Outpatient Activity Minimum Dataset: Publication of data and discussion of data quality[1]

Introduction

This Statistical Article provides an overview of the Outpatient Activity Minimum Dataset (OP MDS), presenting background information and commentary that assists in the interpretation of the data from the OP MDS. Additionally, this article explores the differences between this new data source and the previous data source used for outpatient activity, the QueSt 1 (QS1) return.

Background

Data on outpatients from the Outpatient Activity Minimum Dataset (OP MDS) was published for the first time on 16 February 2016. Data was published on StatsWales for the years 2011-12 to 2014-15.

The OP MDS was introduced in Wales in April 1999. The dataset records patient level information on outpatient activity in the NHS in Wales. The dataset was originally designed to capture consultant led activity but has expanded to capture independent nurse led activity. Information is collected on a monthly basis and held by the NHS Wales Informatics Service (NWIS).

Up until January 2013, the primary source for outpatient activity data in Wales was the QS1 return, providing aggregate data on patient throughput and bed utilisation at NHS hospitals, clinics and units in Wales. Data was also collected on outpatient clinics and attendances, and patients who failed to attend, classified by specialty group.

However from January 2013 a decision was made by the Welsh Government, following data quality assessments and reviews of the data and in consultation with health board representatives, that it was no longer a national requirement to collect those data items from QS1 that were derivable from patient level datasets. This approach was supported and approved by the Welsh Information Standards Board (WISB).

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1 Notes on the use of statistical articles can be found at the end of this document.

Consequently, from 2012-13 onwards, the Outpatient Activity Minimum Dataset is the source of official statistics for outpatient activity in the NHS in Wales, rather than the QS1 return. This approach has a number of benefits, for example it ensures 'one version of the truth' by having just one definitive source of data for outpatient activity data, it reduces the burden on data providers of supplying data for two similar data sets, and allows more granularity for research and analysis (since the OP MDS provides patient level data, whereas the QS1 data collection provided high level summary data on outpatients). Although the QS1 was the source of official statistics for 2011-12 we have also published data for 2011-12 from the OP MDS to allow comparisons to be made between the old and current data sources. Historic data on outpatients from QS1 can still be found on StatsWales up to the year 2011-12: https://statswales.wales.gov.uk/Catalogue/Health-and-Social-Care/NHS-Hospital-Activity/Outpatient-Activity

Section 1: Comparison of QS1 and Outpatient Minimum Data Set

Comparison at Local Health Board (LHB) and Wales level

Table 1: Outpatient summary data from the OP MDS at LHB and Wales level, 2011-12

Local health board	Attendances		Ratio of follow-up to new attendances	Outpatients who did not attend		Percentage of appointments where the outpatient did not attend	
	New	Total		New	Total	New	Total
Betsi Cadwaladr University	173,374	567,234	2.2	11,012	43,393	5.2	5.9
Powys Teaching	14,665	36,159	1.5	874	2,690	4.7	5.7
Hywel Dda University	115,773	440,666	2.7	7,181	24,053	5.1	4.5
Abertawe Bro Morgannwg University	212,843	644,752	2.0	20,794	63,518	7.1	6.8
Cwm Taf University	122,135	453,497	2.7	11,752	54,468	7.5	8.5
Aneurin Bevan University	150,927	470,069	1.9	14,476	46,991	8.7	9.1
Cardiff and Vale University	159,374	581,407	2.6	21,560	77,480	11.9	11.8
Velindre	4,967	57,265	10.5	327	3,315	5.2	4.3
Wales	954,058	3,251,049	2.3	87,976	315,908	7.5	7.6

Source: Outpatient activity minimum data set (OP MDS), NHS Wales Informatics Service

Table 2: Outpatient summary data from the QS1 at LHB and Wales level, 2011-12

Local health board	Attendances		Ratio of follow-up to new attendances	Outpatients who did not attend		Percentage of appointments where the outpatient did not attend	
	New	Total		New	Total	New	Total
Betsi Cadwaladr University	174,875	582,226	2.3	11,291	45,107	6.1	7.2
Powys Teaching	16,360	39,966	1.4	1,030	2,962	5.9	6.9
Hywel Dda University	119,651	442,342	2.7	7,548	25,065	5.9	5.4
Abertawe Bro Morgannwg University	196,874	590,022	2.0	19,420	57,772	9.0	8.9
Cwm Taf University	125,154	441,403	2.5	10,597	47,903	7.8	9.8
Aneurin Bevan University	163,218	480,198	1.9	14,371	45,465	8.1	8.6
Cardiff and Vale University	176,561	620,737	2.5	18,408	76,163	9.4	10.9
Velindre	4,946	57,365	10.6	326	3,317	6.2	5.5
Wales	977,639	3,254,259	2.3	82,991	303,754	7.8	8.5

Source: QueSt1 (QS1), NHS Wales Informatics Service

Table 3: Comparison of the QS1 and OP MDS data at LHB and Wales level, 2011-12

Local health board	Attendances (a)		Ratio of follow-up to new attendances (b)	Outpatients who did not attend (a)		Percentage of appointments where the outpatient did not attend (c)	
	New	Total		New	Total	New	Total
Betsi Cadwaladr University	-0.9	-2.6	-0.1	-2.5	-3.9	-0.8	-1.3
Powys Teaching	-11.6	-10.5	0.0	-17.8	-10.1	-1.2	-1.2
Hywel Dda University	-3.3	-0.4	0.0	-5.1	-4.2	-0.8	-0.9
Abertawe Bro Morgannwg University	7.5	8.5	0.0	6.6	9.0	-1.9	-2.1
Cwm Taf University	-2.5	2.7	0.2	9.8	12.1	-0.3	-1.3
Aneurin Bevan University	-8.1	-2.2	0.0	0.7	3.2	0.7	0.4
Cardiff and Vale University	-10.8	-6.8	0.1	14.6	1.7	2.5	0.8
Velindre	0.4	-0.2	-0.1	0.3	-0.1	-0.9	-1.2
Wales	-2.5	-0.1	0.0	5.7	3.8	-0.3	-0.9

Source: OP MDS and QS1, NHS Wales Informatics Service

OP MDS value is lower than the QS1 value
OP MDS value is higher than the QS1 value

(a) Differences between the datasets expressed as a percentage of the OP MDS figures
(b) Differences between the ratio of repeat attendances of the datasets
(c) Differences between the datasets expressed as percentage points

At a Wales level, the difference between the QS1 and OP MDS in 2011-12 is 2.5 per cent for new attendances and 0.1per cent for total attendances. The Wales level indicators in table 3 show differences of less than 6 per cent in attendances and outpatients who did not attend. At this level, the difference between the ratios of follow-up to new attendances is less than a 0.1 point difference. The difference between the percentages of appointments where the outpatient did not attend (DNA) was 0.9 percentage points or less.

Table 3 shows that in Wales, the OP MDS value is lower than the QS1 value for new and total attendances and percentage of appointments where the outpatient DNA. Whereas, the OP MDS value is higher than the QS1 value for the ratio of follow-up to new attendances and the number of outpatients who DNA.

The largest percentage difference between the two datasets in new attendances, total attendances and new outpatients who did not attend is in Powys Teaching health board, with percentage differences of -11.6, -10.5 and -17.8 per cent respectively. In total outpatients who did not attend, the largest difference is in Cwm Taf University health board, with a 12.1 per cent difference. In Cardiff and Vale University health board health board there is also large differences in new attendances (-10.8 per cent) and new outpatients who DNA (14.6 per cent).

In ratio of follow-up to new attendances, the largest difference is in Cwm Taf University health board with a 0.2 point difference.

In percentage of new appointments where the outpatient DNA, the largest percentage point difference is in Cardiff and Vale University health board with a 2.5 percentage point difference. Abertawe Bro Morgannwg University health board had the largest percentage point difference (-2.1) for the percentage of total appointments where the outpatient DNA.

The ratio of follow-up to new attendances along with the percentage of appointments where the outpatient DNA is not comparable between the two datasets at any level, as the calculations differ between the datasets. The QS1 calculation for the ratio of follow-up to new attendances is as follows:

$$\frac{\text{Total attendances – new attendances}}{\text{New attendances}}$$

Whereas the OP MDS calculation uses follow-up attendances as the numerator. The OP MDS calculation is as follows:

$$\frac{\text{Follow up attendances}}{\text{New attendances}}$$

There were inconsistencies in the way pre-operative assessments were recorded in the QS1. Using the QS1 method of calculation on the OP MDS would therefore not equate to follow-up attendances.

