

**Multi-intervention outreach and  
mentoring evaluation report:  
A randomised controlled trial of  
Aston University's Pathway to  
Healthcare programme**

**May 2023**

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## **1. Summary**

This report summarises the interim findings of a pilot randomised controlled trial (RCT) conducted to evaluate Aston University's Pathway to Healthcare programme. The final results, based on students' progression to higher education (HE) will be due for publication in 2024, following the release of destination data from the Higher Education Statistics Agency (HESA).

### **1.1 Aim and description of intervention**

The primary aim of the Pathway to Healthcare programme is to assist students who are considering a career in healthcare or medicine in their path to studying medicine or healthcare-related subjects in HE. The 18-month programme comprises an induction session, healthcare subject taster days, attainment-raising activities, careers advice sessions, university interview preparation, work experience, a UCAS personal statement day, a summer school, and a graduation and transition event.

### **1.2 Target group**

The target group are Year 12 students from widening participation (WP) backgrounds in the West Midlands who are interested in pursuing a medicine or healthcare-related career.

### **1.3 Number of students involved**

The capacity of the Pathway programme is between 110-130 students each year depending on available resources. Historically the programme has been oversubscribed with between 150-180 students applying.

### **1.4 Implementation**

The Pathway programme is run by a dedicated manager who runs many of the events. Academic staff, NHS professionals, school teachers and student ambassadors also assist in the delivery of some of the events. Usually, events are run on campus, but due to COVID-19 restrictions events for students who began the programme in the 2020-21 academic year were moved online or, for work experience and Year 12 A-level revision boot camp, cancelled altogether.

### **1.5 Brief description of IE**

The impact evaluation (IE) is a two-armed, pilot RCT, run over two cycles of the Pathway programme, with a treatment group (Pathway programme participants) and a control group who receive no intervention. The Pathway programme is historically oversubscribed (~150-180 applicants for approximately 110-130 places per cycle) and

eligible applicants were randomly allocated to the treatment or control group subject to the constraint that each cycle of the programme is filled to capacity.

The primary outcome measure was whether or not students enrolled in medicine or healthcare-related courses at HE in the October following the end of the programme. Whether students enrolled in HE generally was also observed. The secondary outcome measures were number of applications to HE and number of offers received. Exploratory analysis of survey data was conducted to determine any changes in attitude to HE or changes in knowledge about the application and funding process.

## **1.6 Brief description of IPE**

The implementation and process evaluation (IPE) used event attendance lists, post-event reports, and student evaluations to determine whether or not the programme was delivered as intended. Post-event reports were completed by the practitioner implementing the activity and indicated whether any changes were made to the delivery of the event relative to that which was planned.

For online events the quality of the student experience was additionally determined by a set of questions relating to audio-visual quality and study space.

Eligible applicants (i.e. students in the treatment or control groups) were invited to take part in focus groups to help determine what aspects of the programme and outreach in general were effective.

## **1.7 Key findings**

### *Results for 2020-21 cohort*

The findings in this report are based on an interim analysis of UCAS and survey data, a proxy measure for our stated outcomes while we wait for the long-term outcome data to become available in 2024. Overall, UCAS application, offer, and acceptance data indicates that, in comparison with the control group, a similar proportion of the treatment group made applications to HE and received offers. However, in comparison with the control group far fewer students in the treatment group held a firm acceptance to study at HE in the 2022-23 academic year (86% versus 63%). Internal institutional data held by Aston University indicates that most of the treatment group students who did not hold an acceptance to study had deferred their application for a year or intend to re-apply for the next academic year.

Survey data indicates that, compared with the beginning of the Pathway programme, at the end of the programme students in the treatment group were more confident in their ability to apply to HE and their understanding of how to fund HE. At the beginning of the

programme students were already highly likely to say that they would fit in at HE and it was a place for them.

Students from the treatment group who took part in the focus group generally credited the Pathway programme for assistance in the application process and the decisions they had made around course choice.

### *Results for 2021-22 cohort*

This report will be updated as additional outcome data become available for the 2021-22 cohort. For the 2021-22 cohort the HESA data will be available in mid-2025 for students entering HE in 2023.

## **1.8 Key conclusions**

For the 2020-21 cohort there is no evidence that the Pathway to Healthcare programme improves the likelihood of students attending HE in the following October. A large proportion of the students who did not hold a firm acceptance to begin their studies in 2022-23 have indicated they will apply in the next academic year. As further explored in [Section 5.1.2](#), it is possible that students have made an informed choice and delayed their application due to information provided during the Pathway to Healthcare programme. Two students included in the focus groups demonstrated this, suggesting that taking a year out would allow them to gain more experience and make a more informed choice about their future at HE.

Survey data (corroborated by a focus group) indicated that, by the end of the programme, students were more confident in their ability to successfully apply to HE and understood how to finance HE.

These findings highlight an interesting question about whether post-16 outreach programmes, such as the Pathway to Healthcare programme, are being pitched correctly. If, as the findings suggest, these post-16 programmes are dealing with students who would attend HE anyway then the primary impact of the intervention should not be seen as enrolment at university. Rather, given that the programme includes sessions about preparation for HE studies and life, the impact might be better measured in terms of which courses these students enter, continuation and progression once these students get to HE. Consequently, post-16 programmes, and ongoing evaluation, may need to focus more on these outcomes by providing a programme tailored to improving preparation of study in HE.

## 2. Introduction

### 2.1 Project team

This local evaluation of the Pathway to Healthcare programme was a collaboration between The Centre for Transforming Access and Student Outcomes in Higher Education (TASO) and Aston University. The project team is outlined in [Table 1](#) below.

*Table 1: Project team, roles, and responsibilities*

Organisation	Name	Role and responsibilities
Aston University	Liz Moores	Professor and Deputy Dean - School of Psychology <ul style="list-style-type: none"> <li>Principal Investigator for the project</li> </ul>
Aston University	Robert Summers	Research Assistant <ul style="list-style-type: none"> <li>Impact evaluation</li> <li>Implementation and process evaluation</li> <li>Overseeing collection of data</li> <li>Data storage protocols (using HEAT)</li> <li>Recording data on HEAT</li> </ul>
Aston University	Sarah Fullwood	Pathway Programme Manager <ul style="list-style-type: none"> <li>Running the Pathway to Healthcare programme</li> <li>Recording data on HEAT</li> </ul>
Aston University	Lucy Gregory	Pathway Programme Assistant (until October 2021) <ul style="list-style-type: none"> <li>Assisting with delivery of the programme</li> <li>Recording data on HEAT</li> </ul>
Aston University	Lydia Runham	Pathway Programme Assistant (from November 2021) <ul style="list-style-type: none"> <li>Assisting with delivery of the programme.</li> <li>Recording data on HEAT</li> </ul>
TASO	Eliza Kozman	Deputy Director of Research <ul style="list-style-type: none"> <li>Quality assure the design and implementation of the trial from the TASO side</li> </ul>
TASO	Rain Sherlock	Evaluation Manager <ul style="list-style-type: none"> <li>Oversee the design and implementation of the trial from the TASO side</li> </ul>
TASO	Helen Lawson	Research Programmes Manager <ul style="list-style-type: none"> <li>Lead project management on the broader project</li> </ul>
TASO	Sarah Chappell	Research Officer <ul style="list-style-type: none"> <li>Support on design and implementation of trial from TASO side</li> </ul>

## 2.2 Background and rationale for the local evaluation

A recent literature review into the evidence base of UK widening participation (WP) activities identified multi-intervention outreach as among one of the most common approaches used by HE providers (Robinson and Salvestrini, 2020). While the review found evidence that these programmes are associated with positive outcomes for participants (see for example Chilosi et al, 2010; Emmerson et al, 2005, Kettlewell and Aston, 2012), the literature has two key limitations. First, most of the existing evidence is focused on whether these programmes impact student aspirations/attitudes rather than long-term behavioural outcomes such as HE attendance. Second, due to the methodologies used, the current literature provides only correlational and contextual evidence on the efficacy of these programmes, particularly in a UK context.

The aim of the Aston University Pathway to Healthcare programme, delivered to Year 12 and Year 13 students from WP backgrounds, is to empower learners to make confident decisions about their progression to higher education (HE), and raise student aspirations for medicine or healthcare-related courses, improve motivation, and provide them with the knowledge, skills and experience that will enhance their UCAS application.

The inspiration for the Pathway to Healthcare programme came from the national expansion of medical school places in March 2018 which was accompanied by a commitment to “widen the social profile of new medical students” (NHS England, 2018). The 2011 Government report *Opening Doors and Breaking Barriers* found that just 20% of schools in the UK provide all medical applications, with studying medicine and healthcare continuingly seen as an elite profession with multiple barriers to students from disadvantaged backgrounds (HM Government, 2011). These barriers include the lack of knowledge, information, and advice about how to make a successful application to these courses, as well as a lack of work experience and academic achievement needed to meet the competitive entry requirements.

Currently, the success of the existing programmes is measured through pre- and post-programme evaluations, individual event evaluations, and by reviewing applications and enrolments to Aston University, and other universities where data is available.

Multi-intervention outreach is a resource-intensive activity and requires significant investment of time and effort from HE providers and students alike. Therefore, there is a need to establish clear causal evidence on the efficacy of this approach.

To address this TASO have commissioned and overseen a series of evaluations, partnering with three HEPs to explore the different ways in which multi-intervention

outreach and mentoring programmes could be evaluated. In this local evaluation, a pilot randomised controlled trial (RCT) is used to evaluate the Pathway to Healthcare programme in terms of its impact on the target cohort's progression to HE. To achieve sufficient statistical power in the analyses (see the [evaluation protocol](#)) the evaluation is taking place over two cycles of the cohort; one cohort beginning in October 2020 (hereafter the 2020-21 cohort) and the second in October 2021 (hereafter the 2021-2 cohort).

### **2.3 Pathway to Healthcare programme**

The Pathway to Healthcare programme runs over approximately 18 months, beginning in October of Year 12 and ending just prior to A-level exams in Year 13. The 18-month programme comprises an induction session, healthcare subject taster days, attainment-raising activities, careers advice sessions, university interview preparation, work experience, UCAS personal statement day, summer school, and a graduation and transition event.

The full programmes for both the 2020-21 cohort and 2021-22 cohorts are similar and differ only in how the tutoring is organised and the order of the events. See [Appendix 2](#) for detailed breakdown of the programme activities.

### **2.4 Evaluation aims and objectives**

The evaluation aims to provide evidence on the efficacy of the Pathway to Healthcare programme. This will be achieved by tracking students' interaction with the programme's outreach activities and linking this data with enrolment to medicine or healthcare-related courses at HE (the primary outcome), application and offer data (the secondary outcomes), and knowledge and attitude changes as obtained from survey data (the exploratory outcomes).

### **2.5 Theory of change**

The Theory of Change can be found in [Appendix 1](#).

### **2.6 Ethics**

Ethical approval for running the pilot RCT of the Pathway programme was given by Aston University Ethics committee (*ref* UREC1675). Eligible applicants for the Pathway programme were given the option to opt out of the research component (i.e., the RCT) of the programme. Given that opt-out consent was used to take part in the RCT the ethical approval centred around the participant information sheet that was emailed to every eligible applicant on completion of the randomisation to each arm of the trial.



