Uni Connect national evaluation

An analysis of young participation in higher education in England in the areas targeted by Uni Connect

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Summary

1. This analysis provides an early evaluation of the Uni Connect programme's long-term impact in increasing higher education participation in the target areas, and seeks feedback on the methodology used. However, this analysis should not be interpreted as indicative of Uni Connect's impact to date, as it relates to only two years of Uni Connect outreach delivery to older learners during years 12 and 13, rather than the five years sustained and progressive delivery between years 9 and 13 within the intended programme design.

2. This report:

    - Provides an early evaluation of the effectiveness of the Uni Connect programme in increasing higher education participation in the target areas
    - Finds no evidence that the gap in participation reduced for the cohort of learners that experienced at most two years post-GCSE Uni Connect targeted outreach
    - Finds that the gaps in entry to higher education are highly associated with the gaps in application to higher education, and differences in offer rates or converting offers to places are extremely small in comparison
    - Considers the limitations to evaluation at this stage and using national administrative data
    - Sets out the methodology for future national quantitative analysis
    - Seeks feedback from users on the analytical method to develop this part of the national evaluation approach going forward.

Uni Connect background

3. There are many reasons and circumstances in which a young person may choose to apply to higher education, but there are also barriers to learners' opportunities to progress. Uni Connect[1] (formerly known as the National Collaborative Outreach Programme – NCOP) is an OfS funded programme that supports the delivery of sustained and progressive outreach to target learners in years 9 to 13 of secondary education. The programme brings together 29 partnerships of universities, colleges and other local partners to offer activities, advice and information on the benefits and realities of going to university or college. Phase one of the programme started in January 2017 and ran until July 2019; phase two started in August 2019 and is due to finish in July 2021. Phase three is due to start in August 2021.

4. Phase one of the programme aimed to support the government's social mobility goals by rapidly increasing the number of young people from underrepresented groups who go into higher education. Phase two built on phase one and aimed to:

    - Reduce the gap in higher education participation between the most and least represented groups

[1] For more information on Uni Connect, see www.officeforstudents.org.uk/advice-and-guidance/promoting-equal-opportunities/uni-connect/.

- Support young people to make well-informed decisions about their future education
- Support effective and impactful local collaboration by higher education providers working together with schools, colleges, employers and other partners
- Contribute to a stronger evidence base around 'what works' in higher education outreach and strengthen evaluation practice in the sector.

5. In phase one and two, partnerships focused their outreach on local areas ('wards') with low participation rates and where higher education participation was lower than might be expected given GCSE results of the young people who live there.

Uni Connect evaluation

6. Uni Connect is being evaluated[2] at a national level to assess how successfully the programme meets its aims, in addition to local level partnership evaluation. This report should be considered alongside other evaluation activity. The programme evaluation also includes:
    - Independent impact evaluation to assess changes in learners' higher education knowledge, attitudes, intentions and behaviours that result from Uni Connect activity, including a review of impact evidence from partnerships' local evaluations
    - independent formative evaluation to improve understanding of how the programme is working and drive improvements
    - partnership local evaluations, including longitudinal tracking
    - monitoring activity delivery and learner engagement
    - this analysis of national administrative data.
7. This report presents the analysis which is the first stage of the OfS national evaluation that uses quantitative analysis of national administrative data to assess whether there have been changes in the patterns of access to higher education. This analysis examines whether there is evidence that the aims of increasing the number of young people from underrepresented groups and reducing the gap in higher education participation between the most and least represented groups are being met. In this analysis, most and least represented groups were defined using POLAR[3], a classification of areas across the UK by the proportion of young people who participate in higher education.

[2] See www.officeforstudents.org.uk/advice-and-guidance/promoting-equal-opportunities/uni-connect/evaluating-uni-connects-impact/.

[3] See www.officeforstudents.org.uk/data-and-analysis/young-participation-by-area/about-polar-and-adult-he/.

Method

8. Linked National Pupil Database (NPD)[4] and UCAS data were used to measure the proportion of young people applying to and being accepted into higher education. The data included cohorts of young people who would have applied to higher education aged 18 between 2012 and 2019, and focused on the comparison between those who applied in 2016 (before Uni Connect started) with those who applied in 2019 (when the latest UCAS data was available). The young people who applied in 2016 would not have experienced outreach through Uni Connect. The young people who applied in 2019 could have experienced Uni Connect outreach primarily in two years (years 12 and 13) of school or college, rather than the five years between years 9 and 13 that the programme is designed for.

9. The analysis includes:

    - A descriptive analysis of the application data trends across the whole population, between young people from areas with the highest and lowest participation (POLAR), and between young people from the areas where Uni Connect partnerships have targeted outreach and young people from other areas.

    - A descriptive analysis of the relationship between GCSE results and the gaps in application patterns between young people from the areas where Uni Connect partnerships have targeted outreach and young people in other areas. This analysis reproduced findings from the original 2016 analysis which identified target areas for Uni Connect, and informs the statistical modelling in the next step.

    - Two statistical modelling approaches were taken to evaluate whether the gaps between Uni Connect target areas and other areas have changed, taking other factors into account. In both approaches the counterfactual group was taken from learners that do not live in Uni Connect target areas, but removed those learners who attended schools with learners from Uni Connect target areas and therefore may have benefitted from the programme. The first approach uses a matched counterfactual group, comparing learners from Uni Connect areas with an identical number of other learners who have the same characteristics as measured in the data. The second approach compares learners from Uni Connect areas with all the other learners and uses a statistical model to control for the different characteristics between the groups.

[4] The Department for Education (DfE) does not accept responsibility for any inferences or conclusions derived from the NPD data by third parties.

Table 1: The four cohorts used in the statistical modelling

Potential number of complete years of Uni Connect	Year 9	GCSE summer (key stage 4)	UCAS application year
No Uni Connect	2012-13	2014	2016
No substantial Uni Connect (in year 13 as programme launched)	2013-14	2015	2017
Uni Connect in year 13	2014-15	2016	2018
Uni Connect in year 12 and 13	2015-16	2017	2019

Limitations

10. It is important to note that several limitations surrounding the data and timeliness of this evaluation exist. These include the following:

- It is still too soon to analyse the applications to higher education of learners who had the opportunity to engage with the Uni Connect programme in a sustained and progressive way from year 9 to year 13 as the programme intends. The latest year of UCAS application data in this report was for the 2019 application cycle. The applicants who were aged 18 in the 2019 application cycle would have been taking their GCSEs as phase one of Uni Connect was being established in 2017. These learners were likely to have already made decisions about their next steps after GCSEs and they would have only had the opportunity to experience Uni Connect for two years post-GCSE at most.

- With this data, we were not able to identify the individuals with whom the partnerships have worked as part of the Uni Connect programme, only to identify individuals who lived in the Uni Connect target wards while in key stage 4 (the year that most take GCSEs). Other parts of the evaluation of Uni Connect do track the learners with whom the partnerships have worked, but this information is not available in the national administrative data.

- Similarly, the data does not identify individuals who have engaged with other outreach programmes. Therefore, there will be some people who have experienced other outreach programmes in the group who we compare with learners from Uni Connect areas.

- One part of our analysis used a matched counterfactual group. This is a group of learners who are as similar as possible to those living in Uni Connect target areas, which are used as a comparator group. The quantitative administrative data does not capture all factors that are associated with participation in higher education; therefore this will always be a partial match and factors that are important to participation will remain unbalanced across the two groups. For example, the data does not capture the level of school or parental support each learner received.

- To use data that is available earlier than higher education entry data, we based our analysis on applications and acceptances through UCAS at age 18 for full-time

undergraduate courses, but this dataset will differ slightly from higher education participation that includes more courses (such as part-time courses), and entry by age 19.

- In the interpretation of the analysis, we assume that gaps would have continued to remain at the size they were in 2016 and earlier, if the Uni Connect programme had not been put in place. This in part assumes that there was no outreach targeted at closing the same gaps before Uni Connect, either that stopped when Uni Connect launched or became incorporated into the programme.

11. It is also important to note that the analysis in this report is not able to determine causality between Uni Connect and trends in higher education participation at a national level. It does identify whether the national participation gaps between the most and least represented areas are closing and whether this is evident in Uni Connect targeted areas, but it cannot attribute causality to the Uni Connect programme. From the administrative data alone, it is not possible to distinguish the underlying reason for any change in participation in higher education, or to know whether an individual would have progressed without outreach intervention.

12. Bearing these limitations in mind, we remain confident that this analysis sets out a valuable method for future evaluation.

Findings

In this report we use four measures relating to success in getting into higher education:

Application rates: The proportion of the population that apply to higher education through UCAS (calculated by applicants/population – see Table 1 for definitions).

Offer rates: The proportion of applicants that receive at least one offer (calculated by offered/applicants – see Table 1 for definitions).

Acceptance rates: The proportion of applicants that are accepted to start higher education (calculated by accepted/applicants – see Table 1 for definitions).

Entry rates: The proportion of the population accepted to start higher education (calculated by accepted/population – see Table 1 for definitions).

13. Our analysis finds that for 18-year-olds in England applying to full-time undergraduate courses through UCAS:

- There is no evidence that the gaps in application rates or entry rates have reduced for the cohort of learners who could have experienced Uni Connect sustained and progressive outreach for the two years post-GCSE (years 12 and 13). Gaps in application rates between learners from Uni Connect target areas and other learners changed very little between 2016 (16.1 percentage points) and 2019 (16.0 percentage points). Comparing to a matched counterfactual group reduced the gap from around 16 percentage points to around 5 percentage points in each year, suggesting that the factors used for matching (GCSE results, free school meal eligibility (FSM), sex and ethnicity) are associated with around 11 percentage points of the gap. Using an alternative approach of including all learners and

controlling for other factors in a statistical model resulted in the same conclusion: there was no evidence that the gaps have reduced for this cohort that had at most two years of Uni Connect outreach.

- We examined the different stages in the application process to see where the gaps between most and least represented groups were greatest. We found that gaps in application rates are the biggest contributing factor to the gaps in participation in higher education. Very small gaps in offer rates have narrowed further since the launch of Uni Connect but these have only a small impact on gaps in participation. Similarly, small gaps in acceptance rates have narrowed slightly. This confirms that in recent years the greatest potential for increasing participation came from removing barriers to applying to higher education and that closing the gaps that remain in offers and acceptances have less potential to increase participation.

- We showed that GCSE attainment at key stage 4 was strongly related to the likelihood of applying to higher education. Gaps in application rates between learners from Uni Connect target areas and other learners were persistent for those with 4 to 5 'standard pass'[5] GCSEs (A* to C or 4 to 9) and the gaps widened as the number of 'standard pass' GCSEs increases.

Next steps

14. The next steps are to:

- Consider feedback received for this analysis.

- Later in 2021, update this analysis to include the next cohort using the 2020 application data. Although most 18-year-olds would have applied before the pandemic in 2020 there would have been some changes to late applications and the proportion of applicants that were successful in their applications. We need to consider this in the update.

- In 2022, repeat the analysis using the student data and using participation by age 19. This will include higher education not included in the UCAS Undergraduate scheme such as part-time study and will include entry at age 19.

This report provides quantitative analysis of Uni Connect using national administrative data and is an official statistic which falls under the official statistics Code of Practice. We are actively seeking feedback for this analysis.

Please email comments to Elena Mollova at official.statistics@officeforstudents.org.uk.

[5] See https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/800506/GCSE_factsheet_for_employers_FE_and_HE_providers__final_.pdf [PDF].

Introduction

15. The purpose of this analysis was to assess whether higher education access for some underrepresented groups in England increased, or did so at a faster pace compared to other groups, since Uni Connect's launch in 2017. This report sets out an approach to a national quantitative analysis of administrative data as part of the Uni Connect evaluation. We aim to update and improve the approach as more data becomes available.