The QS1 calculations for percentage of appointments where the outpatient DNA is as follows:

$$\frac{\text{New outpatients who DNA x 100}}{\text{New attendances + New outpatients who DNA}} \qquad \frac{\text{Total outpatients who DNA x 100}}{\text{Total attendances + Total outpatients who DNA}}$$

Whereas the OP MDS uses new or total appointments as the denominator. The OP MDS calculation is as follows:

$$\frac{\text{New outpatients who DNA X 100}}{\text{New appointments}} \qquad \frac{\text{Total outpatients who DNA X 100}}{\text{Total appointments}}$$

Total appointments and new appointments in the OP MDS include outpatient attendances regardless of whether the outpatient attended the appointment. They include all of the attendance categories (see the Annex). Therefore the QS1 method of calculation can not be applied to the OP MDS. Appointments can only be calculated by adding together all of the attendance categories.

Please see the Annex for further information regarding calculations and definitions.

Comparison at hospital level

There are large differences in new and total attendances between the two datasets for some hospitals. There are also some differences between QS1 and OP MDS with regards to the hospitals/clinics for which information is submitted. Due to the large differences we would therefore advise comparisons cannot be made using the two datasets at a hospital level.

Comparison at treatment function level

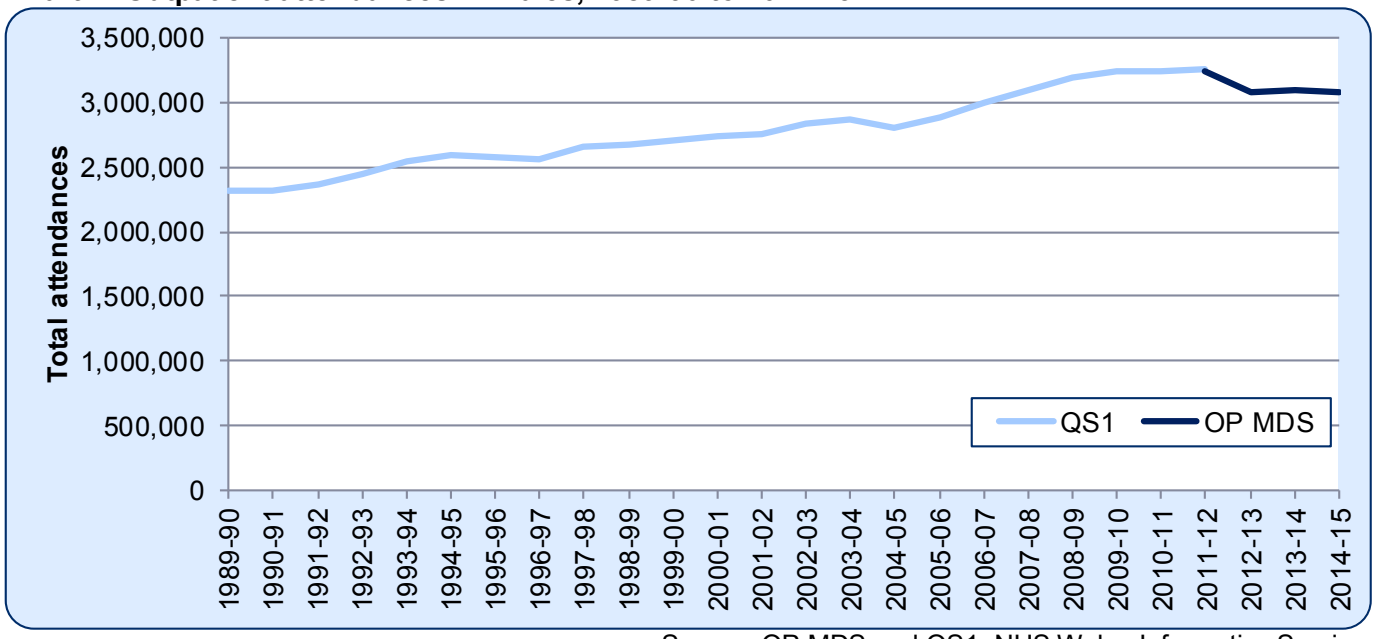
There are large differences in the Wales level data between the two datasets at treatment function level.

Some treatment function codes are not included in both data sets as the datasets are based on two different sets of codes and there is no direct relationship between the QS1 and OP MDS. For example, nuclear medicine, obstetrics for patients using hospital beds and joint consultant clinics were not included in the QS1 data, and special baby care was not included in the OP MDS. Due to these differences we would therefore advise comparisons cannot be made over time using the two datasets at a treatment function level.

Time series

Chart 1 shows the outpatient attendances from 1989-90 onwards. Data from 1989-90 to 2011-12 is from the QS1, data from 2012-13 is from the OP MDS. In the overlapping year (2011-12), the percentage difference between the two sources is 0.1 per cent, equating to the OP MDS being 3,210 attendances lower than the QS1 value. Before using the two datasets, the QS1 data for independent nurse led and consultant led activity must first be combined.

Chart 1: Outpatient attendances in Wales, 1989-90 to 2014-15



Source: OP MDS and QS1, NHS Wales Informatics Service

Recommendations about using the two data sets to make comparisons over time

Within Knowledge and Analytical Services we recommend that you **do not** use the two datasets to make comparisons over time at a hospital or treatment function level. This is due to the disparity between the two data sources at these levels. We also recommend that you **do not** use the ratio of follow-up to new attendances or the percentage of appointments where the outpatient DNA between the two datasets at any level, as the method for calculating these fields differs between the datasets.

At a Wales level, we feel it is appropriate to use the QS1 and the OP MDS datasets to make comparisons over time, especially for attendances, as the differences between the two data sources are small at this level.

At a LHB level, we feel that it is not appropriate to use the QS1 and OP MDS datasets together to make comparisons over time, as the differences between the two data sources are large in some of the LHBs at this level (table 3).

Section 2: Key Findings from the Outpatient Minimum Dataset, 2011-12 to 2014-15

This section presents summary information from the OP MDS for the years 2011-12 to 2014-15. The information and figures provided are based on activity undertaken at hospital sites in Wales. As such, it includes activity delivered by English organisations in Welsh hospitals and excludes activity carried out in England.

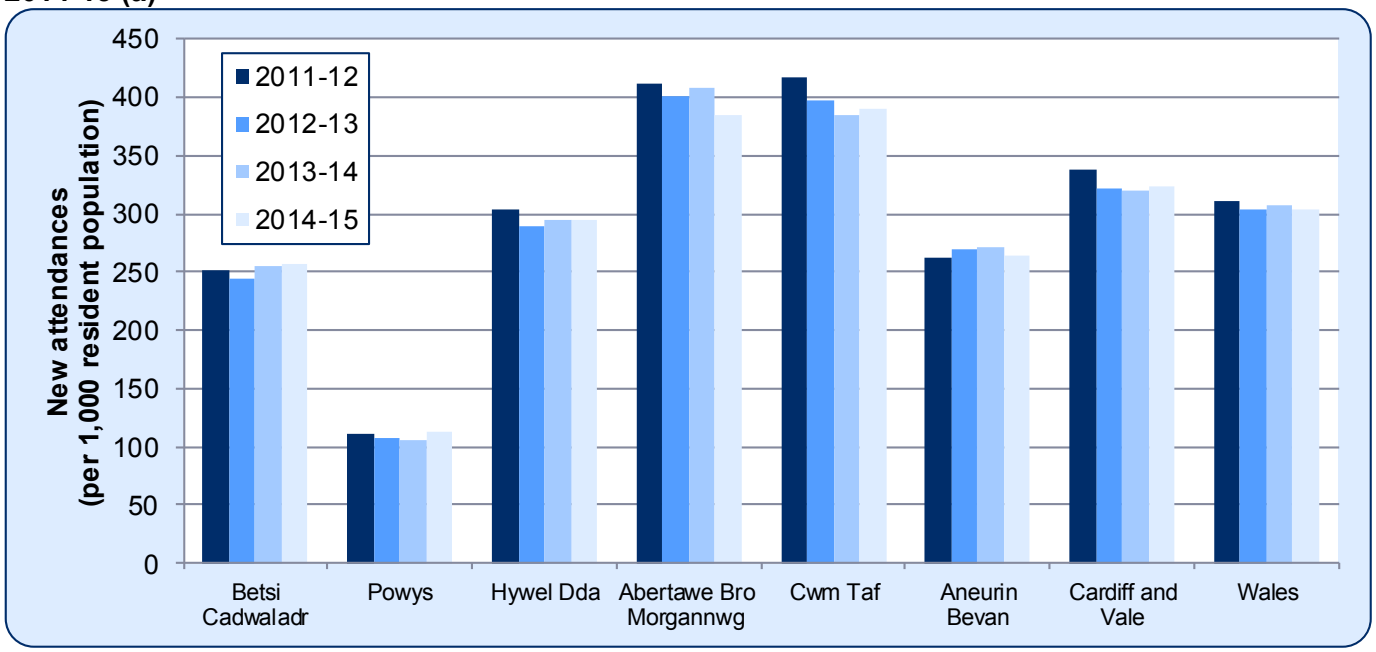
Charts are presented as rates per 1,000 resident population to ensure that the analysis of the data reflects actual differences between the LHBs' outpatients activity and not the difference in the population between LHBs. Rates per population have been calculated using the mid-year population estimates from 2011 to 2014, published by the Office for National Statistics (ONS).

