West

Leeds North East

East Leeds

South Leeds

Leeds North West

Calderdale

North Kirklees

Huddersfield Central

South Huddersfield

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South Yorkshire

Doncaster Central
 North Sheffield
 Doncaster East
 Doncaster West
 Sheffield West
 Sheffield South West
 South East Sheffield
 Rotherham
 Barnsley

South West Peninsula

South Hams and West Devon
 Torbay
 Plymouth
 West of Cornwall
 North Devon
 Exeter
 East Devon
 Mid Devon
 Teignbridge
 North and East Cornwall
 Central Cornwall

Dorset and Somerset

North Dorset
 Bournemouth Teaching
 South and East Dorset
 South West Dorset
 Somerset Coast
 Mendip
 South Somerset
 Taunton Deane
 Poole

Trent

Central Derby
 Mansfield District
 Newark and Sherwood
 West Lincolnshire
 Lincolnshire South West Teaching
 Chesterfield
 Gedling
 Amber Valley
 North Eastern Derbyshire
 Nottingham City

Erewash

Bassetlaw

Broxtowe and Hucknall

Greater Derby

Ashfield

Rushcliffe

Derbyshire Dales and South Derbyshire

East Lincolnshire

High Peak and Dales

Cumbria and Lancashire

Blackburn with Darwen

Carlisle and District

Eden Valley

West Cumbria

Morecambe Bay

Chorley and South Ribble

West Lancashire

Hyndburn and Ribble Valley

Burnley, Pendle and Rossendale

Preston

Fylde

Wyre

Blackpool

Greater Manchester

South Manchester

Central Manchester

North Manchester

Trafford South

Heywood and Middleton

Salford

Trafford North

Stockport

Ashton, Leigh and Wigan

Bolton

Oldham

Bury

Rochdale

Tameside and Glossop

Leicestershire, Northamptonshire and Rutland

Daventry and South Northamptonshire

Melton, Rutland and Harborough

Leicester City West

Eastern Leicester

Not registered, Not Submitted Registered, <50% Submitted data Registered, >50% Submitted data

Hinckley and Bosworth
Charnwood and North West Leicestershire
South Leicestershire
Northamptonshire Heartlands
Northampton

Shropshire and Staffordshire
Burntwood, Lichfield and Tamworth
Staffordshire Moorlands
Newcastle-Under Lyme
Shropshire County
North Stoke
South Stoke
Telford and Wrekin
East Staffordshire
Cannock Chase
South Western Staffordshire

Birmingham and The Black Country
Solihull
Dudley South
Dudley Beacon and Castle
South Birmingham
Walsall Teaching
Oldbury and Smethwick
Rowley Regis and Tipton
Wednesbury and West Bromwich
Wolverhampton City
North Birmingham
Heart of Birmingham Teaching
Eastern Birmingham

**Coventry, Warwickshire,
Herefordshire & Worcestershire**
Herefordshire
Wyre Forest
Rugby
Coventry
North Warwickshire
South Warwickshire
Redditch and Bromsgrove
South Worcestershire

Appendix C

Participating Secondary Care Organisations 2004-05 Audit by region

Northumberland, Tyne and Wear Strategic HA
City Hospitals Sunderland NHS Foundation Trust
Newcastle Upon Tyne Hospitals NHS Trust
Northumbria Healthcare NHS Trust
South Tyneside NHS Foundation Trust

County Durham and Tees Valley Strategic HA
Bishop Auckland General Hospital
County Durham and Darlington Acute Hospitals NHS Trust
North Tees and Hartlepool NHS Trust
South Tees Hospital NHS Trust - Friarage Hospital
South Tees Hospital NHS Trust - James Cook University Hospital

North and East Yorkshire and Northern Lincolnshire Strategic HA
Harrogate Health Care NHS Trust
Hull & East Yorkshire NHS Trust
Northern Lincolnshire and Goole Hospital NHS Trust
Scarborough & North East Yorkshire Health Care NHS Trust
York Hospital Services NHS Trust

West Yorkshire Strategic HA
Airdeale NHS Trust
Calderdale Royal Hospital
Dewsbury & District Hospitals
Pinderfields General Hospital
Pontefract General Hospital

