

Office for
Students



Technical algorithms for institutional performance measures

Methodology and rebuild instructions
for March 2022 access and participation
data resources

Enquiries to providermetrics@officeforstudents.org.uk

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Introduction

Purpose

1. This document provides a technical description of the indicators that currently underpin the Office for Students (OfS) functions related to the regulation of access and participation, as produced in March 2022. It supplements and should be read alongside the following documents:
 - ‘Technical algorithms for institutional performance measures: March 2022 core algorithms for access and participation data resources’¹
 - ‘Access and participation data dashboard: Dashboard user guide’²
 - ‘Access and participation data resources: Supporting data user guide’³
2. This document also includes rebuild instructions which can be applied to individualised student data files that were shared with providers via the OfS portal in March 2022 to support publication of the access and participation data dashboard.
3. The indicators described by this document cover each stage of the student lifecycle:
 - access indicators
 - continuation indicators
 - attainment indicators, looking at degree outcomes and graduates awarded first or upper second class honours.
4. The OfS has recently consulted on a proposed future approach to our regulation of quality and standards, the future of the Teaching Excellence Framework (TEF) and how we construct the data underpinning these regulatory functions.⁴ Our consultation on the construction of student outcome and experience indicators for use in OfS regulation set out our intention that the proposals would also apply to the data supporting our regulation of access and participation.⁵ Once outcomes of the consultations are finalised later in 2022, we intend to publish information about changes to the definitions of data and indicators used in our regulation of access and participation.

¹ See www.officeforstudents.org.uk/data-and-analysis/institutional-performance-measures/technical-documentation/.

² See www.officeforstudents.org.uk/data-and-analysis/access-and-participation-data-dashboard/dashboard-user-guide/.

³ Available at www.officeforstudents.org.uk/data-and-analysis/access-and-participation-data-dashboard/about-the-dashboard-data/get-the-dashboard-data/.

⁴ See www.officeforstudents.org.uk/publications/student-outcomes-and-teaching-excellence-consultations/.

⁵ See Proposals 1 and 2 of the consultation at www.officeforstudents.org.uk/publications/student-outcomes-and-teaching-excellence-consultations/outcome-and-experience-data/.

5. Prior to finalisation of the consultation outcomes, the access and participation data resources and interactive dashboards that we have published in March 2022 have been constructed on the same basis as those published in March 2021. The definitions, coverage and reporting of the data remain unchanged from those described in previous versions of this document.⁶ In particular, information shown in the current access and participation progression indicators about whether graduates are employed or in higher study remains based on the Destination of Leavers from Higher Education survey (DLHE) and have not been updated. The definitions of these indicators are not repeated in this document.⁷ The progression indicators reported in the access and participation data resources will be superseded by versions based on the Graduate Outcomes survey once our recent consultations have concluded their outcomes.

Enquiries and feedback

6. Enquiries regarding the methods described in this document should be raised with providermetrics@officeforstudents.org.uk, 0117 931 7230.
7. Any other questions about the role of this data in relation to a provider's access and participation plans should be directed to app@officeforstudents.org.uk.

⁶ See 2021 'Regulatory indicators, methodology and rebuild instructions' document within the archived algorithms available at www.officeforstudents.org.uk/data-and-analysis/institutional-performance-measures/technical-documentation/.

⁷ *ibid*

Key principles of access and participation data resources

Coverage of the indicators

8. The coverage of each indicator used within the March 2022 access and participation data resources is discussed in detail in the indicator-specific definitions given below. Throughout, the indicators reflect the numbers and outcomes of students registered at the provider in question. Students taught by one provider on behalf of another, under sub-contractual arrangements, are only included in the data of the registering provider; they are not included in the data of the teaching provider.
9. In broad terms, the access and participation data resources cover UK-domiciled undergraduate students registered at English higher education providers. Providers are included in the access and participation data resources if they are registered by the OfS. A five-year time series (in addition to aggregates of the latest three- and five-years of the time series) of each indicator is reported within each mode and level of study.

Apprenticeship students

10. Throughout the March 2022 access and participation data resources, all apprenticeship students are counted within the indicators as full-time students. An apprenticeship student's level of study is attributed to the level of study of the component higher education qualification that sits within the apprenticeship standard (or framework).

Student characteristics

11. The access and participation data resources are intended to allow users to explore and understand patterns identified by these indicators for a range of student characteristics, and to consider combinations of the different attributes that may exist for a given characteristic. The characteristics and attributes listed in Table 1 are reported in the access and participation data resources, both at individual provider level and for the sector as a whole (consisting of all English providers). In each case, they are reported on separately for each stage of the student lifecycle and for each mode and level of study, across a five-year time series.

Table 1: Student characteristics and attributes in the access and participation data resources

Student characteristic	Attributes considered
Participation of Local Areas classification (POLAR4) Based on young students (aged under 21 in year of entry to higher education programme)	Individual quintiles 1, 2, 3, 4 and 5 (where quintile 1 has the lowest rate of participation and quintile 5 has the highest) Aggregation of quintiles 1 and 2 Aggregation of quintiles 3, 4 and 5 Aggregation of quintiles 2, 3, 4 and 5 Aggregation of quintiles 1, 3, 4 and 5 Aggregation of quintiles 1, 2, 4 and 5

Student characteristic	Attributes considered
	Aggregation of quintiles 1, 2, 3 and 5 Aggregation of quintiles 1, 2, 3 and 4
Ethnicity	Asian Black Mixed Other White Aggregation of Asian, black, mixed and other (ABMO) ⁸ Aggregation of Asian, mixed, other and white Aggregation of black, mixed, other and white Aggregation of Asian, black, other and white Aggregation of Asian, black, mixed and white
Disability ⁹	Disability reported No disability reported
Disability type ¹⁰	Cognitive or learning difficulties Mental health conditions No disability reported or unknown disability type Multiple or other impairments Sensory, medical or physical impairments Social or communication impairments
Age (on 31 August in the student's year of entry to higher education programme)	Young (under 21 years) Mature (21 years and over) 21 to 25 years 26 to 30 years 31 to 40 years 41 to 50 years 51 years and over
Sex	Female Male
English Index of Multiple Deprivation (IMD) (2015) Based on English-domiciled students	Individual quintiles 1, 2, 3, 4 and 5 (where quintile 1 has the highest level of deprivation and quintile 5 has the lowest) Aggregation of quintiles 1 and 2

⁸ Also referred to as 'black, Asian and minority ethnic'.

⁹ Disability information included has been recorded on the basis of the student's own self-assessment. Changes in the number of students in this category may occur as a result of changes in data reporting.

¹⁰ *ibid*

Student characteristic	Attributes considered
	Aggregation of quintiles 3, 4 and 5 Aggregation of quintiles 2, 3, 4 and 5 Aggregation of quintiles 1, 3, 4 and 5 Aggregation of quintiles 1, 2, 4 and 5 Aggregation of quintiles 1, 2, 3 and 5 Aggregation of quintiles 1, 2, 3 and 4
English Index of Multiple Deprivation (2019) Based on English-domiciled students	Individual quintiles 1, 2, 3, 4 and 5 (where quintile 1 has the highest level of deprivation and quintile 5 has the lowest) Aggregation of quintiles 1 and 2 Aggregation of quintiles 3, 4 and 5 Aggregation of quintiles 2, 3, 4 and 5 Aggregation of quintiles 1, 3, 4 and 5 Aggregation of quintiles 1, 2, 4 and 5 Aggregation of quintiles 1, 2, 3 and 5 Aggregation of quintiles 1, 2, 3 and 4
Eligibility for free school meals (FSM) Based on young students who were in Key Stage 4 (KS4) in England and recorded in the Department for Education's National Pupil Database in 2009-10 or later	Eligible Not eligible
Interaction of ethnicity and English Index of Multiple Deprivation (2019 version only) Based on English-domiciled students	ABMO and IMD quintile 1 or 2 ABMO and IMD quintile 3, 4 or 5 White and IMD quintile 1 or 2 White and IMD quintile 3, 4 or 5
Interaction of sex and English Index of Multiple Deprivation (2019 version only) Based on English-domiciled students	Female and IMD quintile 1 or 2 Female and IMD quintile 3, 4 or 5 Male and IMD quintile 1 or 2 Male and IMD quintile 3, 4 or 5
Interaction of ethnicity and POLAR4 classification Based on young students (aged under 21 in year of entry to higher education programme)	ABMO and POLAR4 quintile 1 or 2 ABMO and POLAR4 quintile 3, 4 or 5 White and POLAR4 quintile 1 or 2 White and POLAR4 quintile 3, 4 or 5
Interaction of sex and POLAR4 classification Based on young students (aged under 21 in year of entry to higher education programme)	Female and POLAR4 quintile 1 or 2 Female and POLAR4 quintile 3, 4 or 5 Male and POLAR4 quintile 1 or 2 Male and POLAR4 quintile 3, 4 or 5

* Disability information included has been recorded on the basis of the student's own self-assessment. Changes in the number of students in this category may occur as a result of changes in data reporting.

