NHS Wales Diagnostic and Therapy Services Waiting Times

This report covers the processes leading up to the publication of the diagnostics and therapies waiting times statistics and also considers issues of quality such as: coverage, strength and limitations of the data, relevance and comparability.

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What are these statistics?

The diagnostic and therapy service statistics show monthly data on the number of people waiting and times waited at the end of each month for specific diagnostic and therapy services as reported by NHS local health boards (LHBs). Waiting lists include all those patients, irrespective of their area of residence, who are waiting for NHS-funded diagnostic and therapy services within Wales.

The following tables show which diagnostic and therapy services are included in the waiting times statistics and when they were included:

### Diagnostic services

<table>
<thead>
<tr>
<th>Diagnostic services</th>
<th>Sub-service</th>
<th>Date included</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiology</td>
<td>Echocardiogram, Stress Test/Exercise Tolerance Test, Cardiac Computed Tomography (Cardiac CT), Cardiac Magnetic Resonance Imaging (Cardiac MRI), Myocardial Perfusion Scanning, Diagnostic Angiography, Diagnostic Electrophysiology (EP Study), Trans Oesophageal Echocardiogram (TOE), Blood Pressure Monitoring, Heart Rhythm Recording, Dobutamine Stress Echocardiogram (DSE)</td>
<td>December 2005</td>
</tr>
<tr>
<td></td>
<td>Cardiac Computed Tomography (Cardiac CT), Cardiac Magnetic Resonance Imaging (Cardiac MRI), Myocardial Perfusion Scanning, Diagnostic Angiography, Diagnostic Electrophysiology (EP Study), Trans Oesophageal Echocardiogram (TOE), Blood Pressure Monitoring, Heart Rhythm Recording, Dobutamine Stress Echocardiogram (DSE)</td>
<td>April 2018</td>
</tr>
<tr>
<td>Diagnostic Endoscopy</td>
<td>Bronchoscopy, Colonoscopy, Cystoscopy, Flexible Sigmoidoscopy, Gastroscopy</td>
<td>September 2007</td>
</tr>
<tr>
<td>Imaging</td>
<td>Fluoroscopy</td>
<td>April 2007</td>
</tr>
<tr>
<td>Neurophysiology</td>
<td>Electromyography, Nerve conduction studies</td>
<td>April 2007</td>
</tr>
<tr>
<td>Physiological measurement</td>
<td>Urodynamic tests, Vascular technology</td>
<td>April 2007</td>
</tr>
<tr>
<td>Radiology</td>
<td>Barium Enema, Computed Tomography (C.T.), Magnetic Resonance Imaging (M.R.I), Non-Obstetric Ultrasound, Nuclear Medicine, Non Cardiac Computed Tomography, Non Cardiac Magnetic Resonance Imaging, Non Cardiac Nuclear Medicine</td>
<td>December 2005</td>
</tr>
<tr>
<td></td>
<td>Non Cardiac Computed Tomography, Non Cardiac Magnetic Resonance Imaging, Non Cardiac Nuclear Medicine</td>
<td>April 2018</td>
</tr>
</tbody>
</table>

### Therapy services

<table>
<thead>
<tr>
<th>Therapy services</th>
<th>Sub-service</th>
<th>Date included</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts Therapies</td>
<td>Learning Disabilities, Mental Health</td>
<td>December 2005</td>
</tr>
<tr>
<td>Audiology (Adult Hearing Aids)</td>
<td>Consultant, GP</td>
<td>December 2005</td>
</tr>
<tr>
<td>Dietetics</td>
<td>Adults, Paediatrics</td>
<td>December 2005</td>
</tr>
<tr>
<td>Occupational Therapy</td>
<td>Learning Disabilities, Adults, Paediatrics, Mental Health</td>
<td>December 2005</td>
</tr>
<tr>
<td>Physiotherapy</td>
<td>Adults, Paediatrics</td>
<td>December 2005</td>
</tr>
<tr>
<td>Podiatry</td>
<td>Routine, Urgent</td>
<td>December 2005</td>
</tr>
<tr>
<td>Speech &amp; Language Therapy</td>
<td>Learning Disabilities, Adults, Paediatrics, Mental Health</td>
<td>December 2005</td>
</tr>
</tbody>
</table>
The waiting time is calculated from the date the referral request was received until the date on which:

a) the diagnostic test for which the patient has been referred is carried out; or

b) the hearing aid is fitted; or

c) the patient commences the first treatment following an assessment or examination.