Ethical approval to run focus groups as part of the implementation and process evaluation was given by Aston University's College of Health and Life Sciences ethics committee (*ref* HLS21018). All eligible applicants from the 2020-21 cohort of Pathway to Healthcare programme students were invited to take part in the focus groups.

### 3. Methodology

#### 3.1 Impact evaluation - RCT

##### 3.1.1 Impact evaluation research questions

The impact evaluation is designed to test seven research hypotheses:

- H1: The Pathway to Healthcare programme increases the likelihood of enrolment on a medicine or healthcare-related course at HE amongst participants in comparison with those in the control group.
- H2: The Pathway to Healthcare programme increases the likelihood of enrolment at HE amongst participants in comparison with those in the control group.
- H3: The Pathway to Healthcare programme increases the number of applications made by participants to study medicine or healthcare-related courses at HE in comparison with those in the control group.
- H4: The Pathway to Healthcare programme increases the number of offers made to participants to study medicine or healthcare-related courses at HE in comparison with those in the control group.

Additionally, exploratory analyses of survey data was be used to inform the optimal methods to aggregate survey data to assess the following questions for future trials:

- H5: At the end of the Pathway to Healthcare programme students report greater confidence that they can make a successful application to HE than they did at the beginning of the pathway.
- H6: At the end of the Pathway to Healthcare programme students report greater confidence that they can fund HE than they did at the beginning of the pathway.
- H7: At the end of the Pathway to Healthcare programme students report greater belief that HE is a place for them than they did at the beginning of the pathway.

##### 3.1.2 Research methods

Students who made an application to the Pathway to Healthcare programme were informed that they could be part of a research study to help determine the Pathway

programme's efficacy. Consent was obtained through an opt-out procedure whereby students could email the principal investigator to withdraw from the research component of the Pathway programme; opting out of the research component did not affect the chance of eligible applicants being assigned to the treatment group or control group through random allocation, merely whether their data would be included in the analysis. To establish the impact of the Pathway programme the outcomes for students assigned to the treatment group were compared with those in the control group.

All data relating to Pathway programme activities and the eligible applicants is stored on the Higher Education Access Tracker (HEAT). A combination of student application, offer and destination data (to be provided by HESA through the HEAT service and linked to each students' activity participation), activity attendance data, and milestone (MS) survey data is used to answer the research questions.

All Pathway programme events were added to HEAT and categorised according to Aston University's typology (see [Appendix 3](#)). All outreach events organised by Aston University were routinely added to HEAT and, where possible, individual attendance at these events is tracked and added to the HEAT database. Typically, it will be possible to identify students in either the treatment or control groups who have attended non-Pathway to Healthcare programme events; the estimated impact of the Pathway to Healthcare programme will be affected by the degree to which control group students experience outreach events. The possibility that students in the control have accessed multiple outreach activities with other HE providers is a common challenge in WP evaluation and will be addressed in the final analysis by matching baseline and outcome data to records which show whether students attended Pathway programme activities run by Aston University. We will use this matched dataset to explore whether attendance at activities mediates any effect on their outcomes, to accompany our intention to treat analysis.

All eligible Pathway programme applicants who do not opt out of the research project were added to HEAT. The applicants' group membership (control or treatment) is specified in one or both of two ways, through the attendance field and through the evaluation group field. The evaluation group field is a recent addition to HEAT and was not available when the 2020-21 cohort was added to HEAT hence the use of the attendance field.

For each cohort, three milestone surveys (MS1, MS2 and MS3; see [Appendix 4](#) for the full list of questions) were conducted using the survey tool in HEAT. This survey tool has the advantage of keeping important evaluation data with the student record and is accessible to future researchers. The milestone surveys were carried out at strategic points over the duration of the Pathway programme. At the beginning of the Pathway

programme, at the beginning of Year 13 (after the summer school and prior to UCAS applications closing) and at the end of the Pathway programme (after the A-level boot camp).

*Table 2: Timeline of milestone surveys for each cohort. The first milestone survey for the 2020-21 cohort was run in January 2021 because the research assistant, who initiated their creation, was not in place until October 2020.*

Survey	2020-21 Cohort	2021-22 Cohort
MS1	January 2021	October 2021
MS2	August 2021	September 2022
MS3	February 2022	February 2023

The milestone surveys were designed to obtain students' self-reported knowledge around the application process, career choices and funding of HE, as well as their self-reported confidence and belief they could succeed at HE and felt they would belong in a HE setting.

For the final milestone survey, a series of questions was added to ask students about their experience of outreach activities more generally, in terms of how often students experienced each type of outreach activity regardless of who delivered it.

### 3.1.3 Primary outcomes

The primary outcome measures are:

- whether students enrol in a medicine or healthcare-related course
- whether students enrol at HE

This data is provided to us by HESA through the HEAT tracking service but is unavailable until 18 months after students begin their studies; this report will be updated when this data becomes available. The data can be linked back to individual students and hence to their participation in outreach activities tracked on HEAT.

A limited amount of aggregated data is provided by UCAS through their Outreach Evaluator (formally Strobe) service. This data is available approximately two to three months after students enrol and may assist in making preliminary judgements about whether students on the Pathway programme are more likely to attend HE than a 'benchmarked' cohort of potential applicants.

The UCAS Exact service provides additional aggregated data which allows more granular levels of analysis on the number of applications and offers, and also provides limited course information for students who hold a firm acceptance. This data is subject

to deliberate rounding and suppression to prevent the identification of individual students. However, this data allows a preliminary comparison between both arms of the RCT over 12 months in advance of the HESA data being available.

#### 3.1.4 Secondary outcomes

The secondary outcomes are:

- the number of UCAS applications made (zero to five),
- the number of offers received from HE institutions (zero to five), and
- the number of Pathway programme and non-Pathway programme events attended.

The data for offers and applications is available in an aggregate form (see [Section 3.1.3](#)) from the UCAS Exact service. Alternatively, analysis provided by the UCAS Outreach Evaluator service, reports on whether or not students on the Pathway programme were more likely to apply or receive offers from university in comparison with a benchmarked cohort of potential applicants.

Data on the number of Pathway programme and non-Pathway programme events attended is available via the HEAT tracking service from outreach activity attendance data entered into the system by the Aston University Outreach team.

#### 3.1.5 Exploratory outcomes

The exploratory outcomes are:

- self-reported knowledge of how to apply to HE
- self-reported confidence in the ability to apply to HE
- self-reported confidence to fund university
- self-reported sense of belonging in HE

As per the hypotheses in [Section 3.1.1](#), the data that provides this information is from the first two milestone surveys (for H5) or all three milestone surveys (for H6 and H7) sent out to all the Pathway programme students at key points during the programme (see [Table 2](#)); because MS3 was sent out after the UCAS application window had closed there were no questions about the likelihood of applying to HE in MS3.

There are seven survey questions related to the hypotheses H5 to H7 (see [Table 3](#)). Questions one, two and three are used to inform the application-related outcome (H5); questions four and five are used to inform the finance-related outcome; and both parts of question six are used to inform a sense of belonging (H7). Each question is analysed separately.

Table 3: Milestone survey questions used to determine the success of the hypotheses H5, H6 and H7. Don't know was a response option for all the scales.

Hypotheses	Question number	Statement	Response options
H5	1	How confident are you that... you know how to apply to university?	Not confident Not that confident Neutral Quite confident Extremely confident
	2	How confident are you that... you could make a successful application to university?	
	3	How confident are you that... you could make a successful application to study medicine or healthcare at university?	
H6	4	How much do you know about... how to fund university?	Almost nothing A little Something Quite a bit A great amount
	5	How confident are you that... you can afford to go to university?	Not confident Not that confident Neutral Quite confident Extremely confident
H7	<i>How much do you agree with the following statements?</i>		
	6a	I would enjoy university.	Strongly Disagree Disagree Neutral Agree Strongly Agree
	6b	University is for people like me.	

### 3.1.6 Sample

#### *Recruitment*

Recruitment to the Pathway to Healthcare programme began in July of Year 11 and closed in October of Year 12 ready for the launch in late October. Promotion was carried out through social media and through making contact with existing school partnerships when delivering outreach events at schools or on campus.

#### *Eligibility*

The eligibility criteria for the Pathway to Healthcare programme are:

1. Year 12 students:
  - a. Who are not part of another Aston University WP programme, **and**
  - b. Are studying at a non-selective school or college in Birmingham, Solihull or the Black Country, **and**

- c. Who have attained at least 5 GCSEs at grade 4 or above (*Note, for students who wish to study medicine this must include Maths, English Language and double Science or Chemistry and Biology at level 6 or above.*), **and**
  - d. Whose predicted grades at A Level/BTEC/IB would also match the entry requirements of their chosen course at Aston University.
2. **And** meet at least one of the following WP criteria:
- a. Live in a POLAR4, Quintile 1 or 2 area, **or**
  - b. Attend a school or college in a POLAR 4, Quintile 1 or 2 area, **or**
  - c. Come from a home where neither parent has attended HE in the UK or abroad, **or**
  - d. Have a disability or are in receipt of a personal independence payment, **or**
  - e. Are in care or have been in care in the past, **or**
  - f. Are currently in receipt of a means tested bursary (i.e. 16 - 19 bursary), **or**
  - g. Have been in receipt of free school meals at any point over the last three years, **or**
  - h. Are a care leaver or have experience of being looked after by a local authority, **or**
  - i. Come from an underrepresented group (Gypsy, Roma, Traveller communities, refugees, children of military families).

#### *Sample size and randomisation*

All eligible applicants were randomly allocated to the treatment or control groups subject to the treatment group being filled to the capacity of the Pathway to Healthcare programme.

For the 2020-21 cohort the capacity of the treatment group was 110 with the expectation, based on historical data, that the control group would be around 30-50 students. In total there were 152 eligible applicants for the Pathway to Healthcare programme in 2020-21. After random allocation to the treatment and control groups there were 110 students in the treatment group and 42 in the control group.

For the 2021-22 cohort, there was an increase in the capacity of the programme to 130 students. In total there were 198 eligible applicants for the Pathway to Healthcare programme in 2021-22. After random allocation to each arm of the RCT one student who was allocated to the control group asked to be withdrawn from the research programme. In total there were 130 in the treatment group and 67 in the control group.

A full table which summarises the randomisation and the demographic breakdown of the treatment and control group is presented in [Table 4](#).