Comparisons of attributes

12. For the access lifecycle stage, we compare data for 18-year-olds in higher education with data for 18-year-olds in the population for the student characteristics ethnicity, POLAR4, IMD and

sex. For ethnicity, POLAR4 and sex we compare with the UK population, whereas for IMD we compare with the English population. The data resources include:

- percentage point gap between the proportion of 18-year-old students with a particular attribute at the provider and 18-year-olds in the population
- the upper and lower limits of a 95 per cent confidence interval for the percentage point gap (see paragraphs 18 to 22)
- statistical significance of the percentage point gap (see paragraphs 14 to 16)
- ratio of the proportion of 18-year-old students with a particular attribute at the provider and 18-year-olds in the population.

13. For the continuation, attainment and progression lifecycle stages, within each student characteristic, we compare data for the different student attributes. The data resources include:

- percentage point gap between the two attributes being compared
- the upper and lower limits of a 95 per cent confidence interval for the percentage point gap (see paragraphs 18 to 22)
- statistical significance of the percentage point gap (see paragraphs 14 to 16)
- ratio of the two attributes being compared
- change in percentage point gap from year 1 to year 5 and from year 4 to year 5 within the five-year time series
- statistical significance of the change in percentage point gap from year 1 to year 3 and from year 4 to year 5 (see paragraph 17).

Statistical significance tests in access and participation data

14. Across the student lifecycle, we perform a number of statistical tests to determine whether the comparisons we have made in the data are statistically significant. Where a comparison is not flagged as statistically significant, it does not mean that there is no difference, only that we do not have enough information to be confident that the difference is important and is not the result of chance and random variation. We also calculate confidence intervals for indicators of, and gaps between, outcomes (continuation rates, attainment rates, progression rates) for different student attributes where appropriate. These are described in paragraphs 18 to 22.

15. In the access stage of the student lifecycle we perform statistical tests within each year of the five-year time series. These compare the proportion of 18-year-old entrants at a provider with a particular attribute, or for all English providers as a whole, with the proportion of 18-year-olds in the population with the same attribute, as described in paragraph 12. We carry out a continuity-adjusted chi-square test (two-tailed) at the 95 per cent significance level using the Bonferroni correction, as described in paragraphs 20 to 22.

16. In the continuation, attainment and progression stages of the student lifecycle we perform statistical tests within each year of the five-year time series. For each provider, and for all

English providers as a whole, we compare differences (or gaps) in outcomes between different attributes of a student characteristic. These are carried out using a test for independent means (unpooled) with a two-tailed t-test at the 95 per cent significance level using the Bonferroni correction, as described in paragraphs 20 to 22.

17. In the continuation, attainment and progression stages of the student lifecycle we also perform statistical tests to compare the change in gap between outcomes for different student attributes across the five-year time series. We compare the change in gap from year 1 to year 5, and from year 4 to year 5 at each provider, and for all English providers as a whole. These are carried out using a test for independent means (unpooled) with a two-tailed t-test at the 95 per cent significance level using the Bonferroni correction, as described in paragraphs 20 to 22.
18. Finally, the continuation, attainment and progression stages of the student lifecycle also include the calculation of confidence intervals for the indicators (or rates) for different student attributes within each year of the five-year time series. These binomial confidence limits are calculated using the Clopper-Pearson method¹¹ at the 95 per cent significance level using the Bonferroni correction, as described in paragraphs 20 to 22.
19. Within all lifecycle stages we calculate confidence intervals for those percentage point gaps calculated in that lifecycle stage. These binomial confidence limits are also calculated using the Clopper-Pearson method at the 95 per cent significance level using the Bonferroni correction, as described in paragraphs 20 to 22.
20. We expect that users of the access and participation data resources will wish to make comparisons between the attributes of a student characteristic at each stage of the student life cycle. The assumption underlying the calculation of both the statistical significance tests, and the confidence intervals referenced in paragraphs 14 to 19, is that only one comparison will be made. If multiple comparisons are made, then the number of comparisons that show a significant difference at the 95 per cent significance level is overestimated. To overcome this, an adjustment is made to the calculation to control the false discovery rate (Benjamini and Yekutieli, 2001¹²): the Bonferroni correction has been used to do this.
21. In implementing the Bonferroni correction, we have sought to ensure that there is no more than a 5 per cent error rate across all of the comparisons within each student characteristic at a provider. We have determined the number of comparisons as follows:
 - a. For the access lifecycle stage, the maximum number of comparisons in a single characteristic (five), is considered for each mode (two), level of study (four) and year (five in-year comparisons, plus two across-year comparisons gives a total of seven), leading to 280 comparisons;
 - b. For the continuation and progression lifecycle stages, the maximum number of comparisons in a single characteristic (16) is considered for each mode (two), level of study

¹¹ Clopper, CJ, and Pearson, ES, 'The use of confidence or fiducial limits illustrated in the case of the binomial', *Biometrika* (1934), no 26, pp404-413.

¹² Benjamini, Yoav, and Yekutieli, Daniel, 'The control of the false discovery rate in multiple testing under dependency', *The Annals of Statistics* 29 (2001), no 4, 1165–1188, doi:10.1214/aos/1013699998.

(four), year (five in-year comparisons, plus two across-year comparisons gives a total of seven) leading to 896 comparisons;

- c. For the attainment lifecycle stage, the maximum number of comparisons in a single characteristic (16), is considered for each mode (two), level of study (three), and year (five in-year comparisons, plus two across year comparisons gives a total of seven) leading to 672 comparisons.

22. Across all the lifecycle stages this gives a total number of comparisons of 2,744. For a two-tailed test at the 95 per cent significance level, this leads to a corrected critical value of 0.999990889 for use in the statistical tests. For simplicity we have assumed that all comparisons are independent and have chosen to use the same correction for all characteristics and all providers: note that this means in most cases the error rate is much lower than 5 per cent. We intend to refine this approach over the next year.

Rounding and suppression of access and participation data

23. The data has been rounded as follows:

- a. Numerators and denominators have been rounded to the nearest 10.
- b. Indicators and their confidence intervals have been rounded to the nearest five when the denominator rounds to 50 or less, rounded to the nearest one when the denominator rounds to 1,000 or less, or to the nearest 0.1 otherwise.
- c. Gaps and their confidence intervals have been rounded in the same way as indicators, but based on the student group with the smallest denominator.
- d. Ratios have been rounded to the nearest 0.1.
- e. Rate per 10,000 population figures (access lifecycle stage only) are rounded based on the size of the 18-year-old population estimates (see Table A1). Where there are more than 100,000 in the population the rate will be rounded to the nearest one. Otherwise, where there are more than 20,000 in the population the rate will be rounded to the nearest five. Where there are 20,000 or fewer in the population estimate the rate will be rounded to the nearest ten.

24. Any data point that is not reportable will be replaced with a symbol to indicate why, as follows:

- a. 'N' where there are fewer than 25 students in the population.
- b. 'N/A' where the provider did not report any students in the population, or did not participate in the survey.
- c. 'R' for the progression indicators where the provider participated in the Destination of Leavers from Higher Education (DLHE) survey but has not met the response rate threshold required (85 per cent of the target response rate, equivalent to 68 per cent for full-time students and 59.5 per cent for part-time students).
- d. 'DP' in the case of suppression for data protection reasons.

25. Should a comparison involve one or more attributes that have been suppressed, the comparison will also be suppressed.