South Yorkshire Strategic HA
Barnsley Hospital NHS Foundation Trust
Doncaster & Bassetlaw Hospital NHS Trust
Northern General Hospital
Rotherham NHS Foundation Trust
Royal Hallamshire Hospital

Cumbria and Lancashire Strategic HA
Blackpool Fylde & Wyre Hospital NHS Trust
East Lancashire Hospitals NHS Trust
Lancashire Teaching Hospital NHS Foundation
Morecambe Bay Hospitals NHS Trust
North Cumbria Acute Hospitals NHS Trust

Not registered, Not Submitted Registered, <50% Submitted data Registered, >50% Submitted data

Cheshire and Merseyside Strategic HA

Aintree Hospitals NHS Trust
Countess of Chester Hospital
East Cheshire NHS Trust
Liverpool Women's Hospital NHS Foundation Trust
Mid Cheshire Hospitals NHS Trust
North Cheshire Hospitals NHS Trust
Royal Liverpool and Broadgreen University Hospitals NHS Trust
Southport & Ormskirk Hospital NHS Trust
St Helens & Knowsley Hospital Trust
Wirral Hospital NHS Trust

Trent Strategic HA

Chesterfield Royal Hospital NHS Foundation Trust
Derby Hospital NHS Foundation Trust
Nottingham City Hospital
Queens Medical Centre in Nottingham
Sherwood Forest Hospitals NHS Trust
United Lincolnshire NHS Trust - County Hospital
United Lincolnshire NHS Trust - Pilgrim Hospital

Birmingham and The Black Country Strategic HA

Birmingham Women's Healthcare NHS Trust
Dudley Group of Hospitals NHS Trust
Good Hope Hospital NHS Trust
Heart of England NHS Foundation Trust
Manor Hospital
Royal Wolverhampton Hospitals NHS Trust
Sandwell & West Birmingham Hospitals NHS Trust
University Hospital Birmingham NHS Foundation Trust

West Midlands South Strategic HA

County Hospital Hereford
George Eliot Hospital
South Warwickshire General Hospital NHS Trust
University Hospital Coventry and Warwickshire NHS Trust
Worcestershire Acute Hospitals NHS Trust

Greater Manchester Strategic HA

Bolton Hospitals NHS Trust
Central Manchester and Manchester Children's University Hospitals NHS Trust
Christie Hospital NHS Trust
Manchester Royal Infirmary
Pennine Acute Hospitals NHS Trust
Salford Royal Hospital NHS Trust
South Manchester University Hospitals NHS Trust

Stockport NHS Foundation Trust
Tameside & Glossop Acute Services NHS Trust
Trafford Healthcare NHS Trust
Wrightington, Wigan, Leigh NHS Trust
Wythenshawe Hospital

Bedfordshire and Hertfordshire Strategic HA

Bedford Hospitals NHS Trust
East & North Hertfordshire NHS Trust
Hemel Hempstead & St Albans Hospital
Hertfordshire Partnership Trust
Luton & Dunstable Hospital NHS Trust

Norfolk, Suffolk and Cambridgeshire Strategic HA

Cambridge University Hospitals NHS Foundation Trust
Hinchingbrooke Healthcare Trust
Ipswich Hospital NHS Trust
James Paget Healthcare NHS Trust
Kings Lynn & Wisbech Hospitals NHS Trust
Norfolk and Norwich University Hospital NHS Trust
Papworth Hospital NHS Foundation Trust
Peterborough & Stamford Hospitals NHS Foundation Trust
West Suffolk Hospital Diabetes Centre

Essex Strategic HA

Basildon & Thurrock University Hospitals
Essex Rivers Healthcare NHS Trust
Mid Essex Hospitals
Princess Alexandra Hospital NHS Trust
Southend Hospital NHS Trust

North West London Strategic HA

Chelsea & Westminster Healthcare NHS Trust
Ealing Hospital NHS Trust
Hammersmith Hospital NHS Trust
Hillingdon Hospital NHS Trust
North West London Hospital NHS Trust
St Mary's NHS Trust
West Middlesex University Hospital NHS Trust