Summary

- In 2014-15, there were 938,642 new outpatient attendances in Wales. The rate of new outpatient attendances in Wales has remained fairly constant over the last 4 years at around 300 per 1,000 resident population.
- In 2014-15, there were 3,079,047 total outpatient attendances in Wales. The rate of total outpatient attendances in Wales has remained fairly constant over the last 3 years at around 1,000 per 1,000 resident population. This rate was higher in 2011-12 at 1,061 per 1,000 resident population.
- Across Wales, the treatment function codes accounting for the largest number of new attendances were: trauma & orthopaedic, general surgery, ophthalmology, gynaecology and ENT.
- Across Wales, the treatment function codes accounting for the largest number of total attendances were: trauma & orthopaedic, ophthalmology, general surgery, dermatology and ENT.
- With the exception of Velindre, the LHB with the highest ratio of follow-up to new attendances in each year was Cwm Taf.
- Across Wales, the percentage of appointments where the outpatient DNA has remained fairly stable over the last four years, at around 8.0 per cent.

Attendances

Chart 2: Rate of new outpatient attendances per 1,000 resident population, by LHB, 2011-12 to 2014-15 (a)



Source: OP MDS, NHS Wales Informatics Service

(a) Velindre NHS Trust is not shown in the chart as it does not cover a specific geography, and does not have a corresponding population as the LHBs do. It is included in the Wales figures.

The rate of new outpatient attendances in Wales has remained fairly constant over the last 4 years at around 300 per 1,000 resident population.

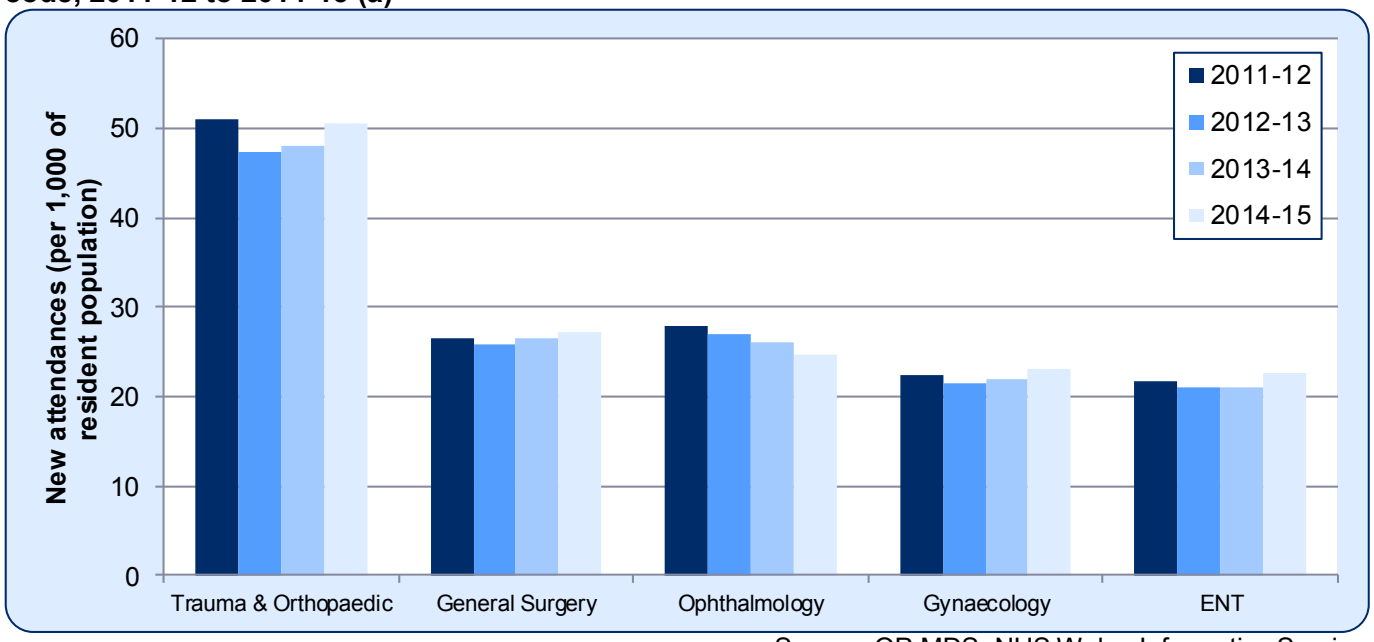
There was some variation between LHBs in the rates of new attendances per 1,000 resident population. Cwm Taf and Abertawe Bro Morgannwg had the highest rates (at around 400 each year), whilst Powys had the lowest rate (at around 100 each year). This may be due to a large proportion of Powys' residents attending outpatient clinics in English hospitals.

In some health boards there appears to be a decrease over time in the rates of new attendances per 1,000 population. From the data, it's difficult to tell the reason for this as there may be a number of competing factors taking place. It's possible that there may be genuine differences between health boards. However, attendance rates may be decreasing due to outpatient activity being undertaken in new ways that are not captured in this dataset.

Treatment Function Code

For further information, treatment function codes are defined in the Annex of this publication

Chart 3: Rate of new outpatient attendances per 1,000 resident population, by treatment function code, 2011-12 to 2014-15 (a)



Source: OP MDS, NHS Wales Informatics Service

(a) Only the 5 largest treatment function codes in 2014-15 in terms of new attendances are displayed

The chart above displays new attendances for the five treatment function codes accounting for the largest number of new attendances across Wales, based on the 2014-15 data.