Free school meals measure

26. The free school meal (FSM) measure is based on the population of students matched to the Department for Education's National Pupil Database (NPD) who were identified as having ever been eligible for FSM in school. The NPD census for key stage 4 (KS4) covers pupils attending maintained and independent schools in England, and censuses for academic years from 2009-10 to the latest, have been matched to HESA and ILR student records. From academic year 2013-14, the NPD data includes local authority maintained Pupil Referral Units and alternative provision academies, including alternative provision free schools. Since pupils are generally 15 years old in their last year of KS4, the academic year 2014-15 is the earliest academic year that a full cohort of young entrants (under 21 on entry) can be tracked back to the NPD. Consequently, a five-year time series of FSM measures are reported for the first two stages of the student lifecycle, which are access and continuation.

Indicator definitions

‘Access’ indicator

27. The access indicators described in paragraphs 28 to 42 are based solely on the individualised student data captured in the Higher Education Statistics Agency (HESA) student records¹³ and Education and Skills Funding Agency’s individualised learner record (ILR). The description given here applies equally to full-time and part-time entrant cohorts.
28. This indicator expresses the number of entrants with a particular attribute as a percentage of all entrants, referenced where possible to the UK population of 18-year-olds who possess the same attribute.

Coverage of the access indicator

29. The access indicators cover UK-domiciled entrants registered at the higher education provider in question, and are reported separately for entrants at each of the following levels:
- first degree
 - other undergraduate
 - undergraduate with postgraduate components
 - all undergraduates (the total of the three levels listed above).
30. The indicator covers students entering higher education:
- between 1 August 2016 and 31 July 2017 (Year 1 of the time series)
 - between 1 August 2017 and 31 July 2018 (Year 2)
 - between 1 August 2018 and 31 July 2019 (Year 3)
 - between 1 August 2019 and 31 July 2020 (Year 4)
 - between 1 August 2020 and 31 July 2021 (Year 5).

Presentation of the access indicator

31. In addition to the data items described in paragraph 12, the access and participation data resources present information on the access indicator for each attribute that includes:
- numerator of the indicator – the number of entrants with the attribute in question
 - denominator of the indicator – the total number of entrants
 - indicator (as a percentage) – the proportion of entrants with the attribute in question, calculated as the numerator divided by the denominator.

¹³ Including both the HESA student record and the HESA student alternative record.

32. For the characteristics of ethnicity, POLAR4 quintile and sex, the access indicator is also referenced to the UK population in the following ways. The characteristic of English IMD quintile is similarly referenced to the English population.

- rate per 10,000 population – the number of 18-year-old entrants with the attribute in question relative to the UK population¹⁴ of 18-year-olds who possess the same attribute
- gap, for the attribute in question, between the provider's distribution of 18-year-olds and the population distribution of 18-year-olds
- the upper and lower limits of a 95 per cent confidence interval for this gap¹⁵
- ratio, for the attribute in question, of the provider's distribution of 18-year-olds to the population distribution of 18-year-olds.

Exclusions from the access indicator

33. The following exclusions apply to the access indicators reported in the access and participation data resources:

- EU and non-EU international students
- students not active for at least 14 days from their commencement date
- students studying for credit or aiming for a postgraduate qualification
- students recorded in another provider's HESA or ILR data for the same activity
- students on a subject knowledge enhancement (SKE) course
- students on a course which is taught primarily outside the UK.

UK 18-year-old populations for contextual access data

34. There are four student characteristics for which we are also reporting the 'rate per 10,000 population' as a contextual measure that draws from UK population totals for that characteristic. The student characteristics and associated populations are illustrated in Table 2.

35. The contextual data is reported in terms of the number of entrants with each attribute per 10,000 of the wider population who also have this attribute. For example, if there were 50,000 Asian 18-year-olds in the UK in 2018, and in the 2018–19 academic year a provider had 500 18-year-old entrants who were Asian, then the provider's rate per 10,000 population would be 100 'per 10,000 UK population of 18-year-olds'.

¹⁴ Or, in the case of attributes related to a student's IMD quintile, the English 18-year-old population.

¹⁵ See Clopper and Pearson, 'The use of confidence or fiducial limits illustrated in the case of the binomial'.

Table 2: Summary of contextual access data

Characteristic	Description	Contextual population definition
Ethnicity	Broad ethnic group (Asian, black, mixed, other, white)	UK population of 18-year-olds of each ethnic group. Annual population totals obtained from the Office for National Statistics (ONS) and national statistical bodies. Proportions of each ethnicity calculated from the 2011 census, and applied to populations in each year.
Deprivation	English IMD quintiles	English population of 18-year-olds living in each IMD quintile. Annual populations by area obtained from ONS. Quintile allocation of each area obtained from latest IMD.
Participation	POLAR4 quintiles	UK population of 18-year-olds living in each POLAR4 quintile. Annual populations by area obtained from ONS and national statistical bodies. Quintile allocation of each area obtained from POLAR4 classification of areas ¹⁶ .
Sex	Sex (female and male only)	UK population of 18-year-olds of each sex. Annual population estimates from the ONS.

Sources

36. The UK population of 18-year-olds in each year from 2016 to 2020 is required for each of the contextual metrics. These population estimates are publicly available and sourced from the various statistical bodies in each devolved nation:
- England and Wales: Sourced from ONS. Population estimates are published by single year of age, at Lower Super Output Area (LSOA 2011) geography.
 - Northern Ireland: Sourced from the Northern Ireland Statistics and Research Agency. Population estimates are published by single year of age at parliamentary constituency level, and by broad age band at Super Output Area (SOA 2011) level. This geography level is broadly equivalent to LSOA in England and Wales.
 - Scotland: Sourced from National Records of Scotland. Population estimates are published by single year of age at Data Zone 2011 level for the years 2001 to present.
 - All UK: ONS population estimates by sex cover all UK nations.
37. The populations of 18-year-olds living in each IMD quintile in England have been derived, for each year, from 2016 to 2020. Only England is considered, since the other devolved nations' IMDs are not exactly equivalent to the English IMD.
38. The IMD is published at LSOA 2011 level, so can be linked by area code with population estimates to find the total number of 18-year-olds in each quintile.
39. In order to derive the population estimates for POLAR4 quintile:

¹⁶ POLAR4 available on OfS website at www.officeforstudents.org.uk/data-and-analysis/polar-participation-of-local-areas/.

- a. England and Wales: POLAR4 is published at Middle Layer Super Output Area level 2011. LSOA 2011 nests exactly within this geography, so a lookup can be used to aggregate 18-year-old population estimates to the larger geography. POLAR4 quintiles can then be linked by area code to find the total number of 18-year-olds in each quintile in each year.
 - b. Northern Ireland: POLAR4 is calculated at SOA 2011. 18-year-old populations at SOA level have been calculated by applying the proportion of 18-year-olds in each parliamentary constituency to the population estimates by broad age band for each SOA within the constituency. POLAR4 quintiles can then be attached to each SOA, and aggregated as above.
 - c. Scotland: POLAR4 is calculated at Intermediate Zone (IZ 2001) level. Population estimates are available at Data Zone (DZ 2011) level (smaller than Intermediate Zones). These geographies do not nest exactly, so split areas must be addressed. This occurs when a DZ 2011 straddles two or more IZ 2001 areas – in this case, the population of the DZ 2011 needs to be apportioned between the IZ 2001 areas. This has been done by counting the number of postcodes (in the National Statistics Postcode Directory¹⁷) in each DZ 2011 that fall into multiple IZ 2001, and using the resulting proportional split as a proxy for the distribution of the population of 18-year-olds. POLAR4 quintiles can then be attached to population estimates, and totals found as above.
40. To derive the population estimates for ethnicity, 2011 census data is used to estimate the ethnic population breakdowns of each nation. These proportions are then applied to population estimates of 18-year-olds in each year. This method assumes that the relative proportions of each ethnicity have not changed since 2011.
41. Population estimates by sex are published for the UK overall by the ONS; no further processing is required.
42. The processes described in paragraphs 36 to 41 result in the population estimates shown in annex A.

‘Continuation’ indicator definition

43. The continuation indicators described at paragraphs 44 to 58 are based solely on the individualised student data captured in the HESA and ILR student records.
44. The continuation indicators cover entrants registered at the higher education provider, with outcomes reported separately for entrants at each of the following levels:
 - undergraduate with postgraduate components¹⁸

¹⁷ Available at <http://geoportal.statistics.gov.uk/>.