Leicestershire, Northamptonshire and Rutland Strategic HA

Kettering General Hospitals NHS Trust
Leicester Royal Infirmary
Northampton General Hospital
University Hospitals of Leicester

Not registered, Not Submitted Registered, <50% Submitted data Registered, >50% Submitted data

Shropshire and Staffordshire Strategic HA

Burton Hospitals NHS Trust
 Mid Staffordshire General Hospital NHS Trust
 Shrewsbury & Telford Hospital NHS Trust
 University Hospitals of North Staffordshire

Thames Valley Strategic HA

Amersham Hospital
 Buckinghamshire Hospitals NHS Trust
 Churchill Hospital
 Heatherwood & Wexham Park Hospitals NHS Trust
 Milton Keynes General Hospital
 Oxford Radcliffe Hospitals NHS Trust
 Royal Berkshire & Battle Hospitals NHS
 Stoke Mandeville Hospital Trust

Hampshire and Isle of Wight Strategic HA

North Hampshire Hospital
 Portsmouth Hospitals NHS Trust
 Southampton General Hospital
 Southampton University Hospitals NHS Trust
 Winchester & Eastleigh Healthcare Trust

Kent and Medway Strategic HA

Darent Valley Hospital
 Dartford, Gravesham NHS Trust
 East Kent Hospitals NHS Trust
 Maidstone & Tumbidge Wells
 Medway NHS Trust

Surrey and Sussex Strategic HA

Ashford and St Peter's Hospital NHS Trust
 Brighton & Sussex University Hospitals NHS Trust
 East Sussex Hospitals NHS Trust
 Frimley Park Hospital NHS Foundation Trust
 Queen Victoria Hospital NHS Foundation Trust
 Royal Surrey County Hospital NHS Trust
 Royal West Sussex NHS Trust
 Surrey & Sussex Healthcare NHS Trust
 Worthing & Southlands Hospitals NHS Trust

North Central London Strategic HA

Barnet & Chase Farm Hospitals NHS Trust
 North Middlesex Hospital
 Royal Free Hampstead NHS Trust
 University College London Hospitals NHS Foundation Trust
 Whittington Hospital NHS Trust

North East London Strategic HA

Barking, Havering & Redbridge Hospitals
 Barts and London NHS Trust
 Homerton Hospital NHS Trust
 Newham University Hospital NHS Trust
 Royal London Hospital
 Whipps Cross University Hospital NHS Trust

South East London Strategic HA

Bromley Hospitals NHS Trust
 Guy's & St Thomas NHS Foundation Trust
 Princess Royal University Hospital
 Queen Elizabeth Hospital NHS Trust
 Queen Mary's Sidcup NHS Trust
 University Hospital Lewisham

South West London Strategic HA

Epsom & St Helier NHS Trust
 Kingston Hospital NHS Trust
 Mayday Healthcare NHS Trust
 Royal Marsden NHS Foundation Trust
 St George's Healthcare NHS Trust

Avon, Gloucestershire and Wiltshire Strategic HA

Gloucestershire Hospital NHS Foundation Trust
 North Bristol NHS Trust
 Royal United Hospital Bath NHS Trust
 Salisbury Healthcare NHS Trust
 Swindon & Marlborough NHS Trust
 United Bristol Healthcare NHS Trust
 Weston General Hospital

South West Peninsula Strategic HA

Northern Devon Healthcare NHS Trust
 Plymouth Hospitals NHS Trust
 Royal Cornwall Hospitals NHS Trust
 Royal Devon & Exeter NHS Foundation Trust
 South Devon Healthcare NHS Trust

