Prescribing for Diabetes

England 2006/07 to 2016/17

Published 1 August 2017

Prescribing for Diabetes reports on and examines prescribing trends on medicines prescribed in primary care in England for the treatment and monitoring of diabetes during the period April 2006 to March 2017.
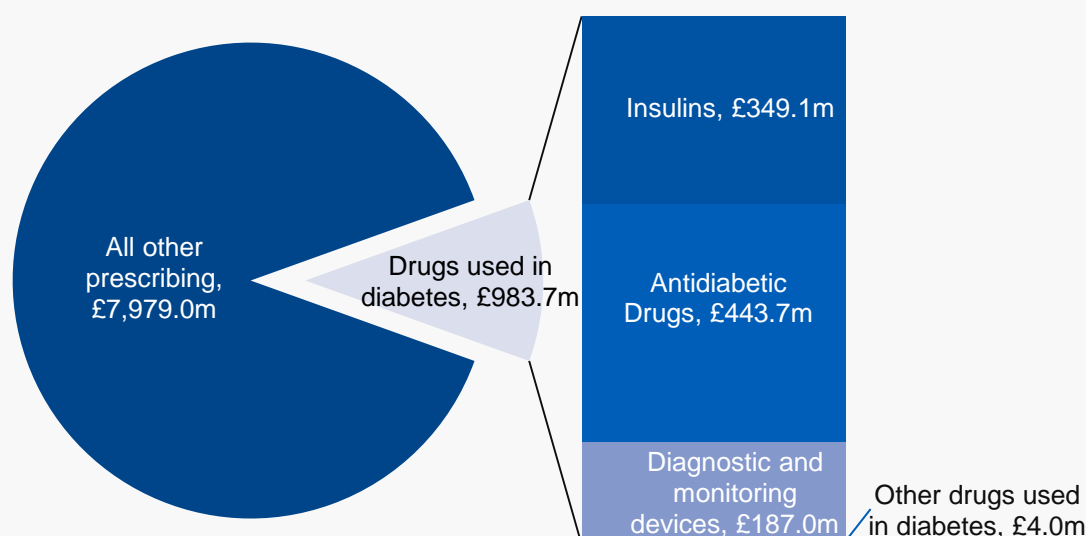
Key findings

- Drugs used in diabetes (British National Formulary (BNF) section 6.1) now make up 11.0 per cent of total primary care net ingredient costs (NIC) and 4.7 per cent of prescription items (See Figure 1).

- In the financial year 2016/17 there were 52.0 million items prescribed for diabetes at a total net ingredient cost of £983.7 million. Up from 28.9 million prescription items and £572.4 million in 2006/07.

- Antidiabetic drugs (BNF section 6.1.2) make up 45.1 per cent of the total £983.7 million net ingredient cost of drugs used in diabetes and accounts for 72.0 per cent of prescription items for all diabetes prescribing.

Figure 1: Diabetes prescribing as a proportion of all prescribing England

All other prescribing, £7,979.0m

Drugs used in diabetes, £983.7m

Insulins, £349.1m

Antidiabetic Drugs, £443.7m

Diagnostic and monitoring devices, £187.0m

Other drugs used in diabetes, £4.0m

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Measures used in this report

Net Ingredient Cost (NIC) - NIC is the basic cost of a drug. It does not take account of discounts, dispensing costs, fees or prescription charges income, so the amount the NHS spent will be slightly different.

Items - Prescriptions are written on a prescription form known as a FP10. Each single item written on the form is counted as a prescription item.

Contents

This is an Official Statistics publication

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Find out more about the Code of Practice for Official Statistics at
www.statisticsauthority.gov.uk/assessment/code-of-practice

This report may be of interest to members of the public, policy officials and other stakeholders to support the understanding of primary care prescribing for diabetes over the last eleven years. It will allow them to see which medicines are being used, how much they are being used and how much they cost

Introduction

The prescribing data covers all prescriptions written for the treatment of diabetes by prescribers working in primary care in England including general practitioners, nurses, and pharmacists and dispensed in the community in the UK. The specific source for the prescribing data is the electronic Prescribing Analysis and CosT tool (ePACT) provided by NHS Prescription Services, part of the NHS Business Services Authority, who process prescriptions in order to reimburse dispensers (see Sources for further information).

This report presents key findings only, more detail can be found in the appendix spreadsheet and csv files. More information on diabetes can be found in the Further Information section of this publication.

Total cost of prescribing

In 2016/17 the cost of prescribing drugs used in diabetes was £983.7 million, 11.0 per cent of the total cost of prescribing in primary care (£8,962.7million).

Total items prescribed

In 2016/17 the number of items prescribed for drugs used in diabetes was 52.0 million, 4.7 per cent of the total number of items prescribed in primary care (1,098.4million).

Change over time

Since 2007/08 "Drugs used in diabetes", (BNF section 6.1), has accounted for the highest cost of any of the BNF sections listed, currently standing at 11.0 per cent of the total cost of primary care prescribing in 2016/17.

The number of items prescribed in England has increased every year since 2006/07. 52 million items were prescribed for diabetes in 2016/17, up from 49.7 million in 2015/16, and 28.9 million in 2006/07. Prescription items for this therapeutic area account for £1 in every £9 spent on primary care prescriptions. In 2006/07 it was fewer than £1 in every £14.

Net ingredient costs are more volatile due to the ways in which costs and prices are negotiated with manufacturers but these too have an overall upwards trend.

The rate of increase is higher for drugs used in diabetes which has seen an 80.1 per cent increase in terms of items and an 71.9 percent increase in terms of cost between 2006/07 and 2016/17 when compared to all primary care prescriptions.

The prevalence of diabetes, in the population in England, taken from the Quality and Outcomes Framework (QOF), was 6.5 per cent in 2015/16 (the latest year available at the time of publication).

Measures used in this report

Net Ingredient Cost (NIC) - NIC is the basic cost of a drug. It does not take account of discounts, dispensing costs, fees or prescription charges income, so the amount the NHS spent will be slightly different.

Items - Prescriptions are written on a prescription form known as a FP10. Each single item written on the form is counted as a prescription item.