¹⁸ Examples of undergraduate with postgraduate components courses include: integrated undergraduate-postgraduate taught masters degrees on the enhanced or extended pattern; pre-registration medical degrees regulated by the General Medical Council; pre-registration dentistry degrees regulated by the General Dental Council; and other graduate or postgraduate diplomas, certificates or degrees at Levels 5 and 6 where a Level 5 or 6 qualification is a pre-requisite for course entry.

- first degree
- other undergraduate
- all undergraduates (the total of the three levels listed above).

45. The continuation indicators included in the access and participation data resources cover UK-domiciled undergraduate entrants.

Full-time continuation indicator

46. This indicator tracks students from the date they enter a higher education provider to their activity a year later. The continuation indicator is based on student activity on a census date one year and 14 days after their commencement date. Undergraduate students who qualify at undergraduate or postgraduate level on or before the census date or are still studying at higher education level at any provider on the census date are deemed to have continued.

47. To align with the census date period of one year and 14 days, an entrant year cohort is defined based on those students starting courses between 18 July and the following 17 July. This allows the activity of all students in this cohort on their census date to be determined in the following data reporting period.

48. To be counted as continuing, the student must either have qualified or be recorded as actively studying on a higher education course in the relevant HESA or ILR datasets. Students who transfer to a provider that does not submit data to HESA or ILR will be counted as non-continuers.

Coverage of the full-time continuation indicator

49. This indicator includes all students who are in one of the relevant HESA or ILR datasets and registered as entrants on higher education programmes.

50. The full-time continuation indicator covers students entering higher education:

- between 18 July 2015 and 17 July 2016 (defines Year 1 of the time series)
- between 18 July 2016 and 17 July 2017 (Year 2)
- between 18 July 2017 and 17 July 2018 (Year 3)
- between 18 July 2018 and 17 July 2019 (Year 4)
- between 18 July 2019 and 17 July 2020 (Year 5).

Exclusions of the full-time continuation indicator

51. The following exclusions apply to the full-time continuation indicators reported in the access and participation data resources:

- EU and non-EU international students
- students not active for at least 14 days from their commencement date

- students studying for credit or aiming to a postgraduate qualification
- students registered at the same provider studying at the same level¹⁹ in the year prior to entry
- students recorded in another provider's HESA or ILR data for the same activity
- students on a SKE course
- students on a course which is primarily outside the UK
- duplicate records for students who, in the year of entry being assessed, have more than one record at a provider with the same mode and level of study; only the record with the most positive continuation outcome will contribute to the continuation rate.

Part-time continuation indicator

52. This indicator tracks students from the date they enter a higher education provider to their activity two years later. The continuation indicator is based on student activity on a census date two years and 14 days after their commencement date. Undergraduate students who qualify at undergraduate or postgraduate level on or before the census date or are still studying at higher education level at any provider on the census date are deemed to have continued.

53. To align with the census date period of one year and 14 days, an entrant year cohort is defined based on those students starting courses between 18 July and the following 17 July. This allows the activity of all students in this cohort on their census date to be determined in the data reporting period that follows by two years.

54. To be counted as continuing, the student must either have qualified or be recorded as actively studying on a higher education course in the relevant HESA or ILR datasets. Students who transfer to a provider that does not submit data to HESA or ILR will be counted as non-continuers.

Coverage of the part-time continuation indicator

55. This indicator includes all students who are in one of the relevant HESA or ILR datasets and registered as entrants on higher education programmes.

56. The part-time continuation indicator covers students entering higher education:

- between 18 July 2014 and 17 July 2015 (defines Year 1 of the time series)
- between 18 July 2015 and 17 July 2016 (Year 2)
- between 18 July 2016 and 17 July 2017 (Year 3)
- between 18 July 2017 and 17 July 2018 (Year 4)

¹⁹ Where level of study is defined as postgraduate, first degree (including undergraduate courses with postgraduate elements) or other undergraduate.

- between 18 July 2018 and 17 July 2019 (Year 5).

Exclusions of the part-time continuation indicator

57. The following exclusions apply to the part-time continuation indicators reported in the access and participation data resources:

- EU and non-EU international students
- students not active for at least 14 days from their commencement date
- students studying for credit or aiming to a postgraduate qualification
- students registered at the same provider studying at the same level in the year prior to entry
- students recorded in another provider's HESA or ILR data for the same activity
- students on a SKE course
- students on a course which is primarily outside the UK
- duplicate records for students who, in the year of entry being assessed, have more than one record at a provider with the same mode and level of study; only the record with the most positive continuation outcome will contribute to the continuation rate.

Presentation of the continuation indicator

58. The OfS's institutional performance measures present information on the continuation indicator that includes:

- denominator of the indicator – the total number of entrants with the attribute in question
- indicator, the continuation rate (as a percentage) – calculated as the numerator divided by the denominator.

59. For access and participation data resources, the data items described in paragraph 13 are also available, along with:

- numerator of the indicator – the number of entrants with the attribute in question who continue in UK higher education or completed their studies
- the upper and lower limits of a 95 per cent confidence interval for the indicator value.

'Attainment' indicator (degree outcomes, percentage awarded 1sts or 2:1s) definition: full- and part-time

60. Paragraphs 61 to 66 provide a description of this indicator, which is based solely on the individualised student data captured in the HESA and ILR student records. The description given here applies equally to full-time and part-time qualifying cohorts.

61. This indicator expresses the number of leavers from Level 6+ undergraduate degrees who were awarded 1st or 2:1 degree classifications as a percentage of all those leavers from Level 6+ undergraduate degrees who were awarded classified degrees. Level 6+ degrees awarded without an honours classification are excluded from the denominator for this indicator.

Coverage of the attainment indicator

62. This indicator includes all leavers who are included in the relevant HESA and ILR datasets and have been awarded Level 6+ undergraduate degree qualifications within the honours classification. It considers all leavers who were registered at the higher education provider in question, whether or not that provider was using its own degree awarding powers.

63. The indicator covers students leaving higher education in academic year:

- between 1 August 2016 and 31 July 2017 (defines Year 1 of the time series)
- between 1 August 2017 and 31 July 2018 (Year 2)
- between 1 August 2018 and 31 July 2019 (Year 3)
- between 1 August 2019 and 31 July 2020 (Year 4)
- between 1 August 2020 and 31 July 2021 (Year 5).

Exclusions of the attainment indicator

64. The following exclusions apply to the attainment indicators reported in the access and participation data resources:

- EU and non-EU international students
- students who were not awarded an undergraduate Level 6+ degree qualification
- students who are recorded in another provider's HESA or ILR data for the same activity.

Presentation of the attainment indicator

65. The OfS's institutional performance measures present information on the attainment indicator that includes:

- denominator of the indicator – the total number of Level 6+ undergraduate degree leavers with the attribute in question who were awarded a classified honours degree
- indicator, the attainment rate (as a percentage) – calculated as the numerator divided by the denominator

66. For access and participation data resources, the data items described in paragraph 13 are also available, along with:

- numerator of the indicator – the number of Level 6+ undergraduate degree leavers with the attribute in question who were awarded a 1st or 2:1 honours degree classification
- the upper and lower limits of a 95 per cent confidence interval for the indicator value.

‘Progression’ indicators definition: full- and part-time

67. The progression indicator within the access and participation data resources refers to graduates progressing to highly skilled employment or higher-level study six months after gaining a higher education qualification. The measure currently reported in the access and participation data resources remains based on responses to the DLHE survey, last conducted for 2016-17 qualifiers, and has not been updated. Definitions, coverage and presentation of this indicator is described in the 2021 ‘Regulatory indicators, methodology and rebuild instructions’ available in archived documentation about the access and participation data resources.²⁰

²⁰ See 2021 ‘Regulatory indicators, methodology and rebuild instructions’ document within the archived algorithms available at www.officeforstudents.org.uk/data-and-analysis/institutional-performance-measures/technical-documentation/.

Rebuild instructions

68. This section details how individualised student data can be used to rebuild the access, continuation and attainment indicators used in access and participation data resources. It uses algorithms defined in 'Technical algorithms for institutional performance measures: March 2022 core algorithms for access and participation data resources'²¹ throughout.
69. Rebuild instructions for progression indicators are unchanged from the previous publication of the access and participation data resources. They have not been repeated here and can be found in the 2021 'Regulatory indicators, methodology and rebuild instructions' available in archived documentation about the access and participation data resources.²²

Data protection

Individualised student data has been supplied only to individual providers, containing data relating only to their own students. For data protection reasons, this level of data cannot be made publicly available. For users accessing these resources as published on the OfS website, the following section is for information only, and will not enable rebuilding of the indicators.