Additional Cardiology diagnostic tests were included in these statistics from April 2018 following two pilot collections. More information on this can be found in [DSCN 2018/02](#).

These statistics are published together with a statistical release on NHS Wales [referral to treatment](#) times. The [Frequently Asked Questions](#) document contains information including, how waiting times are calculated, how the diagnostics and therapies relate to referral to treatment pathways, and which diagnostics and therapies measures are included in referral to treatment.

**Policy and operational context**

The [NHS Wales Delivery Framework 2018-19](#) is used to measure delivery throughout 2018-19.

Waiting times for access to diagnostic and therapy services have the following targets (operational standards for maximum waiting times):

- The maximum wait for access to specified diagnostic tests is 8 weeks.
- The maximum wait for access to specified therapy services is 14 weeks.

**Well-being of Future Generations Act (WFG)**

The Well-being of Future Generations Act 2015 is about improving the social, economic, environmental and cultural well-being of Wales. The Act puts in place seven well-being goals for Wales. These are for a more equal, prosperous, resilient, healthier and globally responsible Wales, with cohesive communities and a vibrant culture and thriving Welsh language. Under section (10)(1) of the Act, the Welsh Ministers must (a) publish indicators (“national indicators”) that must be applied for the purpose of measuring progress towards the achievement of the Well-being goals, and (b) lay a copy of the national indicators before the National Assembly. The 46 national indicators were laid in March 2016.

Information on the indicators, along with narratives for each of the well-being goals and associated technical information is available in the [Well-being of Wales report](#).

Further information on the [Well-being of Future Generations (Wales) Act 2015](#).

The statistics included in this release could also provide supporting narrative to the national indicators and be used by public services boards in relation to their local well-being assessments and local well-being plans.
Users and uses
An understanding of trends in waiting times is crucial for those involved in planning and decision making at the national and local level.

We believe the key users of statistics are:

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

The statistics are used in a variety of ways. Some examples of these include:

- Advice to Ministers
- To assess, manage and monitor NHS Wales performance against targets/standards
- To inform service improvement projects for areas of focus and opportunities for quality improvement
- As a source of information to inform GP referral decisions and to advise patients when referring them for diagnostic or therapy services
- To contribute to news articles on waiting times in Wales
- By NHS Local Health Boards, to benchmark themselves against other Local Health Boards
- To help determine the service the public may receive from NHS Wales.

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

Using administrative data for statistical purposes
The diagnostic and therapies data collection uses administrative data held by hospital systems within local health boards. As detailed in the following paragraphs, the health boards submit aggregate data to the NHS Wales Informatics Service (NWIS), who then provides the data to Welsh Government for publication. The aggregate data is subject to validation checks as detailed in the sections that follow.
We have used the guidance provided by the UK Statistics Authority’s Administrative Data Quality Assurance Toolkit to carry out an initial assessment of the risk profile of the aggregate data used to produce the Diagnostic and Therapies Waiting Times release.

We consider the data to be medium risk in terms of data quality, and high profile in terms of public interest. The reasons for this are that there are well defined standards and definitions in place for the data collected, but the data are collected from multiple hospital sites across local health boards and there may be some variation in how the data are collected and processed at different sites.

According to the UK Statistics Authority toolkit, this suggests we should be seeking enhanced or comprehensive assurance (A2/A3) in areas such as the collection process, communication with data suppliers, quality assurance methods and documentation.