Figure 2: Change in prescribing items and NIC for all prescribing and prescribing for diabetes – Indexed 2006/07 = 100
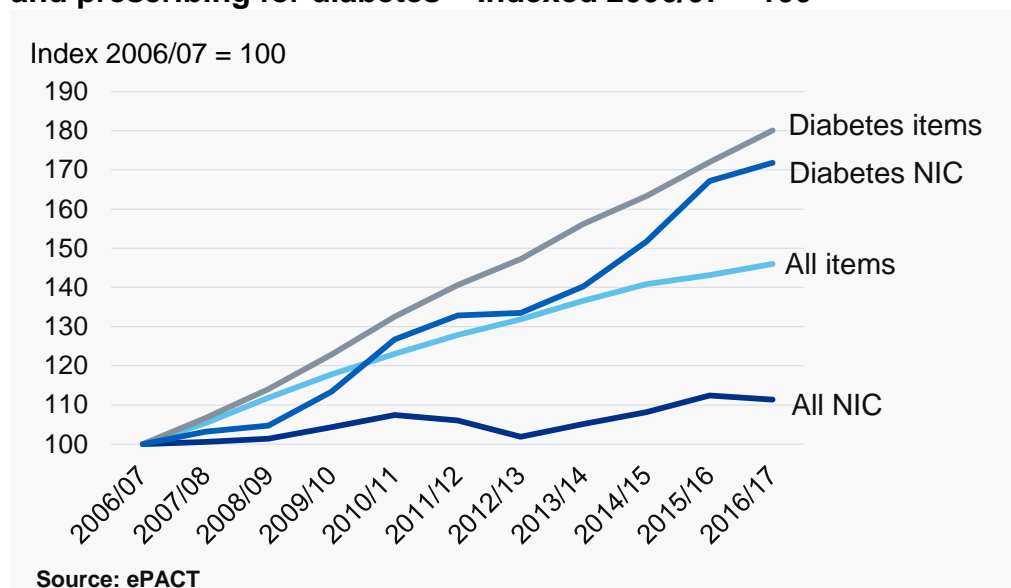
Index 2006/07 = 100

Source: ePACT

Figure 2 shows the cumulative annual change for items and net ingredient costs (NIC).

Background

What is diabetes[1]?

Diabetes mellitus occurs because of a lack of insulin or resistance to its action. It is diagnosed by measuring fasting or random blood-glucose concentration (and occasionally by an oral glucose tolerance test). Although there are many subtypes, the two principal classes of diabetes are type 1 diabetes and type 2 diabetes. This publication cannot distinguish between the prescribing for types of diabetes.

Type 1 diabetes, occurs as a result of a deficiency of insulin following autoimmune destruction of pancreatic beta cells. Patients with type 1 diabetes require administration of insulin.

Type 2 diabetes, is due to reduced secretion of insulin or to peripheral resistance to the action of insulin or to a combination of both. Although patients may be controlled on diet alone, many also require oral antidiabetic drugs or insulin (or both) to maintain satisfactory control. In overweight individuals, type 2 diabetes may be prevented by losing weight and increasing physical activity.

Table 1: Percentage split of diabetes in England by diabetes type.

Audit Year	Percentage of Type 1 diabetes	Percentage of Type 2 diabetes	Percentage of other diabetes type
2009/10	9.4%	88.7%	1.9%
2010/11	9.1%	88.8%	2.2%
2011/12	8.7%	89.5%	1.8%
2012/13	8.7%	89.0%	2.3%
2013/14	9.0%	89.2%	1.8%
2014/15	8.7%	89.1%	2.2%
2015/16	8.0%	89.7%	2.3%

Source: National Diabetes Audit

The information was calculated using data from the National Diabetes Audit. For more information on the National Diabetes Audit http://content.digital.nhs.uk/nda

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[1] This information is from the British National Formulary (BNF) edition 68, the introduction to section 6.1 Drugs used in Diabetes, page 454

Treatments for Diabetes[2]

The BNF divides prescribing for diabetes into 3 areas:

- Insulins – a replacement hormone which regulates, amongst other things, levels of sugar in the bloodstream, and is usually self-injected.

- Antidiabetic Drugs – drugs taken by mouth to help manage levels of sugar in the bloodstream.

- Diagnostic and monitoring devices – devices and their consumables used for monitoring the symptoms of diabetes.

Prevalence of Diabetes

Latest figures from the QOF are shown in the table below. Further QOF data can be found here - http://content.digital.nhs.uk/qof

Table 2: Diabetes prevalence rates in England, 2009/10 to 2015/16

Financial year	Number of patients on diabetes QOF register (aged 17+)	Prevalence per cent (aged 17+)
2009/10	2,338,813	5.3
2010/11	2,455,937	5.5
2011/12	2,566,436	5.8
2012/13	2,703,044	6.0
2013/14	2,814,004	6.2
2014/15	2,913,538	6.4
2015/16	3,033,529	6.5

Source: Quality Outcomes Framework

Prescribing cost per person on diabetes register

The Net Ingredient Cost in 2016/17 per person on the QOF diabetes register in 2015/16 ranged from below £309 to the nearest pound in the lowest 25 per cent of Clinical Commissioning Groups (CCGs) to above £352 to the nearest pound in the highest 25 per cent.

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[2] Treatments are based on National Institute for Health and Care Excellence (NICE) guidance –
1. Type 1 diabetes in adults: diagnosis and management (NG17) (Aug 2015) https://www.nice.org.uk/guidance/ng17
2. Diabetes (type 1 and type 2) in children and young people: diagnosis and management (NG18) (Aug 2105) https://www.nice.org.uk/guidance/ng18
3. Type 2 diabetes in adults: management (NG28) (Dec 2015) https://www.nice.org.uk/guidance/ng28

Figure 3: Net Ingredient Cost in 2016/17 per person on the QOF diabetes register in 2015/16 by CCG (ascending)