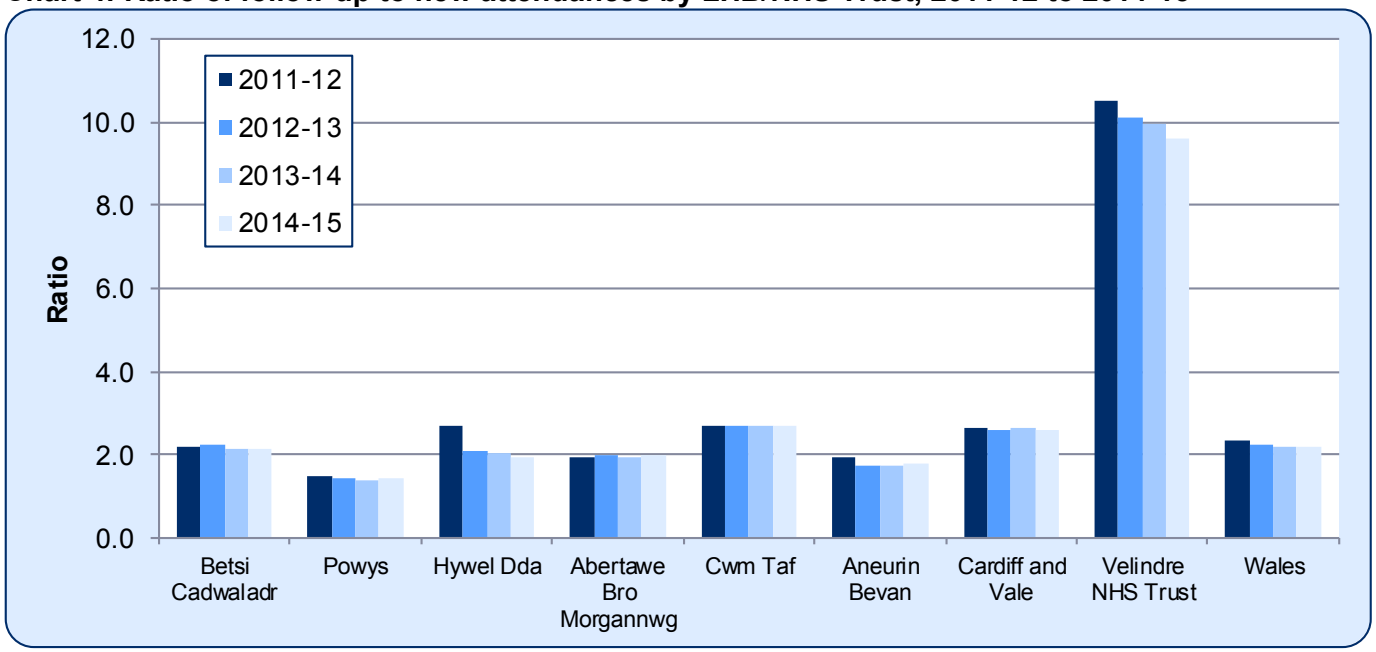
Across Wales, the treatment function codes accounting for the largest number of new attendances were: trauma & orthopaedic, general surgery, ophthalmology, gynaecology and ear, nose and throat (ENT). In 2014-15, these five treatment function codes accounted for 49 per cent (148) of the 304 new attendances per 1,000 of resident population.

Across Wales in 2014-15, trauma & orthopaedic had the highest rate of new attendances. At around 51 new attendances per 1,000 population it had almost double the rate of the next treatment code (general surgery, 27 per 1,000 population).

Outside of the top five, each of the remaining treatment function codes had fewer than 20 new attendances per 1,000 population.

Follow-up outpatient attendances

Chart 4: Ratio of follow-up to new attendances by LHB/NHS Trust, 2011-12 to 2014-15



Source: OP MDS, NHS Wales Informatics Service

In Wales, the ratio of follow-up to new outpatient attendances has remained fairly constant over the last four years, at around 2.2 follow-up attendances for every new attendance.

Velindre has a far higher ratio of follow-up to new attendances than the LHBs. The ratio for Velindre was around 10 follow-up attendances (11 in 2011-12) for every new attendance each year, whereas for the health boards (excluding Velindre) it was generally between 1 and 3.

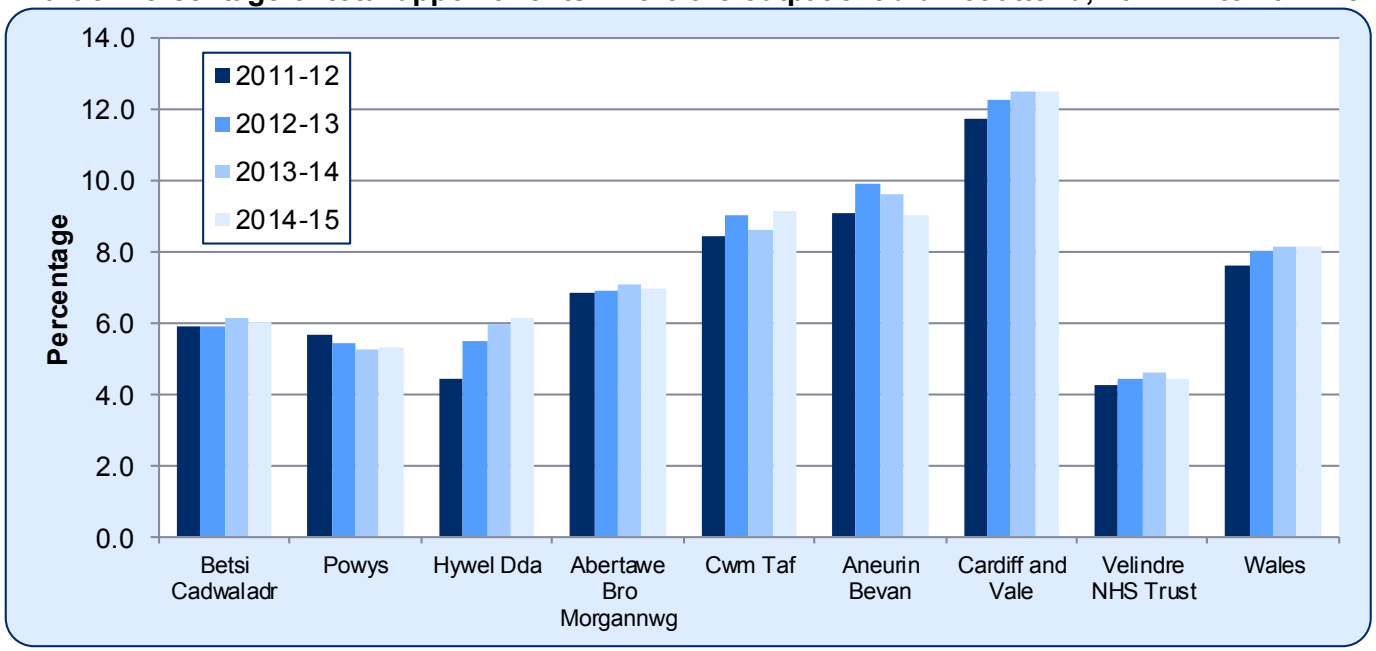
With the exception of Velindre, the LHBs with the highest ratio of follow-up attendances to new attendances in each year were Cwm Taf and Cardiff & Vale. Although in 2011-12 alone, Hywel Dda had a higher rate than Cardiff & Vale.

Powys has the lowest ratio of follow-up attendances to new attendances.

Outpatients who did not attend (DNA)

The percentage of appointments where the outpatient did not attend (DNA) is calculated by dividing the number of DNAs by the number of appointments, and multiplying by 100. The information provided in this section is based on total appointments and total outpatients who DNA, rather than new appointments and new outpatients who DNA..

Chart 5: Percentage of total appointments where the outpatient did not attend, 2011-12 to 2014-15



Source: OP MDS, NHS Wales Informatics Service

Across Wales, the percentage of appointments where the outpatient DNA has remained fairly stable over the last four years, at around 8.0 per cent.

In each year, Cardiff & Vale had the highest percentage of appointments where the outpatient DNA, at around 12.3 per cent.

In each year Velindre had the lowest percentage of appointments where the outpatient DNA, at around 4.5 per cent.

Section 3: Data coverage and processing cycle

OP MDS data is compiled from data submitted to the NHS Wales Informatics Service (NWIS) by the seven Local Health Boards in Wales and Velindre NHS Trust, who each submit information about the activity that takes place at their sites. Data is also submitted by English organisations with records for patients who are registered with a Welsh GP. This means that the data can be presented on a Welsh provider basis or on a Welsh activity basis (i.e. where in Wales the activity was carried out). We have published data on an activity basis. The reason for this is so that the data is published on a consistent basis with what was published from the QS1 (which was collected, and therefore published, on an activity basis). Therefore, the data published reflects the outpatient activity carried out at hospital sites in Wales, which includes activity carried out by English organisations in Welsh hospitals and excludes activity carried out in England for Welsh residents or organisations.

From 2006, LHBs/NHS Trusts were required to submit independent nurse led activity in their monthly OP MDS. Further details regarding data coverage and collection can be found within the Welsh Health Circular (2006) 028 and Data Set Change Notice 2006/01.

Data collection

LHBs and Trusts are required to submit their monthly OP MDS data to NWIS by the 20th calendar day of the following month. If the 20th falls on a weekend, the deadline for submissions is the next available working day. Files can be uploaded to Validation at Source Service (VASS) before the 20th to enable LHBs / Trusts to validate and correct their data.

LHBs/Trusts send their OP MDS extracts in the form of a fixed format file via the secure upload mechanism located on the NHS Wales Data Switching Service (NWDSS). The data is thereafter loaded into the national data base.