*Table 4: Demographics of each group and cohort of the Pathway programme*

	2020-21			2021-22		
	Treatment	Control	Total	Treatment	Control	Total
Overall	110	42	152	130	67	197
<b>Sex</b>						
Female	81 (73.6%)	27 (64.3%)	108 (71.1%)	96 (73.8%)	48 (71.6%)	144 (73.1%)
Male	29 (26.4%)	15 (35.7%)	44 (28.9%)	34 (26.2%)	19 (28.4%)	53 (26.9%)
<b>Ethnicity</b>						
Asian	71 (64.5%)	29 (69.0%)	100 (65.8%)	84 (64.6%)	46 (68.7%)	130 (66.0%)
Black	18 (16.4%)	7 (16.7%)	25 (16.4%)	17 (13.1%)	14 (20.9%)	31 (15.7%)
White	7 ( 6.4%)	4 ( 9.5%)	11 ( 7.2%)	15 (11.5%)	5 ( 7.5%)	20 (10.2%)
Mixed	4 ( 3.6%)	1 ( 2.4%)	5 ( 3.3%)	4 ( 3.1%)	2 ( 3.0%)	6 ( 3.0%)
Other	10 ( 9.1%)	1 ( 2.4%)	11 ( 7.2%)	10 ( 7.7%)	-	10 ( 5.1%)
<b>Student has Family History of HE</b>						
Yes	28 (25.5%)	11 (26.2%)	39 (25.7%)	29 (22.3%)	17 (25.4%)	46 (23.4%)
No	82 (74.5%)	31 (73.8%)	113 (74.3%)	101 (77.7%)	50 (74.6%)	151 (76.6%)
<b>Student has a disability</b>						
Yes	2 ( 1.8%)	1 ( 2.4%)	3 ( 2.0%)	4 ( 3.1%)	1 ( 1.5%)	5 ( 2.5%)
No	108 (98.2%)	41 (97.6%)	149 (98.0%)	126 (96.9%)	66 (98.5%)	192 (97.5%)
<b>Student has experience of the care system</b>						
Yes	-	-	-	1 ( 0.8%)	2 ( 3.0%)	3 ( 1.5%)
No	110 (100.0%)	42 (100.0%)	152 (100.0%)	129 (99.2%)	65 (97.0%)	194 (98.5%)
<b>Prior eligibility for Free School Meals</b>						
Yes	48 (43.6%)	16 (38.1%)	64 (42.1%)	37 (28.5%)	27 (40.3%)	64 (32.5%)
No	62 (56.4%)	26 (61.9%)	88 (57.9%)	93 (71.5%)	40 (59.7%)	133 (67.5%)

### 3.1.7 Analytical approach

#### *Primary outcome*

The primary outcome measures, progression to medicine or healthcare-related HE courses and progression to HE generally, are binary and were analysed using mixed-effects binary logistic regression. For mixed effects logistic regression the model is:

$$Y_i \sim \text{bernoulli}(p_i); \text{logit}(p_i) = \alpha + \beta_0 T_{ij} + \beta_k X_{ij} + \mu_j$$

where

$$\text{logit}(p_i) = \log\left(\frac{p_i}{1-p_i}\right)$$

and

- $Y_{ij}$  is whether or not the  $i$ -th student in school  $j$  enrolled at HE (1) or did not enrol at HE (0);
- $p_i$  is the probability of  $Y_i$ ;
- $T_{ij}$  is a treatment indicator, set to 1 for participants in the treatment group and 0 for those in the control group;
- $X_{ij}$  is a vector of  $k$  demographic covariates (sex, family history of HE, mean KS4 grades, ethnicity);
- $\mu_j$  represents each school as a random effect in the model thus allowing a different intercept to be fitted for each participant's school.

#### *Secondary outcome*

For outcomes H3 (number of applications) and H4 (number of offers) we used a mixed effects linear regression.

$$N_{ij} = \alpha + \beta_0 T_{ij} + \beta_k X_{ij} + \mu_j + \epsilon$$

Where  $N_{ij}$  is the number of applications (H3) or offers (H4) the  $i$ -th student in school  $j$  received,  $\epsilon$  is a set of normally distributed residuals, and the remaining terms are as above.



### *Exploratory analyses of survey data*

An exploratory approach to the analysis of survey data has been implemented and tested on the 2020-21 cohort.

Given that there was a large amount of missing data, due to poor response rates and students not responding to every survey, a statistical method was required to handle missing data. Wittkowski's (1988) modification to Friedman's non-parametric one-way analysis of variance by ranks can be used to compare results across participants who respond to at least two of the three milestone surveys. This analysis was computed using *R* with the package *muStat*. Post-hoc pairwise tests were carried out using the Conover test implemented by *frdAllPairsConoverTest* from the *PMCMRplus* package but can only be carried out where there is no missing data.

## **3.2 Implementation and process evaluation**

### **3.2.1 Implementation and process evaluation research questions**

There are two research questions (RQs) for the IPE:

RQ1. Was the programme delivered as intended?

RQ2. Do students who take part in the events report changes in attitude, knowledge, or awareness in the subject area targeted by the events?

Note that RQ2 seeks to understand whether students participate in programme events and how this participation influences students' attitudes, knowledge and awareness.

### **3.2.2 Research methods**

To answer RQ1 we used practitioners' event reports, attendance data and, where applicable, student reports of the quality of the online presentation (video/audio quality and the appropriateness of their study area).

To answer RQ2 we used specific questions from post-event student evaluation data and the data from focus groups carried out with students. These specific questions were used to determine self-reported levels of attitude, knowledge, or awareness in the targeted domain of the event. For example, for a UCAS application event an appropriate question was "After today, I know more about the UCAS application process". Suitable post-event questions were identified (see [Appendix 5](#)). Additionally, milestone survey data from those students who take part in the focus groups was made available for comparison with the focus group data.

For the analysis of survey questions we used RAG (red-amber-green) ratings of the responses. RAG ratings were based on the percentage of respondents who respond

positively or strongly positively (e.g., ‘Agree’/‘Strongly Agree’, ‘Know a bit’/‘Know a lot’, etc.) to a question or set of survey questions. A RAG rating of red is  $\leq 50\%$  respond positively, amber  $< 75\%$  respond positively, and green  $\geq 75\%$  respond positively.

### 3.2.3 Sample, data sources

As above, practitioners’ event reports, attendance data, post-event student evaluation data, RAG ratings of survey responses and milestone survey data were used to collate data for the implementation and process evaluation. In addition, the following questions were asked in post-event surveys of online events to help determine the quality of the online experience:

1. How would you describe the audio quality (e.g., in terms of clarity, dropouts, freezes etc.) of the event? [*Possible responses: ‘Very Good’, ‘Good’, ‘Okay’, ‘Poor’, ‘Very Poor’*]
2. How would you describe the video quality (e.g., in terms of clarity, dropouts, freezes etc.) of the event? [*Possible responses: ‘Very Good’, ‘Good’, ‘Okay’, ‘Poor’, ‘Very Poor’, ‘Did not use video’*]
3. How would you describe your study environment during the event? [*Possible responses: ‘Very Good’ – No distractions/interruptions, ‘Good’, ‘Okay’ – A few distractions/interruptions, ‘Poor’, ‘Very Poor’ – Frequent distractions/interruptions*]

Focus groups or one-to-one interviews of students from the control and treatment groups were used to help identify aspects of the outreach programme, and outreach activities more generally, that did or did not work for the students. For the focus groups 100 students (83 treatment, 17 control) had responded to at least one milestone survey and were invited to take part. Eight students, all from the treatment group, consented to take part but only four responded when asked to participate. All four of those students attended a single focus group. During the COVID-19 pandemic, students were being asked to participate in multiple online activities, including research and evaluation activities, which led to students being overwhelmed with requests and made recruitment to the focus groups more difficult than in previous, typical years. The small sample size limits the conclusions that can be reached from the focus group data.

### 3.2.4 Details of fidelity, dosage, compliance, and usual practice.

#### *Fidelity*

An event was assumed to have been delivered if the practitioners’ post-event report did not indicate that any changes were made to the planned programme.

For online events, an additional requirement was that a green RAG rating was obtained for each of the three post-event questions relating to audio/visual quality and study space quality.

#### *Dosage*

If more than 60% of students attended an event, then the event was considered to have been received by the students. For events with multiple sessions (e.g., online summer school, academic tutoring) attendance was defined as turning up to more than 50% of the sessions.

#### *Compliance*

Students were judged as having completed the Pathway programme if they attended more than 80% of the events on the Pathway programme.

#### *Usual practice*

Usual practice would be to deliver all the events in a face-to-face setting, however, the onset of COVID-19 brought all events online for the 2020-21 academic year, including the summer school. No specific training was given to the practitioners in order to run the programme online.

The residential summer school is usually considered to be a compulsory event and students are only usually allowed to miss it in exceptional circumstances. For the 2021-22 cohort, however, an exception was made due to the long-lasting effects of the pandemic.

### 3.2.5 Analytical approach

Thematic analysis (Braun and Clarke, 2006) was used to analyse the focus group transcriptions. The analysis was inductive and linked to the Theory of Change through the key themes:

- 1) the support which was provided to students on the Pathway programme and
- 2) the attitudes to HE in terms of sense of belonging (both academic and social).

Data from the focus group participants was linked with their milestone survey data to determine the extent of agreement between them.

## 4. Results

### 4.1 Summary of findings from the impact evaluation – RCT

A summary of data from the UCAS Outreach Evaluator is presented in [Table 5](#).

#### 4.1.1 Enrolment to HE

Until the HESA data is available, data on acceptances from UCAS is the closest achievable data to enrolment where acceptance is defined as *an applicant who has been placed for entry into HE*. In other words, the applicant has been offered and allocated a place at HE but it is not known if they have enrolled on the course or entered HE.

Data provided by the UCAS Outreach Evaluator (formerly Strobe) and Exact service provide a tabulated comparison of the control group and treatment group for number of firm acceptances that is subject to rounding errors (to the nearest five).

The data reveal that of those who made an application approximately 63% (possible range due to rounding and suppression checks: 60%-67%,  $n=60\pm 2$ ) of the treatment group and 86% (possible range: 76%-97%,  $n=30\pm 2$ ) of the control group had a firm acceptance for study in the 2022-23 academic year.

The data from the UCAS Exact request reveal that between 41 and 49 students in the treatment group held a firm acceptance for studying medicine or subjects allied to medicine in the 2022-23 academic year, the equivalent range for the control group is 16-24. That is, 37%-44% of students in the treatment group held a firm acceptance for a medicine or related course compared with 38%-57% of students from the control group.

Notwithstanding the limitations of the data it is likely that H1 – The Pathway to Healthcare programme increases the likelihood of enrolment on a medicine or healthcare-related course at HE – is not supported by the data. Due to the ranges provided in line with the rounding and suppression of UCAS data, this is a proxy measure rather than an accurate test of significance which will be conducted when HESA data becomes available.

#### 4.1.2 Applications and offers

Data provided by the UCAS Outreach Evaluator (formerly Strobe) and Exact service provide a tabulated comparison of the control group and treatment group for the total number of students who have made at least one application to HE and the number of students who have received at least one offer. As for acceptances, these numbers are subject to rounding errors (to the nearest five).

In terms of applications, 86% (possible range: 85%-88%,<sup>1</sup> n=95±2) of students in the treatment group made at least one application to HE in comparison with 83% (possible range: 79%-88%, n=35±2) for the control group.

In terms of offers, 89% (possible range: 86%-94%,<sup>2</sup> n=85±2) of students in the treatment group who applied to HE received at least one offer in comparison with 86% (possible range: 76%-97%, n=30±2) for the control group.

The total number of applications made by students in the treatment group was 455±2 and 170±2 in the control group. The number of applications per student was approximately 4.8 (4.7-4.9) for the treatment group and 4.9 (4.5-5.0) for the control group.