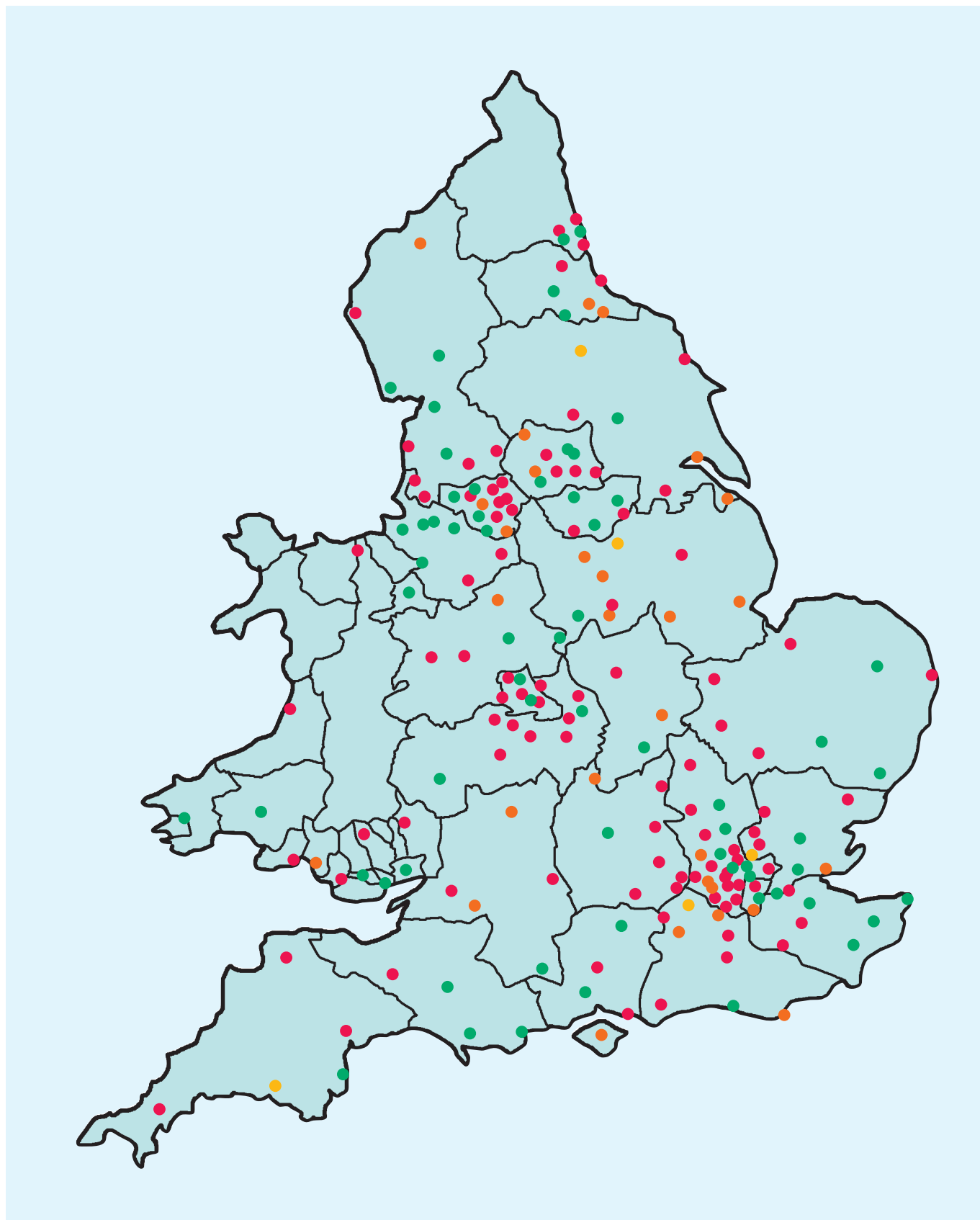
Dorset and Somerset Strategic HA

East Somerset NHS Trust
 Poole Hospital
 Royal Bournemouth & Christchurch Hospitals NHS Foundation Trust
 Taunton and Somerset NHS Trust
 West Dorset General Hospitals Trust
 Yeovil District Hospital

Not registered, Not Submitted Registered, <50% Submitted data Registered, >50% Submitted data