The teams within NWIS are in regular communication with LHBs to ensure that the data being entered on hospital systems and extracted from them comply with the standards set out in the NHS Wales Data Dictionary and the relevant Data Set Change Notices (DSCNs).

Validation and verification

Within NWIS, VASS provides an online resource for submitting organisations to check the quality of their data before formally submitting it to NWIS to be processed through to the national database. VASS is comprised of 3 main types of data quality checks as described below:

- Data load checks are used to protect the integrity of the database by identifying invalid values within a record. If a data load error is triggered, the whole record is rejected by the system, preventing it from being processed through to the national database. The fact that load errors prevent records from being loaded means that these are often reviewed and resubmitted immediately. While this has been a successful method of maintaining the quality of this data set, it is reliant on the cooperation of the data provider in reviewing these errors promptly.
- A data validity check tests whether the recorded entry within the associated database field is a valid national value. These national values are defined in the NHS Wales Data Dictionary and lists of codes are available from the National Reference Data Service. Data validity checks have been in operations since April 2010.
- Some data items are interdependent. For example, a patient's date of birth must not be after their attendance date. Relationships between data items are checked using data consistency checks. These were introduced in November 2013.

NWIS review and update these checks as necessary.

For the data we have published, NWIS provided data from the OP MDS to Welsh Government. Further to NWIS' quality assurance process, within Welsh Government, before publication, we carry out quality assurance on the data across time and between organisations to ascertain whether the data is fit for use. The quality assurance processes includes viewing the data, looking for sudden highs or lows in the data that look incorrect and making sure that the totals add up, when they do not, we provide caveats as to why this may be. Following our quality assurance, we have provided recommendations on the use of the data.

Data validity and consistency

Data validity and consistency performance is monitored on a monthly basis by NWIS . This regular monitoring and provider cooperation means that data validity is generally high. More information about data validity is available from the Outpatient Data Validity pages maintained by the NHS Wales Informatics Service. Information about data consistency for the OP MDS can be found on the Outpatient Data Consistency page of the NHS Wales Informatics Service website.

Data Completeness

NWIS' data processing timescales must be adhered to in order to ensure compliance with reporting deadlines. If a monthly submission deadline is missed, the data cannot be processed until after the submission deadline for the following month. This can result in temporary data completeness issues. At Welsh Government, we publish the data annually and receive an extract a few months after the year end. Therefore a delay in monthly submissions is unlikely to affect the annual data that we publish.

With the existence of data load checks there is an added risk of data completeness issues if invalid data is submitted. Although rejected records are generally reviewed and resubmitted before the data is loaded, if these are not corrected, the national database (and any reporting outputs) will contain incomplete data. This is not a significant issue at present as a relatively small number of records are rejected by the system each month and not loaded into the national database. Any instances where a high proportion of records are rejected are flagged up in Data Completeness reports. These are monitored by NWIS and issues are communicated to the submitting organisation immediately, requesting that the data is resubmitted in time for the data to be processed.

Section 4: Quality information

Health Statistics and Analysis Unit adhere to a quality strategy and this is in line with Principle 4 of the Code of Practice for Official Statistics.

Relevance

The degree to which the statistical product meets user needs for both coverage and content.

The OP MDS is the source of official statistics for outpatient activity in the NHS in Wales.

We encourage users of the statistics to contact us to let us know how they use the data, please see the Feedback section of this publication for the contact details.

Accuracy

The closeness between an estimated result and an (unknown) true value.

This data is not a sample, and should therefore include all relevant data. The validation checks that NWIS have in place help to ensure that the data submitted is accurate. However, it is the responsibility of LHBs/Trusts to ensure that the data they submit is accurate. We know that there are instances of some data being coded incorrectly. For example, 3 attendances were coded in 2013-14 for a hospital that closed in 2007.

All our outputs include information on coverage, timing and geography.

In the unlikely event of incorrect data being published, revisions would be made and users informed in conjunction with the Welsh Government's Revisions, Errors and Postponements arrangements.

Timeliness and punctuality

Timeliness refers to the lapse of time between publication and the period to which the data refer. Punctuality refers to the time lag between the actual and planned dates of publication.

All outputs adhere to the Code of Practice by pre-announcing the date of publication through the Upcoming Calendar. Furthermore, should the need arise to postpone an output this would follow the Welsh Government's Revisions, Errors and Postponements arrangements.

Issues with timeliness are rare due to an established process of file submission and sign-off via the NHS Wales Data Switching Service. NWIS issue reminders to data providers ahead of the monthly submission deadline and provide assistance with any VASS errors to reduce delays and minimise the probability of missed deadlines. There were only 2 late submissions in 2014-15 which equates to 1.1 per cent of total outpatient submissions received. These files were submitted in time for the missing data to be loaded the following month.

In addition to monthly deadlines, there is an annual deadline for resubmissions which allows providers to improve the quality of their data before it is used in annual activity reports, such as the Welsh Costing Returns. All organisations wishing to resubmit their data did so in accordance with this deadline in 2015. Also, because the data are published annually, it is unlikely that late submissions would greatly affect the annual publication by Welsh Government.

Accessibility and clarity

Accessibility is the ease with which users are able to access the data, also reflecting the format(s) 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 annual statistics will be published in an accessible, orderly, pre-announced manner on the Welsh Government website at 9:30am on the day of publication. An RSS feed alerts registered users to this publication. Simultaneously the outputs are also listed on the National Statistics Publication Hub. We also publicise the outputs on Twitter. All outputs are available to download for free.

More detailed data is available at the same time on the StatsWales website and this can be manipulated online or downloaded into spreadsheets for use offline.

We aim to use Plain English in our outputs and they adhere to the Welsh Government's accessibility policy. Furthermore, all our headlines are published in Welsh and English. Further information regarding the statistics can be obtained by contacting the relevant staff detailed on this article/headline or via stats.healthinfo@wales.gsi.gov.uk

Comparability

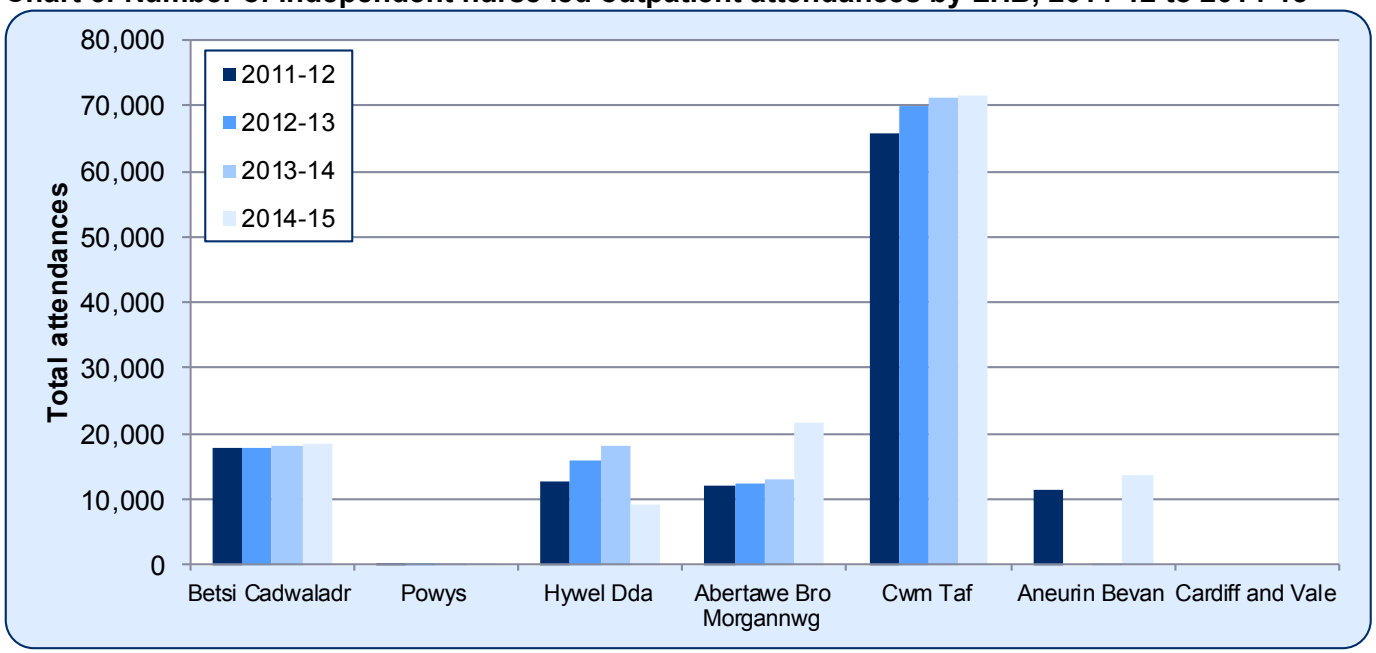
The degree to which data can be agreed over both time and domain.

