

SDR 27/2014

20 February 2014

Educational attainment of young people by age 19, 2010/11

This Statistical Release presents analysis obtained by matching together datasets of school, further education and work-based learning awards to gain a complete picture of attainment. This Release replaces the two previous versions of this Release, providing two more recent years of data, but also replaces the data for earlier years. The statistics are still regarded as experimental, and we welcome any feedback on the approach.

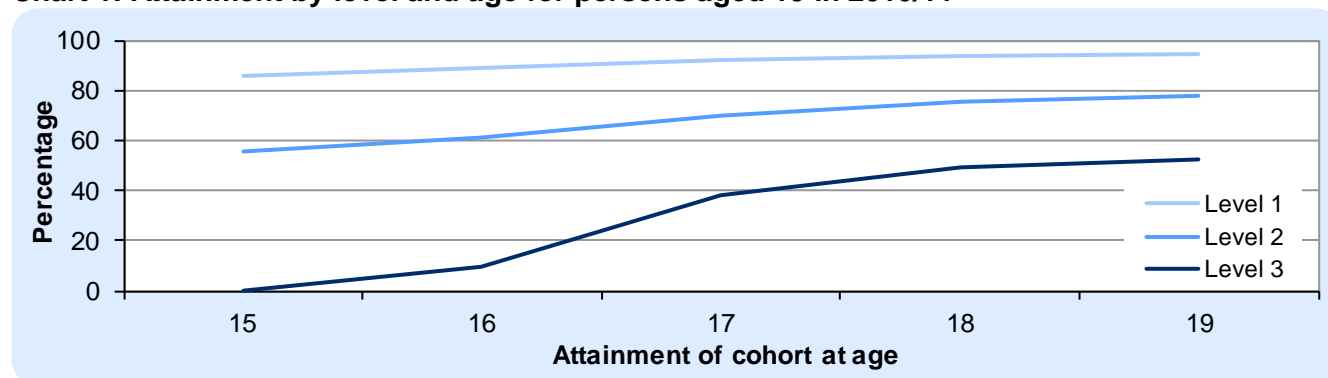
Attainment at each age includes attainment throughout the whole academic year. The definition of age used throughout this release is academic age (age as at 31 August prior to the start of the academic year).

The methodology used to produce these results is based on similar work done in England. A key difference to note is that results for England use age at the end of the academic year. For example, results for 19 year olds in this release are equivalent to results for 20 year olds in England. More information on level thresholds, data sources, definitions and methodology is in the notes at the end of this release.

Key results for persons aged 19 in 2010/11

- 95 per cent had attained the level 1 threshold, 78 per cent had level 2 and 53 per cent had level 3.
- Level 2 attainment increased by 22 percentage points between ages 15 and 19. Level 3 attainment increased by 15 percentage points between ages 17 and 19.
- Level 1 and 2 attainment at each age from 15 to 19 was higher for subsequent cohorts.
- The proportion of females achieving each level was higher than for males at all ages, although the size of this gap decreased as age increased.
- Most of level 1 and 2 attainment by age 15 was through academic qualifications, while for post-16 it was vocational. Most of level 3 attainment by age 19 was through level 3 general qualifications.
- Post-16 attainment of levels 1 and 2 through vocational routes was slightly higher for males than for females.

Chart 1: Attainment by level and age for persons aged 19 in 2010/11



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Next update: To be confirmed

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Attainment tables at levels 1, 2 and 3

Each row reflects achievement at that particular academic age; specific cohorts can be followed in the tables by moving diagonally down to the right.

Table 1: Proportion of young people attaining the level 1 threshold, by age and year of attainment

Age (a)	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
15	84	85	85	86	86	86	87	89	89
16		87	88	88	89	89	89	90	91
17			90	91	91	91	92	92	93
18				92	93	92	93	94	94
19					93	94	94	94	95
20						94	95	94	95
21							95	95	95

- For those aged 19 in 2010/11, the proportion achieving level 1 increased by 9 percentage points between the ages of 15 and 19, up to 95 per cent at age 19.
- Attainment at each age was similar or higher when compared with previous cohorts.
- Attainment continues to increase beyond age 19.