Appendix D

Paediatric Unit Registrations 2004-05



Status of Registrations

Registered & Submitted

Submitted But Unsuccessful

Registered Not Submitted

Not Registered

Appendix E

Participating Paediatric Units 2004-05 Audit by region

Northern

Bishop Auckland General Hospital
Cumberland Infirmary
Darlington Memorial Hospital
Diana, Princess of Wales Hospital, Grimsby
Dryburn Hospital
James Cook University Hospital, Middlesbrough
North Tees General Hospital, Stockton-on-Tees
North Tyneside General Hospital, North Shields
Queen Elizabeth Hospital, Gateshead
Royal Victoria Infirmary, Newcastle Upon Tyne
South Tyneside District Hospital, South Shields
St Mary's Hospital for Women and Children, Manchester
Sunderland Children's Centre
Sunderland Royal Hospital
University Hospital of Hartlepool
University Hospital of North Durham
West Cumberland Hospital, Whitehaven

North West

Arrowe Park Hospital, Upton
Booth Hall Children's Hospital, Manchester
Burnley General Hospital
Countess of Chester Hospital NHS Trust
Fairfield General Hospital, Bury
Furness General Hospital, Barrow-in-Furness
Halliwell Childrens Centre, Bolton
Leighton Hospital, Crewe
Macclesfield District General Hospital
Morecambe Bay Trust
Ormskirk & District General Hospital, Ormskirk
Queen's Park Hospital, Blackburn
Rochdale Infirmary
Royal Albert Edward Infirmary, Wigan
Royal Bolton Hospital
Royal Lancaster Infirmary
Royal Liverpool Children's NHS Trust

Royal Manchester Children's Hospital
Royal Oldham Hospital
Royal Preston Hospital
Southport District General Hospital
Stepping Hill Hospital, Stockport
Tameside General Hospital, Ashton under Lyne
Trafford General Hospital, Manchester
Victoria Hospital, Blackpool
Warrington General Hospital, Warrington
Westmorland General Hospital, Kendal
Whiston Hospital, Prescott
Wythenshawe Hospital

Oxford

Horton General Hospital, Banbury
John Radcliffe Hospital, Oxford
Kettering General Hospital
Milton Keynes Hospital
Northampton General Hospital
Royal Berkshire Hospital, Reading
Stoke Mandeville Hospital, Aylesbury
Wycombe General Hospital, High Wycombe

North Thames

Barnet General Hospital
Barts and the London NHS Trust, London
Basildon & Thurrock Hospital
Central Middlesex Hospital
Chase Farm Hospital, Enfield
Ealing Hospital
Great Ormond Street Hospital, London
Hammersmith Hospital
Herts & Essex Hospital, Hertfordshire
Hillingdon Hospital
King Edward VII Hospital, Windsor
King George Hospital, Ilford
Newham General Hospital, London
North Middlesex University Hospital
Northwick Park Hospital
Oldchurch Hospital, Romford
Princess Alexandra Hospital, Harlow
Royal Free & University College Hospital, London
Southend Hospital

Status of Registrations

Registered & Submitted Submitted But Unsuccessful Registered Not Submitted Not Registered

St John's Hospital, Chelmsford
St John's Hospital, Essex
St Margaret's Hospital, Essex
St Mary's Hospital, London
University College Hospital, London
West Middlesex University Hospital, London
Whipps Cross University Hospital, London
Whittington Hospital, London

Yorkshire

Airedale General Hospital, Keighley
Calderdale Royal Hospital, Halifax
Dewsbury & District Hospital
Friarage Hospital, Northallerton
Grimsby District General Hospital
Harrogate General Hospital
Huddersfield Royal Infirmary
Hull Royal Infirmary
Leeds General Infirmary
Pinderfields General Hospital, Wakefield
Pontefract General Infirmary
Scarborough General Hospital
Scunthorpe General Hospital
St James's University Hospital, Leeds
St Luke's Hospital, Bradford
York District Hospital

West Midlands

Birmingham Children's Hospital
Birmingham Heartlands Hospital
City General Hospital, Stoke-on-Trent
City Hospital, Birmingham
George Elliot Hospital, Nuneaton
Good Hope Hospital, Sutton Coldfield
Grantham and District Hospital
Kidderminster General Hospital
Leicester Royal Infirmary
Manor Hospital, Walsall
New Cross Hospital, Wolverhampton
Princess of Wales Community Hospital,
Worcestershire
Queen's Hospital, Burton on Trent