NIC per patient

Source: NIC from ePACT, numbers of patients from QOF
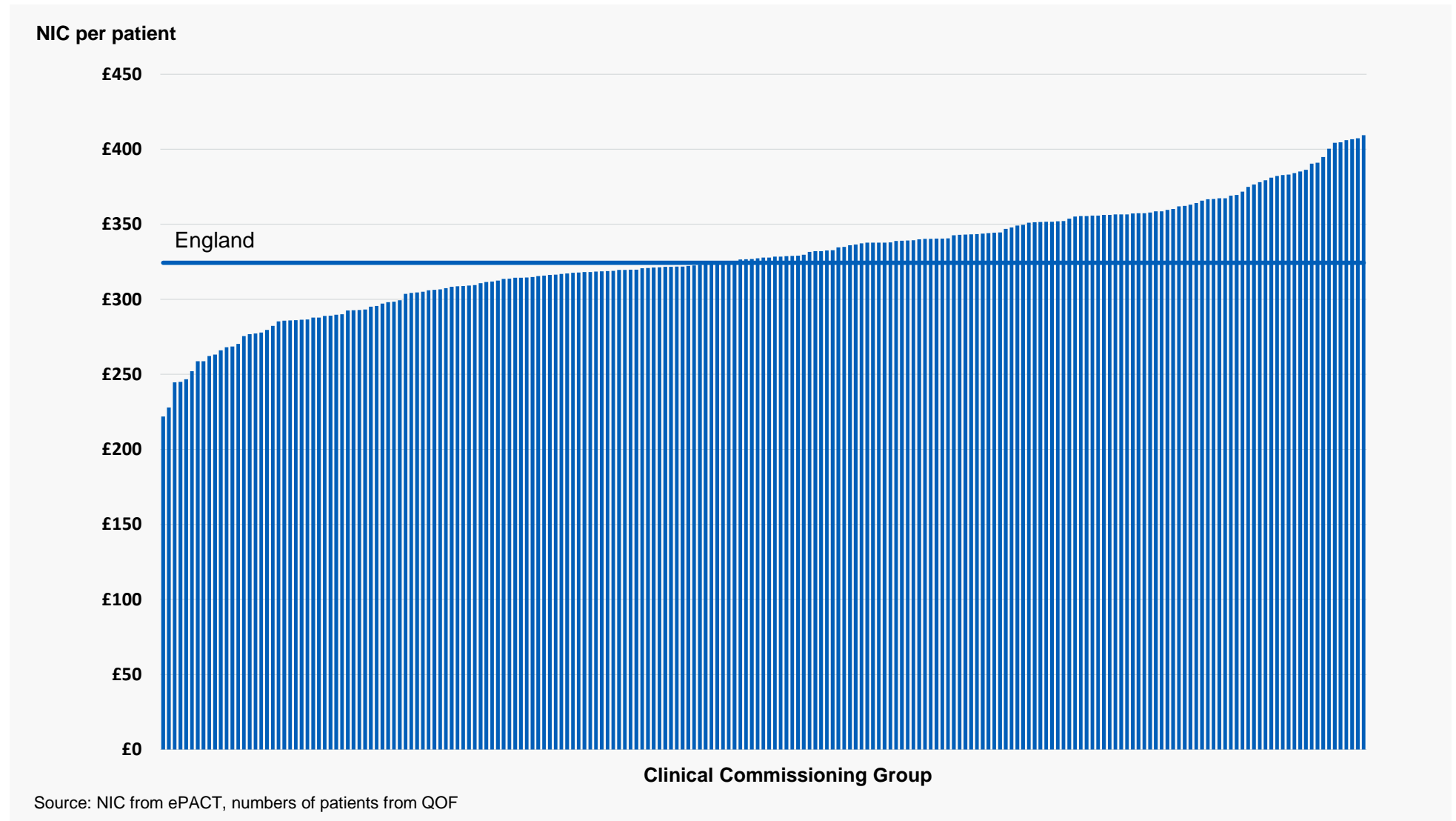
Prescribing for Diabetes in Primary Care (BNF 6.1)

The data presented in this publication covers prescriptions issued in primary care in England and dispensed in the community in the United Kingdom. These figures were provided by NHS Prescription Services and were accessed using the ePACT tool (see Sources for further information). Although information on prescriptions which were not dispensed is not available, for simplicity, the term "prescribed" is used throughout this publication to mean items which were both prescribed and dispensed.

The data show information relating to prescription items and NIC for all medicines included in section 6.1 of the BNF. Hypodermic equipment, listed under BNF 6.1.1.3, is excluded from the analysis as prescribing against this category is classified under "Other appliances", a pseudo BNF section created by NHS Prescription Services, which also includes a number of other types of appliance not used in the treatment of diabetes.

Table 3: Prescription items and Net Ingredient Cost in England, 2006/07 to 2016/17

Financial Year	Total primary care (all BNF)		Drugs used in diabetes (BNF 6.1)							
	Prescription items (millions)	Net Ingredient Cost (millions)	Prescription items (millions)	Change on previous year (millions)	% change on previous year	Proportion of all prescribing	Net Ingredient Cost (millions)	Change on previous year (millions)	% change on previous year	Proportion of all prescribing
2006/07	752.5	£8,050.5	28.9	1.8	6.6	3.8	£572.4	£58.5	11.4	7.1
2007/08	793.1	£8,097.2	30.8	1.9	6.7	3.9	£590.7	£18.3	3.2	7.3
2008/09	841.9	£8,158.7	32.9	2.1	6.9	3.9	£599.3	£8.6	1.5	7.3
2009/10	886.6	£8,396.1	35.5	2.6	7.8	4.0	£649.2	£49.9	8.3	7.7
2010/11	925.7	£8,648.3	38.3	2.8	7.8	4.1	£725.1	£75.9	11.7	8.4
2011/12	962.0	£8,535.3	40.6	2.3	6.1	4.2	£760.3	£35.2	4.8	8.9
2012/13	992.4	£8,200.7	42.5	1.9	4.7	4.3	£764.1	£3.8	0.5	9.3
2013/14	1,027.9	£8,465.0	45.1	2.6	6.1	4.4	£803.1	£39.0	5.1	9.5
2014/15	1,059.8	£8,704.9	47.2	2.1	4.6	4.5	£868.6	£65.5	8.2	10.0
2015/16	1,077.1	£9,049.1	49.7	2.5	5.3	4.6	£956.7	£88.0	10.1	10.6
2016/17	1,098.4	£8,962.7	52.0	2.3	4.7	4.7	£983.7	£27.0	2.8	11.0
Change between 2006/07 and 2016/17										
	345.9	£912.2	23.1				£411.3			
percentage	46.0	11.3	80.1				71.9			

Source: ePACT

Figures 5, 6 and **7** show the different categories of drugs used to treat diabetes prescription items, NIC and NIC per item respectively. For these charts the data is classified as follows:

Category	Drugs Included
Human insulins	Insulin aspart, insulin glulisine, insulin lispro, insulin detemir, insulin glargine, biphasic insulin aspart, biphasic insulin lispro, insulin degludec
Other insulins	Insulins in BNF 6.1.1 other than human analogue insulins
Biguanides	Drugs classified in BNF 6.1.2.2. NB metformin is the only available biguanide. Combinations of metformin with other antidiabetic drugs are excluded from this category and included in Other antidiabetic drugs
Sulfonylureas	Drugs classified in BNF 6.1.2.1
Other antidiabetic drugs	Drugs in BNF 6.1.2.3, including combinations with metformin. (This is for combination products only. Information is not available where these drugs are prescribed separately)
Diagnostic and monitoring devices	All agents and devices within BNF 6.1.6 - glucose blood testing reagents, ketone blood testing reagents and urine testing reagents.

Biguanides (metformin) accounts for the greatest number of items for prescribing for diabetes and is one of the lowest costs. Metformin is recommended by NICE (National Institute of Health and Care Excellence) as the initial drug treatment type 2 diabetes. Both metformin and sulfonylureas are low in cost and have been available for a number of years and are available as generics. Human analogue insulins account for the highest costs.