The total number of offers made to students who had applied to HE in the treatment group was 205±2 and 85±2 in the control group. The number of offers per student who had applied was approximately 2.4 (2.3-2.5) for the treatment group and 2.8 (2.6-3.1) for the control group.

Data from the Exact service indicated that there were between 351-359 applications (3.2-3.3 applications/student) from the treatment group students for medicine and related subjects and between 136 and 144 (3.2-3.4 applications per student) for the control group.

In terms of offers for medicine and related subjects, there were between 1.2-1.3 offers/applicant (n=116-124) for students in the treatment group and 1.5-1.9 offers/applicant for students in the control group (n=56-64).

Taken together, it is likely that neither H3 or H4 are supported by the data. Students in the treatment group were no more likely than those in the control group to make an application to begin a medicine or related HE course in the 2022-23 academic year.

#### 4.1.3 Relationship between attendance and enrolment

Please note that this report will be updated with the final outcome data when the HESA data is returned in spring 2024.

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<sup>1</sup> The range of percentages is computed by taking the minimum or maximum possible value of the returned number (which has been rounded to the nearest 5) and dividing it by the number of students in the treatment (110) or control (42) group where relevant.

<sup>2</sup> The range of percentages is computed by taking the minimum or maximum possible value of the returned number (which has been rounded to the nearest 5) and, respectively, dividing it by the maximum or minimum possible value of the number of students in the treatment or control group who made at least one application to university.

*Table 5: Results from the UCAS Outreach Evaluator report.*

	<b>Treatment (2020-21 cohort)</b>	<b>Control (2020-21 cohort)</b>
Firm acceptance (any subject)	63% (possible range: 60%-67%, n=60±2)	86% (possible range: 76%-97%, n=30±2)
Firm acceptance - medicine or subjects allied to medicine	37%-44% (n=41 and 49)	38%-57% (n=16 and 24)
Applications (% who made at least one application)	86% (possible range: 85%-88%, n=95±2)	83% (possible range: 79%-88%, n=35±2)
Applications per student (medicine or subjects allied to medicine)	3.2-3.3	3.2-3.4
Offers	89% (possible range: 86%-94%, n=85±2)	86% (possible range: 76%-97%, n=30±2)
Offers per Applicant (medicine or subjects allied to medicine)	1.2-1.3	1.5-1.9
Attendance	HESA data available spring 2024	HESA data available spring 2024

#### 4.1.4 Milestone surveys (2020-21 cohort)

The response rates for the three milestone surveys can be found in [Table 6](#). They were reasonably high for MS1 (50.0%) and MS2 (56.4%) for the treatment group but were low for the final survey (37.3%). Response rates for the control group dropped substantially from 37.2% for MS1 to 11.6% for MS3. This has meant that no comparisons between treatment and control groups across the three surveys can be made.

Considering only the treatment group, 41 students completed MS1 and MS2, 29 students completed MS1 and MS3, 31 students completed MS2 and MS3, and 24 students completed all three surveys. Overall, 53 students completed two out of the three milestone surveys.

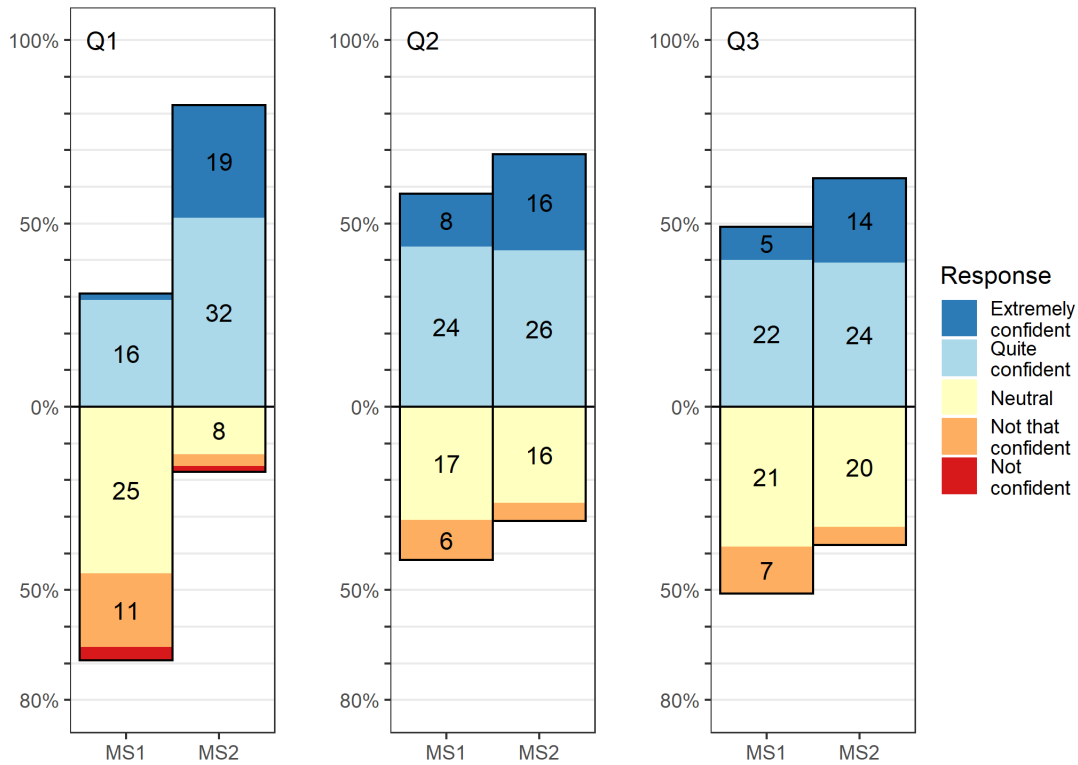
*Table 6: Number of responses and the response rates for the three milestone surveys (MS1 – MS3) by group (Treatment or Control) for the 2020-21 cohort.*

Group	MS1		MS2		MS3	
	n	Response Rate	n	Response Rate	n	Response Rate
Treatment	55	50.0%	62	56.4%	41	37.3%
Control	16	37.2%	12	27.9%	5	11.6%

*H5: Students report greater confidence that they can make a successful application to university*

It is clear from [Figure 1](#) that the responses are more positive for MS2 than MS1, particularly when referring to confidence in their knowledge of how to apply to HE (82% are confident in MS2, compared with 31% in MS1). Friedman tests (see [Table 7](#)) on the data from the students who completed each of the relevant questions in MS1 and MS2 (40 or 41) reveal significant effects of MS on responses indicating that, as the Pathway programme has progressed, the students know more about the application process and have more confidence that they can successfully apply to HE.

Figure 1: Diverging stacked bar charts of the responses to the three questions relevant to H5. Note: The height of each segment is proportional to the percentage of the indicated response. The counts for each response are displayed in the bars, counts below four are suppressed for reasons of space. All students who responded to at least one survey are included in the graphs.



How confident are you that...

Q1: you know how to apply to university?

Q2: you could make a successful application to university?

Q3: you could make a successful application to study medicine or healthcare at university?



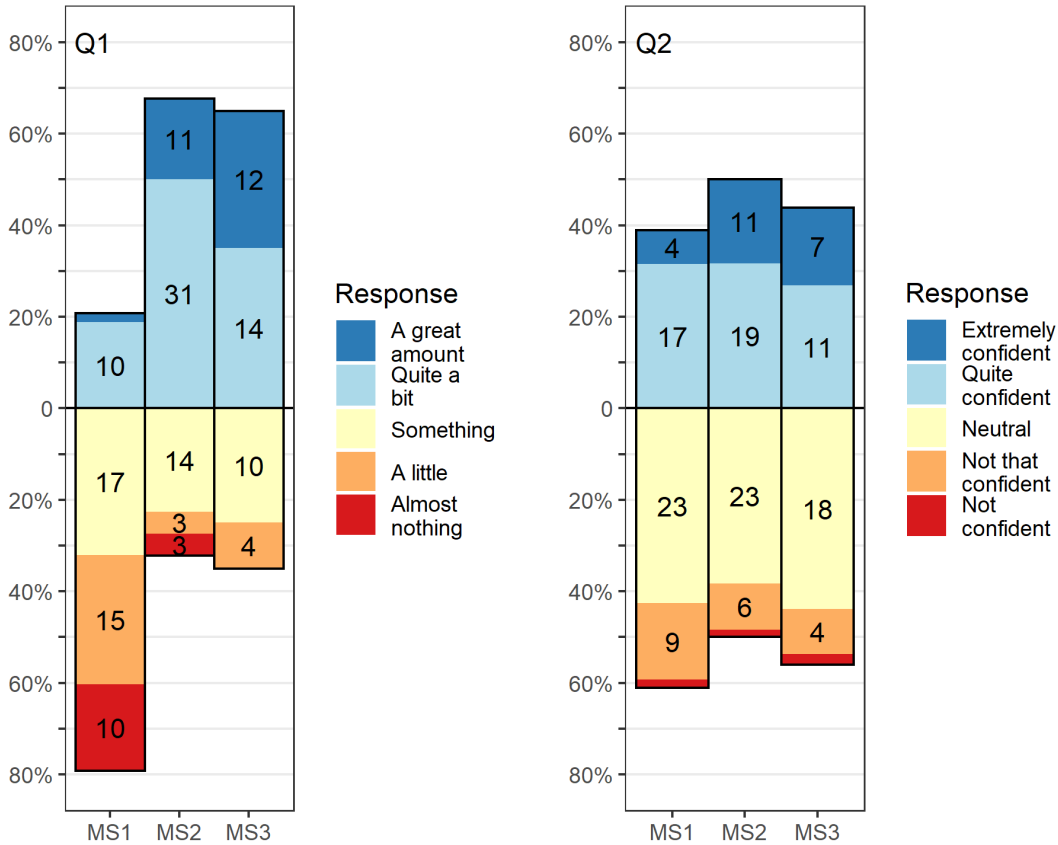
Table 7: Results of a Friedman test for the three application-related questions graphed in [Figure 1](#). P-values have been adjusted using Bonferroni correction.

Statement	n	$\chi^2$	p
How confident are you that...			
...you know how to apply to university?	41	23.439	<.001
...you could make a successful application to university?	40	8.450	.011
...you could make a successful application to study medicine or healthcare at university?	40	11.250	.002

*H6: At the end of the programme students report greater confidence that they can fund university*

As for H5, but this time across three MSs, it is clear from [Figure 2](#) that students' responses are more positive for MS2 and MS3 than for MS1 when referring to students' confidence in their knowledge of how to fund HE (68% for MS2 and 65% for MS3 responded positively compared with only 21% for MS1). Friedman tests ([Table 8](#)) on the data from the students who completed each of the relevant questions in two out of the three MSs (50 or 53 students) reveal significant effects of MS on responses for knowledge on how to fund HE. There is, however, no significant improvement in students' confidence that they can afford to go to HE. Interestingly, much of the activity aiming to improve students' knowledge of HE finance had been delivered during the Summer School just prior to MS2; there is no significant difference in the pattern of response between MS2 and MS3.

Figure 2: Diverging stacked bar charts of the responses to the three questions relevant to H6. Note: The height of each segment is proportional to the percentage of the indicated response. The counts for each response are displayed in the bars, numbers below two are suppressed for reasons of space. All students who responded to at least one survey are included in the graphs.



