

# **Diabetes dashboard**

**Version: August 2019**

## **Dashboard Overview and Specifications**

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## Background

Prescribing for type 1 and type 2 diabetes accounts for more than more than £1billion of total primary care spend in England, and there are currently 3.4 million people with Type 2 diabetes with around 200,000 new diagnoses every year<sup>1</sup>. This dashboard shows prescribing patterns for all patients treated with antidiabetic drugs.

## Purpose

The purpose of this dashboard is to allow prescribers to see some clinically appropriate comparators that have been developed by clinicians to support better prescribing. The comparators do not show 'good' or 'bad' prescribing, but allow users to see variation and identify areas of interest for further investigation and/ or patient review.

## Limitations

Historically, primary care prescribing information was derived from the reimbursement processes for dispensed medicines. However, the NHSBSA is now able to capture extra information that undoubtedly adds value to prescribing measures. The NHS number of the recipient of a medicine prescribed in primary care can now be linked to items prescribed. This development enables the data to show how many patients are prescribed a medicine or group of medicines (rather than presentation of drugs prescribed by each GP practice). In this way, we are able to demonstrate much better the quality of prescribing in key areas. NHS number is routinely captured through the Electronic Prescription Service (EPS) with complete accuracy. Therefore, CCGs are encouraged to drive up the uptake of EPS. To support this improvement, EPS levels will be included alongside the comparators. Information governance is very important and in the preparation of these comparators all data protection legislation and patient confidentiality has been carefully considered and adhered to. While the comparators are derived from patient level records, personal identifiable data will not be included within the reports. Each comparator has a full specification outlining the evidence base behind the comparator; the rationale for inclusion and the data source (see Table 1 for list of comparators).

**This comparator specification document is NOT a prescribing guideline. It simply shows how the comparators were developed and the rationale behind each comparator.**

## Table 1: List of comparators

Comparator Title
Blood Glucose Testing Strips with any non-insulin blood glucose lowering therapies and not prescribed insulin
Blood Glucose Testing Strips with Metformin but no insulin
Blood Glucose Testing Strips with any non-insulin blood glucose lowering therapy AND insulin
Non-Insulin Blood Glucose Lowering Therapy
NPH Insulin
Ketone Testing Strips

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<sup>1</sup> NHS Diabetes Prevention Programme (NHS DPP)

Data source

## Prescribing data used in these comparators

Users of these comparators must be aware of the following parameters:

- Covers all items prescribed in primary care by practices and cost centres linked to CCGs. It includes acute and repeat items.
- Does not include hospital prescribing.
- Does not include medicines supplied over the counter.
- Does not include medicines supplied by NHS community services.
- Data restricted to prescription items where the NHS number could be identified for the patient.

Each comparator is derived using prescribing data and reported by month, although some figures may be based on a 12 month rolling period. Historic data is available to allow CCGs and Practices to chart their progress in addressing a particular comparator area.

All of the comparators show monthly data at Practice level (aggregated to CCG level) and are available for all patients.

**Patient counts:** Some comparators are based on a number of unique patients. This has been determined from prescriptions where the NHSBSA has been able to obtain details regarding patient NHS number and age at practice location. Where the same patient appears in the data for more than one practice location they will be counted as one patient for each of the practice locations they appear in.

NB: While NHS numbers are used to formulate these comparators, no personal identifiable data will be released through these comparators.

## How to use these comparators

We envisage that the comparators will be used by CCGs in collaboration with local GP practices and with the relevant and appropriate education and training support in place.

**Data Source:** NHS Business Services Authority - based on data from the NHSBSA's data warehouse system which contains all NHS prescription data, with the exception of prescriptions which are dispensed in prisons, hospitals and private prescriptions.

Analysis is based on drugs that were reimbursed by the NHSBSA. It excludes items not dispensed and disallowed. 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 provided.

