

## 1. Introduction

The Department for the Economy (DfE) adheres to the [UK Statistics Authority code of practice](#) for statistics and the National Statistician's guidance on quality.

This document provides a summary of how the following Higher Education (HE) national statistics publication adheres to the code in terms quality:

### [Qualifications gained at UK Higher Education Institutions – Northern Ireland analysis](#)

The evidence of the quality of this publication is reported in Section 3 and is based on the nine European Statistical System quality dimensions and principles. A summary of methods used to compile this statistical publication is also provided in section 4.

## 2. Data Source

Information on Northern Ireland (NI) students studying at UK Higher Education Institutions (HEIs) and all students studying at NI HEIs are collected by the Higher Education Statistics Agency (HESA). HESA collects information for all publicly funded Universities throughout the UK. Contracts in place between HESA and Statutory users (including DfE) require that the data be of sufficient quality for Statutory users' funding and policy purposes and sanctions may be applied against HESA and HEIs should these quality standards not be met.

Information on qualifications gained is collected through the HESA student record. This is an annual return that each HEI makes to HESA regarding the details of their students.

### 3. Data Quality Report

Dimension	Assessment by the author
<b>Relevance</b>	<p><b><i>The degree to which the statistical product meets user needs in both coverage and content.</i></b></p>
	<p>The Qualification statistical bulletin is designed to give an overview of the number of qualifications gained by NI students at HEIs in NI and GB and the number of qualifications gained by all students at NI HEIs. The information is broken down by a number of variables including – gender, mode &amp; level of qualification, subject, class of degree, location of institution and domicile. Time series are provided for the last 5 years and comparisons are made with other UK countries.</p> <p>The statistical bulletins are used by a variety of customers both internal and external. For example, they are used by DfE policy development officials to monitor existing policies, to allocate funding and for future planning; by other government departments and agencies such as NISRA to produce their multiple deprivation measures; by prospective students to inform their choices around higher education; and by local businesses to quantify the supply of graduates in their business area. Customers’ views on the bulletins are sought on a regular basis and feedback from previous years has been very positive. Results from previous customer surveys can be viewed at:  <a href="https://www.economy-ni.gov.uk/articles/uk-higher-education-enrolments-consultation-summary">https://www.economy-ni.gov.uk/articles/uk-higher-education-enrolments-consultation-summary</a></p> <p>The Qualifications bulletin is divided into two sections. Section 1 focuses on NI domiciled students gaining qualifications at HEIs in NI, England, Scotland or Wales. Section 2 concentrates on all students gaining qualifications at NI HEIs. This division into two sections reflects the two distinct policy and operational responsibilities of the Minister and the Department. Furthermore, it is clear from customer feedback, the nature of questions on HE asked in the Northern Ireland Assembly, and coverage of HE issues in the local media, for example, that these two aspects are of interest to readers. The structure of this bulletin also matches the Enrolments bulletin which means there is continuity in the statistical bulletins produced by DfE.</p> <p>The bulletin presents a NI specific analysis with relevant UK comparisons and time series comparisons which cover the majority of the issues that receive data requests by users.</p> <p>Further information on how customers’ needs are assessed can be found in the section below titled ‘Assessment of User Needs and Perceptions’.</p>
<b>Accuracy and Reliability</b>	<p><b><i>The proximity between an estimate and the unknown true value.</i></b></p>
	<p><u>Data Collection</u></p> <p>Information presented in the enrolments and qualifications statistical bulletins are based on data returned to HESA by the HEIs through the student record. This return covers all students who attend each institution, therefore issues of sampling error and estimates are not relevant to this data. For this data collection, the accuracy of the information returned and the scale of missing</p>