Table 2: Proportion of young people attaining the level 2 threshold, by age and year of attainment

Age (a)	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
15	54	53	53	55	56	57	60	63	67
16		59	59	59	61	61	64	67	68
17			67	68	68	68	70	72	73
18				72	72	72	73	75	77
19					74	75	75	76	78
20						76	76	76	77
21							77	77	77

- For those aged 19 in 2010/11, the proportion achieving level 2 increased by 22 percentage points between the ages of 15 and 19, up to 78 per cent at age 19. The largest increase was at age 16 (9 percentage points).
- Attainment at each age was similar or higher when compared with previous cohorts.

Table 3: Proportion of young people attaining the level 3 threshold, by age and year of attainment

Age (a)	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
17			32	34	35	36	38	39	40
18				41	43	45	46	49	50
19					44	47	49	50	53
20						46	49	51	52
21							47	50	52

- For those aged 19 in 2010/11, the proportion achieving level 3 increased by 15 percentage points between the ages of 17 and 19, up to 53 per cent at age 19.
- Generally, attainment at each age was similar or higher when compared with previous cohorts.

(a) Figures for the cohort that were 15 in 2002/03 exclude a small number of awards attained by 15 year olds at Further Education institutions and there is also an undercount due to an issue with the data quality of schools data. See section 6 of the notes at the end of this release for more information.

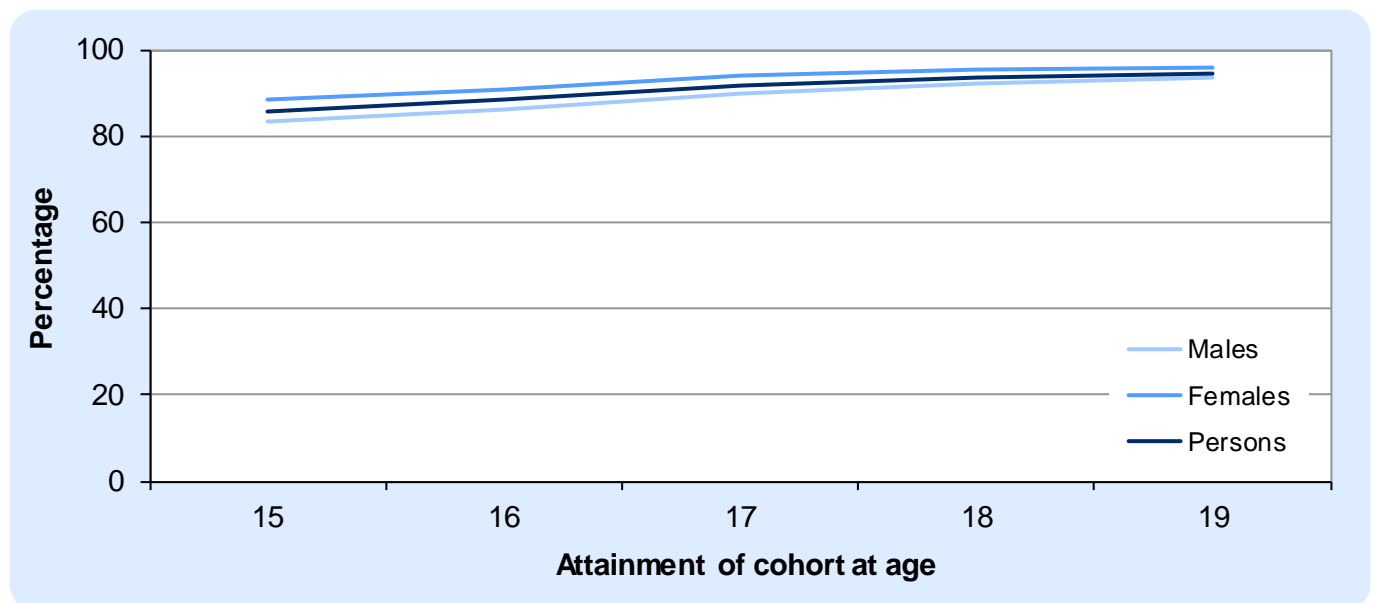
Further analysis of attainment by gender, age and qualification type

The proportion of females achieving each level was higher than the proportion of males at all ages. The difference between male and female attainment was smallest for level 1 and decreased slightly for all attainment levels as age increased.