Q1: How much do you know about...how to fund university?

Q2: How confident are you that... you can afford to go to university?

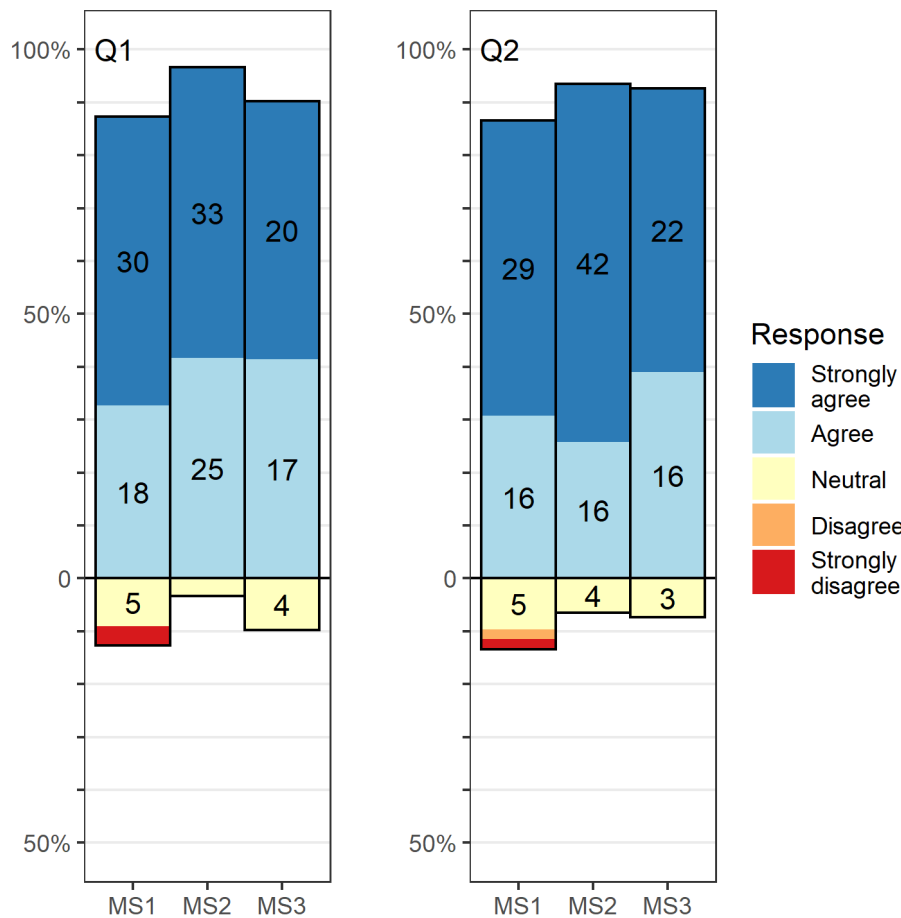
Table 8: Results of a Friedman test for the two finance-related questions graphed in Figure 2. The p-values for the individual Friedman tests have been adjusted using Bonferroni correction. The p-values between different MSs (i.e., columns headed MS1 vs MS2, etc), have not been adjusted and are based on Conover tests.

Statement	n	$\chi^2$	p	MS1 vs MS2	MS1 vs MS3	MS2 vs MS3
how to fund university?	50	41.808	<.001	<.001	<.001	.632
you can afford to go to university?	53	6.723	.069	.054	.031	.311

H7: At the end of the programme students report greater belief that university is a place for them.

It is clear from [Figure 3](#) that there is little change in the response profile between the three MSs. This is unsurprising given that 87% of the students responded positively to both questions at the beginning of the Pathway to Healthcare programme and the results of the Friedman tests ([Table 9](#)) confirm that there is no significant change in the response profile ( $p > .05$ ).

Figure 3: Diverging stacked bar charts of the responses to the three questions relevant to H7. Note: The counts for each response are displayed in the bars, numbers below two are suppressed for reasons of space. All students who responded to at least one survey are included in the graphs.



How much do you agree with the following statements...

Q1: I would enjoy university

Q2: university is for people like me

Table 9: Results of a Friedman test for the two sense-of-belonging questions graphed questions in Figure 3. The p-values for the individual Friedman tests have been adjusted using Bonferroni correction.

Statement	n	$\chi^2$	p
I would enjoy university	53	1.837	.798
university is for people like me	53	5.717	.115

## 4.2 Summary of findings from the implementation and process evaluation

### 4.2.1 IPE RQ1: Was the programme delivered as intended?

For the 2020-21 cohort the programme was delivered as intended, albeit in an online capacity until October 2021 (Table 10) but with two exceptions. The exceptions were that, due to COVID-19, an A-level revision boot camp scheduled for February 2021 was cancelled and that no work experience placements were available.

All the events that took place achieved >60% attendance, and none of the practitioners' event reports revealed changes in the programme or issues with delivery that would indicate they were not delivered as intended. For events with multiple sessions (tutoring and online summer school) more than 60% of students attended at least half of the sessions; feedback from the students indicated that online delivery of tutoring was preferred as they did not have to travel to Aston University campus.

For online events, a RAG-rating of green was achieved for all events where questions were asked about the quality of the online audio/visual experience and home-study areas. Unfortunately, these questions were not posed for the evaluation of two early online events (the medicine taster day and the first round of academic tutoring) but given the positive responses for the remaining events it is likely that the online quality of these events was satisfactory.

Informal discussions with the Pathway programme manager who delivered much of the programme indicated that the move to online delivery involved rethinking how in-person interactive events (such as subject taster days) could be delivered in this new format. For example, the Medicine and NHS Allied Professions taster days took place online in a virtual classroom via a teaching platform Blackboard Collaborate, whereas the Year 12 Summer School Residential and Parents Evening took place via Microsoft Teams Live. Using these platforms meant the Pathway programme team not only had to familiarise themselves with the new technology, they also had to support students to navigate technology issues, such as access, shared devices and connectivity issues. The team also had to support external stakeholders delivering guest speaker

workshops. While the move to online delivery was generally felt to be successful there was relief at finally being able to interact face-to-face with the students at the MMI preparation day and a belief that this lack of interaction with the students would likely make the programme less effective, particularly with regards to the summer school, where staff, student ambassadors and Pathway programme students spend a lot of time in each other's company over the course of three days.

Following the move to online delivery, feedback from students was that for the workshops that only lasted a few hours, such as the UCAS Application and Personal Statement Day and Academic Tutoring, these sessions worked best online, taking place after school rather than students having to travel to Aston University or miss key lessons at school and college if they were scheduled to take place during the day. However, it was felt that the more intense taster days (up to five hours long) and events which run over multiple days (Year 13 Academic Boot Camp and Summer School), were better face-to-face and should continue to be delivered this way. The Pathway to Healthcare programme now operates a hybrid approach to delivery, with the UCAS Application Day, Work Experience Preparation Day, MMI and Interview Day, and Academic Tutoring taking place online via a teaching platform Blackboard Collaborate, while all other taster sessions, Year 13 Boot Camp and Summer School have returned to in person delivery.

Table 10: Scheduled events for the 2020-21 Pathway to Healthcare and associated indications of attendance, successful delivery, online experience, and student evaluation.

Event	Attendance >60%	Event delivered with no reported change	Online quality RAG rating	Evaluation Questions RAG rating
Medicine Taster Day	Y	Y	-	Green
Academic Tutoring	Y	Y	-	Green
A-level revision boot camp	Cancelled			
NHS & Allied Professions Day	Y	Y	Green	Green
UCAS application day	Y	Y	Green	Green
Work Experience Prep Day	Y	Y	Green	Green
Work Experience	Cancelled			
Summer School Residential (Online)	Y	Y	Green	Green
MMI prep day	Y	Y	N/A	Green
Academic Tutoring	Y	Y	Green	Green
A-level revision boot camp	Y	Y	N/A	Green

#### 4.2.2 IPE RQ2: Do students who take part in the events report changes in attitude, knowledge, or awareness in the subject area targeted by the events?

##### *Student post-event evaluations*

For each event, all the questions identified as pertinent to the success of the event ([Appendix 5](#)) achieved a RAG rating of green demonstrating relevant changes in attitude, knowledge, or awareness following the activity.

*Focus groups*

**Theme: Confidence**

**Theory of Change outcome:** *Equip local WP learners with the necessary skills, knowledge, and experience to apply to medicine or healthcare-related courses at university*

The results from the milestone surveys for H5 indicated that students were more confident that they can make a successful application to university. The students who took part in the focus groups agreed that the Pathway programme supported their journey towards HE:

*“I was probably a little bit naive when I decided to do medicine. I didn't realise how competitive it was and how difficult the application process was going to be... school are great with supporting me, but I don't think they necessarily had the expertise of applying for medicine ... And I think that that's probably where the pathways team compensated and it was just a case of knowing actually this is what you've got to do across these two years.”* (Pathway to Healthcare treatment student)

*“[the pathway] signposted everything I needed to be doing throughout my application to medicine”*

*“the pathways program really did sort of help me in, you know the journey of applying to medicine”*

This suggests that the Pathway programme, particularly for medicine, provides essential knowledge for students that they cannot get from schools.

Usually, Pathway programme students would take part in work experience but, due to COVID-19 these opportunities were unavailable. One student who is considering medicine or healthcare has taken a gap year because of this:

*“I want to gain more experience in working in healthcare, so I've been applying for the NHS and volunteering at hospitals and I kind of also want to broaden my options.”*

**Theory of Change outcome:** Improve academic attainment of students (A-levels)

Three of the four students mentioned the academic tutoring as being a key feature of the programme:

*“The online tutoring that helped [...] with chemistry and biology as well.”*

*“So not only was it looking at applying to medicine, it was actually how can we help with your sixth form subjects you're studying as well.”*

*“I definitely agree [that the pathway supported me with] A level revision, boot camps and kind of pinpointing all the different things you need to do.”*

Without the predicted and achieved A-level grades it is not possible to be certain that the tutoring has helped improve attainment. Nonetheless, one student reported that the programme helped them to *“improve my academic writing.”*

Based on the results of the milestone surveys, by the end of the programme all the students in the focus group were at least as confident or more confident than at the beginning that they could achieve the necessary grades to study medicine or healthcare at university.