**Data owner & contact details:** [nhsbsa@nhs.net](mailto:nhsbsa@nhs.net)

**Time Frame:** Refreshed monthly

## **Data quality assurance**

NHS Prescription Services have their own internal quality process to assure the data they provide matches what was originally submitted as part of the prescription processing activity. Some processes are complex and manual therefore there may be random inaccuracies in capturing prescription information which are then reflected in the data but checks are in place to reduce the chance of issues occurring. The processes operate to a number of key performance indicators, one of which is the percentage Prescription Information Accuracy, the target being 99.3% and as of December 2018 prescribing, the accuracy level achieved over the latest 12 month rolling period was 99.68%.

The comparators take advantage of the developments linking the NHS number to prescription items. Currently, nearly 95% of all paper prescription items can be linked to an NHS number with an accuracy of over 99%. Age and date of birth can be linked to 73% of paper prescription items with an accuracy of 97%. As the utilisation of EPS increases, the coverage and accuracy of this data will increase.

## Diabetes Comparator Specifications

Section 1: Introduction / Overview	
<b>Title</b>	Blood Glucose Testing Strips with any non-insulin blood glucose lowering therapies and not prescribed insulin
<b>Definition</b>	Identifies the number of BG testing strips issued for patients treated with any oral antidiabetic agents or GLP-1 mimetics but not prescribed any form of insulin.
<b>Reporting level</b>	Practice level (aggregated to CCG).
<b>Numerator</b>	<p>Number of testing strips from <b>Glucose Blood Testing Reagents</b> (0601060D0) for patients who have also been dispensed any item from the following groups:</p> <p><b>Sulfonylureas</b> (0601021)  <b>Biguanides</b> (0601022),  <b>SGLT2 inhibitors</b> Dapagliflozin (0601023AG), Dapagliflozin/Metformin (0601023AL), Canagliflozin (0601023AM), Empagliflozin (0601023AN), Canagliflozin/Metformin (0601023AP), Empagliflozin/Metformin (0601023AR), Saxagliptin/Dapagliflozin (0601023AV)  <b>GLP-1 mimetics</b> Liraglutide (0601023AB), Lixisenatide (0601023AI), Dulaglutide (0601023AQ), Albiglutide (0601023AS), Exenatide (0601023Y0)  <b>DPP4 inhibitors</b> Vildagliptin (0601023AA), Saxagliptin (0601023AC), Metformin Hydrochloride/Sitagliptin (0601023AD), Linagliptin (0601023AE), Linagliptin/Metformin (0601023AF), Saxagliptin/Metformin (0601023AH), Alogliptin/Metformin (0601023AJ), Alogliptin (0601023AK), Saxagliptin/Dapagliflozin (0601023AV), Sitagliptin (0601023X0), Metformin Hydrochloride/Vildagliptin (0601023Z0)</p> <p>Exclude patients receiving any item from <b>Insulin</b> (060101)</p>
<b>Denominator</b>	n/a
<b>Methodology</b>	Numerator presented as number of unique identified patients meeting the above criteria
Section 2: Rationale	
<b>Purpose</b>	NICE guidance states that prescribers should not routinely offer self-monitoring of blood glucose levels for adults with type 2 diabetes unless the person is on insulin <b>or</b> there is evidence of hypoglycaemic episodes <b>or</b> the person is on oral medication that may increase their risk of hypoglycaemia while driving or operating machinery <b>or</b> the person is pregnant, or is planning to become pregnant.
<b>Evidence and Policy Base</b>	<a href="https://www.nice.org.uk/guidance/ng28/chapter/1-Recommendations#self-monitoring-of-blood-glucose">https://www.nice.org.uk/guidance/ng28/chapter/1-Recommendations#self-monitoring-of-blood-glucose</a>