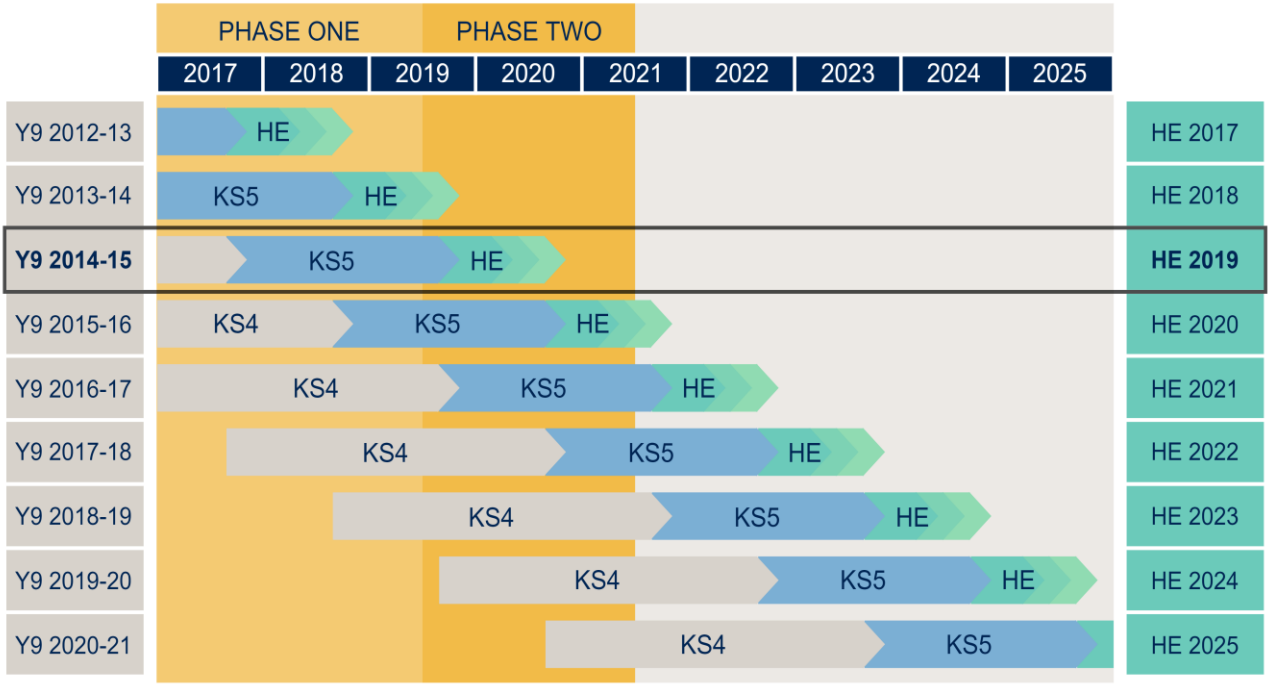
16. Since Uni Connect's launch, the partnerships that deliver the programme have focused on local areas where higher education participation is low, and lower than might be expected given the GCSE results of the young people who live there. These areas were identified by HEFCE through analysis[6] of linked NPD and Higher Education Statistics Agency (HESA) data. In this report we refer to these areas as 'Uni Connect areas' and the learners who live in these areas as 'Uni Connect learners' (note that this does not identify the individuals which partnerships have engaged).

17. In practice, partnerships usually deliver their work within schools and colleges, and these schools and colleges are targeted because they have higher proportions of Uni Connect learners studying there. Learners at the same school or college who are not from Uni Connect areas may also experience some benefit from the outreach. This is called a spillover effect; there is a strong possibility that spillover effects could occur at these schools and colleges. In our analysis we have attempted to minimise the spillover effects by removing from the analysis learners who do not live in Uni Connect areas, but attend schools or colleges that Uni Connect partnerships have worked with.

18. Uni Connect aims to deliver sustained and progressive outreach to learners during years 9 to 13 of secondary education. This means that partnerships work with five cohorts of learners in each year of the programme. In the first five years of the programme, each cohort applying for higher education will have had increasing numbers of years of sustained and progressive outreach (see Figure 1). It will not be until 2022 that 18-year-old applicants through UCAS will have had the opportunity to engage with Uni Connect throughout all of years 9 to 13 of secondary education. This analysis includes UCAS applications up to 2019. These learners would have been taking their GCSEs in 2017 when the programme was being established and it is unlikely that they would have engaged with Uni Connect until the following year when they were in year 12. They would have mostly made their decisions about post-16 choices before experiencing Uni Connect and, although they could have taken part in some outreach in years 12 and 13, they would have not experienced the sustained and progressive programme of outreach in years 9 through to 11, i.e. at most they have engaged for the last two out of the five years between years 9 and 13.

[6] See https://webarchive.nationalarchives.gov.uk/20180405121738/http://www.hefce.ac.uk/analysis/yp/gaps/.

Figure 1: Uni Connect learner cohorts and higher education (HE) entry with latest cohort highlighted



19. This analysis uses linked NPD[7] to UCAS data to investigate patterns in higher education access gaps since Uni Connect's launch. Changes may arise from a combination of effective targeting and effective outreach, and this data cannot be used to determine why changes might have happened (other elements of the programme evaluation are designed to do this). The purpose is to evaluate whether the overarching aim of the program has been met: to increase representation from underrepresented groups and reduce the gap in higher education participation between the most and least represented groups. It cannot attribute causality to any change.

20. The report includes:

- Analysis of the trends in four outcome measures from the application process
- Description of the relationship between application and GCSE attainment and how that relates to Uni Connect target areas
- Two approaches to modelling the gaps and the change in those gaps between 2016 and 2019. Both use logistic regression modelling, the first using a matched counterfactual and the second using the whole population and accounting for other factors within the model.

[7] The Department for Education (DfE) does not accept responsibility for any inferences or conclusions derived from the NPD data by third parties.

Population

21. The analysis in this report is performed on a population defined by data from DfE's National Pupil Database (NPD). It includes up to eight cohorts of learners who obtained their key stage 4 qualifications (in year 11 of secondary education) – most commonly GCSEs – from summer 2010 to the summer of 2017.

22. Learners included in this population will have:

    - Attended a state-funded mainstream school or college located in England
    - Been resident in England
    - Been 16 years old by the end of their key stage 4 academic year.

23. NPD data for the eight cohorts of 16-year-old state-funded mainstream school or college learners was linked to the UCAS data using personal characteristics such as name and postcode. The matching process takes account of differences in how personal characteristics are recorded between the datasets, for example including name misspellings or typos. Ultimately, we are tracking how many of the original population of 16-year-old learners in England applied to and were accepted to start a course at a higher education provider through UCAS by age 18.

24. If a learner applied to higher education more than two years after their final key stage 4 year, this would not be captured in this analysis. Additionally, we acknowledge that some students may be accepted to start in higher education without using the UCAS Undergraduate scheme. For example, they may apply to a conservatoire, or to a part-time course. Nevertheless, most applications by 18-year-olds will be through UCAS. The UCAS data is available much earlier than the higher education data and therefore we can look at more recent data.

25. If a learner moves school or moves to a college after their final key stage 4 year, we do not track this movement in the data. We identify Uni Connect learners by the area in which they were living during key stage 4; therefore this would not change if they moved to a new school or college post-16.

Outcome measures

26. The aim of the Uni Connect programme is to reduce the gaps in higher education participation between the most and least represented groups[8]. Young participation is defined as entering higher education by the age of 19 and usually measured using HESA and Individual Learner Record (ILR) student records. However, this data is not available for over a year after any cohort could have entered higher education aged 19.

27. The linked NPD and UCAS admissions data at age 18 enabled us to take an earlier view of access outcomes than would be possible using higher education participation data. The UCAS data includes application cycles from 2012 to 2019. Outcomes measures from the different stages of the student application lifecycle were split into two broad types: population-referenced and applicant-referenced rates.

In this report we use four outcome measures relating to success in getting into higher education:

Application rates: The proportion of the population that apply to higher education through UCAS (calculated by applicants/population – see Table 1 for definitions).

Offer rates: The proportion of applicants that receive at least one offer (calculated by offered/applicants – see Table 1 for definitions).

Acceptance rates: The proportion of applicants that are accepted to start higher education (calculated by accepted/applicants – see Table 1 for definitions).

Entry rates: The proportion of the population accepted to start higher education (calculated by accepted/population – see Table 1 for definitions).

28. In the linked NPD and UCAS data, higher education participation was measured by the proportion of the school population that were accepted to start a higher education course, referred to in this report as the entry rate. This outcome measure was the closest aligned to the aims of the programme. We call it an entry rate to distinguish it from the acceptance rate, which is a rate conditional on having applied, whereas the entry rate applies to the whole population.

29. We were also interested in whether underrepresented groups were less likely to apply for higher education as measured by an application rate. The application rate is the proportion of the school population that applied for higher education through UCAS. The application rate was important because we wanted to establish whether access gaps were influenced by whether learners apply, or whether they have different levels of success in getting a place after applying.

30. The application rate and entry rate are population-referenced rates because they are calculated as a percentage of the school population. In addition, we looked at two applicant-referenced rates that enabled us to look more closely at the process of applying. These were the acceptance rate and the offer rate. The acceptance rate is the proportion of applicants that

[8] See www.officeforstudents.org.uk/advice-and-guidance/promoting-equal-opportunities/uni-connect/.

were accepted at the end of the cycle and the offer rate is the proportion of applicants that received at least one offer. In our definition of offer we include those who are accepted at the end of the cycle as logically having received an offer, but this may be an offer in clearing and not an offer to one of their original applications.

Table 1: Data used for the outcomes measures

	Population	Applicants	Offered	Accepted
Source	NPD	UCAS	UCAS	UCAS
Doing what?	Key stage 4, typically entering GCSEs	Make an application to higher education recorded through UCAS	Receive at least one offer. Offer held on 30 June or accepted at the end of the cycle	Accepted to enter higher education at the end of the cycle
When?	Learners aged 16 at the end of the year	Two years after GCSEs, aged 18 at the end of the year	Two years after GCSEs, aged 18 at the end of the year	Two years after GCSEs, aged 18 at the end of the year

Summary statistics of current trends

31. In this section we show the headline outcome measures over an eight-year period that starts five years before Uni Connect was launched and finishes two years after it begun. We look at a long time series so that we can compare the trends in the later part of the time series with the context of how things were changing before.

32. We start with the measures for the full school population and move on to look at gaps between the most and least represented groups that the programme was designed to address (defined by POLAR). Finally we examine the gaps between the specific areas that the Uni Connect partnerships have targeted and other areas.

Whole school population

33. The application rate measures the level of demand for higher education from our population of school and college leavers. It has increased each year, from 31.2 per cent in the 2012 application cycle to 38.8 per cent in the 2019 application year. Over the same period the entry rate of the same learners increased each year from 25.7 per cent in 2012 to 33.7 per cent in 2019. Uni Connect was launched in 2017, during this period of year-on-year increases.

34. Across all these years, the offer rate was extremely high. By the time that Uni Connect launched in 2017 98.1 per cent of applicants received at least one offer. Similarly, a high proportion of applicants were accepted by the end of each year, with the acceptance rate reaching approximately 87 per cent in each of the last three years.

Table 2: Outcome measures for the whole school population

Outcome measure	2012 entry	2013 entry	2014 entry	2015 entry	2016 entry	2017 entry	2018 entry	2019 entry
Application rate	31.2%	32.4%	33.8%	34.5%	35.8%	36.5%	37.0%	38.8%
Entry rate	25.7%	27.4%	28.7%	29.7%	31.0%	31.7%	32.2%	33.7%
Offer rate	95.7%	96.4%	96.9%	97.3%	97.6%	98.1%	98.4%	98.5%
Acceptance rate	82.4%	84.6%	84.9%	85.9%	86.6%	86.9%	87.1%	87.0%

POLAR

35. One of the original aims of Uni Connect was raising higher education participation of young people from underrepresented groups, as measured by POLAR.[9] POLAR classifies areas across the UK by the proportion of young people who participate in higher education; quintile 1 represents the areas with the lowest participation rates and quintile 5 the areas with the highest participation rates. POLAR3 was current when Uni Connect was launched, and increasing the participation rate from POLAR3 quintile 1 areas was the eventual aim of the programme.

[9] See www.officeforstudents.org.uk/data-and-analysis/young-participation-by-area/about-polar-and-adult-he/.

Hence, we first calculated the four outcome measures for learners in the school population living in POLAR3 quintile 5 and POLAR3 quintile 1 areas for each of the years in the time series.