For details of the recommendations for blood glucose lowering therapy in adults with type 2 diabetes, see algorithm within NICE guidance: https://www.nice.org.uk/guidance/ng28/resources/algorithm-for-blood-glucose-lowering-therapy-in-adults-with-type-2-diabetes-2185604173

Figure 5: Number of prescription items for different categories of Drugs used in diabetes (BNF 6.1) in England, 2006/07 to 2016/17

Figure 6: Net Ingredient Cost of different categories of Drugs used in diabetes (BNF 6.1) in England, 2006/07 to 2016/17
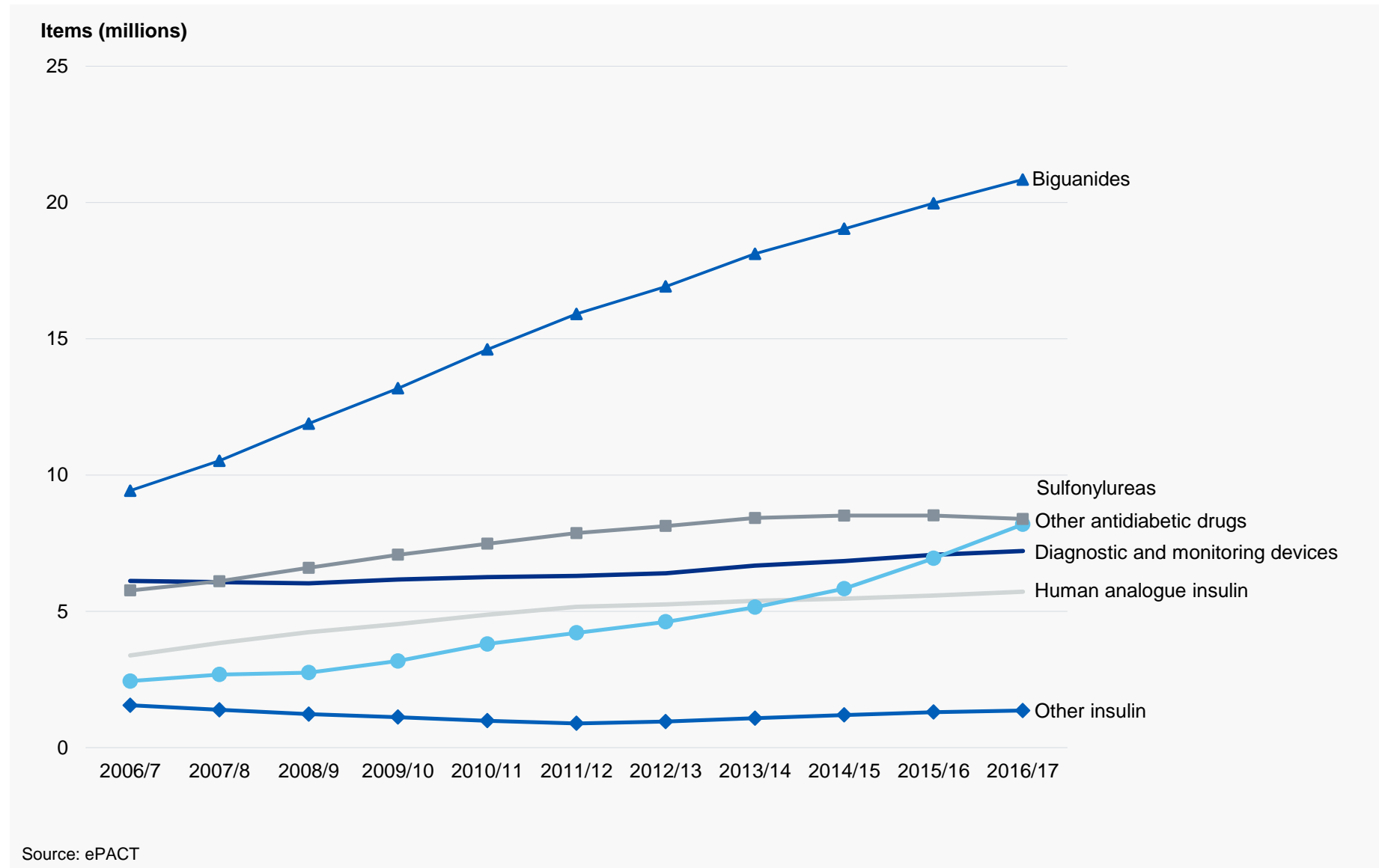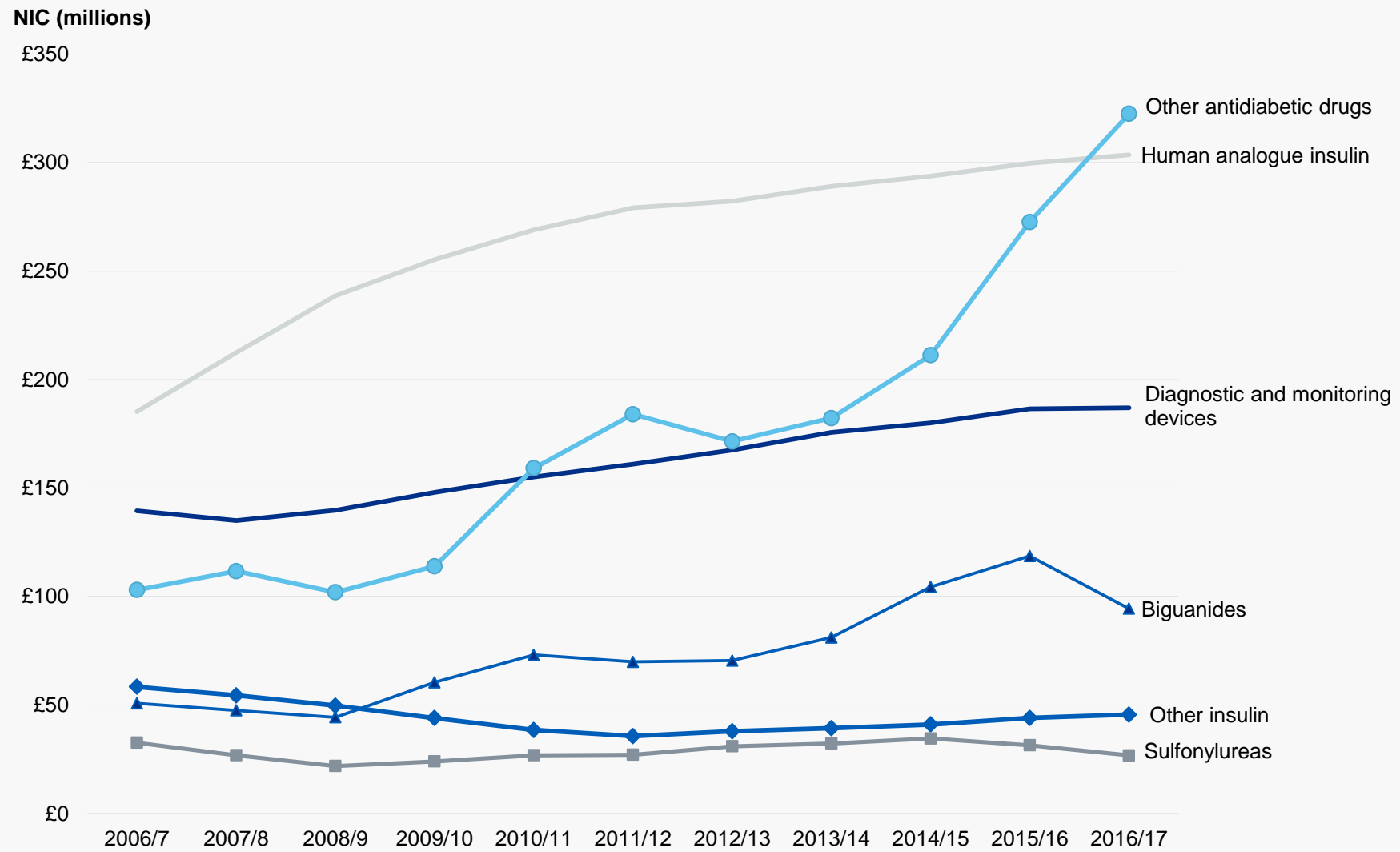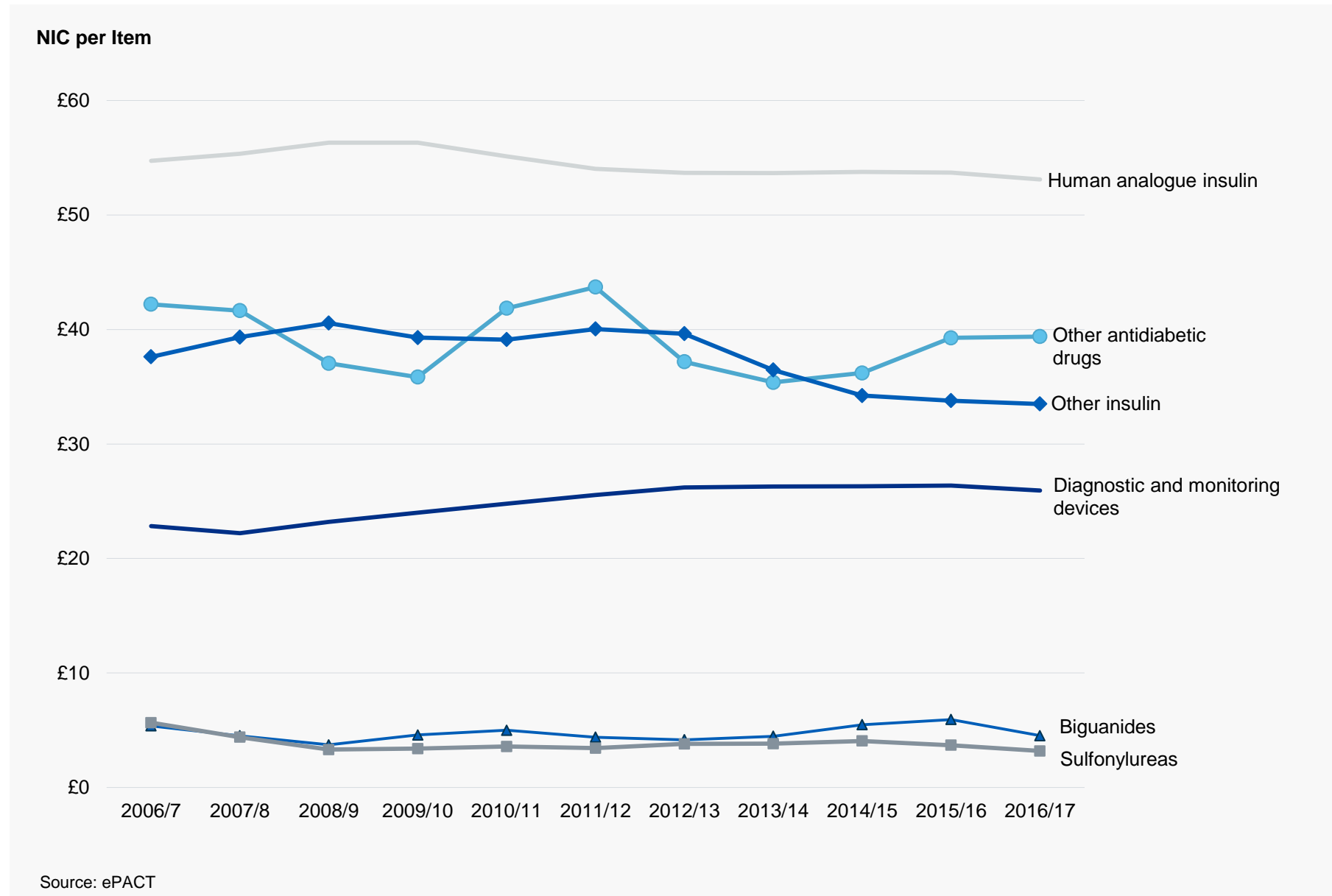