	<p>data are more important. These issues are kept to a minimum by having in place stringent data quality checks and validations procedures.</p> <p>The HE institution at which each student is registered is responsible for submitting the data to HESA about that student. The institutions data must go through over 700 validation checks in order for a return to be accepted. These checks ensure that the data are accurate in terms of format and logic. There are specific validations checks for NI HEIs which cover variables collected from NI HEIs only, for example, religion, dependents and marital status. Year-on-year changes are examined closely to see if they fall outside of an expected range and counts of students are also compared annually with returns made to funding bodies in respect of state funding allocation. Any issues arising from any of the above stages of quality assurance are returned to the institution to verify.</p> <p>In terms of missing data items, the majority of data items are collected for all students. However, some variables are collected for a particular set of students – i.e. religion, marital status and dependents are collected only for NI students at NI HEIs. Some data items may include categories for 'unknown' or 'information refused' and not all data items are mandatory for a student to provide. In such cases, definitions and notes are provided within the statistical bulletin. The level of unknown entries within data items are routinely monitored during the data collection process. Any HEI recording abnormally high levels of unknown values in key data items are strongly encouraged to reduce this level over time.</p> <p>In previous years DfE has hosted data quality seminars for the four NI HEIs. These seminars provide Institutions with the platform to interact with HESA in order to update and improve their data quality methods.</p> <p><u>Production of statistics</u></p> <p>On receipt of data from HESA, DfE statisticians produce NI specific datasets that are cross-verified, across a range of variables, with previously published HESA data. Prior to publication, DfE's bulletins will undergo rigorous checking procedures including peer review of syntax used to analyse data from the HESA databases, parallel production of data tables using pivot tables and statistical software packages, and extensive proof reading of commentary, tables, notes to readers and definitions. Finally, publications also require senior staff sign-off before release.</p>
<p><b>Timeliness and Punctuality</b></p>	<p><b><i>Timeliness refers to the time gap between publication and the reference period. Punctuality refers to the gap between planned and actual publication dates.</i></b></p> <p>HESA collect qualifications data from the institutions retrospectively in the autumn following the academic year to which the data relates. For the 2017/18 academic year the data collection process opened in August 2018 with a return date of mid September. The data quality and validation phase continued through September and October with final sign off at the end of October. HESA then processed the data and supplied the final data to DfE statisticians in December 2018.</p>

	<p>In December and January, DfE statisticians created and verified two NI specific datasets (one for NI students at UK HEIs and one for all students at NI HEIs) and developed and quality assured the Qualifications statistical bulletin.</p> <p>Following agreed practice with HESA, DfE does not publish its Higher Education statistical bulletins until data are first published by HESA. For the 2017/18 academic year HESA first published information on qualifications on 17 January 2019. DfE published its Qualifications statistical bulletin on 28 February 2019.</p> <p>DfE's Higher Education publication dates are pre-announced through its <u>publication schedule</u> on the DfE website and through the National Statistics Gov.uk <u>release calendar</u> system. In previous years, DfE has always met its pre-announced dates for Higher Education statistical bulletins. In the event that a pre-announced publication date cannot be met, then this will be announced on the DfE website along with the reasons for the delay.</p>
<p><b>Accessibility and Clarity</b></p>	<p><b><i>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.</i></b></p>
	<p>DfE's Higher Education statistical bulletins are made available on the Department's website (<a href="https://www.economy-ni.gov.uk/topics/statistics-and-economic-research/higher-education-statistics">https://www.economy-ni.gov.uk/topics/statistics-and-economic-research/higher-education-statistics</a>) and through a link on the National Statistics Gov.uk publication system <a href="https://www.gov.uk/government/statistics">https://www.gov.uk/government/statistics</a>. A general press release is also issued along with an announcement on the Northern Ireland Statistics and Research Agency's <u>Facebook page</u> and DfE's analytical service <u>Twitter feed</u>. Recently this has been supplemented with an infographic on both social media and the Departmental website which summarises the data in an image/poster.</p> <p>Customers who have registered their details with the department will have links to the bulletins emailed to them shortly after release. Paper copies of the publications are also made available to users on request free of charge.</p> <p>Data tables are published on the DfE website in excel and CSV format to allow users to carry out further analysis. Users can also request further breakdowns and analysis of the data which along with the statistical bulletins are provided free of charge.</p> <p>Each statistical bulletin includes a section with definitions and notes to readers addressing issues of methodology, coverage and data quality.</p> <p>Feedback from customers about the format and release practices regarding the bulletins has been very positive. Results from previous customer surveys can be viewed at: <a href="https://www.economy-ni.gov.uk/articles/uk-higher-education-enrolments-consultation-summary">https://www.economy-ni.gov.uk/articles/uk-higher-education-enrolments-consultation-summary</a>.</p>

## Coherence and Comparability

***Coherence is the degree to which data that are 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.***

### Coherence

The information collected by HESA regarding NI students at UK HEIs and students at NI HEIs is the only comprehensive source of information on HE in the UK. However, the Universities and Colleges Admissions Service (UCAS) also compile information on students collected through their HE applications process. The UCAS figures differ from HESA figures in a number of ways:

- UCAS measure applications and accepted application to HE, whereas HESA measure actual enrolments.
- The UCAS process focuses on full-time undergraduate courses whereas HESA cover both full-time and part-time enrolments on undergraduate and postgraduate courses.
- Not all HEIs use the UCAS process, for example, St Mary's University College don't, but they do report their enrolments to HESA.
- Conversely, not all HEIs use the HESA data collection system. The College of Food and Rural Enterprise use the UCAS system but do not report to HESA.
- Prospective full-time undergraduate students can also apply directly to an institution without using the UCAS process and as a result would not be included in UCAS statistics, but would be included by HESA.