Sandwell General Hospital, West Bromwich
Staffordshire General Hospital, Stafford
The Alexandra Hospital, Redditch
Walsgrave Hospital, Coventry
Warwick Hospital
Warwick Medical School
Worcestershire Royal Hospital
Wordsley Hospital, Stourbridge

South Thames (East)

Darent Valley Hospital, Dartford
East Surrey Hospital, Redhill
Eastbourne District General Hospital
Gravesend & North Kent Hospital
Guy's Hospital, London
Kent & Canterbury Hospital, Canterbury
King's College Hospital, London
Maidstone Hospital
Medway Maritime Hospital, Gillingham
Pembury Hospital, Tunbridge Wells
Princess Royal University Hospital, Bromley
Queen Elizabeth the Queen Mother Hospital,
Kent
Queen Mary's Hospital, Sidcup
Royal Alexandra Hospital, Brighton
University Hospital Lewisham
Wexham Park Hospital
William Harvey Hospital, Ashford

South Thames (West)

Chelsea & Westminster Hospital, London
Crawley Hospital
Kingston Hospital, Kingston Upon Thames
Mayday University Hospital, Croydon
Queen Mary's Hospital for Children, Epsom & St
Helier Trust
St George's Hospital, London
St Richard's Hospital, Chichester

Status of Registrations

Registered & Submitted Submitted But Unsuccessful Registered Not Submitted Not Registered

Wessex

Dorset County Hospital
North Hampshire Hospital, Basingstoke
Poole Hospital NHS Trust
Royal Hampshire County Hospital, Winchester
Salisbury District Hospital
Southampton General Hospital
St Mary's Hospital, Isle of Wight
The Great Western Hospital, Swindon

Trent

Barnsley District General Hospital
Bassetlaw District General Hospital
Chesterfield Royal Hospital, Derbyshire
Derbyshire Children's Hospital
Doncaster Royal Infirmary
Kings Mill Hospital, Sutton-in-Ashfield
Lincoln County Hospital, Lincolnshire
Nottingham University Hospital
Pilgrim Hospital, Nottingham
Queen's Medical Centre, Nottingham
Rotherham General Hospital
Ryegate Children's Centre
Sheffield Children's Hospital

Anglia

Addenbrooke's Hospital, Cambridge
Bedford Hospital
Colchester General Hospital
Hinchingsbrooke Hospital
Ipswich Hospital
James Paget Hospital, Great Yarmouth
Lister Hospital, Stevenage
Luton and Dunstable Hospital
Norfolk and Norwich University Hospital
Peterborough General Hospital
QEII Hospital, Welwyn Garden City
Queen Elizabeth Hospital, Kings Lynn
Queen Elizabeth Hospital, London
St Albans City Hospital
Watford General Hospital
West Suffolk Hospital, Bury St Edmunds

South & West

Bristol Royal Hospital for Children
Cheltenham General Hospital
Derriford Hospital
Musgrove Park Hospital, Taunton
North Devon District Hospital
Royal Cornwall Hospital, Truro
Royal Devon and Exeter Hospital, Exeter
Royal Naval Hospital, Gosport
Royal United Hospital, Bath
St Mary's Hospital, Portsmouth
Tauton & Somerset Hospital, Taunton
The General Hospital, St Helier
Torbay Hospital, Torquay
Yeovil District Hospital

Wales

Bronglais General Hospital, Wales
Glan Clwyd District General Hospital, Rhyl
Hereford County Hospital
Neath Port Talbot Hospital
Nevill Hall Hospital, Abergavenny
Prince Charles Hospital, Merthyr Tydfil
Princess of Wales Hospital, Bridgend
Princess Royal Hospital, Telford
Royal Glamorgan Hospital
Royal Gwent Hospital
Royal Shrewsbury Hospital
Singleton Hospital, Swansea
University Hospital of Wales, Cardiff
West Wales General Hospital, Carmarthen
Withybush General Hospital
Wrexham Maelor Hospital
Ysbyty Gwynedd Hospital, Wales

Surrey and Sussex

Epsom General Hospital
Frimley Park Hospital, Camberley
Royal Surrey County Hospital
St Peter's Hospital, Chertsey
Worthing Hospital

Status of Registrations

Registered & Submitted Submitted But Unsuccessful Registered Not Submitted Not Registered

Appendix F

How does the National Diabetes Audit work?