36. Throughout this analysis we looked at the difference between the cohort that applied to higher education aged 18 in 2016 (the last year before the introduction of Uni Connect) and the cohort that applied aged 18 in 2019 (the latest year with available data). This gave us an understanding of the direction of travel for progression rates between these two reference points. As discussed earlier, even in 2019, learners would have been in their GCSE year and mostly had already made decisions about key stage 5 when Uni Connect was launched. We will need another two to three years of UCAS application data before we can see a cohort that could have experienced sustained and progressive Uni Connect outreach from year 9. The earliest that this data (based on applications to start in 2022) will be available is spring 2023.

37. The results of this analysis indicated whether the four different outcome measures have moved in the same direction, with the same pace, across the POLAR3 quintiles and/or whether the gaps between quintile 1 and quintile 5 are increasing or decreasing. Looking at all four rates at the same time meant we were able to investigate if the gaps between the most and least represented learners are growing or shrinking in similar ways along the student application lifecycle.

38. We have concluded that first making an application is the stage of the process that is the largest contributing factor to the participation gap. Within the application process there are smaller gaps, partly from differences in offer rates, but these are very small in comparison to the application rate gap. The following sections give details of our findings for each outcome measure.

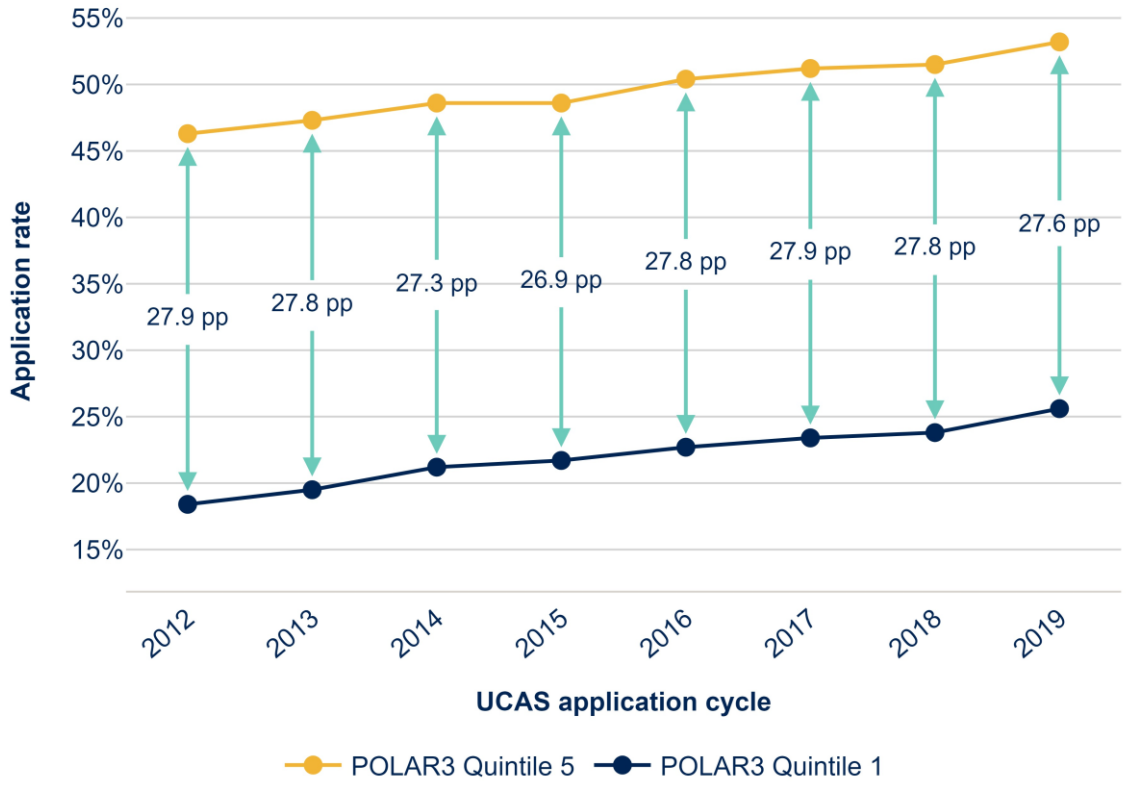
Application rate

39. In this analysis, the application rate is the proportion of the population who apply to higher education through UCAS. Figure 2 shows the application rates for learners from POLAR3 quintile 5 and quintile 1 areas in England between 2012 and 2019. The application rates increased from 31.2 per cent in 2012 to 38.8 per cent in 2019. Application rates from both POLAR3 quintile 1 and quintile 5 areas increased each year. In each year there was a substantial gap of around 27 to 28 percentage points between the application rate from the two areas. This means that young people from the most represented areas were more than twice as likely to apply for higher education in the academic year that they are 18 years old than those from the least represented areas.

40. Between 2016 and 2019, application rates grew from 22.7 per cent to 25.6 per cent in POLAR3 quintile 1 areas (up 2.9 percentage points), and from 50.4 per cent to 53.2 per cent in quintile 5 areas (up 2.8 percentage points). The absolute increase in rates was broadly the same, with a slightly greater increase from the most underrepresented areas. Proportionally this will be a much greater increase from POLAR3 quintile 1 areas because they had much lower application rates in 2016 than POLAR3 quintile 5 areas.

41. This means that the gap in application rates between quintile 1 areas and quintile 5 areas decreased by a relatively small amount (0.2 percentage points) between 2016 and 2019 and was 27.6 percentage points in 2019.

Figure 2: Gaps in application rates between POLAR3 quintiles 1 and 5



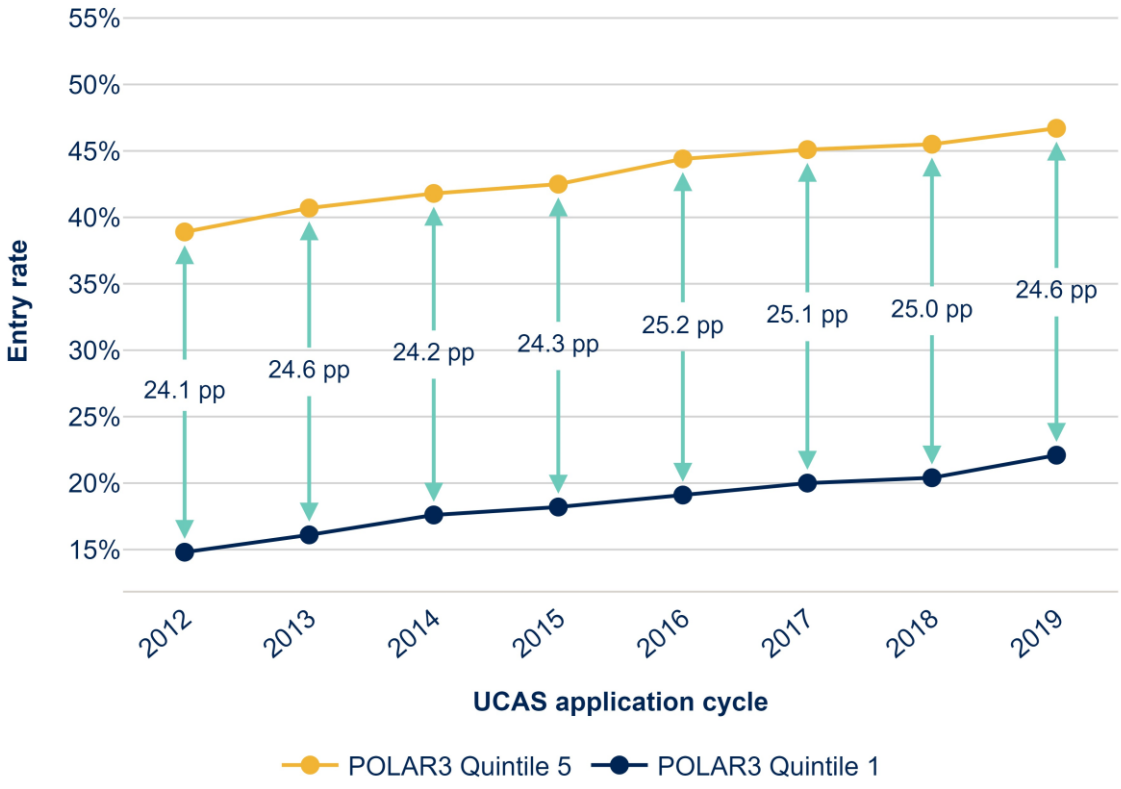
Entry rate

42. In this analysis, the entry rate is the proportion of the population who were accepted to start higher education. Table 2 shows that across England, entry rates also grew during the time period – from 25.7 per cent in 2012 to 33.7 per cent in 2019. Entry rates from both POLAR3 quintile 1 and quintile 5 areas increased each year, as seen in Figure 3. In each year there was a substantial gap of around 24 to 25 percentage points between the entry rate from the two areas. This means that young people from the most represented areas were more than twice as likely to be accepted in the academic year that they are 18 than those from the least represented areas.

43. Entry rates grew from 19.1 per cent to 22.1 per cent (up 3.0 percentage points) in POLAR3 quintile 1 areas, and from 44.4 per cent to 46.7 per cent (up 2.3 percentage points) in quintile 5 areas, between the years 2016 and 2019. This once again means quintile 1 applications showed a slightly larger growth and the gaps in entry rates between quintiles 1 and 5 actually decreased by 0.6 percentage points between 2016 and 2019. Note that percentage point differences in this report have been calculated from unrounded numbers and sometimes are different from the difference of the rounded numbers elsewhere in the report.

44. This means that the gap in entry rates between quintile 1 areas and quintile 5 areas decreased by a relatively small amount (0.6 percentage points) between 2016 and 2019 and was 24.6 percentage points in 2019.

Figure 3: Gaps in entry rates between POLAR3 quintiles 1 and 5



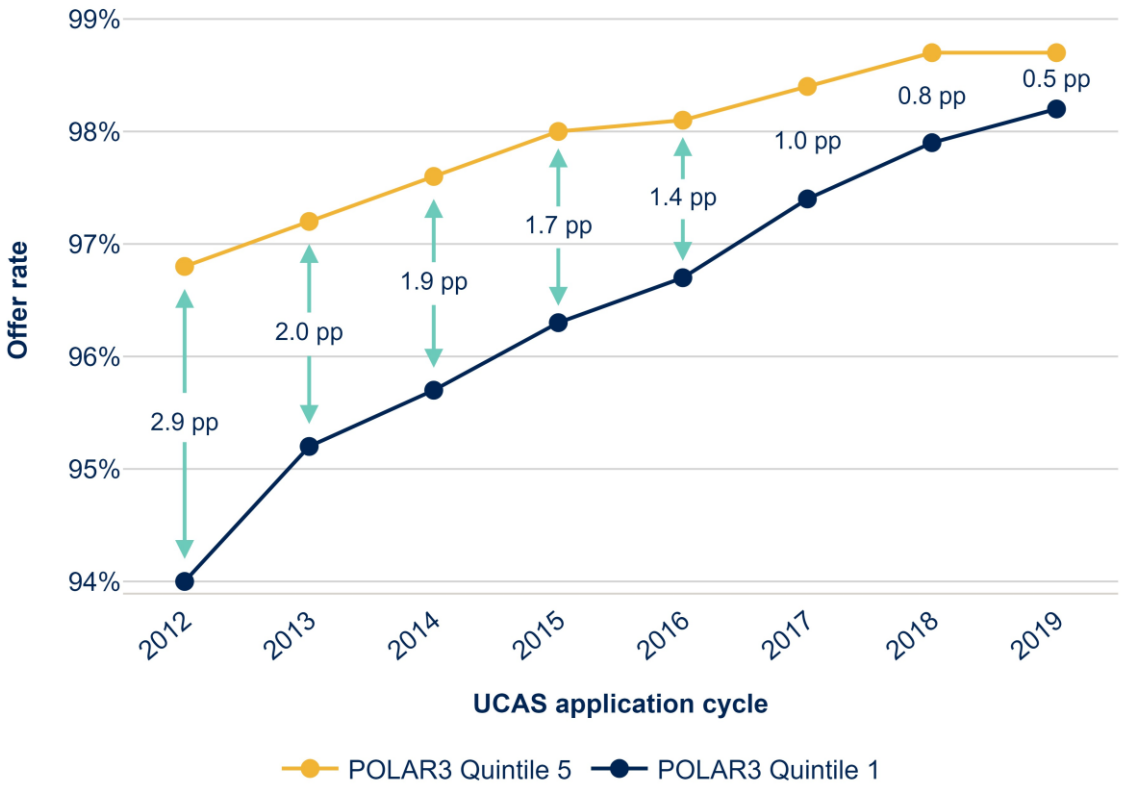
Offer rate

45. The offer rate is the proportion of applicants who receive at least one offer. Table 2 shows that offer rates have historically been very high for all school leavers: more than 97 per cent of applicants received at least one offer by the end of the 2016 UCAS application cycle.