In addition to the difference in coverage, there are also differences in definitions used to present student numbers. These differences must be taken into account when comparing UCAS and HESA data.

HESA data for NI only covers students who study HE through a Higher Education Institution (HEI), however students can also study HE courses through Further Education (FE) colleges. Therefore caution must be exercised when comparing HE statistics from different publications. To allow our customers to look at the totality of HE provision a [factsheet](#) is published on the DfE website with the number of NI students enrolled on HE courses in the UK in both HEIs and FE colleges.

### Comparability

HESA is the official agency for the collection of information on publicly funded Higher Education (HE) institutions in the UK. It was set up in 1993 following the White Paper 'Higher Education: a new framework', which called for more coherence in HE statistics. This joint approach throughout the UK had ensured direct comparisons between countries and individual institutions can be made. The specification and definitions of data are subject to a major review every few years. From time to time it is necessary to change definitions which can impact the comparability of time series data. When this does happen any discontinuities in the data are made clear and/or data are backdated to take account of the new definitions. For example from the 2007/08 academic year the definition of HESA's Standard Registration Population changed to exclude those students who were writing up or on sabbatical. In order to maintain time series accuracy, all historical data published or released by DfE in and after the 2007/08 enrolments bulletin uses the new Standard Registration Population definition.

	In each of DfE's Higher Education statistical bulletins comparisons are made over time and between NI and other UK countries.
<b>Trade-offs between Output Quality Components</b>	<b><i>Trade-offs are the extent to which different aspects of quality are balanced against each other.</i></b>
	The HEIs must submit their data to HESA retrospectively at the end of each academic year. The HEIs are given about six weeks to get their data passed through HESA's stringent validation procedures. In order for all the data to be collected on time the data collection process allows some tolerance in respect to missing values for certain variables. This trade off between timeliness and accuracy allows customers to have information as soon as possible after the period to which it refers.
<b>Assessment of User Needs and Perceptions</b>	<b><i>The processes for finding out about users and uses, and their views on the statistical products.</i></b>
	DfE statisticians ensure that its Higher Education statistical products are relevant to its customers in a number of ways. An annual survey of customers is carried out to ensure that the bulletins are published in a relevant, accurate and timely manner. Views are sought on any improvements or changes that customers would like to see implemented within the bulletins. If any suggested changes received are deemed appropriate, then they can be incorporated in the next publication. Results from previous customer surveys can be viewed at: <a href="https://www.economy-ni.gov.uk/articles/uk-higher-education-enrolments-consultation-summary">https://www.economy-ni.gov.uk/articles/uk-higher-education-enrolments-consultation-summary</a> .
	DfE statisticians hold regular meetings with DfE policy development officials to ensure that statistical products on Higher Education allow them to effectively develop new and monitor existing policies. At these meetings, DfE statisticians present information from the statistical bulletins and seek feedback from those in attendance.
	There is also a section included in bulletins which asks if any reader has any feedback on the bulletin that they wish to contribute. There is also contact information for members of the Department who the reader can contact if they have a need for further information or clarification.  All HESA collections undergo a major review cycle every few years to ensure that the data collected is relevant for the current and future needs of customers. DfE statisticians feed into these reviews ensuring that the requirements of NI government are addressed. For example, information on religion, marital status and dependents is collected from NI HEIs only. This allows our customers to meet their equality monitoring needs.
<b>Performance, Cost and Respondent Burden</b>	<b><i>The effectiveness, efficiency and economy of the statistical output.</i></b>
	The estimated costs, based solely on staff time involved in analysing databases, producing tables, writing narrative, updating notes to readers, formatting bulletins and quality assuring of the bulletin is listed below:  Qualifications gained at UK Higher Education Institutions: Northern Ireland Analysis - £2,500