70. Individualised student data files were prepared in **March 2022** for release to providers in support of the access and participation data resources released at that time. These files contain data relating to a provider's own students and show how they have been categorised according to the algorithms defined in 'Technical algorithms for institutional performance measures: March 2022 core algorithms for access and participation data resources'. The individualised files are provided as a separate file for each academic year, with a two-digit prefix (e.g. '14' corresponds to academic year 2014–15).
71. In the access and participation data resources, the values for indicators in year 1 to year 5 will correspond to different academic years depending on the lifecycle stage (e.g. year 1 for access metrics is 2016–17, while for part-time continuation metrics it is 2014–15). For details see the heading titled 'Coverage of the indicator' in the relevant section of this document.
72. In all cases, the access, continuation, attainment and progression indicators are each shown separately for full- and part-time cohorts, and for the levels of study described within the indicator definitions described by this document. Each student characteristic, for each combination of mode and level of study, is shown for each year in the five-year time series.

²¹ Available at www.officeforstudents.org.uk/data-and-analysis/institutional-performance-measures/technical-documentation/.

²² See 2021 'Regulatory indicators, methodology and rebuild instructions' document within the archived algorithms available at www.officeforstudents.org.uk/data-and-analysis/institutional-performance-measures/technical-documentation/.

Note

The individualised files provided are at **subject level**, meaning a student will have one row of data for every different subject they are studying. This means that simply summing all the rows in a file for a particular field will give an inflated result: to derive a headcount as shown in the metrics, IPFPE values must be summed and divided by 100. Headcounts in the access and participation data resources will then be rounded to the nearest 10.

Identifying student characteristics

73. The student characteristics can be rebuilt using the filters and variables described in Table 3. Filters highlighted in yellow identify the limitations that apply to the wider scope of the student characteristic under consideration.

Table 3: Filters to identify student characteristics and attributes

Student characteristic	Access and participation data resources
Age (on entry to higher education) SplitType = AgeOnCommencement	IPSTARTAGEBAND = U21 for Young_Under21 21_25, 26_30, 31_40, 41_50, 51+ for Mature_Age21andOver 21_25 for Age21_25 26_30 for Age26_30 31_40 for Age31_40 41_50 for Age41_50 51+ for Age51andOver
Disability SplitType = Disability	IPDISABLE = Y for Disabled N for NoKnownDisability
Disability type SplitType = DisabilityType	IPDISABLETYPE = COG for CognitiveAndLearning MH for MentalHealth MULTI for MultipleImpairments PHY for SensoryMedicalAndPhysical SOC for SocialAndCommunication NONE for NoKnownDisabilityType
English IMD (2015) SplitType = EnglishIMDQuintile_2015	IPIMDHISTORIC ≠ UNKNOWN and IPDOM = E and IPIMDHISTORIC = 1 for IMDQ1 2 for IMDQ2 3 for IMDQ3 4 for IMDQ4 5 for IMDQ5 1, 2 for IMDQ1_2 3, 4, 5 for IMDQ3_5 2, 3, 4, 5 for IMDQ2345 1, 3, 4, 5 for IMDQ1345 1, 2, 4, 5 for IMDQ1245

Student characteristic	Access and participation data resources
	<p>1, 2, 3, 5 for IMDQ1235 1, 2, 3, 4 for IMDQ1234 IPIMDHISTORIC ≠ UNKNOWN and IPDOM = E and IPSTARTAGE = 18 and IPIMDHISTORIC = 1 for IMDQ1_Age18 2 for IMDQ2_Age18 3 for IMDQ3_Age18 4 for IMDQ4_Age18 5 for IMDQ5_Age18</p>
<p>English IMD (2019) SplitType = EnglishIMDQuintile_2019</p>	<p>IPIMD ≠ UNKNOWN and IPDOM = E and IPIMD = 1 for IMDQ1 2 for IMDQ2 3 for IMDQ3 4 for IMDQ4 5 for IMDQ5 1, 2 for IMDQ1_2 3, 4, 5 for IMDQ3_5 2, 3, 4, 5 for IMDQ2345 1, 3, 4, 5 for IMDQ1345 1, 2, 4, 5 for IMDQ1245 1, 2, 3, 5 for IMDQ1235 1, 2, 3, 4 for IMDQ1234 IPIMD ≠ UNKNOWN and IPDOM = E and IPSTARTAGE = 18 and IPIMD = 1 for IMDQ1_Age18 2 for IMDQ2_Age18 3 for IMDQ3_Age18 4 for IMDQ4_Age18 5 for IMDQ5_Age18</p>
<p>Ethnicity SplitType = Ethnicity</p>	<p>IPETHNIC ≠ U and IPETHNIC = A for Asian B for Black M for Mixed O for Other W for White A, B, M, O for ABMO A, B, M, W for ABMW A, B, O, W for ABOW A, M, O, W for AMOW B, M, O, W for BMOW IPETHNIC ≠ U and IPSTARTAGE = 18 and IPETHNIC = A for Asian_Age18 B for Black_Age18 M for Mixed_Age18 O for Other_Age18 W for White_Age18</p>
<p>Free school meals eligibility</p>	<p>IPSTARTAGEBAND = U21 and IPFSMPOP = 1 and IPFSMSTATE =</p>

Student characteristic	Access and participation data resources
SplitType = FSMEligibility	1 for EligibleForFSM 0 for NotEligibleForFSM
POLAR4 classification SplitType = POLAR4Quintile	IPPOLAR4 ≠ UNKNOWN and IPSTARTAGEBAND = U21 and IPPOLAR4 = 1 for POLAR4Q1 2 for POLAR4Q2 3 for POLAR4Q3 4 for POLAR4Q4 5 for POLAR4Q5 1, 2 for POLAR4Q1_2 3, 4, 5 for POLAR4Q3_5 2, 3, 4, 5 for POLAR4Q2345 1, 3, 4, 5 for POLAR4Q1345 1, 2, 4, 5 for POLAR4Q1245 1, 2, 3, 5 for POLAR4Q1235 1, 2, 3, 4 for POLAR4Q1234 IPPOLAR4 ≠ UNKNOWN and IPSTARTAGE = 18 and IPPOLAR4 = 1 for POLAR4Q1_Age18 2 for POLAR4Q2_Age18 3 for POLAR4Q3_Age18 4 for POLAR4Q4_Age18 5 for POLAR4Q5_Age18
Sex SplitType = Sex	IPSEX ≠ 9 and IPSEX = 1 for Male 2 for Female IPSEX ≠ 9 and IPSTARTAGE = 18 and IPSEX = 1 for Male_Age18 2 for Female_Age18
Interaction of ethnicity and English IMD SplitType = Int_IMDEthnicity	IPDOM = E and IPETHNIC ≠ U and IPIMD ≠ NA, UNKNOWN and IPIMD = 1, 2 and IPETHNIC = A, B, M, O for IMDQ12_ABMO IPIMD = 3, 4, 5 and IPETHNIC = A, B, M, O for IMDQ345_ABMO IPIMD = 1, 2 and IPETHNIC = W for IMDQ12_White IPIMD = 3, 4, 5 and IPETHNIC = W for IMDQ345_White
Interaction of ethnicity and POLAR4 classification SplitType = Int_POLAREthnicity	IPSTARTAGEBAND = U21 and IPETHNIC ≠ U and IPPOLAR4 ≠ U and IPPOLAR4 = 1, 2 and IPETHNIC = A, B, M, O for POLAR4Q12_ABMO IPPOLAR4 = 3, 4, 5 and IPETHNIC = A, B, M, O for POLAR4Q345_ABMO IPPOLAR4 = 1, 2 and IPETHNIC = W for POLAR4Q12_White IPPOLAR4 = 3, 4, 5 and IPETHNIC = W for POLAR4Q345_White
Interaction of sex and English IMD	IPDOM = E and IPSEX ≠ 9 and IPIMD ≠ NA, UNKNOWN and

Student characteristic	Access and participation data resources
SplitType = Int_IMDSex	IPIMD = 1, 2 and IPSEX = 1 for IMDQ12_Male IPIMD = 3, 4, 5 and IPSEX = 1 for IMDQ345_Male IPIMD = 1, 2 and IPSEX = 2 for IMDQ12_Female IPIMD = 3, 4, 5 and IPSEX = 2 for IMDQ345_Female
Interaction of sex and POLAR4 classification SplitType = Int_POLARSex	IPSTARTAGEBAND = U21 and IPSEX ≠ 9 and IPPOLAR4 ≠ U and IPPOLAR4 = 1, 2 and IPSEX = 1 for POLAR4Q12_Male IPPOLAR4 = 3, 4, 5 and IPSEX = 1 for POLAR4Q345_Male IPPOLAR4 = 1, 2 and IPSEX = 2 for POLAR4Q12_Female IPPOLAR4 = 3, 4, 5 and IPSEX = 2 for POLAR4Q345_Female

Access

74. Firstly, select students from the relevant year of individualised student data who have studied at the relevant level and the relevant mode (using IPINDMODE and IPLEVEL respectively). Full-time students can be identified using IPINDMODE = FT, and part-time students with IPINDMODE = PT. Access indicators are reported separately for entrants at each of the following levels:

- first degree, defined by IPLEVEL = DEG
- other undergraduate, defined by IPLEVEL = OUG
- undergraduate with postgraduate components, defined by IPLEVEL = PUGD, PUGO
- all undergraduates, defined by IPLEVEL = DEG, OUG, PUGD, PUGO.