**Theme: Sense of Belonging**

**Theory of Change outcome:** Increase preparedness for study in HE

The Pathway to Healthcare programme is not merely designed to get students into HE but preparing them to study at HE in terms of the kind of work that is expected, how the lecturer-student relationship is different from school and where and how to get help with studies. The students in the focus group agreed that the Pathway programme provided them with such support:

*“Yeah, I think that’s something that Aston kind of pointed out for me as well as during the summer school, they sort of said, you know, universities, although it’s big and you don’t have, you’re not sort of got that teacher student relationship like you do in sixth form, the support is still there for you to access.”*

*“I think the emphasis at university is kind of on you, whereas at school, teachers might come to you to offer you the support you’ve got to be the one to go and ask for it.”*



*“[...] especially with the outbreak challenge and all of the different activities we’ve done throughout the year, it’s really highlighted the [...] quality of work that they’re expecting at university level that and it highlights that gap between A-level and university level as well.”*

*“[the pathway showed me] how to really make very good university style presentation”*

*“[the pathway showed me skills] such as sending professional emails and stuff like that”*

**Theory of Change outcome:** Change attitudes to HE so it is seen as a place for WP students

One goal of the Pathway to Healthcare programme was to give students a sense of belonging, such that HE was seen as a place for them. It became clear from the first milestone survey, however, that Pathway programme students already saw HE as a place for them and felt they would fit in. Three of the students in the focus group have older friends or family at HE and a lot of information seems to come from them, for example:

*“I have a brother who goes to university and he tells me that there's loads of societies there. So even if [...] you don't drink. There's so many societies such as sports societies where you can make friends and still socialise”*

*“I think it will definitely feel like a community and from what I've heard from friends at university, they will come back having had the great time they come back at Christmas and Easter and they can't wait to get back to university to be with their friends.”*

One student described how university choice was influenced by knowing people who would be going to the same institution in order to help them fit in:

*“I know a few people from a school and college that will be going on the same university, so maybe it might be better to kind of stay in to contact with them and have them also introduced me to new people.”*

Only one of the students in the focus group did not report in the milestone surveys that HE was a place for people like them. This student did not reference their family or friends for this attitude but did talk about the influence of social media:

*“I mean, I don't know if this is true, but I've seen from a lot of like posts from people in tiktok videos that a lot of people don't make any friends in the first year and that it's especially hard for people like me because I don't go to clubs, I don't drink so but those activities are a big part of kind of university culture. So I'm kind of scared about whether I'd be able to find my type of people.”*

If this view is more widespread and representative of those who worry about HE being a place for them then it is important that the Pathway programme team take steps to counter negative information from social media.

## **5. Discussion**

### **5.1 Discussion of findings, linking the IE and IPE results**

#### **5.1.1 Frame by compliance, fidelity, dosage, reach, and moderations made to the intervention (e.g., in the context of COVID-19).**

##### *2020-21 programme*

With the exception of the two cancelled events (both beyond the control of the organisers) and the move to online activities during COVID-19 related restrictions, the programme can be considered as having been delivered as intended; there were no delivery issues noted by the practitioners implementing the activity in the post-event reports; attendance met the threshold for all activities; there was no indication that students struggled to access the online activities; and post-event evaluations indicated expected changes in attitudes, knowledge or awareness around the content of the activity. Therefore, the results of the impact evaluation can be considered in the context of a successfully delivered programme, with the understanding that it was the first time the programme had been delivered online.

Usually, the activities would be delivered on campus and the summer school would be residential. It remains to be seen if the following cohort of Pathway programme students, whose programme so far is unaffected by COVID-19 restrictions, gain benefits from extra visits to campus and the residential summer school prior to their eventual entry into university.

The move to online delivery of activities prompted consideration of every activity on the programme as to whether it can be delivered online or should remain in-person. Indeed, feedback from the students on the academic tutoring indicated that online tutoring was considered preferable to in-person tutoring since students did not have to travel to Aston University campus after school to access the tutoring. The Pathway programme team have now made online delivery of tutoring permanent.

A further change to the programme for the 2021-22 cohort is the removal of the Year 12 A-level revision bootcamp after feedback from the students in the 2020-21 cohort that they felt the newly introduced tutoring was sufficient in Year 12.

### 5.1.2 UCAS data and H1, H2, H3 and H4.

Four hypotheses were tested by the currently available UCAS data:

1. H1: The Pathway to Healthcare programme increases the likelihood of enrolment on a medicine or healthcare-related course at HE amongst participants in comparison with those in the control group.
2. H2: The Pathway to Healthcare programme increases the likelihood of enrolment at HE amongst participants in comparison with those in the control group.
3. H3: The Pathway to Healthcare programme increases the number of applications made by participants to study medicine or healthcare-related courses at HE in comparison with those in the control group.
4. H4: The Pathway to Healthcare programme increases the number of offers made to participants to study medicine or healthcare-related courses at HE in comparison with those in the control group.

Although definitive statements cannot be made about these hypotheses until the HESA data becomes available, the proxies we have used in this report suggest it is unlikely they will be supported by the data.

More generally, it is highly likely that a greater proportion of students in the control group enrolled on a HE course in the 2022-23 academic year than among those students in the treatment group.

However, internal institutional data obtained from students in the treatment group revealed that at least 34 students had either deferred their entry or taken a year out before applying or re-applying for the 2023-24 academic year; unfortunately, we have no data from the students as to why such a high proportion of them are deferring/re-applying. Under the assumption that all the students with firm acceptances in the treatment group ( $60 \pm 2$  out of  $95 \pm 2$ ) have indeed enrolled in HE in the 2022-23 academic year, and that these 34 students who have deferred/re-apply successfully enrol in 2023-24 then at least some of the difference in assumed enrolment rates between the control group and the treatment group is accounted for; the acceptance rate would be 85% compared with 87% for the control group.

Note, however, that this cohort experienced the Pathway programme (including the summer school) largely online, perhaps reducing its effectiveness. It is also possible

that these students are making informed choices to delay application due to information provided during the Pathway to Healthcare programme as indicated to us by two students in the focus group

*“the pathways team have always made it clear that [they’re] there to support us whatever our decision, it was never about making us apply to Aston or making us apply to medicine. It was always about an informed decision.”*

*“So throughout the year I kind of explored my love for psychology and I decided that I didn’t wanna just jump ship from the plan for medicine to psychology without really getting some experience ... during my gap year, I’m looking to get some experience.”*

### 5.1.3 Milestone survey results and H5, H6, and H7

Three hypotheses were tested using the results from three milestone surveys. These hypotheses were:

1. (H5): At the end of the programme students report greater confidence that they can make a successful application to university.
2. (H6): At the end of the programme students report greater confidence that they can fund university.
3. (H7): At the end of the programme students report greater belief that HE is a place for them.

Of the three hypotheses tested, H5 is fully supported by the data, H6 is partially supported, and H7 is not supported at all. Overall, the data showed that the programme was successful in conferring knowledge and confidence about how to apply to HE (and healthcare programmes in particular). It was also successful in conferring knowledge about how to fund HE, but students were no more confident that they would be able to afford it. In terms of perceptions that the students would enjoy HE and that university was a place for them, the majority of the participants already agreed with these statements at the start of the programme and so any changes on these measures were not significant.

### 5.1.4 Evidence to support Theory of Change

None of the outcomes in the Theory of Change which were reflected by the hypotheses H1-H4 are supported by the data so far. Considering this data the Theory of Change should be revisited by the Pathway to Healthcare programme team at Aston University.

One of the underlying assumptions in the Theory of Change is that the students eligible for the Pathway to Healthcare programme do not necessarily see HE as a place for them but the

results of the first milestone survey indicate the opposite. This assumption feeds into the outcomes of increasing applications to HE, offers from HE and enrolment in HE (whether in medicine/healthcare or otherwise). If these students were likely to go to HE anyway (notwithstanding the fact that the Pathway programme seems to be associated with an increase in confidence around HE applications) then the outcomes around applications, offers and enrolment may need to be revised. Rather than focusing on enrolment as the primary impact of the programme, perhaps a shift to influencing students' continuation and progression once in HE is preferable - i.e., students on the Pathway programme are better prepared for studying in HE than those who are not on the Pathway programme. Adjustments to the programme may be required to further support HE continuation and progression.

## **5.2 Limitations of the research**

### **5.2.1 The use of proxy measures**

The data from UCAS used to answer H1-H4 is limited because it includes firm acceptances rather than enrolments, numbers are rounded to the nearest five, and for some data (e.g., subject applied for) disclosure controls have been applied that reduce the accuracy of the data still further. Nonetheless, due to the delay in accessing HESA data, the preliminary analysis conducted using UCAS data is the best available option for short-term reporting and provides useful indicators about the impact of the Pathway programme on student applications.

### **5.2.2 Small sample sizes**

For the impact evaluation, the small sample size affects the statistical power for the analysis and may hinder the ability to find statistically significant results. Furthermore, the sample is based on one higher education provider, meaning the results are not generalisable to the wider population.

Due to low milestone survey response rates from the control group, it has not been possible to compare survey responses between treatment and control groups. Although H5, H6 and H7 were defined within the terms of the treatment group only the conclusions would be strengthened had the comparisons been made across treatment and control groups.

The sample size for the focus groups is very small which limits the conclusions that can be reached from the data.

### 5.2.3 Threats to validity

Students from the control group may have participated in outreach activities run by other HE providers. Only five students in the control group responded to the final milestone survey which included the question *I have participated in a university outreach programme - a structured programme of activities over multiple months*. However, three of those five students answered yes to this question, and one was unsure. The challenge of not being able to isolate the control group from other activities is common on WP outreach. To account for this, the final analysis of the longer-term outcome data will match baseline and outcome data to records which show whether students attended Pathway programme activities. This matched dataset will then be used to explore whether attendance at activities mediates any effect on their outcomes. Furthermore, we are exploring to what extent it will be possible to also collect information on what other outreach activities individuals have taken part in (aside from the Pathway programme) using the HEAT data records. If it is possible to collect such data, we will also seek to take this into account in the final analysis.

### 5.2.4 Conducting the evaluation during COVID-19

Conducting the evaluation during the COVID-19 pandemic meant that, not only was the evaluation investigating an atypical version of programme delivery, but it was particularly difficult to engage students in evaluation activities - such as, completing milestone surveys and participation in focus groups. Students were being asked to take part in numerous online activities during the pandemic, which may be why the usual strategies used to engage students in evaluation activity (prize draws and compensation) were less effective.

## 5.3 Reflections

### 5.3.1 Practitioners' reflections on running an RCT

There was a high degree of enthusiasm for more formal evaluation of the Pathway to Healthcare programme. Given historic oversubscription of the Pathway programme, conducting an RCT was logical as there was no reduction in the number of available places. However, the support necessary to run an RCT was a consideration. The provision of a TASO-funded research assistant at Aston University, to carry out the randomisation, improve data recording on HEAT, develop event evaluation, and provide timely analysis and reporting on intermediate outcomes (through milestone surveys) mitigated the resource consideration. The results of the collaboration between the research assistant and the Pathway programme manager means that going forward, the

Pathway programme is being continuously evaluated and data is recorded consistently on HEAT so that the long-term impacts of the programme can be monitored. However, ongoing evaluation in the absence of a TASO-funded research assistant may be more challenging.

### 5.3.2 Improving response rates to milestone surveys

The first milestone survey on the Pathway to Healthcare programme, sent to all eligible applicants, was accompanied by optional entry for a prize draw of £100 vouchers as an incentive to participate. The overall response rate was 47% (71 students) with a response rate of 50% (55 students) from the treatment group and 38% (16 students) from the control group. Response rates for the second milestone survey were similar overall, 49% (74 students), but masked a drop in the response rate from the control group to 29% (12 students). The response rate dropped to 30% (46 students) for the third milestone survey with only five responses from the control group.

The aim of the milestone surveys was to be able to track changes in student perceptions over the course of Year 12 and Year 13 for both the treatment and control groups. The lack of responses from the control group, despite the incentive, has made useful comparisons between the treatment and control groups impossible. Nonetheless the milestone survey data for the treatment group alone is valuable as a tool to understand key progress in students' perception of their understanding of the application process, funding, and university life.