Despite data standards being in place for health boards to use when submitting data for the OP MDS, there is still some variation between health boards in terms of what is included in the submission. Therefore, some of the differences seen between the figures for the health boards is due to differences in the way the data is recorded rather than due to differences in how the activity is carried out or the type of activity carried out. Some of these differences are outlined in the following paragraphs.

The OP MDS contains activity carried out in consultant led and independent nurse led clinics, as described in WHC (2006) 028 and DSCN 2006/01. Midwife led activity is also in the scope of the outpatient data set. Data for independent nurse led activity varies considerably between health boards. For example, Cwm Taf has more independent nurse led activity than all the other organisations in Wales combined.

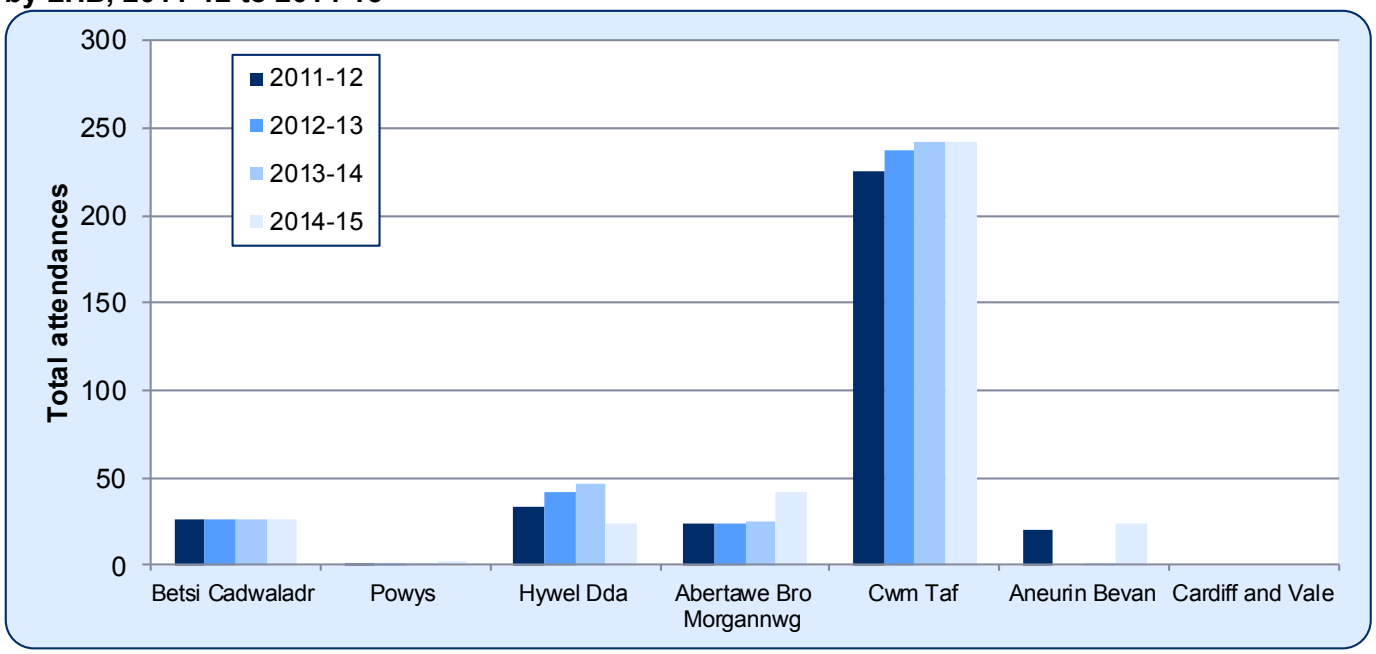
Charts 6 and 7 show the total number of independent nurse led outpatient attendances by LHB between 2011-12 and 2014-15. We produced these charts to illustrate the differences between the LHBs. Chart 7 differs from Chart 6 in that it displays the data per 1,000 resident population. Looking at the charts it is evident that the differences between the LHB are not due to differences in population. Cardiff and Vale do not submit independent nurse led data. Out of the LHBs that submit data, Cwm Taf University Local Health Board had the highest number of independent nurse led outpatient attendances, at around 70,000 each year. Powys Teaching Local Health Board had the lowest, at less than 300 each year from 2011-12 to 2014-15. Within the LHB's, independent nurse led outpatient attendances have generally risen over the last 4 years (except in Hywel Dda, where a decrease occurred in 2014-15).

Chart 6: Number of independent nurse led outpatient attendances by LHB, 2011-12 to 2014-15



Source: OP MDS, NHS Wales Informatics Service

Chart 7: Number of independent nurse led outpatient attendances per 1,000 resident population by LHB, 2011-12 to 2014-15



Source: OP MDS, NHS Wales Informatics Service

Following investigations with the LHBs it appears that they are not consistently recording independent nurse led activity within and between LHBs. For instance, Betsi Cadwaladr (BCU) submit three data extracts each month – one for each of its former NHS Trust areas. The data is not consistent between these submissions. BCU East submit consultant and midwife led activity whereas BCU West submit only consultant activity. BCU Central submit consultant and independent nurse led activity only.

Hywel Dda and Abertawe Bro Morgannwg, as well as submitting consultant and independent nurse led activity, also submit non-independent nurse activity and activity undertaken by other healthcare professionals.

Cardiff and Vale have not provided clarification about their independent nurse led activity. However, previous investigations suggest that there have been a number of issues with their OP MDS submission which are now in the process of being addressed. These include:

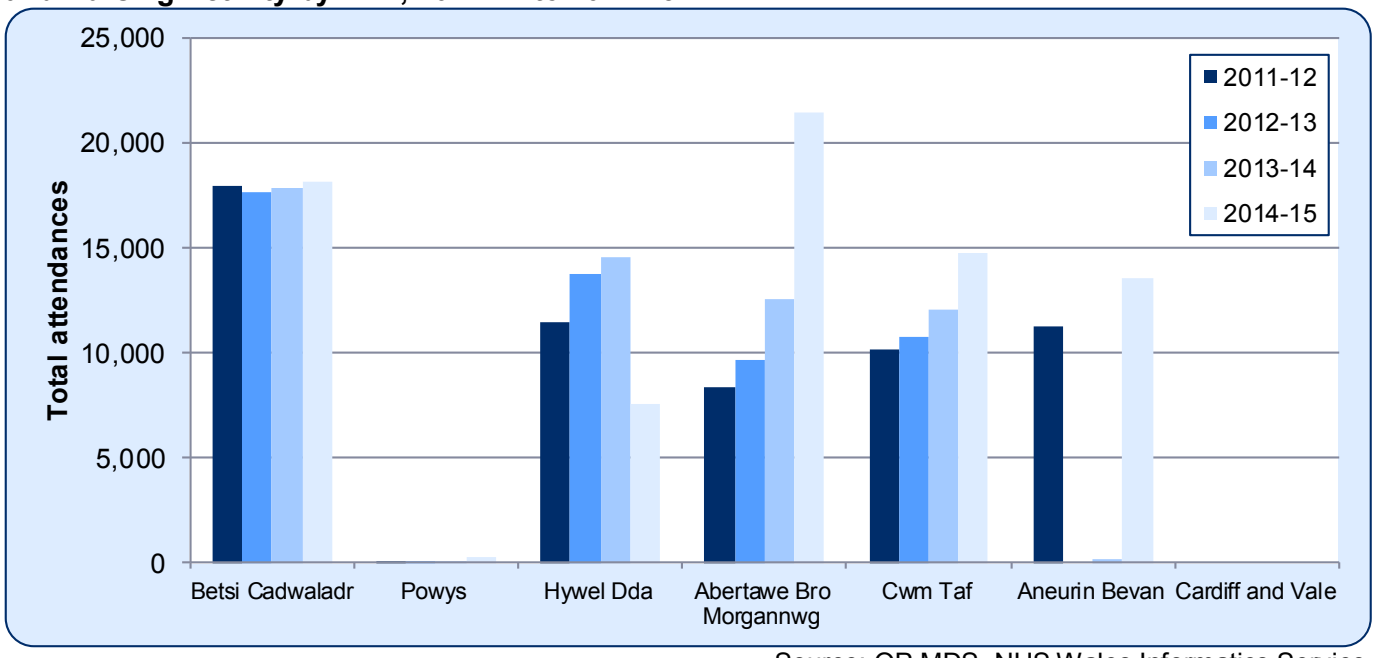
- mental health activity is not being submitted
- appointments cancelled by the hospital are not being submitted
- appointments where the patient has cancelled in advance are not being submitted
- some outpatient procedures are being submitted in the Admitted Patient Care submissions instead of the outpatient submissions as they are being incorrectly recorded as day cases
- old bucket codes (an invalid consultant code) have been used which are no longer valid