Population restrictions

- apply DFAPAPPEXCL = 0 for access and participation data resources
- denominator of the indicator: IPACCEXCL = 0 and all students in scope for the SplitType (using the highlighted filters in Table 3)
- numerator of the indicator: IPACCEXCL = 0 and students with the attribute (using the filters in Table 3).

Continuation

75. Firstly, select students from the relevant year of individualised student data who have studied at the relevant level and the relevant mode as below. Restrict further, to students with the attribute in question, using the filters in Table 3.

Full-time continuation

76. Full-time students can be identified using IPINDMODE = FT.

77. Continuation outcomes are reported separately for entrants at each of the following levels:

- first degree, defined by IPLEVEL = DEG
- other undergraduate, defined by IPLEVEL = OUG
- undergraduate with postgraduate components, defined by IPLEVEL = PUGD, PUGO
- all undergraduates, defined by IPLEVEL = DEG, OUG, PUGD, PUGO.

Part-time continuation

78. Part-time students can be identified using IPINDMODE = PT.

79. Outcomes are reported separately for entrants at each of the following levels:

- first degree, defined by IPLEVEL = DEG
- all other undergraduate, defined by IPLEVEL = OUG
- undergraduate with postgraduate components, defined by IPLEVEL = PUGD, PUGO

Population restrictions

- apply DFAPAPPEXCL = 0 for access and participation data resources

Then:

- denominator of the indicator: IPCONEXCL = 0
- numerator of the indicator: IPCONEXCL = 0 and IPCONINDFULL = CONTINUING, QUALIFIED, TRANSFER, QUALIFIED_L, CONTINUING_L, TRANSFER_L

Attainment (degree outcomes)

80. Firstly, select students from the relevant year of individualised student data who have studied at the relevant level and the relevant mode. Outcomes are only reported for undergraduate degree qualifiers (level 6+, identified using IPAWARDLEVEL = DEG, PUGD) who were awarded classified degrees. Full-time students can be identified using IPEMPMODE = FT or IPAPPRENTICE = 1, and part-time students with IPEMPMODE = PT and IPAPPRENTICE ≠ 1. If necessary restrict further, to students with the attribute in question, using the filters in Table 3.

Population restrictions

- apply DFAPAPPEXCL = 0 and IPUGBASEQUALPOP = 1 for access and participation data resources

Then:

- denominator of the indicator: IPDOQUALPOP = 1 and IPDODEGCLASS ≠ UNCLASS, NA
- numerator of the indicator: IPDOQUALPOP = 1 and IPDODEGCLASS = FIRST, 2_1

Annex A: Population estimate data

1. Table A1 details the population estimates used as contextual information in the access and participation data.

Table A1: 18-year-old population estimates by characteristic

Characteristic (country)	Split	2016	2017	2018	2019	2020
POLAR4 (UK)	Quintile 1	140,274	138,863	134,212	131,037	128,114
	Quintile 2	146,518	144,331	140,442	137,523	134,654
	Quintile 3	152,193	150,671	146,706	143,353	140,204
	Quintile 4	153,765	153,187	149,710	147,583	143,807
	Quintile 5	178,922	178,793	175,927	173,570	170,474
IMD2015 (England)	Quintile 1	142,757	142,718	140,511	139,026	136,894
	Quintile 2	132,023	130,722	127,375	125,369	123,701
	Quintile 3	122,938	121,115	117,999	114,970	112,627
	Quintile 4	122,773	122,045	118,917	116,085	112,983
	Quintile 5	128,427	128,533	125,434	123,423	120,406
IMD2019 (England)	Quintile 1	140,591	140,333	137,321	135,726	133,784
	Quintile 2	131,958	130,791	127,430	125,430	123,725
	Quintile 3	125,072	123,036	120,379	117,609	115,154
	Quintile 4	123,109	122,352	119,427	116,584	113,227
	Quintile 5	128,188	128,621	125,679	123,524	120,721
Ethnic group (UK)	Asian	63,533	63,122	61,639	60,523	59,278
	Black	27,553	27,383	26,744	26,262	25,730
	Mixed	24,412	24,256	23,687	23,258	22,784
	Other	8,161	8,108	7,917	7,774	7,614
	White	648,013	642,976	627,008	615,250	601,846
Sex (UK)	Female	375,458	372,465	362,219	357,128	347,648
	Male	396,213	393,380	384,777	375,939	369,604

2. The data tabulated in Table A1 has been visualised in Figures A1 to A5.

Figure A1: Proportions of UK 18-year-olds living in POLAR4 quintile areas

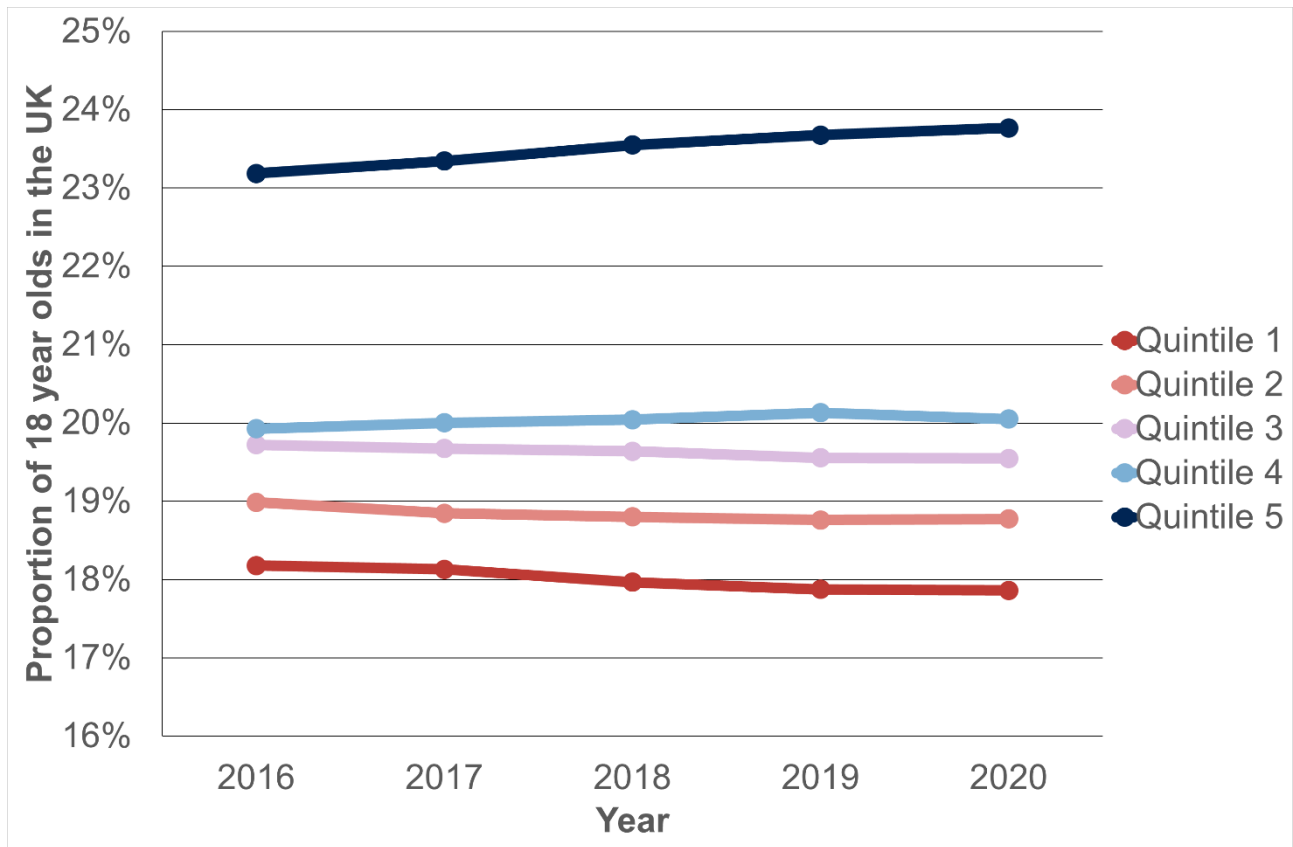


Figure A2: Proportions of 18-year-olds in England living in IMD2015 quintile areas

