Background data quality report

Statistics on Obesity, Physical Activity and Diet 2019

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# Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction</strong></td>
<td>4</td>
</tr>
<tr>
<td><strong>Background</strong></td>
<td>4</td>
</tr>
<tr>
<td>Context</td>
<td>4</td>
</tr>
<tr>
<td>Purpose of document</td>
<td>4</td>
</tr>
<tr>
<td><strong>Assessment of statistics against quality dimensions and principles</strong></td>
<td>5</td>
</tr>
<tr>
<td>Relevance</td>
<td>5</td>
</tr>
<tr>
<td>Accuracy and reliability</td>
<td>5</td>
</tr>
<tr>
<td>Timeliness and punctuality</td>
<td>6</td>
</tr>
<tr>
<td>Accessibility and clarity</td>
<td>6</td>
</tr>
<tr>
<td>Coherence and comparability</td>
<td>6</td>
</tr>
<tr>
<td>Trade-offs between output quality components</td>
<td>9</td>
</tr>
<tr>
<td>Assessment of user needs and perceptions</td>
<td>10</td>
</tr>
<tr>
<td>Performance, cost and respondent burden</td>
<td>10</td>
</tr>
<tr>
<td>Confidentiality, transparency and security</td>
<td>10</td>
</tr>
</tbody>
</table>
This is a National Statistics publication

National Statistics status means that official statistics meet the highest standards of trustworthiness, quality and public value.

All official statistics should comply with all aspects of the Code of Practice for Official Statistics. They are awarded National Statistics status following an assessment by the Authority’s regulatory arm. The Authority considers whether the statistics meet the highest standards of Code compliance, including the value they add to public decisions and debate.

It is NHS Digital’s responsibility to maintain compliance with the standards expected of National Statistics. If we become concerned about whether these statistics are still meeting the appropriate standards, we will discuss any concerns with the Authority promptly. National Statistics status can be removed at any point when the highest standards are not maintained, and reinstated when standards are restored.


This report may be of interest to members of the public, policy officials and other stakeholders to make local and national comparisons and to monitor the quality and effectiveness of stop smoking services.
Introduction
This document constitutes a background quality report for the *Statistics on Obesity, Physical Activity and Diet* publication.

Background

Context
This annual compendium report presents a range of up-to-date information on obesity, physical activity and diet among both adults and children from a variety of sources, including previously published information from reports such as the Health Survey for England and the National Child Measurement Programme. This report also presents some previously unreported information on prescribing and hospital admissions related to obesity which are datasets managed by NHS Digital.

Some of the areas covered in the report include Body Mass Index (BMI) prevalence, activity levels and fruit and vegetable consumption. The report focuses on England only where possible.


Purpose of document
This paper aims to provide users with an evidence based assessment of quality of the statistical output included in this report.

It reports against those of the nine European Statistical System (ESS) quality dimensions and principles¹ appropriate to this output. In doing so, this meets NHS Digital’s obligation to comply with the UK Statistics Authority (UKSA) Code of Practice for Official Statistics², 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”

¹ 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.

Assessment of statistics against quality dimensions and principles

Relevance

This dimension covers the degree to which the statistical product meets user needs in both coverage and content.

This publication is considered to be of particular interest to NHS and independent sector providers in England and to English NHS commissioning organisations. However, data and findings are likely also to be of interest to a much broader base of users.

Accuracy and reliability

This dimension covers, with respect to the statistics, their proximity between an estimate and the unknown true value.

This report is a National Statistic and is produced according to the Code of Practice for Official Statistics.

Most of the information in this report has been previously published. The sources of the information are trusted sources; the majority being either National or Official Statistics. Most sources referenced in this report include a Methodology section for further information.

Hospital admissions from Hospital Episode Statistics (HES) data

The data presented in this report are for inpatients only. Outpatient procedures are not included in these figures due to the primary diagnosis code being poorly populated, and there being no certainty that procedures are for obesity diagnoses.

Further general information on HES data quality, including specific known issues can be found here:


Prescription data

Data on the number of prescription items and Net Ingredient Cost (NIC) for drugs prescribed for obesity give a measure of how often a prescriber writes a prescription and it is not an ideal measure of the volume of drugs prescribed as different practices may use different durations of supply. The NIC is the basic cost of a drug as listed in the Drug Tariff or price lists; it does not include discounts, prescription charges or fees.

NHS Prescription services have coded Mazindol within BNF section 4.5 Drugs used in the treatment of obesity, but as prescription data has no information as to why it was prescribed it cannot be stated it was definitely used for the treatment of obesity in this instance. Consequently Mazindol has been excluded, from prescribing data since 2012. The number of data items affected is very small and has a negligible effect on the totals overall.
Survey data

Some of the information presented in the report is taken from survey data. Sometimes the mode of data collection used in a survey can have an impact on how respondents answer the questionnaire. For example, surveys conducted via a face-to-face interview such as the Health Survey for England (HSE) provide an opportunity for an interviewer to use a computer to record the respondent’s answers which will improve the quality of the data by ensuring all the questions are completed and not allowing any invalid answers. By comparison data collected via a self-completion survey such as Smoking, Drinking and Drug Use Amongst Young People (SDD) will have none of these inbuilt validations.