Increasing the response rate – at least amongst the treatment group – will make the survey data more useful. The evaluation of Aston University's [Pathway to STEM programme](#) achieved this by, where possible, making responding to the milestone survey part of acceptance on the programme (first survey) or registration for the next Pathway programme event (later surveys). This proved successful with the Pathway to STEM programme where an overall response rate of 94% (105 students) was achieved for the first milestone survey.

## 6. Conclusions

Using the best data available to date for the 2020-21 cohort there is not evidence that the Pathway to Healthcare programme improves students' chances of applying, receiving offers, or making a firm acceptance to study medicine or healthcare-related subjects at HE. However, the proportion of treatment group students who chose not to enter HE for the immediately following academic year was much higher than usual and the number of students who have indicated that they will reapply next year would close the currently observed gap in acceptances between the treatment and control group.

More conclusive evidence will be available once data for the second cohort of students, due to enter HE in 2023, is ready.

Survey data indicated that students were more confident that they could successfully apply to and fund HE (e.g., by obtaining finance) by the end of the programme; though there was no significant improvement in the number of students who were confident they could afford university. A focus group with four students provided some corroboration that the programme was responsible for this increase in confidence.

At the beginning of the programme students were highly likely to report that HE was a place for them and that they would fit in. There was no significant improvement in their attitudes by the end of the programme. Results from the focus group indicated that influence of family and friends who had HE experience may have been responsible for this attitude.

If, as suggested by our findings, these post-16 programmes such as Pathways to Healthcare are dealing with students who would attend HE anyway then the primary impact of our intervention should not be seen as enrolment at university. Rather, given that the programme includes sessions about preparation for HE studies and life, the impact might be better measured in terms of continuation and progression once these students get to HE. Consequently, post-16 outreach programmes, and ongoing evaluation, may need to focus more on these outcomes by providing a programme tailored to improving preparation of study in HE.

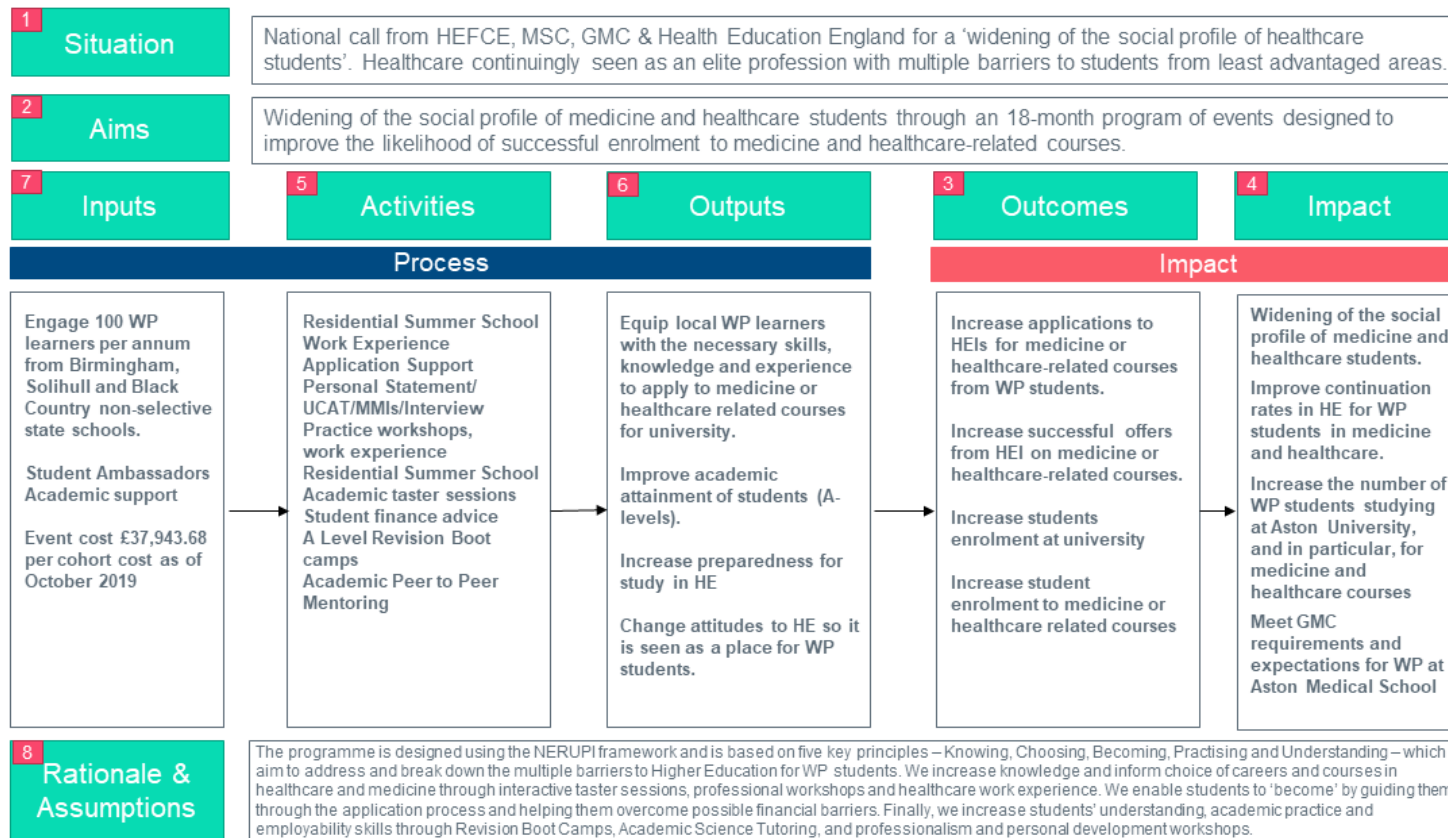


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## 8. Appendices

### Appendix 1 - Theory of Change



## Appendix 2 – Programme of events

Table 11: Programme of events for the 2020-21 Pathway to Healthcare programme.

Date	Event	Details
October 2020	Launch	Inform parents and students about the Pathway to Healthcare programme and the commitment needed from students.
4 - 20 January 2021	Survey	Milestone survey 1 (closed before Medicine Taster Day)
January 2021	Medicine Taster Day	Introduction to studying and “Working in Medicine talk”. What’s it like to study Medicine? (Talk from Clinical Teaching Fellows) Taster Medicine Lecture with video clinical skills videos Meet our current Medical Students
January – May 2021 (8 sessions)	Academic Tutoring	Academic Support (tutoring, revision sessions) for Biology or Chemistry led by current undergraduate healthcare students [Optional]
March 2021	NHS & Allied Professions Day	So you think you know healthcare & the NHS? (25-minute talk) Studying Healthcare at university? Meet the students (20-minute interactive presentation) Bringing Bedside manner to life (15-minute presentation)
April 2021 (2 days)	A-level revision boot camp	Academic Support (tutoring, revision sessions) led by current A-level Biology and Chemistry teachers. [Cancelled, due to COVID-19].
April 2021	UCAS application day	UCAS application process talk Personal statement workshop Developing your brand workshop Your university choice workshop
May 2021	Work Experience Prep Day	Overview of Work Experience in a healthcare sector (includes online provision and thinking outside of the box – linking back to UCAS Application) Work Experience Expectations (45-minute workshop) Reflection and your Personal Statement (45-minute workshop)
July 2021	Summer School Parents Evening	Student Session – Your summer school group Parent Session – The University Process
August 2021 (3 days)	Summer School Residential	No Limits challenge Outbreak – A healthcare Experience (interactive group clinical skills sessions and healthcare challenges) Healthcare Research Project + Presentation (Group work, 1 day) Preparing to deliver a university presentation (1-hour talk) Student finance seminar (30 minutes) UCAT and BMAT seminar Preparing to Study Healthcare at University (30-minute seminar) Social activities Working Lunch (1 hour)
August 2021	Work Experience	Experience in a healthcare-related workplace [Note: Limited numbers and application process applies – cancelled in 2021 due to COVID-19]

Date	Event	Details
5 August -17 September 2021	Survey	Milestone survey 2
October 2021	University Interviews and MMI prep day	An overview of university interviews and MMIs – the soft skills universities are looking for (30 minutes talk) You're hired! Preparing for university interviews (45-minute talk) Preparing for MMI's – Interactive practice (breakout)
November 2021 – April 2022 (6 sessions)	Academic Tutoring	(see above)
February 2022 (2 days)	A-level revision boot camp	(see above)
22 February 2022 - 11 March	Survey	Milestone Survey 3

Table 12: Programme of events for the 2021-22 Pathway to Healthcare programme.

Date	Event	Details
28 September 2021 - 15 October 2021	Survey	Milestone survey 1 (opened after students were informed whether application had been successful, closed prior to launch)
October 2021	Launch	Inform parents and students about the Pathway to Healthcare programme and the commitment needed from students.
November 2021– April 2022 (6 sessions)	Academic Tutoring	Academic Support (tutoring, revision sessions) for Biology or Chemistry led by current undergraduate healthcare students [Optional]
December 2021	Medicine Taster Day	Introduction to studying and “Working in Medicine talk”. What’s it like to study Medicine? (Talk from Clinical Teaching Fellows) Taster Medicine Lecture with video clinical skills videos Meet our current Medical Students
March 2022	NHS & Allied Professions Day	So you think you know healthcare & the NHS? (25-minute talk) Studying Healthcare at university? Meet the students (20-minute interactive presentation) Bringing Bedside manner to life (15-minute presentation)
April 2022	UCAS application day	UCAS application process talk Personal statement workshop Developing your brand workshop Your university choice workshop
May 2022	Work Experience Prep Day	Overview of Work Experience in a healthcare sector (includes online provision and thinking outside of the box – linking back to UCAS Application) Work Experience Expectations (45-minute workshop) Reflection and your Personal Statement (45-minute workshop)
July 2022	Summer School Parents Evening	Student Session – Your summer school group Parent Session – The University Process
July 2022 (3 days)	Summer School Residential	No Limits challenge Outbreak – A healthcare Experience (interactive group clinical skills sessions and healthcare challenges) Healthcare Research Project + Presentation (Group work, 1 day) Preparing to deliver a university presentation (1-hour talk) Student finance seminar (30 minutes) UCAT and BMAT seminar Preparing to Study Healthcare at university (30-minute seminar) Social activities Working Lunch (1 hour)
August 2022	Work Experience	Experience in a healthcare-related workplace [Note: Limited numbers and application process applies – cancelled in 2022 due to COVID-19]
1-16 September 2022	Survey	Milestone survey 2 (closed prior to UCAS application window opening )
October 2022	University Interviews	An overview of university interviews and MMIs – the soft skills universities are looking for (30 minutes talk)

Date	Event	Details
	and MMI prep day	You're hired! Preparing for university interviews (45-minute talk) Preparing for MMI's – Interactive practice (breakout)
November 2022 – April 2023 (6 sessions)	Academic Tutoring	(see above)
February 2023 (2 days)	A-level revision boot camp	Academic Support (tutoring, revision sessions) led by current A-level Biology and Chemistry teachers.
22 February - 17 March 2023	Survey	Milestone survey 3.