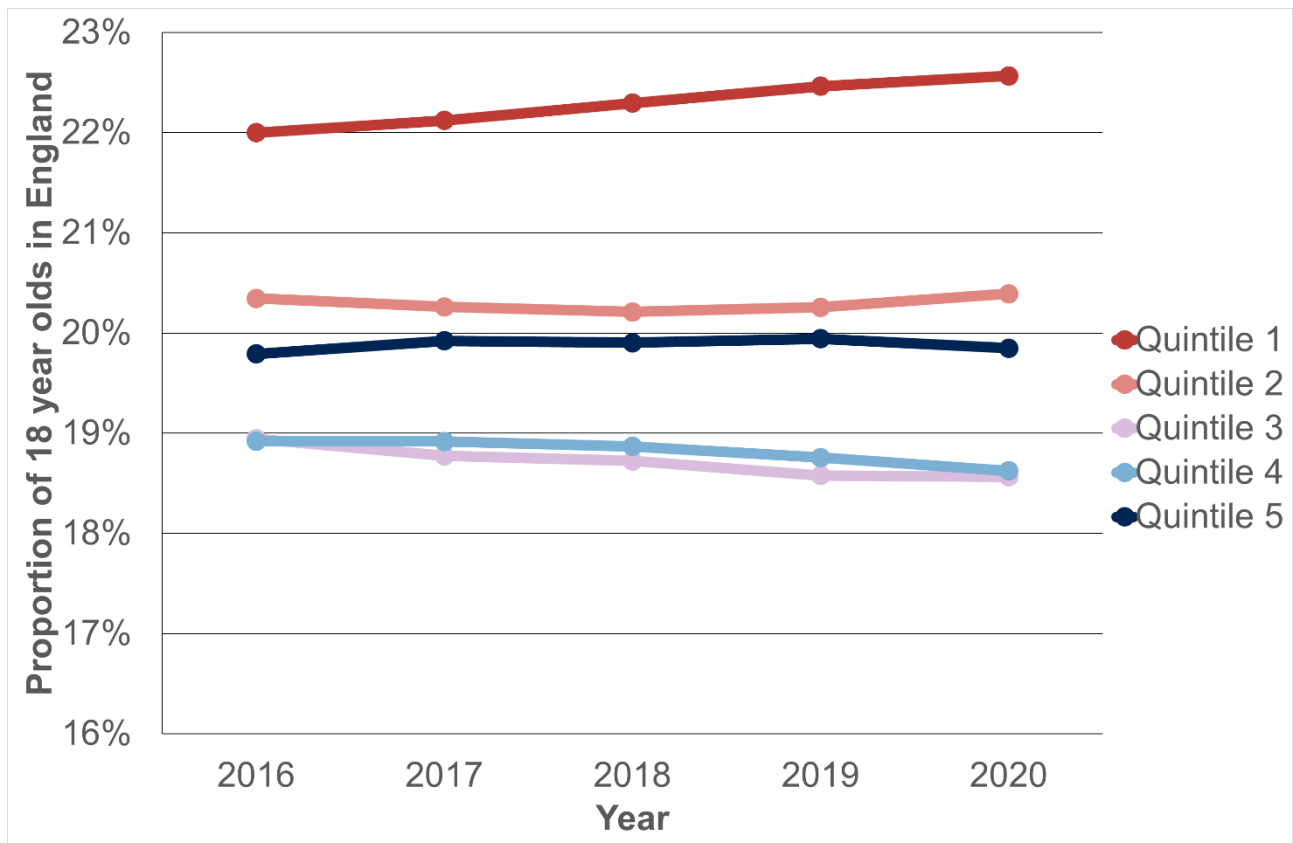


Figure A3: Proportions of 18-year-olds in England living in IMD2019 quintile areas