46. In all years there is a gap in offer rates between learners from POLAR3 quintile 1 and quintile 5 areas, but it had already reduced to 1.4 percentage points in 2016 and was only 0.5 percentage points in 2019. In 2019, 98.2 per cent of school leavers from POLAR3 quintile 1 areas received at least one offer compared to 98.7 per cent of school leavers from quintile 5 areas. (See Figure 4.)

47. The size of this gap is useful to compare with the acceptance rate gap to understand how much of the differences in success after application is due to getting an offer.

Figure 4: Gaps in offer rates between POLAR3 quintiles 1 and 5



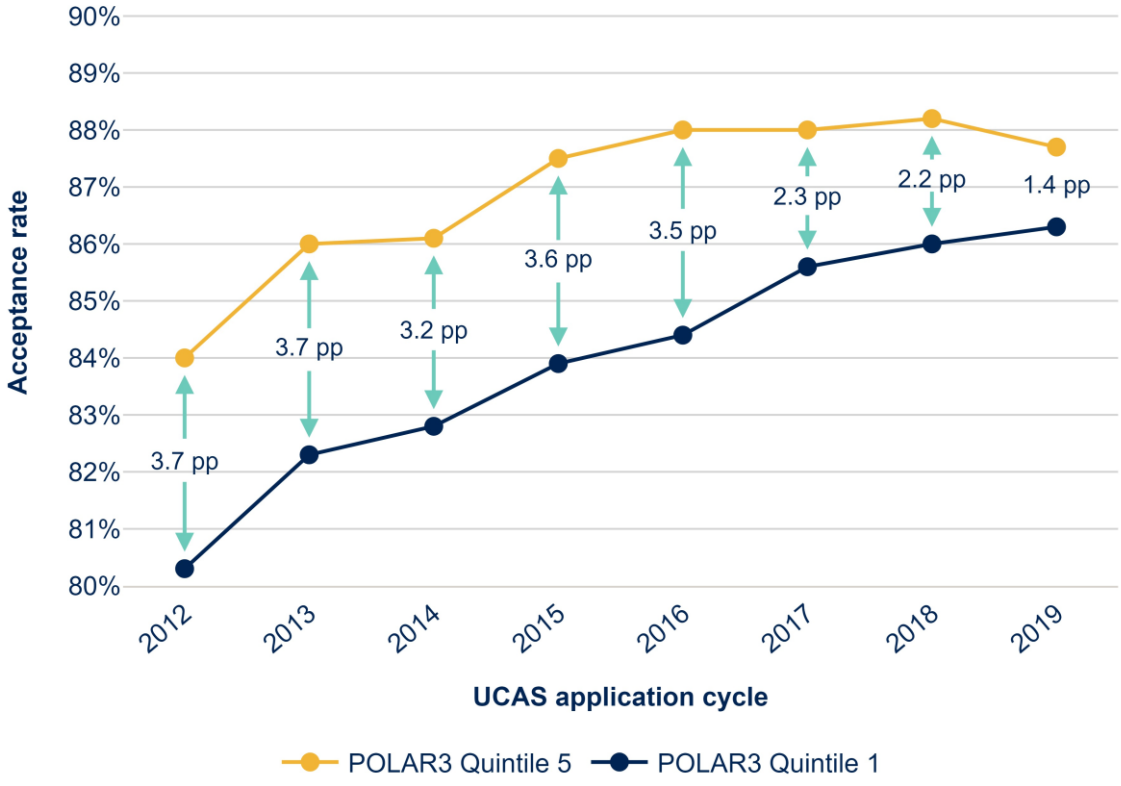
Acceptance rate

48. The acceptance rate is the proportion of applicants that are accepted to start higher education. Table 2 shows that acceptance rates were also relatively high for all applicants, with more than 86 per cent of applicants accepted by the end of the 2016 UCAS application cycle.

49. In all years there is a gap in acceptance rates between POLAR3 quintile 1 and quintile 5 areas (see Figure 5). This gap was around 3.2 to 3.7 percentage points until 2016, and had reduced to 1.4 percentage points in 2019. The gap narrowed because the acceptance rate for school leavers from POLAR3 quintile 5 remained around 88 per cent between 2016 and 2019, but the acceptance rate for those from quintile 1 continued to increase each year and was 86.3 per cent in 2019.

50. If the gap in acceptance rates closed and 88 per cent of applicants were accepted from all areas, then the gap in the entry rate would reduce from 24.6 percentage points to 24.2 percentage points. This means that the greatest effect on the gaps in participation between POLAR3 quintile 1 and quintile 5 can be made by closing the gap in application rates.

Figure 5: Gaps in acceptance rates between POLAR3 quintiles 1 and 5



51. These findings are summarised in Table 3 below.

Table 3: Gaps in outcomes measures between learners from POLAR quintile 1 and quintile 5 areas

Outcome measure	2012 entry	2013 entry	2014 entry	2015 entry	2016 entry	2017 entry	2018 entry	2019 entry
Gap in application rates	27.9 pp	27.8 pp	27.3 pp	26.9 pp	27.8 pp	27.9 pp	27.8 pp	27.6 pp
Gap in entry rates	24.1 pp	24.6 pp	24.2 pp	24.3 pp	25.2 pp	25.1 pp	25.0 pp	24.6 pp
Gap in offer rates	2.9 pp	2.0 pp	1.9 pp	1.7 pp	1.4 pp	1.0 pp	0.8 pp	0.5 pp
Gap in acceptance rates	3.7 pp	3.7 pp	3.2 pp	3.6 pp	3.5 pp	2.3 pp	2.2 pp	1.4 pp

Uni Connect target wards

52. Uni Connect partnerships focus their work on the areas where higher education participation is low and lower than might be expected given the GCSE results in that area. These are known as ‘Uni Connect target wards’ and, in this report, we refer to pupils who live in such target wards as ‘Uni Connect learners’. We were not able to identify the individual learners who have engaged with Uni Connect and therefore our analysis was not able to distinguish between the effectiveness of the programme’s outreach and the effectiveness of the targeting.

53. There is a considerable overlap between Uni Connect target wards and POLAR3 quintile 1 areas, with 84 per cent of learners who lived in POLAR3 quintile 1 areas also in Uni Connect target wards. This is because the aim of the target wards was to identify those areas where the programme had the most potential to increase participation from the least represented areas.

54. The trends for both the outcome measures for Uni Connect learners and other learners, and the gaps between Uni Connect learners and non-Uni Connect learners, followed a similar pattern to the ones described above for POLAR3 quintiles. Application rates and entry rates have been increasing by approximately the same amount each year from Uni Connect target areas and in other areas (see Figures 6 and 7). This means that the gaps between application and entry rates decreased very slightly between 2016 and 2019, but remain higher than they were in 2012. The gap in entry rates has decreased by slightly more than the gap in application rates (0.5 percentage points compared with 0.1 percentage points).

Figure 6: Gaps in application rates between Uni Connect and non-Uni Connect learners

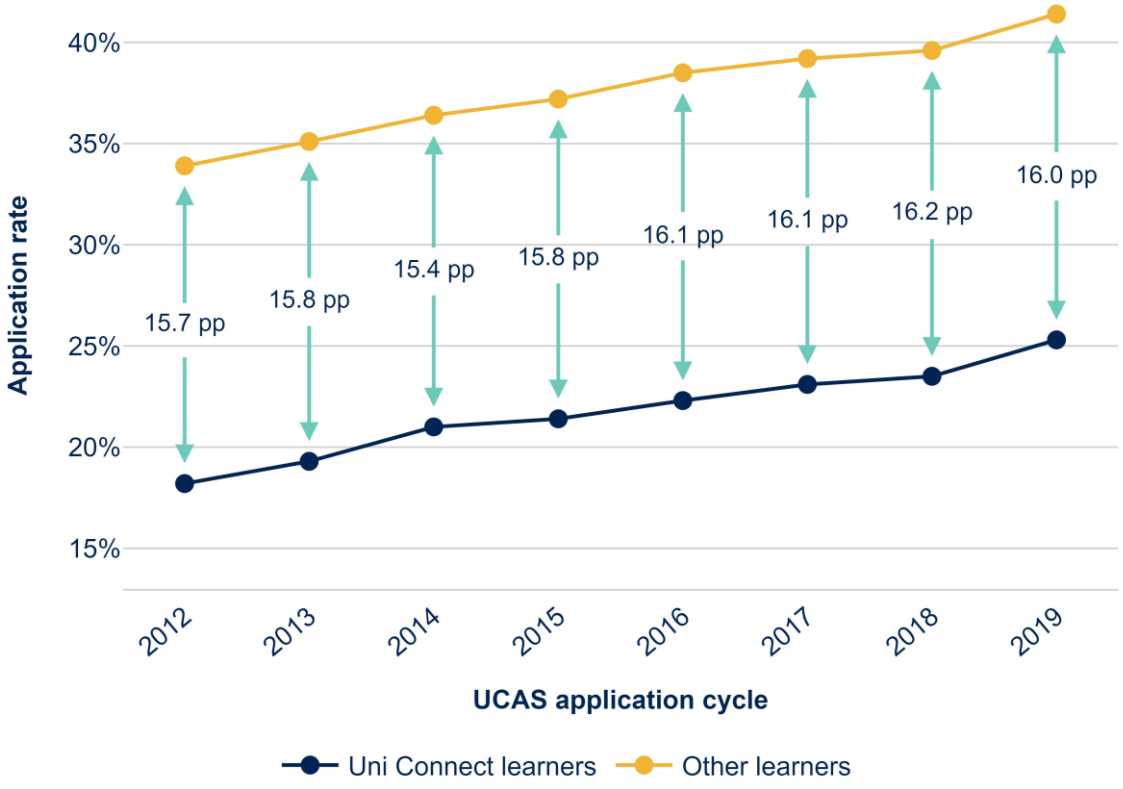
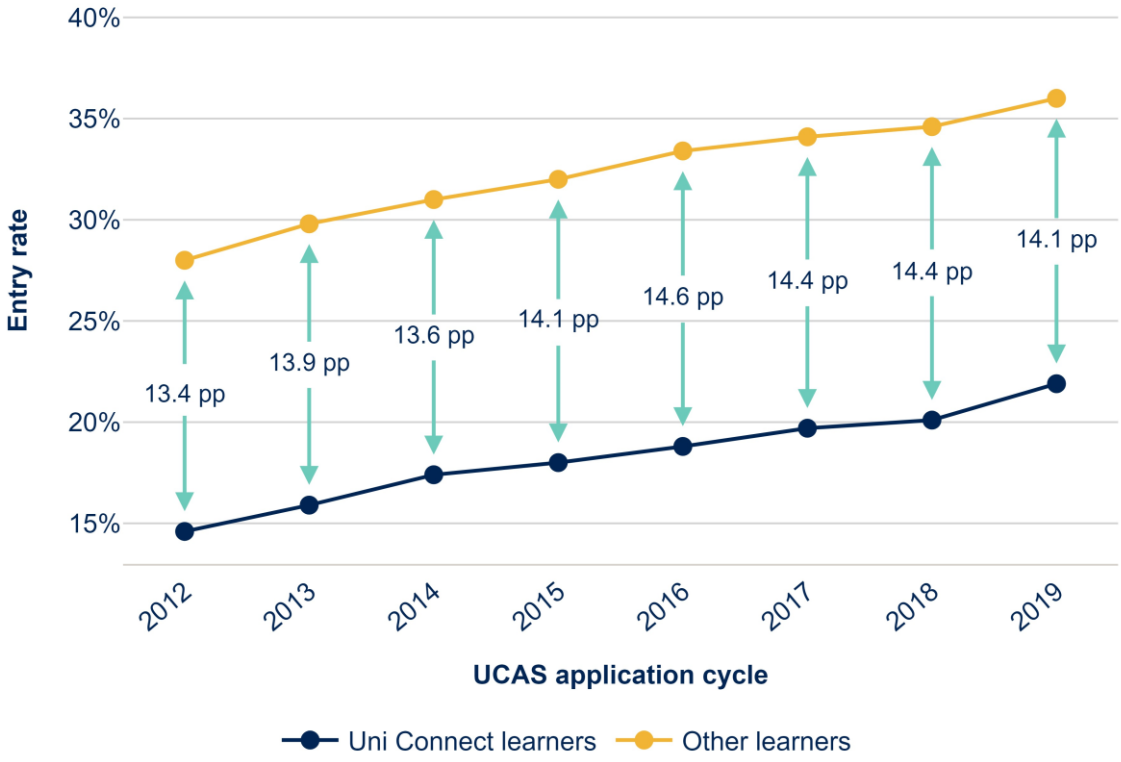


Figure 7: Gaps in entry rates between Uni Connect and non-Uni Connect learners



55. The reason why the entry rate gap has decreased by slightly more than the application rate gap is because the offer rate and acceptance rate gaps have reduced considerably since 2012.