<b>Section 2: Introduction / Overview</b>	
<b>Title</b>	Blood Glucose Testing Strips with Metformin but not insulin
<b>Definition</b>	Identifies the number of BG testing strips issued for patients treated with metformin only and who are not prescribed any form of insulin.
<b>Reporting level</b>	Practice level (aggregated to CCG).
<b>Numerator</b>	Number of testing strips from <b>Glucose Blood Testing Reagents</b> (0601060D0) for patients who have also been dispensed any item from the following group: <b>Biguanides</b> (0601022)  Exclude patients receiving any item from <b>Insulin</b> (060101)
<b>Denominator</b>	n/a
<b>Methodology</b>	Numerator presented as number of unique identified patients meeting the above criteria
<b>Section 2: Rationale</b>	
<b>Purpose</b>	NICE guidance states that prescribers should not routinely offer self-monitoring of blood glucose levels for adults with type 2 diabetes unless the person is on insulin <b>or</b> there is evidence of hypoglycaemic episodes <b>or</b> the person is on oral medication that may increase their risk of hypoglycaemia while driving or operating machinery <b>or</b> the person is pregnant, or is planning to become pregnant.
<b>Evidence and Policy Base</b>	<a href="https://www.nice.org.uk/guidance/ng28/chapter/1-Recommendations#self-monitoring-of-blood-glucose">https://www.nice.org.uk/guidance/ng28/chapter/1-Recommendations#self-monitoring-of-blood-glucose</a>

<b>Section 3: Introduction / Overview</b>	
<b>Title</b>	Blood Glucose Testing Strips with any non-insulin blood glucose lowering therapy AND insulin
<b>Definition</b>	Identifies the number of BG testing strips issued for patients prescribed both oral antidiabetic agents and GLP-1 mimetics AND a form of insulin.
<b>Reporting level</b>	Practice level (aggregated to CCG).
<b>Numerator</b>	<p>Number of testing strips from <b>Glucose Blood Testing Reagents</b> (0601060D0) for patients who have also been dispensed any item from the following groups:</p> <p><b>Sulfonylureas</b> (0601021)  <b>Biguanides</b> (0601022),  <b>SGLT2 inhibitors</b> Dapagliflozin (0601023AG), Dapagliflozin/Metformin (0601023AL), Canagliflozin (0601023AM), Empagliflozin (0601023AN), Canagliflozin/Metformin (0601023AP), Empagliflozin/Metformin (0601023AR), Saxagliptin/Dapagliflozin (0601023AV)  <b>GLP-1 mimetics</b> Liraglutide (0601023AB), Lixisenatide (0601023AI), Dulaglutide (0601023AQ), Albiglutide (0601023AS), Exenatide (0601023Y0)  <b>DPP4 inhibitors</b> Vildagliptin (0601023AA), Saxagliptin (0601023AC), Metformin Hydrochloride/Sitagliptin (0601023AD), Linagliptin (0601023AE), Linagliptin/Metformin (0601023AF), Saxagliptin/Metformin (0601023AH), Alogliptin/Metformin (0601023AJ), Alogliptin (0601023AK), Saxagliptin/Dapagliflozin (0601023AV), Sitagliptin (0601023X0), Metformin Hydrochloride/Vildagliptin (0601023Z0)</p> <p>And</p> <p>Any item from <b>Insulin</b> (060101)</p>
<b>Denominator</b>	n/a
<b>Methodology</b>	Numerator presented as number of unique identified patients meeting the above criteria
<b>Section 2: Rationale</b>	
<b>Purpose</b>	This metric identifies patients who are prescribed a combination of insulin and at least one other antidiabetic medicine.
<b>Evidence and Policy Base</b>	<a href="https://www.nice.org.uk/guidance/ng17/chapter/1-Recommendations#blood-glucose-management-2">https://www.nice.org.uk/guidance/ng17/chapter/1-Recommendations#blood-glucose-management-2</a>