By age 15, 83 and 51 per cent of the cohort achieved level 1 and 2 (respectively) solely through GCSEs and these figures increased only a small amount by age 19. Post-16, vocational routes accounted for most of the increases in level 1 and 2 (tables 5 and 7). For post-16 in general, slightly higher proportions of males than females achieved level 1 and 2 through vocational routes (tables 4 and 6).

Most of level 3 attainment by age 19 was through level 3 general qualifications (AS/ A-Levels or AVCEs). For these qualifications, level 3 attainment for females was 10 percentage points higher than for males, however, level 3 attainment for males through Advanced Apprenticeships was 4 percentage points higher than for females (table 8).

Chart 2: Attainment at level 1 by gender and age, persons aged 19 in 2010/11



- 88 per cent of 15 year old females achieved level 1 compared with 83 per cent of males (gap of 5 percentage points).
- By age 19, the gap had decreased to 3 percentage points. 96 per cent of females had achieved level 1 compared with 93 per cent of males.

Table 4 shows the type of qualifications achieved to reach level 1 post-16, by gender.

Table 4: Attainment at level 1 by qualification type and gender, persons aged 19 in 2010/11

	<i>Per cent</i>		
	<u>Males</u>	<u>Females</u>	<u>Persons</u>
Achieved level 1 by age 15	83	88	86
Attainment post-16	10	8	9
5 GCSEs A-G	1	1	1
NVQ Level 1	2	2	2
VRQ Level 1	3	1	2
Level 2+ qualifications	4	4	4
Combination of qualifications	0	0	0
Achieved level 1 by age 19	93	96	95
Number achieving level 1 by age 19	19,000	18,700	37,700

- Post-16 attainment at level 1 was 9 per cent with most of this attainment through VRQ Level 1, NVQ Level 1 and level 2 or above qualifications.
- Post-16 attainment at level 1 by males was higher than for females for all qualification types.

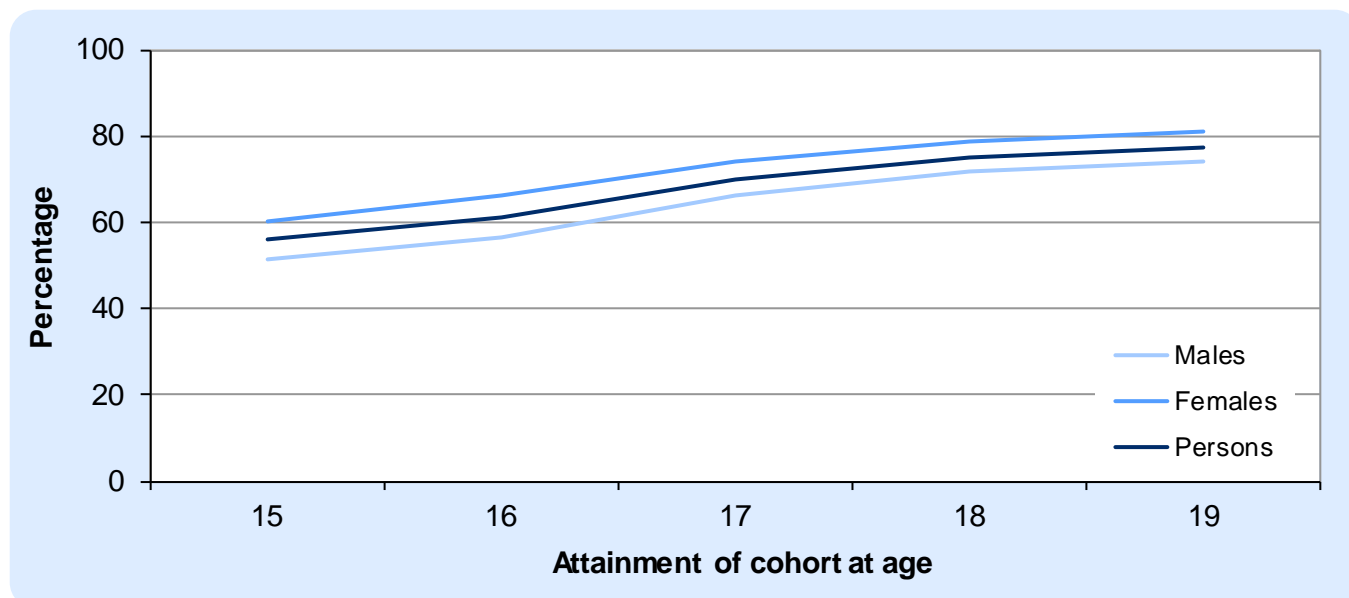
Table 5 shows the type of qualifications achieved to reach level 1, by age 15 and post-16.