NIC (millions)

Source: ePACT

Figure 7: Net Ingredient Cost per item of different categories of Drugs used in diabetes (BNF 6.1) in England, 2006/07 to 2016/17

Source: ePACT

Insulin (BNF 6.1.1)

Insulin plays a key role in the regulation of carbohydrate, fat, and protein metabolism[3] and is given by injection.

Human Analogue Insulins

The use of human sequence insulin, produced bio-synthetically by recombinant DNA technology and commonly known as human analogue insulins, has replaced some use of more established and less expensive insulins.

The BNF (edition 68) describes and categorises recombinant human analogue insulins as follows:

Short-acting insulin (BNF 6.1.1.1)
- Insulin aspart (rapid-acting)
- Insulin glulisine (rapid-acting)
- Insulin lispro (rapid-acting)

Intermediate and long-acting insulin (BNF 6.1.1.2)

- Insulin degludec (long-acting)
- Insulin detemir (long-acting)
- Insulin glargine (long-acting)
- Biphasic insulin aspart (intermediate-acting)
- Biphasic insulin lispro (intermediate-acting)

Antidiabetic Drugs (BNF 6.1.2)

Antidiabetic drugs are generally used for the treatment of type 2 diabetes mellitus. They should be prescribed only if the patient fails to respond adequately to at least three months' restriction of energy and carbohydrate intake and an increase in physical activity. They should be used to augment the effect of diet and exercise, and not to replace them. For patients not adequately controlled by diet and oral hypoglycaemic drugs, insulin may be added to the treatment regimen or substituted for oral therapy. Weight gain and hypoglycaemia may be complications of insulin therapy but weight gain may be reduced if the insulin is given in combination with metformin.[4]

This section of the publication looks at prescribing for Antidiabetic drugs (BNF 6.1.2). Since 2006/07 there has been a continued increase in the number of Antidiabetic drugs items prescribed but during the same period the growth in costs has been variable. This is due to the introduction of newer, expensive drugs and to changes in the prices of antidiabetic drugs under the category M scheme and PPRS. Specific antidiabetic drug groups and individual drugs are discussed more fully later in this publication.