Cwm Taf submit consultant and independent nurse activity. Analysis of independent nurse led activity throughout Wales for the last four years shows that they

- are the only organisation that has submitted records relating to the Nursing treatment function code, and that they have submitted records for over 40,000 such attendances per year
- have submitted between 12,000 and 17,000 records each year relating to General Medicine attendances, whereas the combined total submitted by all other organisations in Wales is much lower (less than 5,000 each year).

Cwm Taf confirmed that whereas the majority of independent nurse led cardiac diagnostic activity was being recorded under General Medicine until the end of 2014 -15, they will in future be capturing that activity under the same umbrella as other diagnostic activity. It isn't clear whether this diagnostic activity will still be submitted to the OP MDS, which may effect the data from 2015-16 onwards. If this activity is not submitted to the OP MDS it will result in the number of independent nurse led attendances they submit each year greatly reducing. The Nursing treatment function code will no longer be valid from April 2016, Cwm Taf are reviewing whether they should submit this activity at all, and if so under which valid treatment function code it should be recorded. Independent nurse led activity at Cwm Taf for all treatment function codes other than Nursing and General Medicine shows similar numbers of attendances to other health boards (Chart 8).

Chart 8: Number of independent nurse led outpatient attendances excluding General Medicine and Nursing Activity by LHB, 2011-12 to 2014-15



Source: OP MDS, NHS Wales Informatics Service

Aneurin Bevan only submit clinics led by consultants or independent nurses. Invalid or blank nurse codes are being submitted, which means that the data would not be identified as independent nurse led. Work is underway to record independent nurse led activity against the appropriate nurse PIN numbers (PIN numbers start with two numeric values and ends with 'N', 'C', 'E' , 'S' or 'W'), which would correct this. Aneurin Bevan also submit consultant codes which are considered invalid against the national reference data but which are included in consultant led activity as the consultant code begins with a C.

Velindre have no independent nurse led activity as they have no independent nurses.

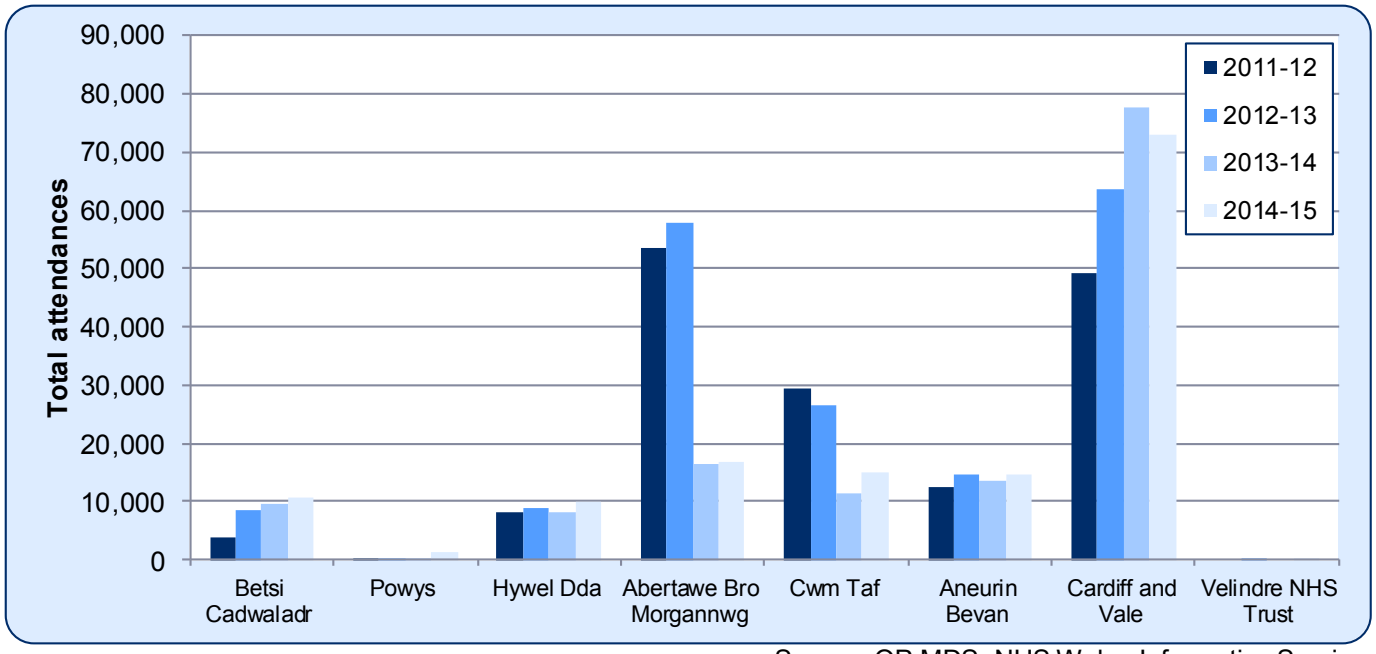
Analysis of midwife led activity shows that it is submitted by all organisations apart from Powys and Velindre and that BCU submit less of it than most other LHBs. BCU submits midwife activity for sites within BCU East only. As the activity is not submitted for sites within the BCU Central or West areas, this may explain the low levels of activity at BCU. BCU are aware that only one of their three areas is submitting this activity. Midwife led activity would not be expected in Velindre's data, but it would be expected in the data for Powys and all three areas of BCU.

NWIS recommend that LHBs work towards submitting only consultant, independent nurse and midwifery led activity within the OP MDS, with appropriate identifiers.

For the reasons outlined above we advise against using data for independent nurse led and consultant led separately, and in the data we have published we have not broken down the data into consultant and independent nurse led. It is likely that these issues of inconsistent reporting were occurring in the QS1 collection. Therefore, we also advise that data for independent nurse led and consultant led is combined when undertaking analysis of outpatient activity.

On average, independent nurse led activity accounts for 4 per cent, consultant led activity accounts for around 91 per cent and 'other' activity accounts for around 5 per cent of the activity submitted for total attendances (Chart 9). The staff type called 'other' captures those values submitted by LHBs that do not match the criteria used to allocate independent nurse and consultant staff types.

Chart 9: Number of other activity found in outpatient total attendances by LHB, 2011-12 to 2014-15



Source: OP MDS, NHS Wales Informatics Service

Coherence

The degree to which data that are derived from different sources or methods, but which refer to the same phenomenon, are similar.

The Outpatient Minimum Data Set does not capture all activity. It only captures activity carried out in a 'traditional' setting. That is, it captures consultant led activity that takes place in face-to-face clinics, and doesn't include activity led by other health professionals or delivered by other means, such as telephone appointments or virtual clinics. Therefore, the outpatient activity data will undercount activity in some respect, particularly for those areas where service delivery is not in a 'traditional' way.

Work undertaken by the Programme Management Unit (PMU) as part of the annual Welsh Costing Returns suggest that the Outpatient Activity Minimum Data Set does not accurately reflect activity undertaken. Calculations from PMU for 2014-15 show that total outpatients reported in the Welsh Costing Return are 7.5 per cent higher (210,779) than reported in the Outpatient Activity Minimum Data Set. For some health boards PMU make large adjustments to the national dataset. For example, Betsi Cadwaladr have over 100,000 outpatients that they don't include in the OP MDS.