Face-to-face interviews also provide an opportunity to guide the respondent through any interpretation issues such as advice on portion sizes, which is more difficult in a face-to-face interview.

Both modes however may suffer from respondents being tempted to give answers which are considered to be more socially acceptable. This could occur either through the surveys being completed in the home when other family members are present, or through the interviewer being present at a face-to-face interview. However, HSE does include some information such as height and weight (and therefore BMI), and blood pressure which are measured by a nurse and therefore not affected in the same way as the respondent’s answers.

Timeliness and punctuality

Timeliness refers to the time gap between publication and the reference period. Punctuality refers to the gap between planned and actual publication dates.

This compendia report is published annually and presents or signposts the most up-to-date information available.

Accessibility and clarity

Accessibility is the ease with which users are able to access the data, also reflecting the format in which the data are available and the availability of supporting information. Clarity refers to the quality and sufficiency of the metadata, illustrations and accompanying advice.

The report is accessible on the NHS Digital website as a PDF document. All tables in the report are provided in Excel format and as csv files, as part of the government’s requirement to make public data public.

The publication may be requested in large print or other formats through the HSCIC’s contact centre: enquiries@nhsdigital.nhs.uk (please include ‘SOPAD’ in the subject line).

Coherence and comparability

Coherence is the degree to which data which have been derived from different sources or methods but refer to the same topic are similar. Comparability is the degree to which data can be compared over time and domain.

Obesity related hospital admissions
Changes to the figures over time need to be interpreted in the context of improvements in data quality and coverage, improvements in coverage of independent sector activity and changes in NHS practice.

**Improved use of secondary diagnosis codes**

There is continuing evidence that recording of secondary diagnosis codes is improving over time, which may have contributed (though not fully) to the increases seen in ‘admissions where obesity was a factor’ over the last ten years. This is demonstrated by looking at year on year increases in the mean number secondary diagnosis codes that were applied to these admissions as below.

<table>
<thead>
<tr>
<th>Year of admission</th>
<th>Mean number of diagnosis codes</th>
<th>Percent (%) difference from previous year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006/07</td>
<td>4.5</td>
<td>0.0</td>
</tr>
<tr>
<td>2007/08</td>
<td>4.5</td>
<td>1.8</td>
</tr>
<tr>
<td>2008/09</td>
<td>4.5</td>
<td>0.2</td>
</tr>
<tr>
<td>2009/10</td>
<td>4.6</td>
<td>0.2</td>
</tr>
<tr>
<td>2010/11</td>
<td>5.0</td>
<td>1.8</td>
</tr>
<tr>
<td>2011/12</td>
<td>4.9</td>
<td>0.2</td>
</tr>
<tr>
<td>2012/13</td>
<td>5.0</td>
<td>1.7</td>
</tr>
<tr>
<td>2013/14</td>
<td>5.2</td>
<td>1.7</td>
</tr>
<tr>
<td>2014/15</td>
<td>5.3</td>
<td>1.9</td>
</tr>
<tr>
<td>2015/16</td>
<td>5.4</td>
<td>1.7</td>
</tr>
<tr>
<td>2016/17</td>
<td>5.6</td>
<td>1.7</td>
</tr>
<tr>
<td>2017/18</td>
<td>6.1</td>
<td>7.8</td>
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</tbody>
</table>

**Break in time series – 2019/10**

There is a break in time series in 2009/10. Analysis of obesity coding of admissions data over time identified two issues affecting the obesity related admissions data prior to 2009/10. Firstly, in 2009/10 the introduction of a specific procedure code for maintenance of gastric band added approximately 1,500 records in that year. Secondly, there is evidence that the obesity primary diagnosis code was not applied as consistently before this time, based on analysis of the proportion of bariatric surgery records that included an obesity primary diagnosis.

This effects all the admissions time series data but most significantly ‘admissions attributable to obesity’ (tables 1.1 and 1.2) and ‘obesity admissions for bariatric surgery’ (tables 3.1 and 3.2). It is less significant in the ‘admissions where obesity was a factor’ measure (tables 2.1 and 2.2), as the impact represents a much smaller part of that data.

**Changes to recording of gastric band maintenance**

Practices vary between hospitals as to whether gastric band maintenance procedures (introduced as a specific OPCS-4.5 code from 2009/10) are recorded as being carried out in outpatient or inpatient settings. As the data presented in this report are for inpatients only, inconsistencies over time have contributed to the changes seen in recent years. Time series data that excludes maintenance and revisional procedures, (thus removing
the effect of these varying recording practices) is shown in table 3.1 (Primary bariatric surgery).