	<p>Please note that that there are other significant costs involved in producing and maintaining the datasets from which the bulletins are derived however, these costs would be incurred regardless of whether or not the bulletins are produced.</p> <p>Information used to produce these statistical bulletins is collected as part of the application, admission and administrative process within the HEIs. Therefore respondent burden on the students is minimal.</p>
<p><b>Confidentiality, Transparency and Security</b></p>	<p><b><i>The procedures and policy used to ensure sound confidentiality, security and transparent practices.</i></b></p>
	<p>The following procedures are in place to ensure that data are kept secure and that information released does not identify individuals:</p> <p>Data are supplied by HE institutions (HEIs) to HESA via a secure web-based transfer system created and maintained by HESA. HESA supply data to DfE statisticians (and other statutory users) via a secure web based download system. The data are held in DfE on a secure network that can only be accessed by HE statisticians.</p> <p>To prevent the identification of individuals, figures in publications are rounded to the nearest 5, with 0, 1 &amp; 2 rounded to 0.</p>

#### 4. Summary of methods used to compile the output

##### Data Collection

Data are supplied by HE institutions (HEIs) to HESA via a secure web-based transfer system created and maintained by HESA. The data supplied are subject to an extensive quality assurance process by both HESA and DfE.

The first stage of the quality assurance process in HESA includes a suite of validation checks, which ensure that the data collected meet specification, dates fall within expected ranges and the information provided within fields of data are consistent. Failures at this stage may cause a data return to be rejected, requiring a re-submission from the HEI once corrected. The second stage of quality assurance comprises a verification process whereby frequency counts and cross tabulations are produced automatically from the data submission of each HEI and these are fed back to the HEI. A team of quality assurance analysts at HESA also scrutinise this material. Year-on-year comparisons provide a summary of changes and the level of change in any particular area is examined closely if it falls outside of an expected range. Any issues arising from this stage of quality assurance are logged within an online system to which the submitting HEIs have access. HEIs must respond to each issue to either confirm that anomalies are genuine or correct the data and re-submit. The final stage of the quality assurance process is a sign-off by the head of each HEI confirming that data meet required quality standards and are fit for onward use.

HESA then supply the final data to DfE statisticians (and other statutory users) via a secure web based download system.

Contracts in place between HESA and Statutory users (including DfE) require that the data be of sufficient quality for statutory users' funding and policy purposes and sanctions may be applied against HESA and HEIs should these quality standards not be met. The quality

standards set by statutory users are deemed more than adequate for the purposes of production of Official Statistics.

### Production of statistics

On receipt of data from HESA, DfE statisticians produce two NI specific datasets, one for NI students enrolled at UK HEIs and the second for all students enrolled at NI HEIs. These data sets are cross-verified, across a range of variables, with previously published HESA data. Once the datasets are completed and verified they are then used to prepare the Enrolments and Qualifications statistical bulletins. Prior to publication, DfE's bulletins will undergo rigorous checking procedures including peer review of syntax used to analyse data from the HESA databases, parallel production of data tables using pivot tables and statistical software packages, and extensive proof reading of commentary, tables, notes to readers and definitions. Finally, publications also require senior staff sign-off before release.

### **Useful Links:**

HESA's summary report on quality for the Student Record can be accessed from the following link: <https://www.hesa.ac.uk/about/regulation/official-statistics/quality-report>

## **5. Further Quality Assurance measures**

### Quality Assurance procedures documented

The Higher Education statistics team within Analytical Services in DfE have fully documented the quality assurance checks that must be completed when producing each statistical bulletin.

### Metadata

Full metadata on the data used is available online on the HESA website. This explains the data including many variables and derived variables.

### Documented audit trail available for checks

The Higher Education statistics team within Analytical Services in DfE have now begun to keep a record of the quality assurance procedures and when they are completed and by whom for each statistical bulletin. This acts as an audit trail to minimise the likelihood of any quality checks being overlooked.

### Quality report published

This quality report is published each year for the Qualifications bulletin, with relevant updates. A separate quality report is produced for the Qualifications and Destinations of Leavers bulletins.

### Risk assessment complete

Statistics produced by Analytical Services in DfE undergo an annual risk assessment in order to constantly improve quality assurance measures.

### Short QMHT (Quality, Methods and Harmonisation Tool)

A short QMHT is completed on an annual basis for each of the publications. A long QMHT is also completed every 5 years for each annual publication.

### QA toolkit



The Higher Education statistics team within Analytical Services in DfE also use the Administrative Data QA Toolkit to ensure a high level of quality in the four areas associated with data quality.

#### Peer review

In 2014, the Qualifications bulletin was subjected to the peer review process in NISRA. This enabled external statistics producers to scrutinise the publication and give feedback on possible changes which could improve the bulletin.

#### GSS review

In 2014, the Qualifications bulletin was also subjected to the GSS review process. This enabled an external agency with quality experts to scrutinise the publication and give feedback on possible changes which could improve the bulletin.