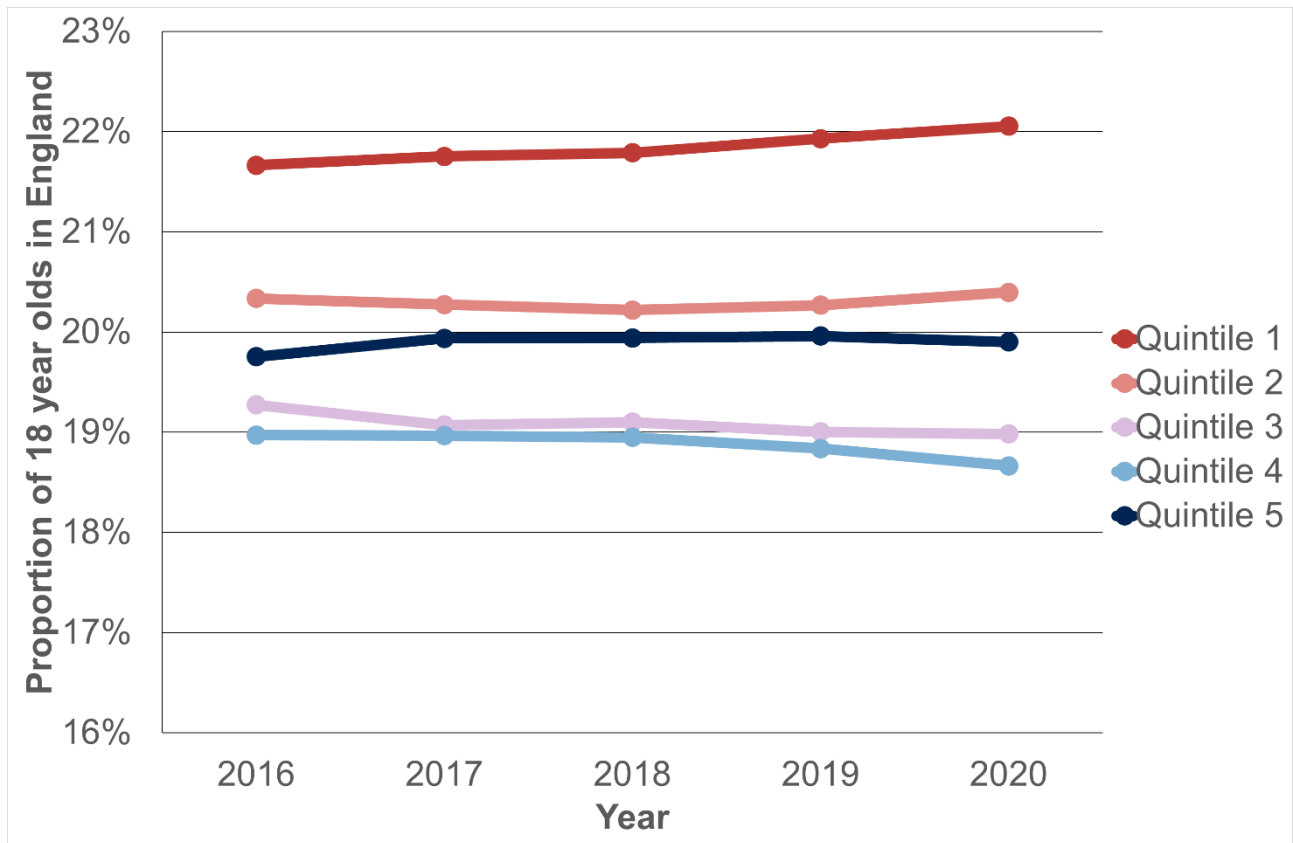


Figure A4: Proportion of UK 18-year-olds from different ethnic groups

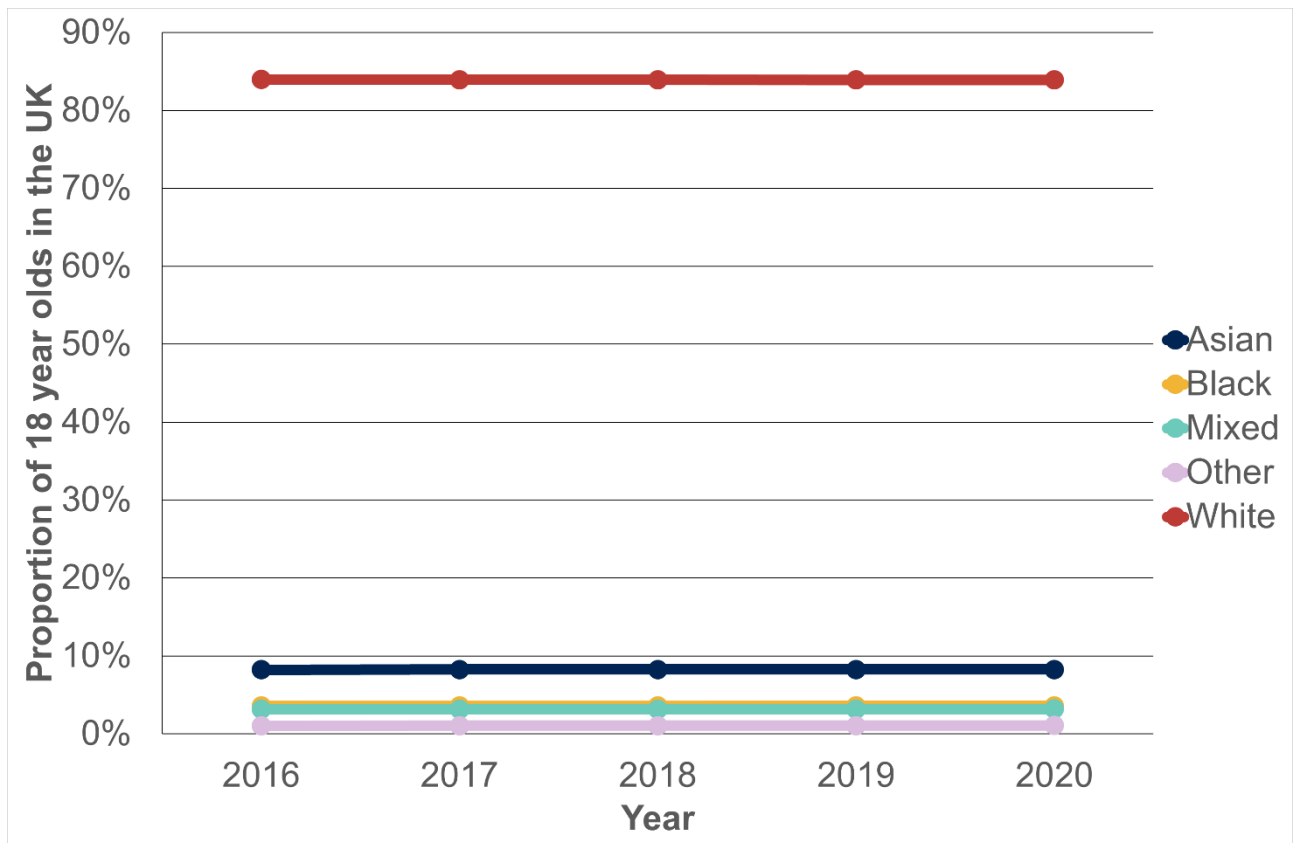
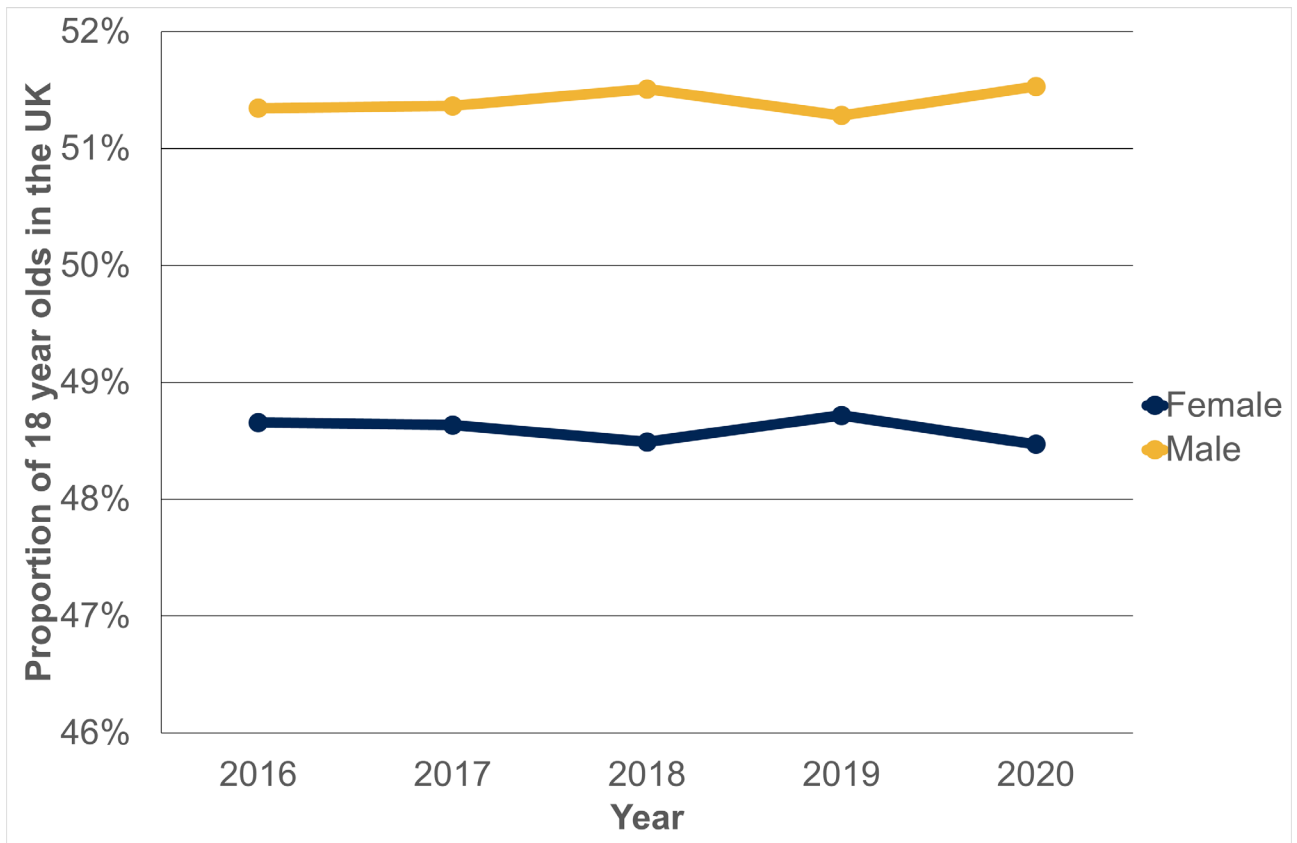


Figure A5: Proportion of UK 18-year-olds by sex



List of abbreviations

ABMO	Asian, black, mixed and other
BAME	Black, Asian and minority ethnic
DLHE	Destination of Leavers from Higher Education
DZ	Data Zone
EU	European Union
FHEQ	Framework for Higher Education Qualifications
FSM	Free school meals
HESA	Higher Education Statistics Agency
ILR	Individualised Learner Record
IMD	Index of Multiple Deprivation
IZ	Intermediate Zone
KS4	Key stage 4
LSOA	Lower Super Output Area
MSOA	Middle Layer Super Output Area
NPD	National Pupil Database
OfS	Office for Students
ONS	Office for National Statistics
PGCE	Post Graduate Certificate in Education
POLAR4	Participation of Local Areas version 4
SOA	Super Output Area
SKE	Subject Knowledge Enhancement
SOC	Standard Occupational Classification
TEF	Teaching Excellence and Student Outcomes Framework



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