Table 5: Attainment at level 1 by qualification type and age, persons aged 19 in 2010/11

	<i>Per cent</i>		
	<u>Achieved level 1 by age 15</u>	<u>Achieved level 1 post-16</u>	<u>Achieved level 1 by age 19</u>
5 GCSEs A-G	83	1	84
NVQ Level 1	0	2	2
VRQ Level 1	0	2	2
Level 2+ qualifications	0	4	4
Combination of qualifications	2	0	2
Proportion achieving level 1	86	9	95
Number achieving level 1	34,200	3,500	37,700

- 83 per cent of the cohort achieved level 1 solely through GCSEs by age 15 and 1 per cent achieved level 1 solely through GCSEs post-16.
- Attainment at level 1 through qualifications other than GCSEs was 3 per cent by age 15, increasing to 8 per cent post-16.

Chart 3: Attainment at level 2 by gender and age, persons aged 19 in 2010/11



- 60 per cent of 15 year old females achieved level 2 compared with 52 per cent for males (gap of 9 percentage points).
- By age 19, the gap had decreased slightly to 7 percentage points. 81 per cent of females had achieved level 2 compared with 74 per cent of males.

Table 6 shows the type of qualifications achieved to reach level 2 post-16, by gender.

Table 6: Attainment at level 2 by qualification type and gender, persons aged 19 in 2010/11

	<i>Per cent</i>		
	Males	Females	Persons
Achieved level 2 by age 15	52	60	56
Attainment post-16	23	21	22
5 GCSEs A-C	1	1	1
Apprenticeship	8	5	7
NVQ Level 2	3	4	4
VRQ Level 2	6	6	6
Level 3 qualifications	4	4	4
Combination of qualifications	1	1	1
Achieved level 2 by age 19	74	81	78
Number achieving level 2 by age 19	15,100	15,800	30,900

- Post-16 attainment at level 2 was 22 per cent, with 7 per cent of this attainment through Apprenticeships and 6 per cent through VRQs.
- The difference between post-16 attainment at level 2 for males and females was largest for Apprenticeships (males 3 percentage points higher than females).