The National Diabetes Audit provides a technical infrastructure to allow PCTs, hospitals, GP practices and other organisations to submit data about care that is being delivered in their organisations. Figure 5 provides an overview of the infrastructure that is available nationally to collect, analyse and feedback data.

The audit system is based on a browser-based application that uses NHSnet or N3. Key biomedical data is collected from existing systems either in primary or secondary care using extract queries. In primary care this is done using standard and approved MIQUEST queries that ensure equivalent and comparable information is collected from GP practices across the country. For secondary care detailed specifications for use by system suppliers or local IT departments are provided to ensure data is provided in a consistent way. Further details about the technical infrastructure and how data is collected, including details about how to register for the audit are available at :

<http://www.icservices.nhs.uk/ncasp/pages/auditto pics/diabetes>

In addition to the data which is submitted directly to the audit, supplementary information relating to specific complications and procedures is sourced from the Hospital Episode Statistics (HES) database. An extract of all the NHS numbers of patients submitted to the audit, and therefore registered as having diabetes, is used as the basis for identifying which HES data is added - in other words, and in line with the

approach used in the QUIDS audit - the diabetic population is first identified in order to extract the HES data and any diabetes diagnosis information which may be contained within HES is ignored. This approach is known to have some limitations:

- complications for patients who have diabetes but whose details have not been submitted to the audit will not be included;
- complications for patients with diabetes whose details have been submitted to the audit are all counted regardless of whether there was a causal link between the diabetic condition and the complication (indeed it is possible that the complication could have occurred before diabetes was diagnosed and recorded).

The analysis for the audit is provided through the NDA toolkit which uses technology powered by PIANO (initially developed by the NHS Information Authority and maintained at the time of the audit by the Health and Social Care Information Centre). The NDA toolkit is available to all users who have registered for the audit and enables organisations to understand and interpret their performance.

Users of the NDA toolkit can access analyses for the audit questions. The analyses include inter quartile ranges and allow the data to be stratified according to dimensions such as age, sex, deprivation, type of diabetes and duration of diabetes. This helps to identify where problems may be occurring. The analysis of the data can be based solely on data provided GP practices or upon combined data from GP practices and hospitals, providing a whole system view of care provided throughout a local health economy. In the case of analysing complications, data from Hospital Episode Statistics (HES) is integrated into the analysis.