56. The offer rate gap decreased from 1.0 percentage point in 2016 to 0.3 percentage points in 2019 (see Figure 8). This was a continuation of the trend of a gap that had been decreasing year on year since 2012.

57. The acceptance rate gap decreased from 2.5 percentage points in 2016 to 0.7 percentage points in 2019 (see Figure 9). This was a change – the gap had been consistently around 2.2 to 2.7 percentage points between 2012 and 2016. Despite these gaps closing considerably, the entry rate gap remained considerable because of the application rate gap. The greatest effect on the gaps in participation between Uni Connect learners and other learners can be made by closing the gap in application rates.

Figure 8: Gaps in offer rates between Uni Connect and non-Uni Connect learners

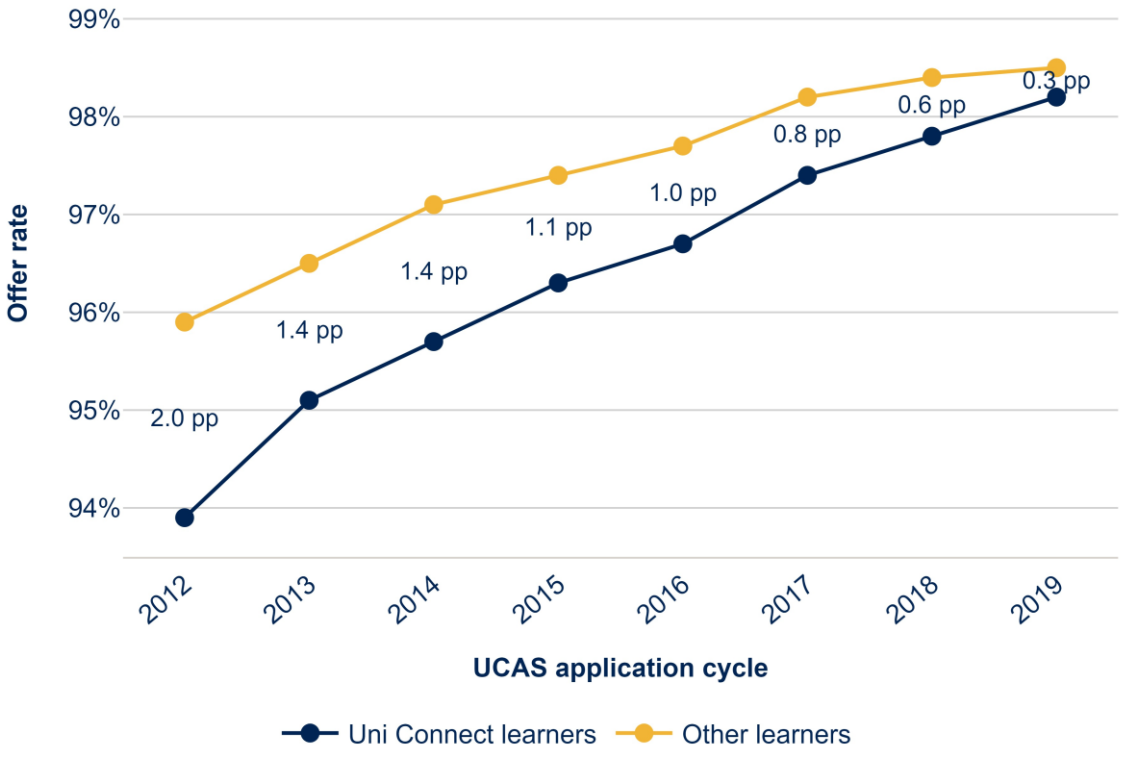
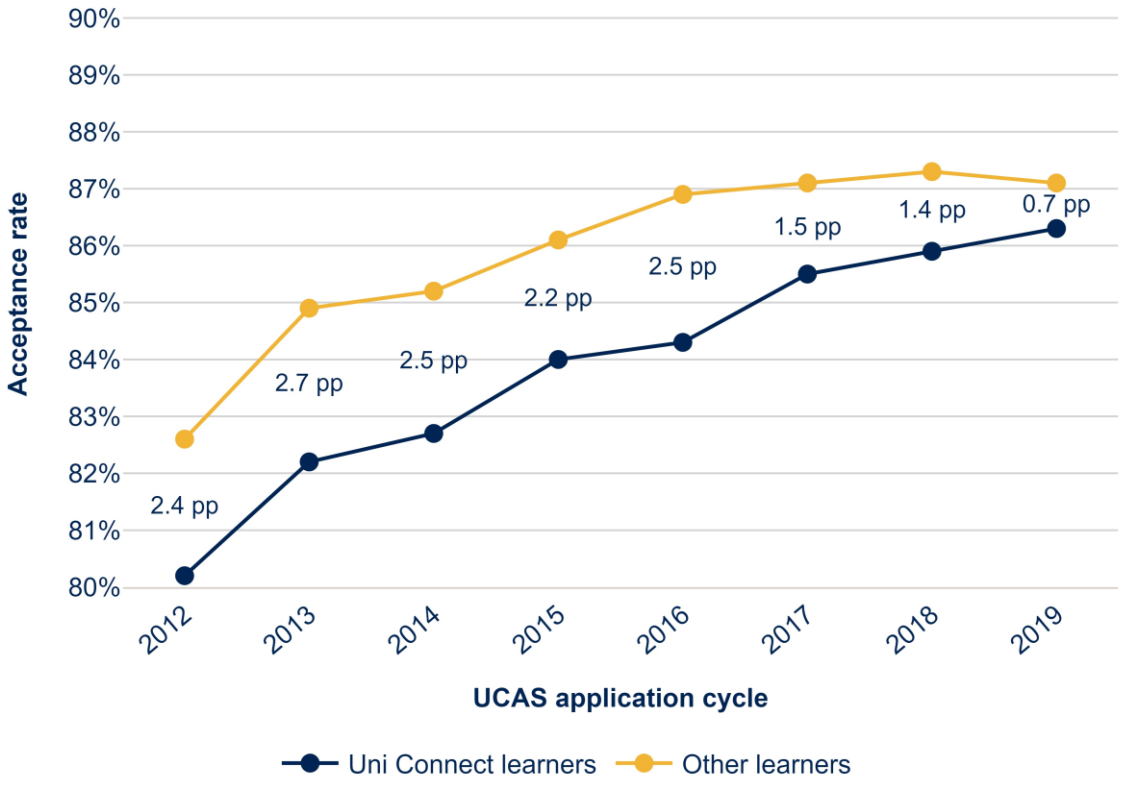


Figure 9: Gaps in acceptance rates between Uni Connect and non-Uni Connect learners



58. These findings are summarised in Table 4 below.

Table 4: Summary of gaps in outcome measures between Uni Connect learners and non-Uni Connect learners

Outcome measure	2012 entry	2013 entry	2014 entry	2015 entry	2016 entry	2017 entry	2018 entry	2019 entry
Gap in application rates	15.7 pp	15.8 pp	15.4 pp	15.8 pp	16.1 pp	16.1 pp	16.2 pp	16.0 pp
Gap in entry rates	13.4 pp	13.9 pp	13.6 pp	14.1 pp	14.6 pp	14.4 pp	14.4 pp	14.1 pp
Gap in offer rates	2.0 pp	1.4 pp	1.4 pp	1.1 pp	1.0 pp	0.8 pp	0.6 pp	0.3 pp
Gap in acceptance rates	2.4 pp	2.7 pp	2.5 pp	2.2 pp	2.5 pp	1.5 pp	1.4 pp	0.7 pp

Relationship between application rates and GCSE attainment

59. One of the most important factors associated with applying for higher education is prior academic attainment. Most people take GCSE exams at the end of key stage 4 and therefore GCSE attainment is a useful context for examining patterns of application. In this analysis we have used GCSE results recorded at key stage 4. Some learners will improve their GCSE results during key stage 5, but we do not include those results in this analysis.

60. The Uni Connect target areas were identified as those with lower rates of higher education participation relative to the GCSE results of the young people living there, and these areas were also the lowest participation areas in POLAR3 (quintile 1). In this analysis, we want to establish whether there are any changes in the Uni Connect target areas' higher education participation relative to GCSE results since the programme launched.

61. GCSEs were reformed[10] during this period to include new content: the methods of assessment were changed to include more emphasis on examinations at the end of the course; and grades were re-categorised from A* to G to grades of 9 to 1. English and Maths were the first subjects to be reformed, with the first new results awarded to learners in the summer 2017 GCSE cohort. Other subjects were reformed in subsequent years so that for some years there was a combination of the new and original grades awarded. The 2017 key stage 4 cohort would have applied aged 18 in the 2019 UCAS application cycle, the final year in our analysis.

62. Using GCSE attainment enabled us to identify learners who would have been targeted by the Uni Connect partnerships as being able to access and benefit from higher education, as attainment raising on its own was not one of the original aims of the programme. In this analysis we found that learners who obtained 5 or more GCSE qualifications (or GCSE equivalents) at grades A* to C (or grades 9 to 4 following the reform of GCSEs) were more likely to apply to higher education. In our analysis grade '4', rather than '5', was chosen as the equivalent of grade 'C', as including it in the measure provided a closer alignment to the progression rates seen for learners with similar attainment in the earlier years in the time series.