Most providers record none or very few gastric band maintenance procedures as inpatient admissions, but the changes known to us that have a significant effect on the national totals are as below. Though this affects all the obesity related admissions measures (with the exception of primary bariatric surgery), it is less significant in the ‘admissions where obesity was a factor’ measure (tables 2.1 and 2.2), as bariatric surgery represents a much smaller part of that data (less than 1% in 2017/18).

Please note, the figures quoted are for episodes involving gastric band maintenance where there was no primary bariatric surgery in the same episode (as those that also had a primary bariatric surgery procedure code would be included in the counts regardless):

2013/14

Between 2009/10 and 2012/13 Derby Hospitals NHS Foundation Trust (RTG) recorded around 750 to 1,250 obesity related admissions per year involving gastric band maintenance. In 2013/14 and subsequent years this number was zero or close to zero. In 2013/14 this change represented around half of the decrease in the national bariatric surgery figures (-1,640 overall).

Between 2009/10 and 2012/13 King’s College Hospital NHS Foundation Trust (RJZ) recorded around 250 to 400 obesity related admissions per year involving gastric band maintenance. In 2013/14 this number dropped to 53, and just 2 in 2014/15. They have since recorded around 100 per year.

2015/16

From 2015/16 Heart of England NHS Foundation Trust (RR1) has recorded around 300 to 400 obesity related admissions per year involving gastric band maintenance, compared to close to zero prior to 2015/16. In 2015/16 this change accounted for around three quarters of the increase in the national bariatric surgery figures (+406 overall).

Changes to procedure codes effecting the bariatric surgery time series

In 2012/13, changes were made to give a standard definition of “bariatric surgery” using the same methodology as Healthcare Resource Groups (HRGs). The new HRGs were created in 2011/12 Reference Costs collection as a result of work between the National Casemix Office at NHS Digital, the British Obesity and Metabolic Surgery Society (BOMSS) and the Chapter F Digestive System Expert Working Group (EWG). This definitional change has a minimal effect on the previous years’ data; between 20 and 30 cases a year from 2009/10 onwards when OPCS 4.5 and 4.6 codes were used, following on from the introduction of a specific code for maintenance of gastric band in OPCS-4.5 in 2009/10. Appendix B shows the current list of OPCS codes included in the definition of bariatric surgery.

More information on the change of codes in 2012/13 is included in the methodological change notice at:


In 2016/17, the National Casemix office updated the definition above to remove 2 previously included OPCS codes, and so the data in this publication has been updated to reflect this, creating a break in time series from 2016/17. Based on data in recent years
(2015/16 to 2017/18), the change reduces the total by between 250 and 320 records per year.

More information on the change of codes in 2016/17 is included in the methodological change notice at:


Please note, time series bariatric surgery data in the interactive LA based dashboard has been updated as per the new methodology, and so remains directly comparable.


Changes to the calculation of hospital admission rates

Admission rates per head of population (tables 3, 4, 7, 8, 11 and 12) were changed in the 2017 report to be age standardised based on the European Standard Population. Prior to 2017, these rates were not standardised. More information is available from the methodological change notice at:


Other HES data issues

2016/17

Around one third of all records for Nottingham University Hospitals Trust were submitted to the Hospital Episode Statistics database without patient identifiers such as postcode. This means it was not possible to assign a Local Authority or Clinical Commissioning Group of Residence to these admission records, so they will not appear in the tables. This will mainly affect the Nottingham and Nottinghamshire areas with a smaller impact on surrounding areas and the East Midlands and England totals.

Trade-offs between output quality components

*This dimension describes the extent to which different aspects of quality are balanced against each other.*

Most previously published sources referenced in this report include a methodology section which will contain specific information about trade-offs.

New analyses by NHS Digital consist of HES statistics. HES data quality information, including details of trade-offs, is available here:

Assessment of user needs and perceptions

This dimension covers the processes for finding out about users and uses and their views on the statistical products.

The compendia reports on drug misuse, alcohol, smoking and obesity were subject to a National Statistics consultation in 2016. The report on the findings of the consultation and the NHS Digital response are available at:

http://content.digital.nhs.uk/article/6770/Consultation-on-Lifestyles-Compendia-Reports

NHS Digital is keen to gain a better understanding of the users of this publication and of their needs; feedback is welcome and may be sent to enquires@nhsdigital.net (please include ‘SOPAD’ in the subject line).

Performance, cost and respondent burden

This dimension describes the effectiveness, efficiency and economy of the statistical output.

All data used within this report is either already published or is part of an existing dataset. Therefore, no data is collected specifically for this report.

Confidentiality, transparency and security

The procedures and policy used to ensure sound confidentiality, security and transparent practices.

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


Statistical Governance Policy


Freedom of Information Process


Statement of Compliance with Pre-Release Order

Disclosure Control Procedure