Strengths and limitations of the data

Strengths

- There are clear, well defined standards, definitions and accompanying guidance in place in the NHS Wales Data Dictionary, helping to ensure consistency in data submitted by all LHBs across Wales.
- The information is processed and published monthly and in an ordered manner to enable users to see the statistics when they are current and of greatest interest.
- Outputs have a clear focus on Wales and have been developed to meet the internal and external user need in Wales.
- Efficient use has been made of administrative data sources to produce outputs. The administrative data source used is the patient administration system which collects demographic data, medical records and diagnostic information for patients at Welsh hospitals.
- Detailed statistics are published via our StatsWales website by LHB, waiting time and type of service.
- The data includes all patients (irrespective of their area of residence) who are waiting for these services within Wales.
- Data has been published since 2006, so users can see a long term trend on waiting times for diagnostic and therapy services. However, as noted in the previous table, the range of services increased in 2007, which will need to be taken into consideration if making comparisons over time.

Limitations

- The data collection uses administrative data held by hospital systems. This means that the data have been collected for administrative purposes and not statistical purposes. Therefore, despite the safeguards in place there may be some data quality issues. Please see the section on Accuracy for more information.
Data provided to NWIS is aggregated, which limits the validation that can be carried out by NWIS.

The StatsWales information has little explanation to enable other users to interpret the data appropriately. However, it is intended for a more informed audience.

Because of the devolved administrations and differing policy, there is little scope for UK comparisons for diagnostic services and no scope for therapy services, as this is not reported on nationally in other UK countries (see ‘Coherence’ later in the document).

**General**

Care should be taken when making monthly comparisons of the diagnostic and therapy waiting times figures. Measures of waiting time performance are subject to seasonality. For example, adverse weather conditions may result in an impact on the health service's ability to preserve elective capacity. These factors can affect waiting times and should be considered when making comparisons across time.

**Data processing cycle**

**Data collection**

Aggregate data is reported monthly by the LHBs via the NHS Wales Informatics Service (NWIS) switching service. The data draws on management information held by LHBs relating to the management of patients who have been referred for a specific diagnostic or therapy service. Guidance is provided to the NHS in Wales about how such patients should be managed and how to measure and report the relevant data. Annex 1 shows a simplified version of the data flows.

The data collection has been in place since April 2004. Since then a significant amount of work has been undertaken to improve the quality and timeliness of the data received and as a result the data was fit for publication from February 2006 (publishing December 2005 data).

Following a pilot, the Welsh Health circular WHC(2003)52 mandated the initial data collection and provides information about the initial scope of the data collection, definitions and details of the collection from LHBs. Further, more up to date, guidance can be found in WHC(2007)002 and also on the Diagnostics and Therapies pages of the NHS Wales Data Dictionary. Information about the rules and definitions for calculating referral to treatment waiting times can be found in WHC(2007)014.

Information about the general quality processes in place in LHBs can be found in their data quality policies.

**Validation and verification**

NWIS validate the data as it is loaded into their switching service database. This includes checks, such as whether valid codes are submitted for all the fields, month on month changes at LHB level and comparisons at a service level, and allows LHBs to do an initial check and correct their data. More detailed information about the validation that NWIS carry out can be found in Annex 2.
Once the Health Statistics and Analysis Unit, in Welsh Government, receive the data, it goes through further checks (such as whether data for every expected service and sub-service is present and checks to ensure data is within predefined tolerances) and any queries are sent to NWIS and/or LHBs. This allows the LHBs to check and correct or comment on their data, to provide contextual information where unexpected changes have occurred.

The Welsh Government does not input any data to the submissions and any changes are made by the LHB and the data resubmitted via NWIS.

Further information on the quality assurance work that NWIS undertake on data used to produce National Statistics can be found in NWIS Data Quality Assurance.

Publication

The statistics published by the Health Statistics and Analysis Unit are produced by summarising the information provided by the LHBs. This is a semi-automated process but key points and commentary are produced separately. Prior to publication the information is checked against the data supplied. The information presented on StatsWales is produced automatically.

The data for the latest month is published as provisional and may be revised in future updates, this is to enable LHBs to submit revised data if they carry out further validation following submission.

Data is published monthly in the NHS Performance and Activity Summary as well as on StatsWales, A statistical bulletin containing more detailed analysis and commentary is published annually.