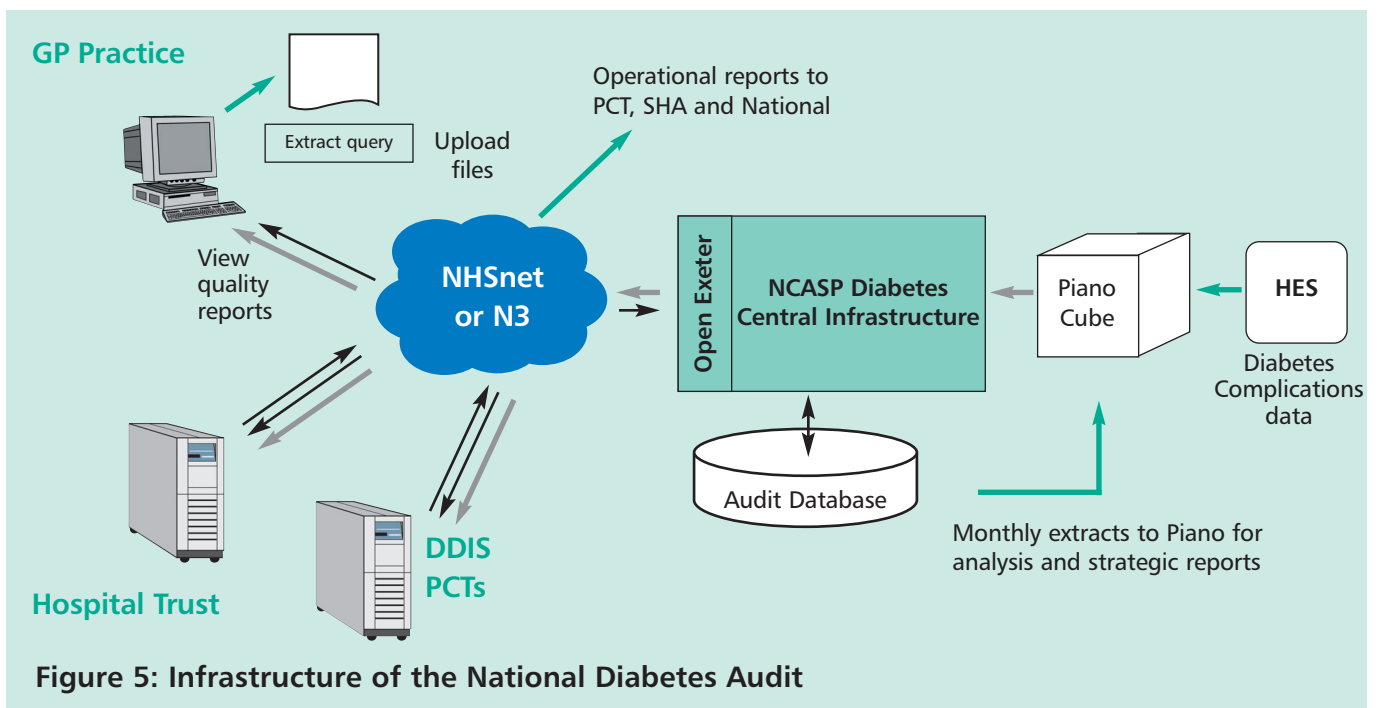


Figure 5: Infrastructure of the National Diabetes Audit

Acknowledgements

The audit was commissioned by the Healthcare Commission and developed in partnership with Diabetes UK. Throughout the development we have worked with representatives from the following organisations: the Department of Health, The National Diabetes Support Team, Yorkshire and Humber Public Health Observatory, PRIMIS, NHS Connecting for Health and the Royal College of Physicians, The Royal College of Paediatrics and Child Health, and the Royal College of General Practitioners. The membership of the NDA Management Board is shown in Appendix A.

The National Diabetes Support Team (NDST) and the National Clinical Director for Diabetes have provided considerable support for the audit and actively involved networks and PCTs in the NDA. Throughout the project we have worked closely with the Yorkshire and Humber PHO and the various individuals responsible for the PBS phase 2 diabetes prevalence model.

We would also like to acknowledge the work done by PRIMIS in writing and supporting the queries that have been used by PCTs and GP practices to provide data for the audit and the contribution from Pat Potts of Dacorum PCT in providing invaluable feedback and testing of the MIQUEST queries.

NHS Connecting for Health have supported the technical infrastructure for collecting the audit data. The team based in Exeter have provided an infrastructure that has been easy to use and which is well supported. We would particularly like to acknowledge Simon Netley, Darren Reddick and the helpdesk team who have provided support to users of the audit.

The analysis for the NDA is provided by the NDA Toolkit, powered by PIANO. The NDA toolkit provides a powerful analysis capability that has greatly facilitated the findings included in this report. We would particularly like to acknowledge the work of James Barrett in providing the ongoing support and development of the toolkit. Much of the work in preparing the analysis and identifying the findings has been done by consultants from Medical Mosaic. In particular we would like to acknowledge all the work and support provided by Claire Morris and Jilly Alexander. We would also like to acknowledge the input given by the NDA team particularly Julie Henderson and Emma Hirst.

We would also like to acknowledge the work done by The Information Centre for health and social care's Geographic Demography and Population Statistics team. We would particularly like to thank Bill Hageman and Nick Armitage for their work in designing and developing the Registration map information.

Above all we would like to acknowledge all the PCTs, GP practices, hospital trusts and paediatric units who have contributed to the audit and provided the data that has been used in this report.

The IC is working to make information more relevant and accessible to the public, regulators, health and social care professionals and policy makers, leading to improvements in knowledge and efficiency. The IC is a special NHS health authority that collects, analyses and distributes data to reduce the burden on frontline staff, releasing more time for direct care.

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