Table 5: The four cohorts used in the analysis

Potential number of complete years of Uni Connect	Year 9	GCSE summer (key stage 4)	UCAS application year
No Uni Connect	2012-13	2014	2016
No Uni Connect (in year 13 as programme launched)	2013-14	2015	2017
Uni Connect in year 13	2014-15	2016	2018
Uni Connect in year 12 and 13	2015-16	2017	2019

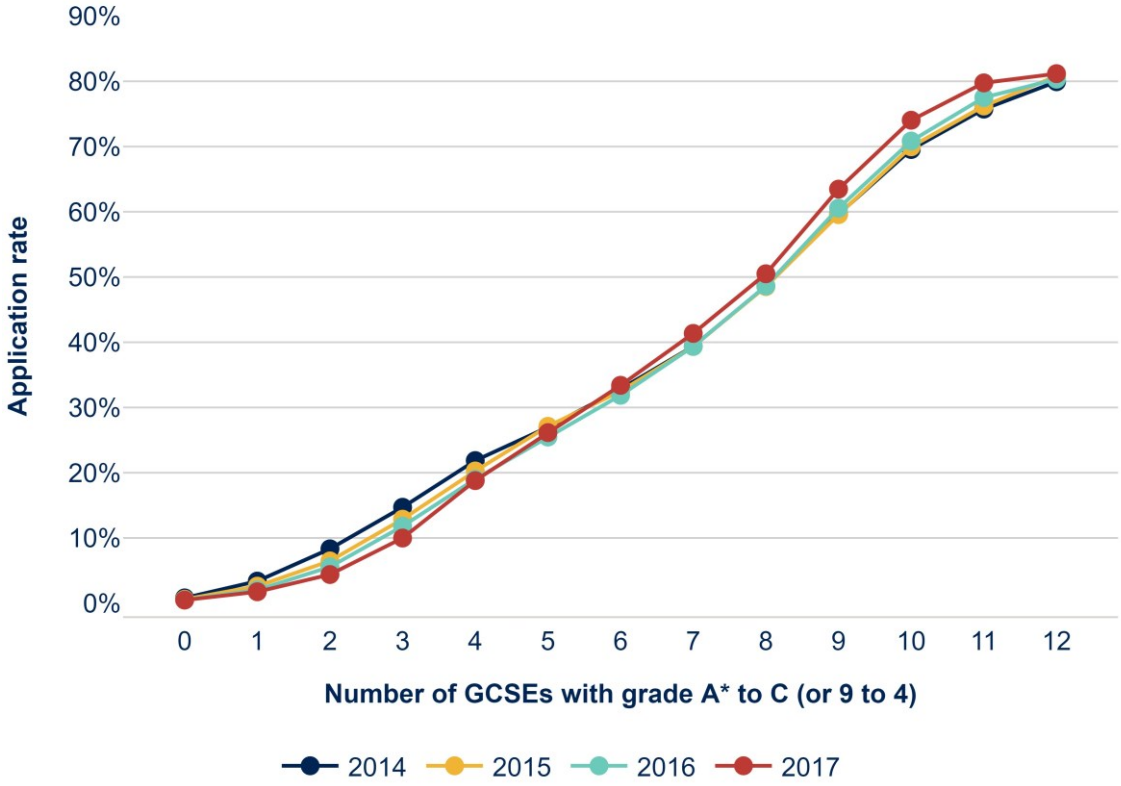
[10] See https://www.gov.uk/government/publications/get-the-facts-gcse-and-a-level-reform/get-the-facts-gcse-reform.

63. For this part of the analysis, we examined GCSE cohorts from summer 2014 onwards (the same cohorts that applied to higher education aged 18 between 2016 and 2019 as shown in Table 5).

    - The summer 2014 GCSE cohort applied to start higher education in 2016 before the start of the Uni Connect programme.
    - The summer 2015 GCSE cohort had almost all made their applications to UCAS while the programme was being launched in 2017.
    - The summer 2016 GCSE cohort would have been in year 12 when the programme was being launched. They may have had the opportunity to engage with outreach during year 13, but they would not have experienced sustained and progressive outreach from year 9.
    - The summer 2017 GCSE cohort would have been just about to sit their GCSEs when the programme was being launched. Uni Connect is unlikely to have supported their transition to key stage 5, although they could have experienced sustained and progressive outreach through year 12 and 13. This is the most recent cohort with application data and therefore is the cohort that we are comparing against the 2014 GCSE cohort who did not experience Uni Connect.

64. Figure 10 below shows the relationship between the number of GCSEs at grades above C (or 4) and application rates across the whole population. Annex C contains similar results for entry rates. It shows that the proportion of a cohort that applies for higher education is very strongly related to the number of GCSEs at grades A* to C (or 9 to 4). It also shows that the relationship follows a similar pattern for each of the four years in the time series but that 2017 has a noticeably different relationship – learners with lower numbers of GCSEs at grades A* to C (or 9 to 4) are slightly less likely to apply in 2017 than in earlier years, and learners with higher numbers of GCSEs are more likely to apply in 2017 than in earlier years. Therefore, in our statistical modelling we allowed the relationship between GCSEs and application rates to vary by year.

Figure 10: Application rate by number of GCSEs at grades A* to C (or 9 to 4) by summer of key stage 4 completion



65. Figures 11 to 14 compare the application rates for Uni Connect learners with those for other learners for each of the cohorts in Table 5. These show that once learners held four or five GCSEs at grade C (or 4) and above, a gap opened in the application rates. This is the gap that defined Uni Connect areas, showing that there was lower participation from young people in those areas relative to their GCSE results.

66. This gap appears to widen as the number of GCSEs at grade C (or 4) above increases. This means that there was a very small gap between Uni Connect learners and other learners when GCSE results were low and where application rates are consequently low. However, the gap is persistent for learners with five or more GCSEs at grade C (or 4) and above, across all four years in the time series.

67. We must take into account that there are other factors that might be different between the Uni Connect learners and the learners from other areas. Therefore, the next stage in the analysis is to use statistical modelling to estimate the change in the size of the gap while controlling for GCSE results and other factors.

Figure 11: Application rate by number of GCSEs at grades A* to C (or 9 to 4) for Uni Connect and other learners who completed key stage 4 in 2014

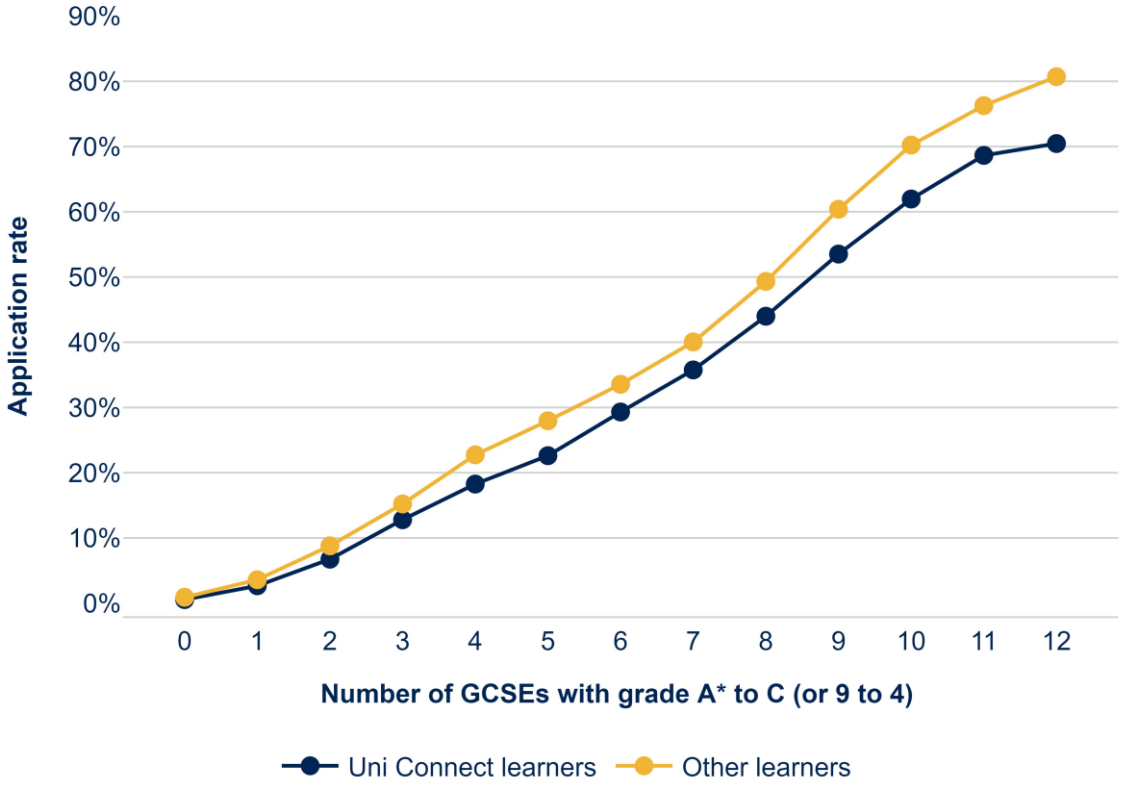


Figure 12: Application rate by number of GCSEs at grades A* to C (or 9 to 4) for Uni Connect and other learners who completed key stage 4 in 2015

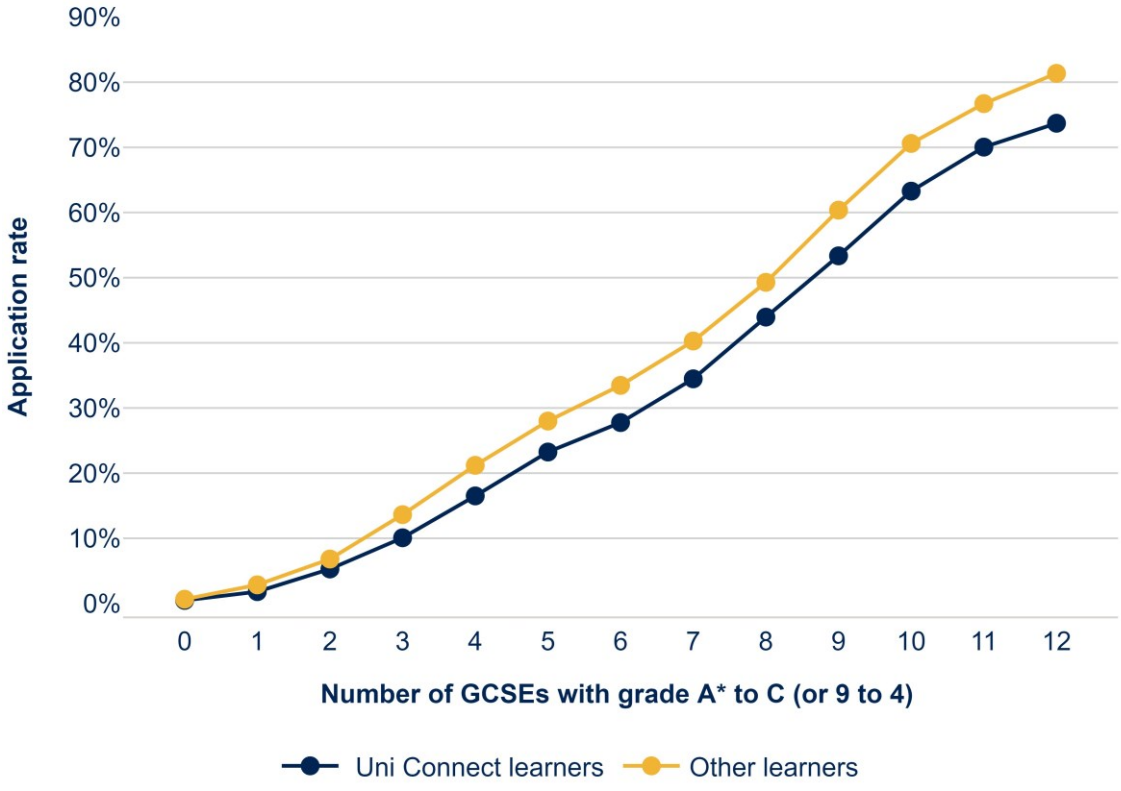


Figure 13: Application rate by number of GCSEs at grades A* to C (or 9 to 4) for Uni Connect and other learners who completed key stage 4 in 2016