Antidiabetic drugs in BNF 6.1.2 are sub-divided into three groups, Sulfonylureas (BNF 6.1.2.1), Biguanides (BNF 6.1.2.2) and Other antidiabetic drugs (BNF 6.1.2.3). Metformin (the only currently available biguanide) is the most commonly prescribed antidiabetic drug and has a

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[3] See British National Formulary (BNF) edition 68, introduction to section 6.1.1 Insulins, page 455
[4] See British National Formulary (BNF) edition 68, introduction to section 6.1.2 Antidiabetic drugs, page 463

relatively low cost per item. NICE recommends metformin as the first-line hypoglycaemic drug of choice in all patients[5].

For details of the recommendations for blood glucose lowering therapy in adults with type 2 diabetes, see algorithm within NICE guidance:
https://www.nice.org.uk/guidance/ng28/resources/algorithm-for-blood-glucose-lowering-therapy-in-adults-with-type-2-diabetes-2185604173

Diagnostic and monitoring devices (BNF 6.1.6)

Chemical within BNF 6.1.6 are Glucose Blood Testing Reagents, Ketone Blood Testing Reagents and Urine Testing Reagents. No diabetes meters or sensors are dispensed in primary care via prescription and are therefore not included within this publication.

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[5] NICE Guidance - Type 2 diabetes in adults: management (NG28) (Dec 2015)
https://www.nice.org.uk/guidance/ng28

Data tables available with this release

Detailed data tables in both Excel and CSV format are available with this publication.

Sources and Data Quality

This section provides details and data quality information for the data sources used in this publication. It aims to provide users with an evidence based assessment of the quality of the statistical output by reporting against those of the European Statistical System (ESS) quality and related dimensions and principles[6] appropriate to this output.

In doing so, this meets our obligation to comply with the UK Statistics Authority (UKSA) Code of Practice for Official Statistics[7], particularly Principle 4, Practice 2 which states: "Ensure that official statistics are produced to a level of quality that meets users' needs, and that users are informed about the quality of statistical outputs, including estimates of the main sources of bias and other errors, and other aspects of the European Statistical System definition of quality".

Prescribing Analysis and CosT tool (ePACT) data
This information was obtained from the electronic Prescribing Analysis and CosT tool (ePACT) system, which covers prescriptions prescribed by GPs, nurses, pharmacists and others in England and dispensed in the community in the UK. For data at Primary Care Trust (PCT)/ Clinical Commissioning Group (CCG) and Area Team (AT) levels, prescriptions written by a prescriber located in a particular PCT/CCG or AT but dispensed outside that PCT/CCG or AT will be included in the PCT/CCG or AT in which the prescriber is based. Prescriptions written in England and dispensed in England, Wales or Scotland are included. Prescriptions written in hospitals /clinics that are dispensed in the community, prescriptions dispensed in hospitals, dental prescribing and private prescriptions are not included in PACT data. It is important to note this as some BNF sections have a high proportion of prescriptions written in hospitals that are dispensed in the community. This dataset differs from the Prescription Cost Analysis (PCA) which covers prescriptions written in England, Wales, Scotland, Northern Ireland and the Isle of Man but dispensed in England only.

Relevance
This publication allows users to see how the use of medicines prescribed for Diabetes, and associated costs, has changed over time from 2006/07 to 2016/17. The ePACT data in this publication shows financial year – April to March.

This publication contains national level statistics in the form of a report with supporting commentary, and data tables.

Accuracy and Reliability
Prescribing figures in this publication are based on information systems at NHS Prescription Services, part of the NHS Business Services Authority. The NHS Prescription Services data was extracted from the primary care version of their ePACT system which allows NHS Digital to extract data via the NHSNet.

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[6] The original quality dimensions are: relevance, accuracy and reliability, timeliness and punctuality, accessibility and clarity, and coherence and comparability; these are set out in Eurostat Statistical Law. However more recent quality guidance from Eurostat includes some additional quality principles on: output quality trade-offs, user needs and perceptions, performance cost and respondent burden, and confidentiality, transparency and security.
[7] UKSA Code of Practice for Statistics:
http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html

The figures used are collected as an essential part of the process of reimbursing dispensers (mainly pharmacists and dispensing doctors) for medicines supplied. All prescriptions which are prescribed in England and dispensed in the community in the UK need to be submitted to NHS Prescription Services if the dispenser is to be reimbursed and so coverage should be complete. Please note that if a prescription was issued, but not presented for dispensing or was not submitted to NHS Prescription Services by the dispenser, then it is not included in the data.

The prescription item is recorded in the month in which NHS Prescription Services received it. In the majority of cases prescriptions will be issued, dispensed and submitted to NHS Prescription Services in the same month. However, prescriptions can be presented for dispensing up to six months after issue, and the dispensing organisation may submit the prescription for payment late. Prescription data may be attributed to organisations which have since closed. An issuing organisation may have closed before a prescription is dispensed and NHS Prescription Services may also receive prescriptions late from an organisation or a prescription pad from a closed organisation may still be in use by a prescriber previously at that organisation.

NHS Prescription Services quality assures the data they provide. They state that due to the complex and manual processes involved there may be random inaccuracies in capturing prescription information which are then reflected in the data. Currently the prescription processing activity is internally audited to 98.5 per cent accuracy (i.e. at least 98.5 per cent of prescriptions are recorded accurately).

NHS Digital believe that there is no reason to suggest that any analyses have been adversely affected by the data quality issues raised.

Further data quality details are available from NHS Prescription Services:

https://www.nhsbsa.nhs.uk/pharmacies-gp-practices-and-appliance-contractors/payments-and-pricing/how-we-process-prescriptions

Timeliness and Punctuality
This report is published in August each year. The publication date is determined by the availability of the data from NHS Prescription Services and allows adequate time for the compilation of the report.

This publication has been released in line with the pre-announced publication date and is therefore deemed to be punctual.

Accessibility and Clarity
The publication is available annually via NHS Digital website, as a combination of web pages and downloadable reports and data files. The publication may be requested in large print or other formats through the NHS Digital's contact centre: enquiries@nhsdigital.nhs.uk (please include 'Prescribing for diabetes' in the subject line).