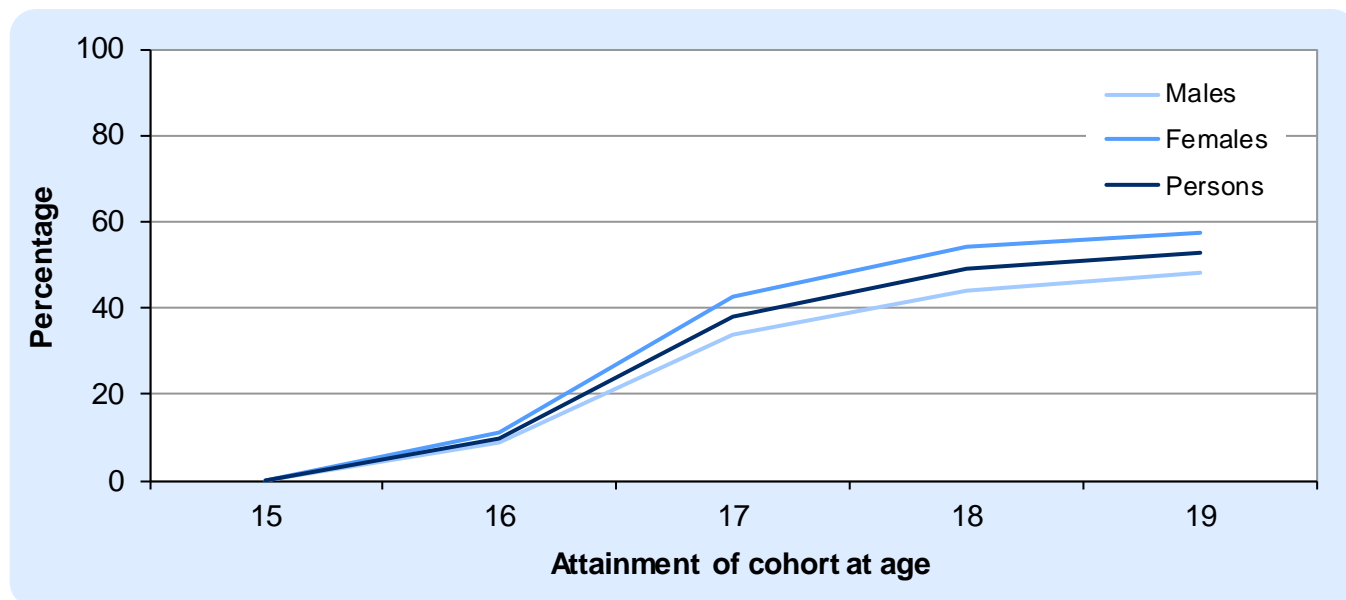
Table 7 shows the type of qualifications achieved to reach level 2, by age 15 and post-16.

Table 7: Attainment at level 2 by qualification type and age, persons aged 19 in 2010/11

	<i>Per cent</i>		
	Achieved level 2 by age 15	Achieved level 2 post-16	Achieved level 2 by age 19
5 GCSEs A-C	51	1	52
Apprenticeship	0	7	7
NVQ Level 2	0	4	4
VRQ Level 2	1	6	7
Level 3 qualifications	0	4	4
Combination of qualifications	4	1	5
Proportion achieving level 2	56	22	78
Number achieving level 2	22,200	8,700	30,900

- 51 per cent of the cohort achieved level 2 solely through GCSEs by age 15 and 1 per cent achieved level 2 solely through GCSEs post-16.
- Attainment at level 2 through qualifications other than GCSEs was 5 per cent by age 15, increasing to 21 per cent post-16.

Chart 4: Attainment at level 3 by gender and age, persons aged 19 in 2010/11



- 42 per cent of 17 year old females achieved level 3 compared with 34 per cent for males (gap of 8 percentage points) (not shown in tables).
- By age 19, the gap increased slightly to 9 percentage points. 58 per cent of females had achieved level 3 compared with 48 per cent of males.

Table 8 shows the type of qualifications achieved to reach level 3 by age 19, by gender.

Table 8: Attainment at level 3 by qualification type and gender, persons aged 19 in 2010/11

	<i>Per cent</i>		
	Males	Females	Persons
AS/A-Levels or AVCEs (a)	29	40	34
Apprenticeship	8	4	6
NVQ Level 3	1	2	1
VRQ Level 3	10	12	11
Combination of qualifications	0	1	0
Proportion achieving level 3	48	58	53
Number achieving level 3 by age 19	9,800	11,200	21,000

(a): Advanced Vocational Certificate of Education

- Most of the attainment at level 3 by age 19 was through level 3 general qualifications (34 per cent through AS/ A-Levels or AVCEs) and VRQ Level 3 (11 per cent).
- Attainment at level 3 through level 3 general qualifications was 10 percentage points higher for females than males.
- Attainment at level 3 through Apprenticeships was 4 percentage points higher for males than females.

Notes

1. Background

This Release aims to improve estimates of attainment levels by matching together datasets of school, further education and work-based learning awards to gain a complete picture of attainment. The Annual Population Survey (APS) is used to estimate highest qualification measures of the population in Wales, for example in monitoring of the Programme for Government. However, data for individual years of age and statistics for small age bands such as 19-21 from the APS can be subject to large margins of error due to small survey samples and mis-reporting of qualifications. To overcome these issues with survey data, this approach brings utilises administrative qualifications data, matching individual learner data together across datasets.