Other UK countries also measure outpatient activity. However the coverage is not the same between the countries. The English figures include tele consultations and a wide range of allied health professional activity, which are not covered in Wales or Scotland to the same extent. Further investigation would be needed to establish whether the definitional differences have a significant impact on the comparability of the data.

In England, the statistics are published on an annual basis by the Health and Social Care Information Centre (HSCIC): http://www.hscic.gov.uk/searchcatalogue

In Scotland, the statistics are published on a quarterly and annual basis by Information Services Division (ISD) Scotland:
http://www.isdscotland.org/Health-Topics/Hospital-Care/Outpatient-Activity/

Publication and Revisions

The outpatient data from the OP MDS will be published annually in October (provisional) on StatsWales with an accompany headline showing key points. The publication's exact date will be preannounced one month before on the Upcoming calendar on the Welsh Government website.

We plan to revise the last year of data each time we release new data. We will take advice from NWIS regarding considerable revisions for previous years. For example, if resubmissions from LHBs/NHS trusts are considerable the data will be revised. Revised data will be highlighted in the StatsWales table as such.

Conclusions and recommendations

We recommend that you do not use the OP MDS and the QS1 to make comparisons over time at a hospital or treatment function level. This is due to the disparity between the two data sources at these levels.

We also recommend that you do not use the ratio of follow-up to new attendances or the percentage of appointments where the outpatient DNA between the two datasets at any level, as the method for calculating these fields differs between the datasets.

At a Wales level, we feel it's appropriate to use the QS1 and the OP MDS datasets to make comparisons over time, especially for attendances, as the differences between the two data sources are small at this level.

At a LHB level, we feel that it is not appropriate to use the QS1 and OP MDS datasets together to make comparisons over time, as the differences between the two data sources are large in some of the LHBs at this level.

When using data from StatsWales for 2011-12 or earlier, the independent nurse led and consultant led activity should be combined.

We advise against using the OP MDS and QS1 to compare LHBs, as the organisations include different activity within their submissions. However, it appears that LHBs have been submitting data consistently over time and therefore it would be appropriate to make comparisons within each LHB over time.

Users and uses

We believe the key users of these statistics are:

- Ministers and their advisors;
- Assembly members and Members Research Service in the National Assembly for Wales;
- Officials within the Health and Social Services Group at Welsh Government;
- NHS Wales;
- Students, academics and universities;
- Other areas of the Welsh Government;
- Other government departments;
- Media; and
- Individual citizens.

If you are a user and do not feel the above list adequately covers you please let us know by contacting via stats.healthinfo@wales.gsi.gov.uk

Feedback

We actively encourage feedback from our users. If you have any comments or require further information please contact us on the details below.

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Annex

OP MDS fields and definitions

More information on the definitions of terms used in this article, and on data sources, can be found in the NHS Wales Data Dictionary.

Measures

New Attendances include any attendance that is the start of the outpatient episode and is the first attendance in a series with the same Consultant or Independent Nurse following a referral (Attendance Category = '1'). Patient arrived on time or late and was seen (Attended or DNA = '5' or '6').

Total Attendances includes all outpatient attendances including new, follow-up and pre-operative assessment attendances (Attendance Category = '1' or '2' or '3'). Patient arrived on time or late and was seen (Attended or DNA = '5' or '6').

Ratio of follow-up to new attendances is the number of follow-up attendances (Attendance Category = '2') divided by new attendances (Attendance Category = '1') during the period under review. Calculated as:

$$\frac{\text{Follow up attendances}}{\text{New attendances}}$$

New outpatients who did not attend (DNA) includes any new attendance (Attendance Category = '1') where the outpatient did not attend and no advanced warning was given (Attended or DNA = '3').

Total outpatients who did not attend (DNA) includes any attendance (Attendance Category = '1' or '2' or '3') where the outpatient did not attend and no advanced warning was given (Attended or DNA = '3').

New appointments includes new appointments (Attendance Category = '1') regardless of whether the outpatient attended the appointment (Attended or DNA = all categories).

Total appointments includes all outpatient appointments including new, follow-up and pre-operative assessment appointments (Attendance Category = '1' or '2' or '3') regardless of whether the outpatient attended the appointment (Attended or DNA = all categories).

Percentage of new appointments where the outpatient did not attend is calculated as:

$$\frac{\text{New outpatients who DNA X 100}}{\text{New appointments}}$$

Percentage of total appointments where the outpatient did not attend is calculated as:

$$\frac{\text{Total outpatients who DNA X 100}}{\text{Total appointments}}$$

Follow-up attendances includes all follow-up attendances (Attendance Category = '2') where the patient arrived on time or late and was seen (Attended or DNA = '5' or '6').

For further information, please visit the NHS Data Dictionary Attendance Category webpage, the Attended or Did not Attend webpage and the Outpatient Attendances webpage.

Specialties

Specialties are divisions of clinical work which may be defined by body systems (dermatology), age (paediatrics), clinical technology (nuclear medicine), clinical function (rheumatology), group of diseases (oncology) or combinations of these factors.

Treatment function is the specialty under which the patient will be or is treated. This may either be the same as the consultant's main specialty or a different specialty function which will be the consultant's interest specialty function. Note that both the main specialty function and the interest specialty function should be based on one of the Royal College specialties. Detailed definitions of each treatment function code can be found on the NHS Wales Data Dictionary Treatment Function Code web page.

We have published data from OP MDS based on the treatment function, that is the specialty under which the patient will be or is treated.

Consultant led, independent nurse led and other activity

The data provided to Welsh Government by NWIS is based on the definitions of the different activity types outlined by NWIS. That is, the type of activity in this analysis is solely determined by the contents of the 'consultant code' field submitted by LHBs.

'Consultant led' is defined as any activity where the value submitted in the 'consultant code' field begins with 'C', 'D' or 'DD'. However, there could be consultant codes that match this format but are not found within the national reference data, which contains codes to ensure treatments, organisations and hospital locations are always described in the same way. These consultant codes are not valid but would be included within consultant led activity. Consultants should be registered to a Health Board and a specialty within the national reference data. If activity is submitted for a consultant outside this range, it would be flagged as invalid. However this activity would still be included in the consultant led activity data.

'Independent nurse led' is defined as any activity where the value submitted in the 'consultant code' field is a nurse's PIN i.e. starts with two numeric values (represents the year of registration) and ends with 'N', 'C', 'E' , 'S' or 'W'.

'Other' activity is anything that falls outside of the above definitions.

Notes on the use of statistical articles

Statistical articles generally relate to one-off analyses for which there are no updates planned, at least in the short-term, and serve to make such analyses available to a wider audience than might otherwise be the case. They are mainly used to publish analyses that are exploratory in some way, for example:

- Introducing a new experimental series of data;
- A partial analysis of an issue which provides a useful starting point for further research but that nevertheless is a useful analysis in its own right;
- Drawing attention to research undertaken by other organisations, either commissioned by the Welsh Government or otherwise, where it is useful to highlight the conclusions, or to build further upon the research;
- An analysis where the results may not be of as high quality as those in our routine statistical releases and bulletins, but where meaningful conclusions can still be drawn from the results.

Where quality is an issue, this may arise in one or more of the following ways:

- being unable to accurately specify the timeframe used (as can be the case when using an administrative source);
- the quality of the data source or data used; or
- other specified reasons.

However, the level of quality will be such that it does not significantly impact upon the conclusions. For example, the exact timeframe may not be central to the conclusions that can be drawn, or it is the order of magnitude of the results, rather than the exact results, that are of interest to the audience.

The analysis presented does not constitute a National Statistic, but may be based on National Statistics outputs and will nevertheless have been subject to careful consideration and detailed checking before publication. An assessment of the strengths and weaknesses in the analysis will be included in the article, for example comparisons with other sources, along with guidance on how the analysis might be used, and a description of the methodology applied.

Articles are subject to the release practices as defined by the release practices protocol, and so, for example, are published on a pre-announced date in the same way as other statistical outputs. Missing value symbols used in the article follow the standards used in other statistical outputs, as outlined below.

.. The data item is not available

. The data item is not applicable

- The data item is not exactly zero, but estimated as zero or less than half the final digit shown

* The data item is disclosive or not sufficiently robust for publication