Coherence and Comparability
The NHS Prescription Services data presented here differs from that presented in NHS Digital publications based on the Prescription Cost Analysis system. This is because the PCA database is based on all prescriptions dispensed in England irrespective of where they were written and includes prescriptions written by dentists and hospital doctors. The figures in this publication are based on prescriptions written in primary care in England and dispensed anywhere in the United Kingdom.

Users can misinterpret the data as relating to numbers of patients but care should be taken as the data relates to prescription items dispensed not individuals. One individual may have a prescription item, for the same medicine, dispensed a number of times over a year.

Comparisons over time
Previous publications can be found at:
http://content.digital.nhs.uk/searchcatalogue?q=title%3A%22Prescribing+for+Diabetes%22&area=&size=10&sort=Relevance

Changes to the figures over time need to be interpreted in the context of changes in available medicines and their cost, and changes in NHS practice. For example, a reduction in items dispensed for a particular medicine may be due to the introduction of alternative medicines, or a change in prescribing behaviour, especially in the length of treatment each item is intended to cover. Changes in cost may be due to changes in the prices of drugs under the category M scheme or PPRS, the introduction of newer (usually more expensive) drugs and price changes when drugs come off patent.

Changes to clinical classifications
This publication uses the therapeutic classifications defined in the BNF (September 2014, edition 68). Further information about these classifications, and changes to them, can be found on the next page and at: http://www.bnf.org/bnf/index.htm and http://www.nhsbsa.nhs.uk/PrescriptionServices.aspx

Performance Cost and Respondent Burden
The figures used in this publication are collected as part of the process of reimbursing dispensers for drugs supplied. The publication therefore uses an existing administrative source. Information about the administrative source and its use for statistical purposes is included in the NHS Digital's Statement of Administrative Sources at:
http://content.digital.nhs.uk/article/1789/Statement-of-administrative-sources

Confidentiality, Transparency and Security
Disclosure risk, impact and likelihood are low for all the data included. Data refers to prescription items dispensed and not individual people. No patient level data or patient identifiable data is available.

The ePACT data included in this publication is already publically available at this level of detail, via the NHS Prescribing Services Information Services Portal.

Some data is presented at CCG level. However the smallest CCG has a population of approximately 60,000 so there is little risk of disclosure.

The data contained in this publication are Official Statistics. The code of practice for official statistics is adhered to from collecting the data to publishing.

http://www.statisticsauthority.gov.uk/national-statistician/guidance/index.html

The standard NHS Digital data security and confidentiality policies have been applied in the production of these statistics. See NHS Digital publications calendar web page for links to relevant NHS Digital policies and other related documents:
https://www.digital.nhs.uk/publications-calendar-2017

Freedom of Information Process: https://digital.nhs.uk/article/253/Freedom-of-Information

Definitions

Prescription Item
Prescriptions are written on a prescription form known as an FP10. Each single item written on the form is counted as a prescription item. The term "prescribed" is used throughout this publication to mean items which were both prescribed and dispensed.

Net Ingredient Cost (NIC)
NIC is the basic cost of a drug. It does not take account of discounts, dispensing costs, fees or prescription charges income, so the amount the NHS spent will be slightly different.

Cost per item
Cost per item in this publication is NIC divided by prescription item. It may not reflect the price per pack quoted elsewhere. The quantity per prescription item varies and therefore the average quantity per item may not be the same as the quantity per pack. Cost per item is an approximate method of comparing relative cost, as the duration of prescriptions, which is unknown, may vary.

British National Formulary (BNF) classification
The PACT system uses the therapeutic classifications defined in the British National Formulary (BNF) using the classification system prior to edition 70. Information on why a drug is prescribed is not available in this dataset. Since drugs can be prescribed to treat more than one condition, it may not be possible to separate the different conditions for which a drug may have been prescribed.

The primary purpose of the BNF is to provide information for clinicians. The format of the BNF was changed with Edition 70 (September 2015 - March 2016) to make it more user friendly. However the NHS Business Service Authority, who process dispensed prescription forms and collects dispensed prescribing data and produce the PCA data, continue to use the old BNF classification system to code medicines, which has become widely used in the UK as a classification to allow comparisons between drug groups. For example it is used to report cost and trend in medicines use and supports several NHS Digital official publications. The data are used in many NHS IT systems.

Category M
The Category M scheme is an arrangement where the net ingredient cost for selected generic formulations is controlled, with the aim of reducing costs overall, and which are calculated to reflect market forces while ensuring delivery of pharmacy purchase profit income (margin) as part of the funding arrangements for the Community Pharmacy Contractual Framework (CPCF). The drugs subject to these arrangements are classified as Category M in Part VIII of the Drug Tariff. The majority of these formulations have fallen in price, although some formulations have increased in price.

Pharmaceutical Price Regulation Scheme (PPRS)
The Pharmaceutical Price Regulation Scheme is a voluntary agreement made between the Department of Health and the Association of the British Pharmaceutical Industry. The scheme places some control on the costs of medicines to the NHS and applies to all branded licensed NHS medicines. An overall price cut of 3.9 per cent was agreed for 2009 and an overall price cut of 1.9 per cent was agreed for 2010 which will have had an impact across all therapeutic areas. There was an automatic permitted price increases of 0.1% from 1 January 2011, there was a further 0.2% increase from 1 January 2012 and a final increase of 0.2% from 1 January 2013.

The 2014 Pharmaceutical Price Regulation Scheme (PPRS) effective from 1 January 2014 will provide assurance on almost all of the branded medicines bill for the NHS. The bill will stay flat over the first 2 years of the scheme and will grow slowly after that. The industry will make payments to the Department of Health if NHS spending on branded medicines exceeds the allowed growth rate. See https://www.gov.uk/government/publications/pharmaceutical-price-regulation-scheme-2014 for more information.

Sub National Presentation of Prescribing Data Following NHS Reforms
The Health and Social Care Act 2012 outlines a number of changes to the NHS, which took effect from 1 April 2013. Primary Care Trusts (PCTs) and Strategic Health Authorities (SHAs) were abolished and their functions were replaced by Clinical Commissioning Groups (CCG) and Area Teams (AT).

Prescribing information is not comparable between PCTs and CCGs as there are some differences in the individual populations they serve and the organisations have different functions. For example, the costs of community nurse prescribing used to be charged to PCTs but this is now allocated to either, Local Authorities, Trusts or Area Teams as either providers or commissioners of that service. Therefore some data which used to be included in a PCT total will not be included in a CCG total; but elsewhere, in a total for a non-CCG organisation. Although mapping between PCTs and CCGs is possible, it would be potentially misleading for us to provide time series data for PCTs and CCGs.