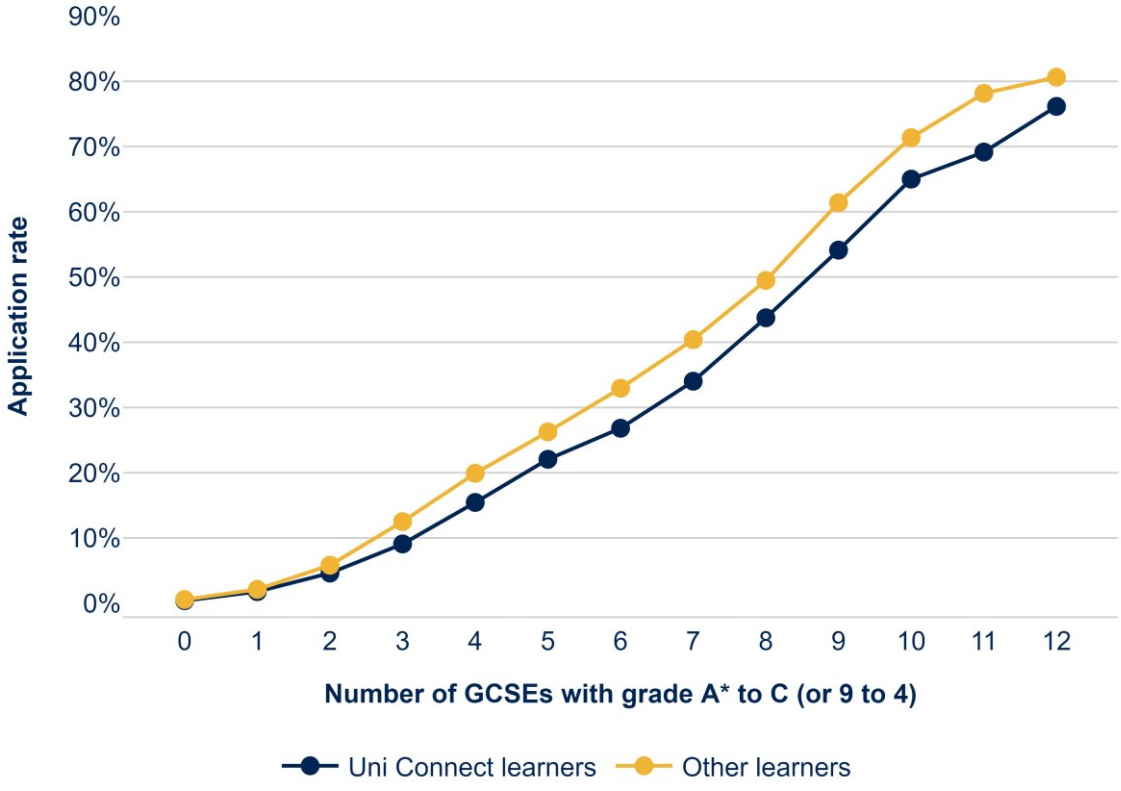
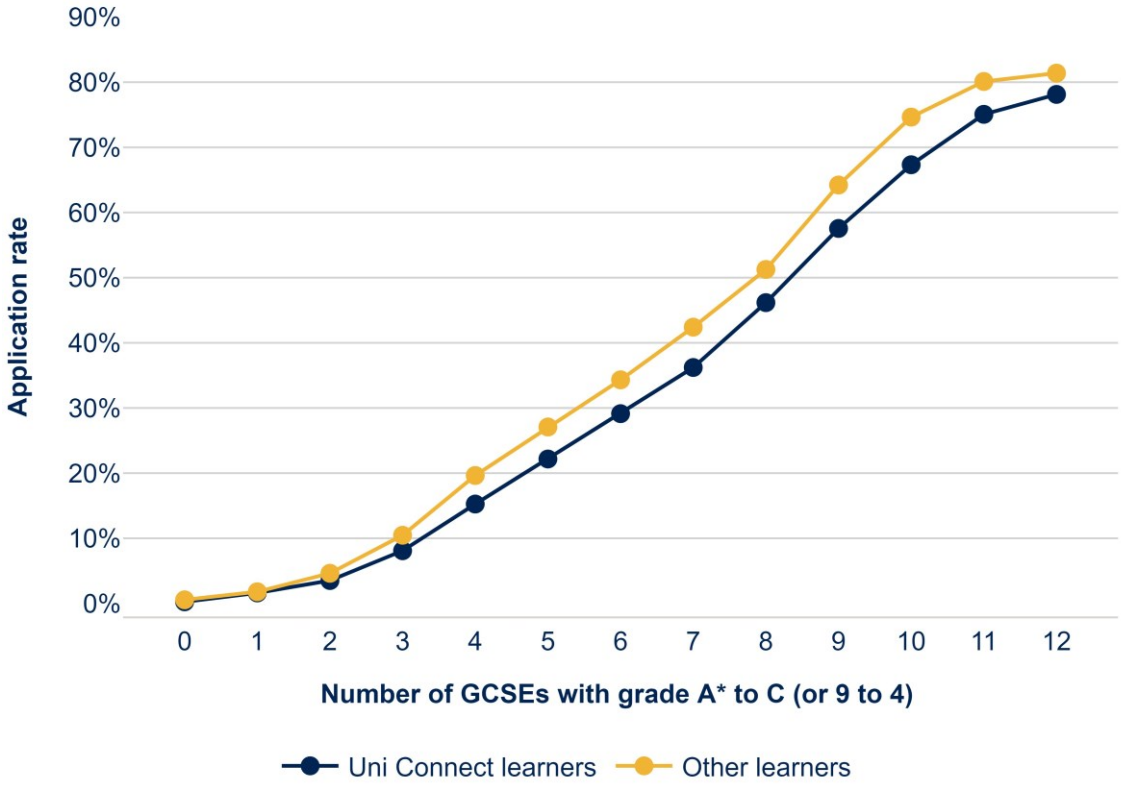


Figure 14: Application rate by number of GCSEs at grades A* to C (or 9 to 4) for Uni Connect and other learners who completed key stage 4 in 2017



Statistical modelling

68. We used statistical modelling to estimate whether there has been a change in the gap in application rates between 2016 and 2019. There are factors other than prior academic attainment that are associated with participation in higher education and the prevalence of these factors might be different between Uni Connect learners and other learners and could be changing through time. The modelling approach considers these differences in characteristics between Uni Connect and other learners that could be identified from the data, while acknowledging there will always be other factors (such as family experience of higher education or learner's motivation) we cannot control for. However, because we know that the underlying populations in and outside of Uni Connect target areas differ in more than one way, it is useful to attempt to minimise the differences between the two groups by accounting for factors we know influence participation in higher education.

69. The Association Between Characteristics of Students (ABCS) access report[11] found that ethnicity, eligibility for free school meals, sex and area-based background measures such as POLAR are all associated with young participation. These are not evenly distributed between learners in Uni Connect areas and other learners. For example, nearly 39 per cent of all learners in Uni Connect areas received free school meals, compared to nearly 24 per cent in non-Uni Connect areas. Amongst those with five or more GCSEs at grade C (or 4) or above, 26 per cent of Uni Connect learners had been in receipt of free school meals, compared with 17 per cent outside of Uni Connect areas.

70. In addition to the number of GCSEs at grade C (or 4) or higher, achievement in English and Maths was considered. Learners were classed as having achieved a 'standard pass' in those subjects if they had obtained a grade of C (or 4) or above. Learners who have not achieved a 'standard pass' in English or Maths at key stage 4 generally have very low progression rates. 41 per cent of Uni Connect learners complete key stage 4 without gaining a 'standard pass' at English GCSE compared with 28 per cent of other learners. This is very similar to Maths GCSE, where 42 per cent of Uni Connect learners and 28 per cent of other learners do not have a 'standard pass'.

71. Hence sex, ethnicity, free school meal status and GCSE attainment were included in a statistical analysis of the application rate for learners in Uni Connect target wards compared to those not in target areas. No further area-based measures, such as Index of Multiple Deprivation (IMD) or Income Deprivation Affecting Children Index (IDACI) quintiles, were included in the model because it was our aim to focus on Uni Connect areas as the area-based measure of background. More information about the modelling can be found in Annex B.

72. In the modelling, every effort was made to be able to minimise the spillover effect of the Uni Connect programme (as discussed in the introduction). For this reason, learners from outside Uni Connect areas, who we anticipated might have gone to a Uni Connect targeted school or college, were excluded from the modelling. These schools and colleges were identified in either of the following ways:

[11] See the ABCS dashboard at www.officeforstudents.org.uk/data-and-analysis/associations-between-characteristics-of-students/access-to-higher-education/.

- They were listed in the December 2017 partnership monitoring return to the OfS.
- They were listed in the winter 2018 partnership monitoring return to the OfS, as schools or colleges who 'are or will be in receipt of activity'.
- Over half of the learners at a school or college over the four years of NPD key stage 4 cohorts were from Uni Connect areas.
- Over 100 of the learners at a school or college over the four years of NPD key stage 4 cohorts were from Uni Connect areas.

73. Furthermore, only learners with higher GCSE attainment were included in the modelling, i.e. learners with less than five GCSEs at grade C (or 4) and above were not included in the population. We also tried the models using a population of pupils with four or more GCSEs at high grades but there was no difference in the conclusions.

Approach 1: Matched counterfactual

74. The first approach we took analysed a population comprising equal numbers of Uni Connect and non-Uni Connect learners. The non-Uni Connect learners for the counterfactual were chosen as a random sample without replacement from the remaining population; but were exactly matched to a Uni Connect learner in the same cohort on the set of six characteristics also included in the model (number of GCSEs at grade C (or 4) and above, English, Maths, sex, ethnicity and free school meal status). This meant that there were equal numbers of Uni Connect and non-Uni Connect learners while all their combinations of measured characteristics were the same. Thus, in theory, the only difference between them was whether they lived in a Uni Connect target area. Of course, there would have been other differences that were not possible to account for, such as how much support they received from their school or family..

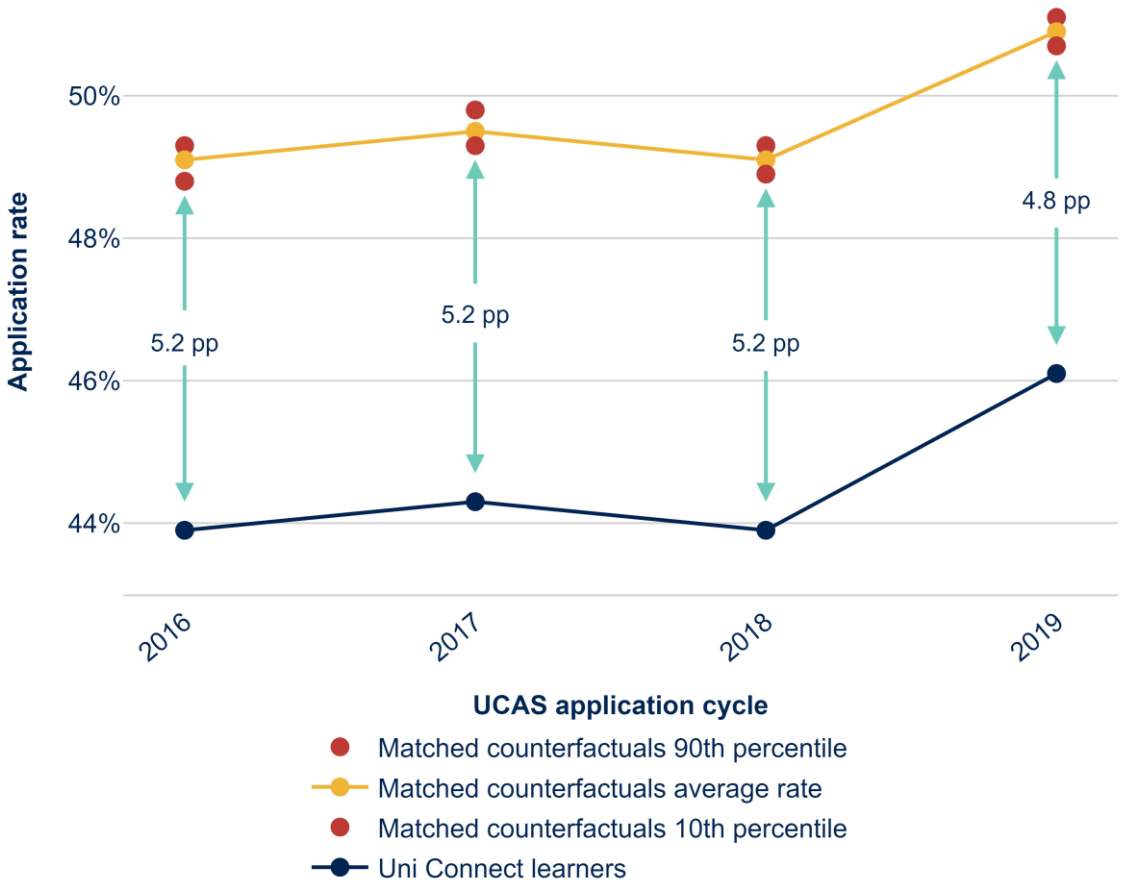
75. There are many more non-Uni Connect learners than Uni Connect learners in each cohort and this meant that 99.8 per cent of Uni Connect learners had an exact match from the other learners. However, the matched counterfactual created by sampling was not unique and there was a risk that it could be unusual relative to all possible matched counterfactuals. Therefore, we created 50 versions of the matched random sample, and the statistical model was applied to each one and the range of results from these 50 sets of matched pairs considered.