Similar measures are also published by the Department for Education for England :-

<https://www.gov.uk/government/publications/attainment-by-young-people-in-england-measured-using-matched-administrative-data-by-age-19-in-2012>

Uses of these data

Along with highest qualification levels of working age population from the APS, level 2 and 3 attainment at age 19 from this release are included within the Programme for Government indicator suite.

While these data have been obtained through matching together of pupil-level records, it is only appropriate to use aggregates of these data. It is not appropriate to use the matched data for individual pupils.

2. Definitions

Academic age: Age as at 31st August prior to the start of the academic year. For example, young people aged 19 on 31st August 2010 have academic age 19 in the academic year 2010/11.

Cohort size: This is the size of the cohort at age 14 for schools in Wales, including those living in England and attending a school in Wales. This does not include pupils living in Wales but attending a school in England. For more information on the data source, see section 3 of these notes.

Table 9: Cohort size at age 14

	<u>2002/03</u>	<u>2003/04</u>	<u>2004/05</u>	<u>2005/06</u>	<u>2006/07</u>	<u>2007/08</u>	<u>2008/09</u>	<u>2009/10</u>	<u>2010/11</u>
Cohort	38,800	39,700	39,000	39,400	39,800	39,300	37,900	37,300	36,300

Cohort: Throughout this release, the cohorts of young people are referred to by the academic year in which they are of academic age 19. For example, young people aged 19 in 2010/11 were 19 on 31st August 2010 and were born in the time period 1st September 1990 – 31st August 1991.

Post-16: This is defined as between the ages of 15 and 19 in this release.

Level thresholds: Thresholds represent a volume, or 'size' of qualifications at a specific level on the National Qualifications Framework (NQF). Three thresholds have been established:

- Level 1 – a volume of qualifications at Level 1 equivalent to the volume of 5 GCSEs at Grade D-G
- Level 2 – a volume of qualifications at Level 2 equivalent to the volume of 5 GCSEs at Grade A*-C
- Level 3 – a volume of qualifications at Level 3 equivalent to the volume of 2 A-Levels

Level 1, 2 and 3 widths to all qualifications. Examples of such widths are shown in Table 10 below.

Table 10: Example widths at levels 1, 2 and 3

Qualification	Level 1 width	Level 2 width	Level 3 width
GSE A-Level (A-E)	80	80	50
GSE AS-Level (A-E)	40	40	25
GCSE (A*-C)	20	20	0

A total width of 100 or more is required to achieve each level.

The database of approved qualifications for use in Wales can be found at <http://www.daqw.org.uk/>

Level 3 general qualifications: AS/A-Levels and AVCEs (Advanced Vocational Certificate of Education).

3. Sources of data

Key Stage 4 and post-16 school examination results (KS4/5) – 2002/03 to 2010/11

These data were collected by the Welsh Government from awarding organisations for the school performance exercises from 2003 to 2011 and have been checked by schools. The figures include any exam re-grades, rescinds and missing qualifications where evidence was provided within the allotted time period.

Lifelong Learning Wales Record (LLWR) – 2003/04 to 2010/11

The LLWR was introduced in 2004 as a unified data collection system which would enable further education, work-based learning and community learning to be funded and monitored on a consistent basis. Prior to this, data were collected through separate systems.

Vocational Qualifications – 2003/04 to 2010/11

Information on National Vocational Qualifications (NVQs) and Vocationally Related Qualifications (VRQs) has been taken from the Vocational Qualifications database held by the Department for Education. This database holds candidate level information on awards of all types of accredited vocational qualifications from awarding bodies.

Denominator: Pupil Level Annual School Census (PLASC & STATS1) – 2001/02 to 2009/10

PLASC is an electronic collection of pupil and school level data provided by all maintained sector primary, secondary, nursery and special schools in January each year. PLASC replaced the STATS1 school level data collected from secondary schools in 2003. The denominator is the size of the cohort aged 14, as measured in PLASC or STATS1. See section 4 of these notes for the reasons why this data source was used for denominators used in percentage calculations.

4. Methodology

The awards datasets were matched together and to the pupil data using statistical fuzzy matching routines. These routines use identifiers such as names, date of birth, home postcode and unique pupil number. Indicators were produced to calculate attainment from each dataset and combined to give overall levels.