Human insulin and other insulin split
The information shown for human insulin and other insulin data is a subset of insulins (BNF 6.1.1) and should not be added to the insulins data as this will lead to double counting.

Further Information

Users and Uses of this report
This publication is used by many stakeholders with an interest in diabetes prescribing. Known users of this publication include academics, central government, charities, clinical groups, commercial organisations, commissioners, health and social care providers, media, and members of the public. The information is used to support decision making, inform policy, for analysing medicine use, providing advice to ministers, answering a wide range of Parliamentary Questions, and for national and local press articles.

Feedback
Feedback on this publication can be provided via our website: http://content.digital.nhs.uk/haveyoursay   ('Have your say - give us your comments on this publication'). Alternatively, feedback can be provided to the NHS Digital via enquiries@nhsdigital.nhs.uk or 0300 303 5678.

NHS Digital welcomes all feedback relating to any aspect of this publication. In particular we would welcome feedback on the usefulness of the information to different users, the ways in which the information is used and what further information would be useful. Any additional information you can provide us with about your use of prescribing data will help us to improve the information we publish about known users and uses of the data.

Related NHS Digital Prescribing and Medicines Team publications

Prescription Cost Analysis
Prescription Cost Analysis (PCA) provides details of the number of items and the net ingredient cost of all prescriptions dispensed in the community in England. The drugs dispensed are listed by British National Formulary (BNF) therapeutic class.

See http://digital.nhs.uk/pubs/prescostanalysiseng2016

Prescriptions Dispensed in the Community
This bulletin uses the PCA data and presents a summary of prescriptions dispensed in the community by community pharmacists, appliance contractors and dispensing doctors in England. The latest bulletin highlights recent changes and the main trends between 2006 and 2016.

See http://digital.nhs.uk/pubs/presdisp0616

Other NHS Digital publications and related data

Quality and Outcomes Framework
The Quality and Outcomes Framework (QOF) is the annual reward and incentive programme detailing GP practice achievement results.

QOF awards surgeries achievement points for:

- managing some of the most common chronic diseases e.g. asthma, diabetes
- how well the practice is organised
- the time GPs spend with patients at each appointment
- the amount of extra services offered such as child health and maternity services.

See http://www.hscic.gov.uk/qof

NHS Digital Diabetes Audits

The NHS Digital publishes Diabetes audits including:-

National Diabetes Audit
The National Diabetes Audit (NDA) is the largest annual clinical audit in the world, integrating data from both primary and secondary care sources, making it the most comprehensive audit of its kind.

The NDA answers four key questions based on the diabetes National Service Framework (NSF):

- Is everyone with diabetes diagnosed and recorded on a practice diabetes register?
- What percentage of people registered with diabetes received the nine NICE key processes of diabetes care?
- What percentage of people registered with diabetes achieved NICE defined treatment targets for glucose control, blood pressure and blood cholesterol?
- For people with registered diabetes what are the rates of acute and long term complications (disease outcomes)?

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The NDA is commissioned by the Healthcare Quality Improvement Partnership (HQIP) and delivered by the NHS Digital, working with Diabetes UK.

See http://content.digital.nhs.uk/nda

National Pregnancy in Diabetes Audit
The National Pregnancy in Diabetes (NPID) Audit measures the quality of pre-gestational diabetes care against NICE guideline based criteria and the outcomes of pre-gestational diabetic pregnancy. It will answer the following three key questions:

- Were women with diabetes adequately prepared for pregnancy?
- Were appropriate steps taken during pregnancy to minimise adverse outcomes to the mother?
- Did any adverse outcomes occur?

The NPID Audit is commissioned by the Healthcare Quality Improvement Partnership (HQIP) and delivered by NHS Digital, working in collaboration with Diabetes UK and Diabetes Health Intelligence.

See http://content.digital.nhs.uk/npid

National Inpatient Audit
The National Diabetes Inpatient Audit (NaDIA) is a snapshot audit of diabetes inpatient care in England and Wales. The audit looks at the following areas:

- whether diabetes management minimises the risk of avoidable complications
- harm resulting from the inpatient stay
- patient experience of the inpatient stay
- the change in patient feedback on the quality of care since NaDIA began

See http://content.digital.nhs.uk/diabetesinpatientaudit

National Diabetes Foot Care Audit (NDFA)
National Diabetes Foot Care Audit (NDFA) will look at the following key areas:

- Structures: are the nationally recommended care structures in place for the management of diabetic foot disease?
- Processes: does the treatment of active diabetic foot disease comply with nationally recommended guidance?
- Outcomes: are the outcomes of diabetic foot disease optimised?

Local and national level results will be available March 2016.

http://content.digital.nhs.uk/footcare

NHS Digital Hospital Episode Statistics (HES) data
Information about those admitted to hospital with a diagnosis of diabetes can be found in Hospital Episode Statistics (HES). HES is a data warehouse containing details of all admissions, outpatient appointments and A&E attendances at NHS hospitals in England.

This data is collected during a patient's time at hospital and is submitted to allow hospitals to be paid for the care they deliver. HES data is designed to enable secondary use, that is use for

non-clinical purposes, of this administrative data. It is a records-based system that covers all NHS trusts in England, including acute hospitals, primary care trusts and mental health trusts. See http://content.digital.nhs.uk/hes

Non NHS Digital Information

NHS Prescription Services – Information Services Portal
More granular data is released by NHS Prescription Services via The Information Services Portal. The portal provides a variety of information reports on key prescribing areas allowing users to keep up to date with the latest information relating to prescribing and dispensing volumes, trends and cost analysis.

The portal can be access here https://www.nhsbsa.nhs.uk/information-services-portal-isp

UK devolved administrations
The devolved administration of Scotland, Wales and Northern Ireland do not produce specific prescribing for diabetes publications. Here are the links to the diabetes areas (where available) on their websites for information, there is no specific area on the Northern Ireland website.

Scotland - http://www.isdscotland.org/Health-Topics/General-Practice/GP-Consultations/Health-Conditions/Diabetes/index.asp

Wales - http://www.wales.nhs.uk/healthtopics/conditions/diabetes

Northern Ireland - https://www.health-ni.gov.uk/

NHS England
Diabetes pathway https://www.england.nhs.uk/rightcare/products/pathways/diabetes-pathway/ The diabetes pathway defines the core components of an optimal diabetes service for people with or at risk of developing Type 1 and Type 2 diabetes that delivers the better value in terms of outcomes and cost.

Diabetes UK
Information can also be obtained from Diabetes UK http://www.diabetes.org.uk/

NICE (National Institute of Health and Care Excellence)
Information on the treatment of diabetes can be obtained from NICE https://www.nice.org.uk/

Please note all web links are correct at the time of publication and the NHS Digital is not responsible for the content on the web pages of external organisations.

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