76. The gap in application rates between Uni Connect learners and the matched counterfactual group was much smaller than when the whole population was considered (see Figure 5). This is shown in Figure 15 below. The application rate gap between the Uni Connect learners and the average matched counterfactual group was 4.8 percentage points in 2019, which is much smaller than the 16.0 percentage points when considering the full population.

77. Most of this difference in gaps between the whole population and the matched counterfactual is because even when differences in GCSE attainment are accounted for, there will be differences associated with other factors. If we observed the matched counterfactual gap decreasing in size, then this would be a start in closing the gap between underrepresented groups and would indicate that the remaining population level gap could be associated with any of the factors that are controlled for in the matched counterfactual group.

78. Figure 15 indicates that the gap is slightly smaller for the cohort that applied to higher education in 2019: 4.8 percentage points compared with 5.2 percentage points in 2016 on average across the 50 replicates.

Figure 15: Gaps in application rates between Uni Connect and matched counterfactuals of non-Uni Connect learners

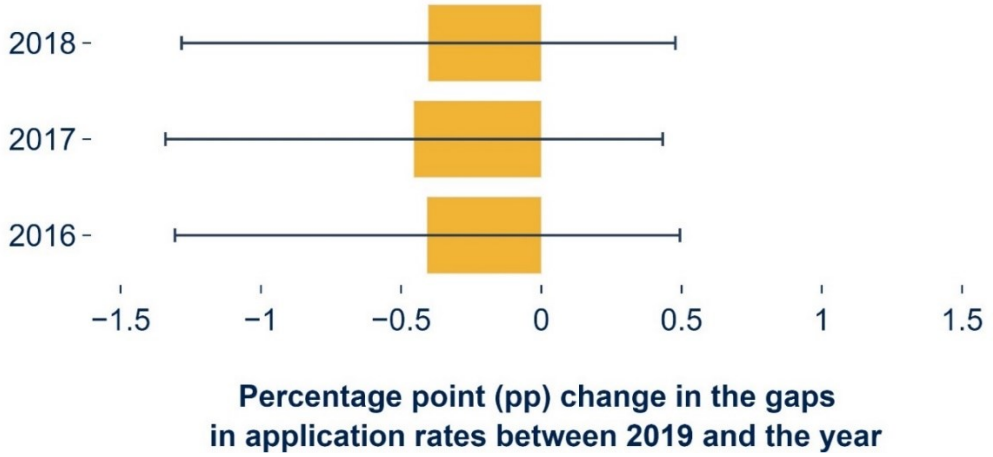


79. The model included all the factors that the groups were matched by because each was associated with application rates and improved the fit of the model. However, including them does not change the estimate of the gaps or the change in the gap because all characteristics are matched between the two groups. The modelling found that there was a small (1 percentage point) statistically significant decrease in the gap between Uni Connect learners and the matched counterfactual group for the cohort that applied in 2019 (2017 GCSE cohort) and the cohort that applied in 2016 (2014 GCSE cohort) in only 1 of the 50 replicates. This is a small proportion with the overwhelming majority indicating no significant change. There were similar results for entry rates, with more of the replicates (9 out of 50) showing a significant decrease for the change in gap between 2016 and 2019. The full results for entry rates are shown in Annex C.

80. However, as described previously in this report, it is quite early to expect to see a change. The first cohort to have experienced sustained and progressive outreach through Uni Connect since year 9 will have applied in 2021, and not until the 2022 application cycle will there be learners who could have experienced Uni Connect throughout years 9 to 13.

81. Figure 16 shows the average modelled change in the gap between 2019 and each of the earlier years with the average 95 per cent confidence interval from across the 50 versions of the matched counterfactuals. The confidence intervals indicate the range of uncertainty in the estimate of the change in the gap. The estimated change in the gap is a reduction of 0.4 percentage points between 2016 and 2019, but the confidence interval indicates that we cannot conclude that there was a statistically significant change and there was not enough evidence to conclude that the gap either increased or decreased.

Figure 16: Estimated change between 2019 and earlier years in the average gap in application rates between Uni Connect learners and 50 matched counterfactuals



82. We also performed sensitivity analyses on our approach to choosing a counterfactual. We considered the following aspects:

- We experimented with matching on fewer characteristics, for example excluding English and Maths results, or matching on GCSE attainment only. This did not change the conclusions, i.e. it did not lead to a significant difference in the gap between the cohort that applied in 2019 and the cohort that applied in 2016.
- We experimented with relaxing the threshold for excluding learners from the matched counterfactual to minimise the spillover effect from potentially being in a Uni Connect targeted school or college. The condition that the school or college must have 100 or fewer Uni Connect learners over the four years was increased to 200 and 300 or fewer Uni Connect learners. This did not change the results.
- We concluded there was no need to test the exclusion threshold of 50 per cent of Uni Connect learners at a school or college as there were few schools or colleges with a very small number of learners over the years which were not otherwise excluded.

This report is an official statistic which falls under the official statistics Code of Practice. We are actively seeking feedback for this analysis. We are interested in feedback on our approach to choosing a counterfactual population and the application of the statistical model.

Please email comments to Elena Mollova at official.statistics@officeforstudents.org.uk.

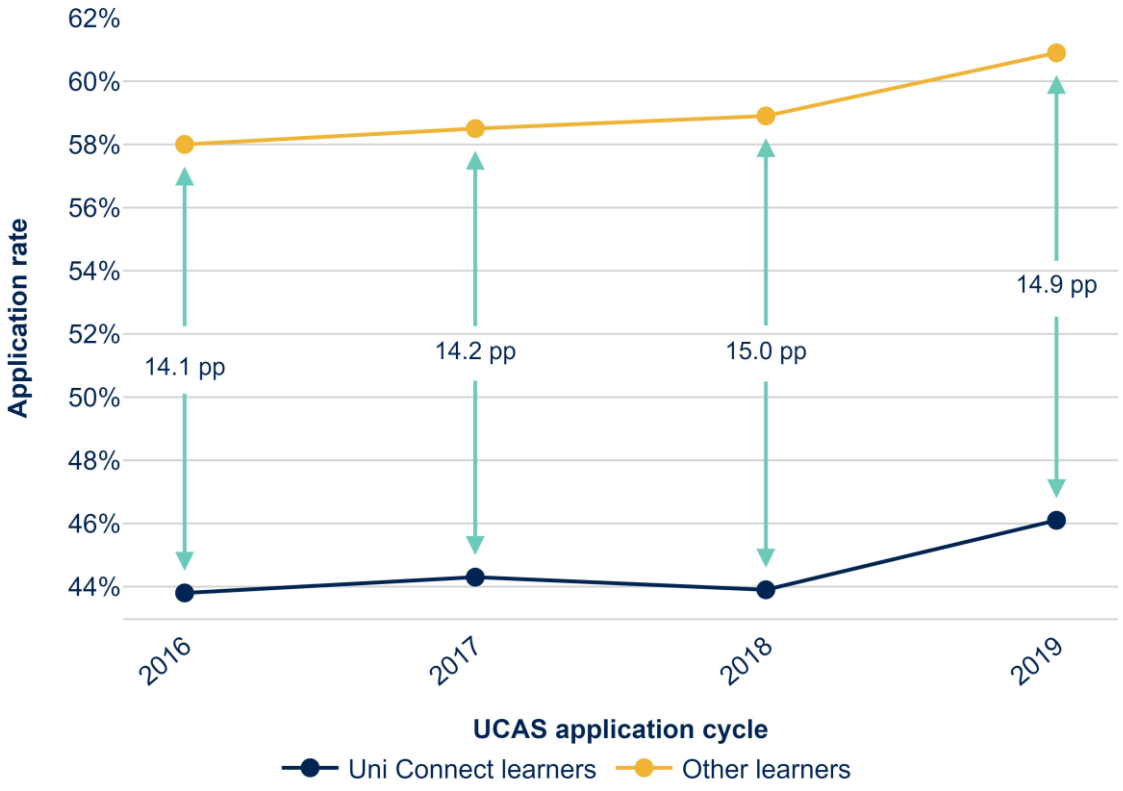
83. The same methodology was applied to the analysis of entry rates and the results are shown in Annex C.

Approach 2: Whole population

84. The second approach we took to the modelling included all learners, apart from those with lower GCSE attainment and those not from Uni Connect areas who studied in Uni Connect schools or colleges. The other factors were controlled for within the model as fixed effects.

85. The application rates and gaps in application rates between learners from Uni Connect areas and other learners are shown in Figure 17 below. These are slightly smaller than the gaps for the whole population (see Figure 5) because learners with lower GCSE attainment are not included. The gap in application rates increased from 14.1 percentage points in 2016 to 14.9 percentage points in 2019.

Figure 17: Gaps in application rates between Uni Connect and non- Uni Connect learners with 5 or more GCSEs at grade C (or 4) and above



86. Applying the same logistic regression model using the whole population showed that there was not a statistically significant change in the gap in application rates between Uni Connect

learners and other learners between 2016 and 2019. There was no statistically significant change in the gap in entry rates for the same period (see Annex C).

87. As stated previously, this analysis should not be interpreted as indicative of Uni Connect's impact to date, as it relates to only two years of Uni Connect outreach delivery to older learners during years 12 and 13, rather than the five years sustained and progressive delivery between years 9 and 13 within the intended programme design.

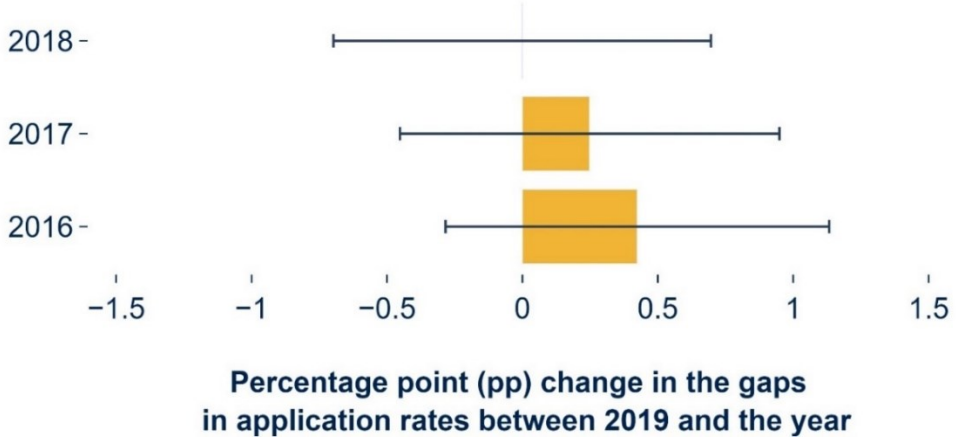
88. The gap between Uni Connect learners and other learners reduces in all years once the other factors in the model are controlled for. Table 6 shows the absolute gaps in each year and the model estimated gaps. There will still be some other factors that are associated with participation that are not included in the model because they cannot be measured. The gaps were similar in size, although slightly larger than the gaps from the matched counterfactual model.

Table 6: Observed and modelled gaps in application rates from the whole population model

	2016	2017	2018	2019
Uni Connect learners	43.8%	44.3%	43.9%	46.1%
Other learners	58.0%	58.5%	58.9%	60.9%
Observed gap	14.1 pp	14.2 pp	15.0 pp	14.9 pp
Modelled gap	5.6 pp	5.8 pp	6.0 pp	6.0 pp

89. Figure 18 shows the modelled change in the gap between 2019 and each of the earlier years with the 95 per cent confidence interval for this change. The confidence intervals indicate the range of uncertainty in the estimate of the change in the gap. The estimated change in the gap is an increase of 0.4 percentage points between 2016 and 2019, but the confidence interval indicates that we cannot conclude that there was a statistically significant change and there was not enough evidence to conclude that the gap either increased or decreased.

Figure 18: Estimated change between 2019 and earlier years in the gap in application rates between learners from Uni Connect areas and other learners with 5 or more GCSEs at grade C (or 4) and above



This report provides quantitative analysis of Uni Connect using national administrative data and is an official statistic which falls under the official statistics Code of Practice. We are actively seeking feedback for this analysis. We are interested in feedback on the statistical model used for model applied to the whole population and how it compares with the approach using a matched counterfactual group.

Please email comments to Elena Mollova at official.statistics@officeforstudents.org.uk.