Changes to the statistical release

From April 2017 Welsh Government began publishing monthly NHS activity and performance statistics on one day, with annual rather than quarterly analytical releases. Please see the Chief Statistician’s update for more information. We welcome feedback on the new look release as well as any further analysis that would be of interest.

Revisions

Any revisions to the data will be noted in the information accompanying the StatsWales tables each month, and any large revisions will be noted on the summary headline page.

Estimates

Occasionally local health boards do not submit complete information in time for the release. When this occurs an estimate is included within the data presented. Figures which include a known estimate are marked with an “(e)”.

- Diagnostic Endoscopy, Dietetics, Occupational Therapy, Physiological Measurement, Physiotherapy and Speech Language data for Withybush General Hospital (Hywel Dda Health Board) have been estimated for September 2010 – May 2011 using data from August 2010 as they were unable to submit data due to their data collection system migrating from PAS to Myrddin
Physiotherapy data for October 2012 for Cardiff and Vale University Health Board are estimated using their data for September 2012, as they were unable to provide full data on physiotherapy for October 2012.

Physiotherapy data for February 2013 for Cardiff and Vale University LHB are estimated using their data for January 2013. Staff sickness at the LHB resulted in patients not being entered into the system in time for the submission.

Radiology & imaging data for June 2013 for Cardiff and Vale University LHB are estimated using their data for May 2013. This is due to Cardiff and Vale University experiencing technical difficulties with the base data.

Neurophysiology data for April 2014 for Betsi Cadwaladr University LHB are estimated using their data for March 2014, this is due to the implementation of the service to a new hospital site which resulted in the April 2014 data being unreliable and hence not submitted by the LHB.

National Statistics status
The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Statistics.

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 Statistics. They are awarded National Statistics status following an assessment by the UK Statistics 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 Welsh Government’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.

Disclosure and confidentiality
While there are some small numbers in the data collected and presented, the information is not considered to be sensitive in nature and there is no identifying information presented.

We adhere to our statement on confidentiality and data access and the Data governance principle of the Trustworthiness pillar in the Code of Practice for Statistics.
Quality
Health Statistics and Analysis Unit adhere to a quality strategy and the Quality pillar of the Code of Practice for statistics.

Specifically, the list below details the six dimensions of the European Statistical system and how we adhere to them.

Relevance
The degree to which the statistical product meets user needs for both coverage and content
The statistics cover specific aspects of diagnostic and therapy waiting times and are used as the measure of performance against the NHS Wales standards – see front page of the release for information on the standards. Other interests and uses of this data are outlined earlier in the quality report.
We encourage users of the statistics to contact us to let us know how they use the data. It would not be possible to provide tables to meet all user needs, but the tables published in the release and StatsWales aim to answer the common questions.
We consult with key users prior to making changes and, where possible, publicise changes on the internet, at committees and other networks to consult with users more widely. We aim to respond quickly to policy changes to ensure our statistics remain relevant.
We regularly review all our outputs and welcome feedback.

Accuracy
The closeness between an estimated result and an (unknown) true value
Accuracy can be broken down into sampling and non-sampling error. Non-sampling error includes areas such as coverage error, non-response error, measurement error, processing error.
This is an established collection based on 100% data i.e. not a sample.
For most months, all local health boards are able to supply data and no estimation of the figures is needed. Where estimates are used, because an LHB is unable to supply data for a particular month, this is clearly outlined in the release.
We haven’t investigated non-sampling errors. However, processing errors could occur where clerks in hospitals incorrectly input data into their administrative systems, or measurement errors could occur from staff in hospitals having different interpretations of definitions. To reduce non-sampling errors, standards and guidance are provided about the data collections, to try to ensure that LHBs submit information according to an agreed specification. Standards relating to this data collection have been reviewed and passed by the Information Standards Board. Where non-sampling error affects the data, we provide full information for users to allow them to make informed judgements on the quality of the statistics, particularly if there are limitations. More information on the definitions, collection and interpretation of nationally agreed data standards adopted by the NHS in Wales can be found in the NHS Wales Data Dictionary.
The outputs include key quality information on coverage, timing and geography.
There are quality assurance procedures in place to understand and explain movements in the data and to check that the computer system is calculating the published statistics correctly.