Discounting of academic qualifications

Academic qualifications have been discounted to ensure that they are not counted twice in the levels of attainment. Discounting was applied by qualification level and subject, within and across academic years. For example, a pupil achieves AS-Level English in 2009/10 (level 3 width 25) then A-Level English in 2010/11 (level 3 width 50). The contribution of these qualifications to level 3 is 25 in 2009/10 and 50 in 2010/11 (not 75).

Academic data from the LLWR

Since the KS4/5 datasets do not contain full coverage of academic attainment at FE colleges, these data were supplemented by academic attainment data from the LLWR. To assign qualification widths to the academic LLWR records some of the grade values needed to be recoded for example from PASS to P (95 per cent of recodes), R(B) to B, and * to A*.

Choice of denominator

A review was undertaken in England as to whether the denominator should be the size of the cohort at age 14 in PLASC, or the mid year estimate of population (MYE) at age 14. It was decided that the size of the PLASC cohort at age 14 should be used and the same methodology has been used for Wales in this release. The benefits of this method include that the cohort size is fixed (once known) and is not revised, and these cohort sizes are census counts and not estimates. Further information can be found on p39-43 of National Statistics Quality review report 38 at <http://www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-reviews/theme/children--education-and-skills/nsqr-38/index.html>

Rounding

Please note that figures are rounded and therefore there may be apparent slight discrepancies in the percentage point changes identified.

5. Plans for further publication

This release and associated StatsWales tables present data at an all Wales level. Whilst the data could be analysed at local authority level, however, we have some concern about the fitness for purpose of these estimates, particularly in relation to migration with England for border authorities.

There is further potential for the data through analysis analyse these matched data alongside pupil characteristic information (e.g., free school meal entitlement, ethnicity) and entry into Higher Education data, which we will explore through the next update of this Release.

6. Key Quality Information

Our statistics are produced to high professional standards set out in the Code of Practice for Official Statistics. They undergo regular quality assurance reviews to ensure that they meet customer needs. They are produced free from any political interference.

We welcome comments on this release so please send these to post16ed.stats@wales.gsi.gov.uk or call 029 2082 3357.

Known issue with data quality

Up to and including 2008/09, school performance information has been published using a set of aggregate school level data and not by using the individual matched pupil data as in this release. While producing this release it has become clear that there are quality issues with the pupil level data for 2002/03 which mean that the published national figures cannot be replicated. Data for later years are of better quality due to the ongoing improvements made to our quality assurance procedures.

From 2008/09 onwards, school performance information has been collected at pupil level and the data subjected to the same quality assurance procedures as other pupil level data collections e.g. PLASC, KS1-3 and attendance.

Also for 2002/03, data for further education institutions from the Individualised Student Record (ISR) was not included. This was due to the small number of achievements that would be added to the overall attainment figures at levels 1 and 2. This has led to a small undercount of attainment levels for the cohort of 15 year olds in 2002/03. From 2003/04, this data was obtained from the LLWR.

Data matching

The LLWR, NISVQ and HESA records were statistically matched to KS4/5 records. A statistical match is matching at a level of quality suitable for use at aggregate level and statistical purposes but not individual pupil-level. Although the same matching routines would be applied for a full match the extent of manual checking and amendment afterwards is much less. To find the best match between datasets the matching routines work from the strongest through to relatively weaker match levels or combinations. A minimum match criteria is defined to prevent over-matching. Over-matching is the problem where two candidates are matched together when they should not be. Under-matching is the problem where two records belonging to a single candidate are not matched together. Each year we undertake the analysis the data is completely rematched. These two factors mean that each update of the Release revises the estimates provided for earlier cohorts. Table 11 highlights the difference between the estimates published in this 2010/11 Release of data with those published previously (2008/09) for the cohort aged 19 at that point.

However it should be stressed that the data included in this release are all produced on the same basis and therefore comparisons can be made between cohorts and levels.