### Appendix 3 – Typology of events

Table 13: Typology of the events in the Pathway to Healthcare programme

Event Title	Activity Type	HE Provider Descriptor
Summer School Parents Evening	Non-Student	Parent/Carer Event
Launch Event	HE Campus Visit	Campus Visit
Summer School	Summer School	Residential Summer School
Medicine Taster Day	HE Subject Insight	Subject Taster
NHS Taster Day	HE Subject Insight	Subject Taster
Academic Tutoring	Skills and Attainment	Attainment Raising Activity
Work Experience Preparation	Skills and Attainment	Work Experience
Work Experience Placement	Skills and Attainment	Work Experience
UCAS Application Day	General HE Information	Talk/ workshop
A Level Revision Boot Camp	Skills and Attainment	Attainment Raising Activity
MMI and Interview Preparation Day	General HE Information	Talk/ workshop
Graduation	HE Campus Visit	Campus Visit

## Appendix 4 – Milestone Survey Questions

Table 14: Milestone questions and possible responses posed to students in the treatment and control groups of the Pathway to Healthcare programme. “Don’t know” was generally available as a response for each question. The right-most columns indicate those questions which were asked as part of MS1 and MS2, or MS3. A star next to a tick indicates that the question was not posed in MS1 for the 2020-21 cohort of Pathway students.

Statement	Responses	MS1/ MS2	MS3
<b>How much do you know about...?</b>			
the benefits of university?	Almost nothing; A little; Something; Quite a bit; A great amount	Y	Y
the range of courses available at university?	Almost nothing; A little; Something; Quite a bit; A great amount	Y	Y
the range of medicine and healthcare-related courses available at university?	Almost nothing; A little; Something; Quite a bit; A great amount	Y	Y
the different routes into university?	Almost nothing; A little; Something; Quite a bit; A great amount	Y	Y
how to fund university?	Almost nothing; A little; Something; Quite a bit; A great amount	Y	Y
<b>How confident are you that...?</b>			
you can afford to go to university?	Not confident; Not that confident; Neutral; Quite confident; Extremely confident	Y	Y
you know how to apply to university?	Not confident; Not that confident; Neutral; Quite confident; Extremely confident	Y	N
<b>How aware are you about...?</b>			
which university courses interest me?	Not aware; Slightly aware; Somewhat aware; Moderately aware; Extremely aware	Y	Y



Statement	Responses	MS1/ MS2	MS3
which university courses I can do with my current subject choices?	Not aware; Slightly aware; Somewhat aware; Moderately aware; Extremely aware	Y	Y
where I could find out more about university?	Not aware; Slightly aware; Somewhat aware; Moderately aware; Extremely aware	Y	Y
<b>How likely are you to...?</b>			
apply to university?	Extremely unlikely; Unlikely; Neutral; Likely; Extremely likely	Y	N
apply to a medicine or healthcare-related course at university?	Extremely unlikely; Unlikely; Neutral; Likely; Extremely likely	Y	N
<b>University application</b>			
have you applied to study a course at university?	No; Yes	N	Y
have you applied to study a medicine or healthcare-related course at university?	No; Yes	N	Y
<b>How confident are you that...?</b>			
you could make a successful application to university?	Not confident; Not that confident; Neutral; Quite confident; Extremely confident	Y	N
you could make a successful application to study medicine or healthcare at university?	Not confident; Not that confident; Neutral; Quite confident; Extremely confident	Y	N
you could succeed on a medicine or healthcare course at university?	Not confident; Not that confident; Neutral; Quite confident; Extremely confident	Y	Y
you can achieve the grades needed to apply to and study medicine and healthcare at university (AAA-BBB)?	Not confident; Not that confident; Neutral; Quite confident; Extremely confident	Y	Y
<b>How much do you agree with the following statements?</b>			

Statement	Responses	MS1/ MS2	MS3
I would enjoy university	Strongly disagree; Disagree; Neutral; Agree; Strongly agree	Y	Y
university is for people like me	Strongly disagree; Disagree; Neutral; Agree; Strongly agree	Y	Y
I have a clear understanding of what to expect from life whilst at university	Strongly disagree; Disagree; Neutral; Agree; Strongly agree	Y*	Y
I have a clear understanding of what to expect of my social life whilst at university	Strongly disagree; Disagree; Neutral; Agree; Strongly agree	Y*	Y
I have a clear understanding of what to expect whilst studying at university	Strongly disagree; Disagree; Neutral; Agree; Strongly agree	Y*	Y
I have a clear understanding of the available resources to support my academic work at university	Strongly disagree; Disagree; Neutral; Agree; Strongly agree	Y*	Y
People like me have the skills and experiences to actively participate in classes at university	Strongly disagree; Disagree; Neutral; Agree; Strongly agree	Y*	Y
People like me can initiate contact with teaching staff at university	Strongly disagree; Disagree; Neutral; Agree; Strongly agree	Y*	Y
<b>I have received information, advice and guidance about</b>			
university life	Never; 1-2 times; 3-6 times; 7 times or more	N	Y
the university application process (e.g., choosing a course, choosing a university, the UCAS system, etc.)	Never; 1-2 times; 3-6 times; 7 times or more	N	Y
how to write a personal statement for a university application	Never; 1-2 times; 3-6 times; 7 times or more	N	Y
student finance	Never; 1-2 times; 3-6 times; 7 times or more	N	Y
<b>Outreach activities</b>			

Statement	Responses	MS1/ MS2	MS3
I have visited a university campus or online campus tour	Never; 1-2 times; 3-6 times; 7 times or more	N	Y
I have taken part in tutoring run by a university to support my grades at school/college	Never; 1-2 times; 3-6 times; 7 times or more	N	Y
I have taken part in practice interviews to help with my application to university	Never; 1-2 times; 3-6 times; 7 times or more	N	Y
I have completed an assessed piece of work / project as part of a university-organised activity	Never; 1-2 times; 3-6 times; 7 times or more	N	Y
I have taken part in university subject taster sessions (e.g., a short lecture or talk from an academic staff member).	Never; 1-2 times; 3-6 times; 7 times or more	N	Y
I have received help from a university student mentor or role model (either face-to-face or online)	Never; 1-2 times; 3-6 times; 7 times or more	N	Y
I have participated in a university outreach programme - a structured programme of activities over multiple months	No; Yes	N	Y
I have participated in a university summer school - two or more days spent on campus (or online) and participating in activities related to university life	No; Yes	N	Y

## Appendix 5 – Post-event survey questions

Dimension	Element
<b>Name</b>	Medicine Taster Day
<b>Evaluation Questions that indicate event success</b>	<p><b>2020-21 Cohort Questions:</b></p> <ul style="list-style-type: none"> <li>• After today, I am clearer on... What career(s) I'd like to go into</li> <li>• After today, I am clearer on... Which university courses I could do with my subject choices</li> <li>• Today I have... Developed my knowledge of Medicine</li> </ul> <p><b>2021-22 Cohort Questions:</b></p> <ul style="list-style-type: none"> <li>• After today, I am clearer on... What career(s) I'd like to go into</li> <li>• After today, I am clearer on... Which university courses I could do with my subject choices</li> <li>• Today I have.... Developed my knowledge of the range of careers within Medicine</li> </ul>

Dimension	Element
<b>Name</b>	NHS and Allied Professions Day
<b>Evaluation Questions that indicate event success</b>	<p><b>2020-21 Cohort Questions:</b></p> <ul style="list-style-type: none"> <li>• After today, I am clearer on... Which university course(s) interest me</li> <li>• After today, I am clearer on... What career(s) I'd like to go into</li> <li>• Today I have... Developed my knowledge of healthcare and the NHS</li> </ul> <p><b>2021-22 Cohort Questions:</b></p> <ul style="list-style-type: none"> <li>• After today, I am clearer on... Which university course(s) interest me</li> <li>• After today, I am clearer on... What career(s) I'd like to go into</li> <li>• Today I have... Developed my knowledge of Healthcare and the NHS</li> </ul>

Dimension	Element
<b>Name</b>	UCAS application day
<b>Evaluation Questions that indicate event success</b>	<p><b>2020-21 Cohort Questions:</b></p> <ul style="list-style-type: none"> <li>• After today, I know more about... UCAS and the application process</li> <li>• After today, I feel more confident that... I could make a successful application to university</li> <li>• Today I have... Developed my knowledge of the UCAS Application Process, Personal Statements and Choosing a Course and University</li> </ul> <p><b>2021-22 Cohort Questions:</b></p> <ul style="list-style-type: none"> <li>• Today I have...developed my knowledge of the UCAS Application Process</li> <li>• Today I have...developed my knowledge of how to write a good Personal Statement</li> <li>• Today I have... developed my knowledge of how to Choose a Course</li> </ul>

	<ul style="list-style-type: none"> <li>• Today I have... developed my knowledge of how to Choose a University</li> <li>• After today, I feel more confident that... I could make a successful application to university</li> </ul>
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Dimension	Element
<b>Name</b>	Work Experience Preparation Day
<b>Evaluation Questions that indicate event success</b>	Today I have... Developed my knowledge of work experience and volunteering opportunities

Dimension	Element
<b>Name</b>	Summer school
<b>Evaluation Questions that indicate event success</b>	<p><b>2020-21 Cohort Questions:</b></p> <ul style="list-style-type: none"> <li>• The following session was useful Preparing to deliver a university video presentation</li> <li>• The following session was useful Student Finance</li> <li>• The following session was useful Professionalism and Fitness to Practice</li> <li>• The following session was useful Careers and Placements</li> <li>• The following session was useful University Support</li> <li>• (For Medicine applicants only) The following session was useful UCAT and BMAT</li> </ul> <p><b>2021-22 Cohort Questions:</b></p> <ul style="list-style-type: none"> <li>• After the Summer School, I know more about...How students are taught at university</li> <li>• After the Summer School, I know more about... How to fund university</li> <li>• After the Summer School, I know more about...Careers and Placements at university</li> <li>• After the Summer School, I know more about...the support available to students at university</li> <li>• How much do you know about...the extra admissions requirements needed to study Medicine or Healthcare at University such as the UCAT/BMAT test?</li> <li>• (For Medicine applicants only) The Summer School has helped me to... develop my knowledge of the UCAT and BMAT admissions tests</li> </ul>

Dimension	Element
<b>Name</b>	MMI and Interview Preparation Day

<b>Evaluation Questions that indicate event success</b>	How much do you know about...university Interviews? How much do you know about...MMIs? Today I have... Developed my knowledge of university interviews (For Medicine applicants only) Today I have... Developed my knowledge of MMIs
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Dimension	Element
<b>Name</b>	A-level revision bootcamp
<b>Evaluation Questions that indicate event success</b>	The Boot Camp has helped me to ... Develop my knowledge of my Science A Level The Boot Camp has helped me to ...Practise skills that could help me in my exams

Dimension	Element
<b>Name</b>	Academic Tutoring
<b>Evaluation Questions that indicate event success</b>	This mentoring programme has allowed me... to practise skills that could help me in my exams
<b>Relevant ToC Output(s)</b>	Improve academic attainment of students (A-levels).