Notes at the end of the release inform the users whether the outputs have been revised or not (denoted r). We will also give an indication of the size of the revision between the latest and previous release. Revisions to data occur for a number of reasons such as: late returned data, incorrect estimates or revised back data.

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 Due Out Soon web pages. Furthermore, should the need arise to postpone an output this would follow the Welsh Government’s Revisions, Errors and Postponements arrangements.

We publish releases as soon as practicable after the relevant time period. Data for the end of month position is published around six weeks after the reference date. This allows for the significant validation by LHBs, NWIS and the Health Statistics and Analysis Unit.

**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 statistics are 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 quarterly releases are also published on the National Statistics Publication Hub. All releases 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 all outputs adhere to the Welsh Government 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 the release or via stats.healthinfo@gov.wales

**Comparability**

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

Where there are changes to the data provided, this is shown clearly in the outputs. Where advance warning is known of future changes, these will be pre-announced in accordance with Welsh Government arrangements.
There is similar information available from other parts of the UK for diagnostic services but the data is not comparable due to local definitions and standards in each area – see Coherence below. There are no therapy waits reported in other UK countries.

Agreed standards and definitions within Wales provide assurance that the data is consistent across local health boards.

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

Every month the data are all collected from the same sources and adhere to the national standard - they will also be coherent within and across organisations. Where there are changes in definitions or scope we clearly note this in the release and add appropriate caveats to the data.

Data collected by other UK countries
Other UK countries also measure waiting times for diagnostic services. However, the outputs differ in different countries because they are designed to help monitor policies that have been developed separately by each government. Further investigation would be needed to establish whether the definitional differences have a significant impact on the comparability of the data.

There is no data collected or reported on nationally for waiting times for therapy services in other UK countries.

Statisticians in all four home nations have collaborated as part of the ‘UK Comparative Waiting Times Group’. The aim of the group is to look across published health statistics, in particular waiting times, and compile a comparison of (i) what is measured in each country, (ii) how the statistics are similar and (iii) where they have key differences. The comparison of Diagnostic data across the countries is available here: Health Waiting Time Statistics.

England
In England, statistics on waiting times for diagnostic tests are published on a monthly basis by the Department of Health.

The purpose of the data collection is to measure diagnostic waits and activity to monitor progress towards delivery of the standard referral to treatment wait of 18 weeks.

The data collection covers tests/procedures where the primary purpose of the admission or appointment is diagnostic, irrespective of referral route or setting. The list of diagnostic services reported on in England is slightly different to those in Wales.

Scotland
In Scotland, statistics on waiting times for diagnostic tests are published on a quarterly basis by Information Services Division (ISD) Scotland.

Diagnostic Waiting Times are an important component in the delivery of the 18 week referral to treatment standard (RTT) in Scotland. The Scottish Government also introduced a 9 week
maximum waiting time for these 8 key diagnostic tests and investigations from 31 December 2007. This wait was reduced to 6 weeks from 31 March 2009.

The list of diagnostic services reported on in Scotland is much smaller than those in Wales.

**Northern Ireland**

In Northern Ireland, statistics on waiting times for diagnostic tests are published on a quarterly basis by the Department of Health, Social Services and Public Safety (DHSSPS).

The data reports on performance against the Ministerial diagnostic reporting time target. From April 2015, this was that no patient should wait longer than nine weeks for a diagnostic test and all urgent diagnostic tests should be reported on within 2 days of the test being undertaken.

The list of diagnostic services reported on in Northern Ireland is slightly different to those in Wales.