Table 11: Comparison with matched data from 2008/09 for cohort aged 19 in 2008/09

	Level 1		Level 2		Level 3	
	2008/09	2010/11	2008/09	2010/11	2008/09	2010/11
2004/05	86	85	52	53		
2005/06	90	88	60	59		
2006/07	93	91	68	68	36	34
2007/08	95	92	72	72	43	43
2008/09	96	94	74	75	46	47

The paragraphs below provide examples which may cause over or under estimating of attainment levels :-

Sources for under-estimates of attainment levels

- Mis-matches (records matched when they should not have been)
- Net inward migrants with prior attainment that is not counted
- Death of young people who may have gone on to achieve levels 1-3
- Attainment in England not included for those studying at both Welsh and English institutions.

Sources for over-estimates of attainment levels

- Under-matching (records not matched when they should have been)
- Net outward migration or death of young people who have already achieved levels 1-3

Quality assurance of the results

Table 12 shows comparisons of matched academic data against pupil exam results (the latest of these releases is at <http://wales.gov.uk/statistics-and-research/examination-results/?lang=en>) at age 15. These provide us with a baseline against which to assess the quality of the matched data. The table shows small percentage difference between the 2 sets of results. The higher level 2 threshold results see through the matched data for years prior to 2006/07, reflect wider level thresholds to the published KS4 data. The wider levels were introduced to KS4 measures in 2006/07 to include all qualifications approved for use in Wales, therefore including more vocational qualifications, such as BTECs, ASDANs and Key Skills. The matched data uses this wider threshold for all years, which partially explains the difference. Additionally there are slight differences in cohort, the matched data uses the cohort at age 14, and the Key Stage 4 data age 15.

The figures published in the statistical release on Key Stage 4 performance are the authoritative and most accurate estimates of secondary school performance.

Table 12: Comparison of matched academic data against published KS4 results for 15 year olds

Level 1

Academic year	Matched data	Published Key Stage 4 results	Percentage difference
2002/03	84	85	-1
2003/04	85	85	0
2004/05	85	85	0
2005/06	86	86	0
2006/07	86	86	0
2007/08	86	87	-1
2008/09	87	88	-1
2009/10	89	90	-1
2010/11	89	90	-1

Level 2

Academic year	Matched data	Published Key Stage 4 results	Percentage difference
2002/03	54	51	3
2003/04	53	51	2
2004/05	53	52	2
2005/06	55	54	2
2006/07	56	55	1
2007/08	57	58	-1
2008/09	60	61	-1
2009/10	63	64	-1
2010/11	67	67	-1

Comparisons with other data sources

Comparisons with similar data in England should be made with caution due to slight differences in methodology:-

- Data for Wales use standard widths for all qualifications, as explained in section 2 of these notes. However, data for England use different widths for some qualifications.
- Attainment levels for Wales use age at the start of the academic year while levels for England use age at the end of the academic year. For example, attainment at age 19 in Wales is equivalent to attainment at age 20 in England.

Comparisons have been made at levels 2 and 3 (data for level 1 not published in England) using the following data:

- Wales: At age 19 for the cohort aged 19 in 2010/11
- England: At age 20 for the cohort aged 19 in 2010

These comparisons show that level 2 and 3 attainment in Wales is between 5 and 6 percentage points lower than in England.

Table 13 shows comparisons of attainment for 19 year olds in Wales against qualification levels from the Annual Population Survey. A 3 year average is used for the Annual Population Survey data due to small sample sizes when looking at single year of age.

Table 13: Comparison of matched data against the Annual Population Survey for 19 year olds

	<i>Per cent</i>		
	Matched data: 19 in 2010/11	APS (2009-11 average)	Difference
Level 1	95	93	1.5
Level 2	78	79	-1.7
Level 3	53	54	-1.1

Further information

<https://stats.wales.gov.uk/Catalogue/Education-and-Skills/Post-16-Education-and-Training/Lifelong-Learning/Attainment-of-Young-People-at-Age-19>

The latest release of English data from the Department for Education.

<https://www.gov.uk/government/publications/attainment-by-young-people-in-england-measured-using-matched-administrative-data-by-age-19-in-2012>

National Statistics Quality Review (report 38) into similar methodology used in England

<http://www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-reviews/theme/children--education-and-skills/nsqr-38/index.html>