<b>Section 4: Introduction / Overview</b>	
<b>Title</b>	Non-Insulin Blood Glucose Lowering Therapy
<b>Definition</b>	The non-insulin blood glucose lowering therapy metric demonstrates use and prescribing patterns of these newer agents
<b>Reporting level</b>	Practice level (aggregated to CCG).
<b>Numerator</b>	The number of unique patients prescribed an item from the following groups:  <b>SGLT2 inhibitors</b> Dapagliflozin (0601023AG), Dapagliflozin/Metformin (0601023AL), Canagliflozin (0601023AM), Empagliflozin (0601023AN), Canagliflozin/Metformin (0601023AP), Empagliflozin/Metformin (0601023AR), Saxagliptin/Dapagliflozin (0601023AV) <b>GLP-1 mimetics</b> Liraglutide (0601023AB), Lixisenatide (0601023AI), Dulaglutide (0601023AQ), Albiglutide (0601023AS), Exenatide (0601023Y0) <b>DPP4 inhibitors</b> Vildagliptin (0601023AA), Saxagliptin (0601023AC), Metformin Hydrochloride/Sitagliptin (0601023AD), Linagliptin (0601023AE), Linagliptin/Metformin (0601023AF), Saxagliptin/Metformin (0601023AH), Alogliptin/Metformin (0601023AJ), Alogliptin (0601023AK), Saxagliptin/Dapagliflozin (0601023AV), Sitagliptin (0601023X0), Metformin Hydrochloride/Vildagliptin (0601023Z0)
<b>Denominator</b>	n/a
<b>Methodology</b>	Numerator presented as number of unique identified patients meeting the above criteria
<b>Section 2: Rationale</b>	
<b>Purpose</b>	<b>NICE</b> recommends that patients should be offered standard-release metformin as the initial drug treatment for adults with type 2 diabetes. If initial drug treatment with metformin does not control HbA1c to below the person's individually agreed threshold for intensification, treatment should be intensified, including use of these agents.
<b>Evidence and Policy Base</b>	<a href="https://www.nice.org.uk/guidance/ng28/chapter/1-Recommendations">https://www.nice.org.uk/guidance/ng28/chapter/1-Recommendations</a>

<b>Section 5: Introduction / Overview</b>	
<b>Title</b>	NPH Insulin
<b>Definition</b>	This metric shows the number of patients prescribed NPH insulin as a proportion of all patients prescribed intermediate and long acting insulin.
<b>Reporting level</b>	Practice level (aggregated to CCG).
<b>Numerator</b>	The number of unique patients prescribed an item from the following groups:  Isophane Insulin (0601012S0)
<b>Denominator</b>	Intermediate And Long-Acting Insulins (0601012) Excluding Biphasic Insulin Injection (0601012C0), Biphasic Isophane Insulin (0601012D0), Biphasic Insulin Lispro (0601012F0) and Biphasic Insulin Aspart (0601012W0)
<b>Methodology</b>	Proportion of Biosimilar Insulin glargine prescribing as a percentage of all insulin glargine prescribing (no. of items)
<b>Section 2: Rationale</b>	
<b>Purpose</b>	<b>NICE recommends that in adults with type 2 diabetes <a href="#">Neutral Protamine Hagedorn</a> (NPH) insulin (injected once or twice daily according to need) should be offered.</b>
<b>Evidence and Policy Base</b>	NICE Internal Clinical Guidelines Team (2015c) Type 2 diabetes in adults: management (full guideline). Clinical Guideline Update (NG28). National Institute for Health and Care Excellence. <a href="http://www.nice.org.uk/">www.nice.org.uk/</a>

<b>Section 6: Introduction / Overview</b>	
<b>Title</b>	Ketone Testing Strips
<b>Definition</b>	The final metric shows the use of blood testing ketone strips in people also prescribed insulin, demonstrated as average number every 3 months.
<b>Reporting level</b>	Practice level (aggregated to CCG).
<b>Numerator</b>	Patients prescribed any insulin item from Insulin (060101) The average number of ketone testing strips they are prescribed per month (average over 12 months) from Ketone Blood Testing Reagents (0601060W0) or Glucose & Ketone Blood Testing Reagents (0601060X0)
<b>Denominator</b>	n/a
<b>Methodology</b>	The number of unique patients identified.
<b>Section 2: Rationale</b>	
<b>Purpose</b>	NICE recommends that ketone monitoring (blood or urine) should be considered as part of 'sick-day rules' for adults with type 1 diabetes, to facilitate self-management of an episode of hyperglycaemia.
<b>Evidence and Policy Base</b>	<a href="#">NICE (2015a) Type 1 diabetes in adults: diagnosis and management (NICE guideline). NICE guidelines [NG17]. National Institute for Health and Care Excellence.</a>

## Appendix 1

### Working group:

Name	Organisation	Title
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