**Useful links**

- [NHS Wales Data Dictionary](#)
- [NHS Wales Data Dictionary: pages on Diagnostics and Therapies Waiting Times](#)
- [Diagnostics and Therapies Statistical Bulletin](#)
- [Referral To Treatment Statistical Bulletin](#)
- [Waiting Times for NHS Services Frequently Asked Questions](#)
- [StatsWales](#)
- [Information Quality Improvement](#)
- [NHS Information Standards](#)
- [Local Health Board Data Quality Policies](#)
- [UK Statistics Authority: Quality Assurance of Administrative Data](#)

**Evaluation**

We always welcome feedback on any of our statistics. Please contact us on stats.healthinfo@wales.gsi.gov.uk

Produced by Knowledge & Analytical Services, Welsh Government

Last reviewed: June 2018

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Annex 1: Diagram of data flows

Stage 1: Data entry into hospital systems
Stage 2: Sign off data as an accurate record
Extract data from systems & send to NWIS
Stage 3: Validation by NWIS at national level, LHB level and service level
Load into national datasets
Stage 4: Further validation, Process data
Publish data
Annex 2: Data Validation following submission to NWIS

Briefing Document

Diagnostic and Therapy Waiting Times Data Validation

Following submission to NHS Wales Informatics Service

Purpose
This document briefly describes the process for validating data collected via the Diagnostic and Therapy Waiting Times data set (DATW) following submission to the NHS Wales Informatics Service.

Background
Diagnostic and therapies waiting times data is collected by health boards and submitted centrally to the NHS Wales Informatics Service on a monthly basis. The submission contains a data set which represents a snapshot of waiting list records as at the last day of the month. This is submitted to the Informatics Service on the 11th working day of the following month via the NHS Wales Data Switching Service (NWDSS).

Primary Validation Process
Health boards are expected to transfer their file to NWDSS using the Secure File Upload feature on the associated website\(^1\) on or before the submission deadline date. When the file has loaded, the health board can check to see if there are any errors in the data by viewing the NWDSS error report. This report uses data quality checks to measure the quality of the submitted data. A full list of these checks is shown in Appendix A.

If any records are flagged as errors, the entire data file is rejected by the system and not processed through to the national database. Health boards must make amendments to their file and resubmit. They can do this repeatedly until they have eliminated these errors completely. Although the Informatics Service can advise the health board on this, responsibility for the quality of the submission ultimately lies with the health board.

Secondary Validation Process

When the submission is loaded without any errors, it will be shown as “completed” on the NWDSS report. This initiates the automated process of loading the data through NWDSS.

With the data loaded into SQL tables on the NWDSS server, further analysis is undertaken to assess the quality of the data. A Data Completeness Report shows high level figures at health board level. Any substantial increase or decrease in overall record numbers compared to the previous reporting month can be identified here and fed back to the health board. This process is undertaken immediately following the load to give the health board the opportunity to resubmit their file.

\(^1\) [https://nwdss.wales.nhs.uk/NwdssMerge/default.aspx](https://nwdss.wales.nhs.uk/NwdssMerge/default.aspx) (accessible to NHS Wales users only)
After passing this stage, the data is processed through to the national database. At this point, a detailed Validation Report is generated and this is issued to Welsh Government. This contains a list of notable increases or decreases in numbers compared to the previous month, at site and service level. Each applicable health board is asked to comment on these changes. The health board has a review period of up to 1 week following the submission deadline to assess the Validation Report and provide feedback. If the report identifies areas where the quality of the data could be improved, they are also permitted to resubmit their data during this period.

After the 1 week validation period has elapsed, any resubmissions are processed through to the national database. Here, the data is held in an SQL data warehouse on the analysis server. The Validation Report containing the health board feedback is then reissued to Welsh Government.

**Reporting and Publishing**

Following completion of the validation process, an extract is generated from the database to be reported to the Welsh Government’s Health Statistics and Analysis Unit. This acts as a final quality assurance check, with any outstanding data quality issues being fed back to the health board. The extract is then issued to the Health Statistics and Analysis Unit for publishing in national statistics.

**Appendix A: List of data load checks for DATW on NWDSS**

- Invalid Trust Code
- Invalid Site Name
- Invalid Service Header
- Invalid Sub Heading Check
- Invalid Weeks Wait Band
- Duplicate Found
- Invalid Waiting Time Count
- Multiple Return Dates Detected
- Multiple Trust Codes Detected
- Trust Code not matching account code
- Invalid Sub Heading Code within Service Heading Code
- Return Date in Future
- Invalid Return Date
- Invalid Data Ref
- Invalid Data Ref for service heading
- Date not current or previous