NHS
Health Education England

msc Medical Schools Council
Selection Alliance

MSC Summer Schools
funded by Health Education England

Annual Report 2021

Introduction

This report evaluates the targeting and impact of the MSC Summer Schools that have taken place during 2021. Longitudinal evaluation is taking place to understand the final outcomes of the students that took part, this will be part of a research project during 2022.

The report involves:

- Analysis of the summer school participants' characteristics (including comparison with previous years)

- Analysis of the effectiveness of targeting cold spots and areas of multiple deprivation (including comparison with previous years)

- An evaluation of the students' attitudinal change before and after the summer school (including comparison with 2020)

- An in-depth exploration of students views through semi-structured interviews

- The results and findings of an IT Accessibility Survey undertaken prior to the delivery of the online summer schools to inform practice (and how this compares to previous years).

The report is split into three chapters, with the findings summarised in the Executive Summary.

Executive Summary

The MSC Summer Schools provide an insight into medicine and healthcare alongside information and advice on how to apply to medicine. The aim has been to target students who are under-represented in medicine, supporting greater diversity.

Findings

In 2021, due to Covid-19 the majority of our provision was online, with only one residential summer school. Provision was planned for an online delivery. Against a target of 420 students the MSC recruited 826 students

to the summer schools. We exceeded the target by nearly twice the number of students, a percentage increase of 97%.

The eligibility criteria adopted are tightly defined, ensuring that through a basket of measures the MSC targets the most under-represented and those that would benefit the most from this intensive support. The criteria used to select students to the summer schools are more robust than those commonly used to define widening participation students as they look at an individual rather than using just geographic measures which are more liable to produce false positives. All 826 students met the tightly defined criteria.

Of the 826 students who participated on the programme we see that the programme focussed on the most disadvantaged and has been able to focus on those facing the greatest challenges and difficulty accessing both higher education and medicine. We find that:

- 208 students are from the cold spots. This accounts for nearly 50% of our original target number – however, with the numbers recruited it is 25.2% of the total. This compares with 61% of participants from the cold spots last year.

- We engaged with over half the local authority areas. 188 local authorities were reached out the 343 local authorities in England.

- Over half (57.0%) were from the most disadvantaged IMD quintiles and over one-third (39.7%) were from the lowest POLAR 4 quintiles. Compared to last year in POLAR we had more students from the lowest quintile than last year, and for IMD more students for the lowest two quintiles.

- When the summer school participants are compared to medical school applicants and students in POLAR 4 and IMD we have recruited a more socially diverse group, representing the areas of lowest higher education participation rates (POLAR) and areas of greatest deprivation (IMD).

- 22.4% qualified for Free School Meals (or other support measures) against a national average of 17.7%.

- 24 students have been or are in local authority care. This compares to

only 10 students entering medicine in 2017 from a care background. This is a 118% increase from the previous year's summer school students

- The summer schools had greater representation of students from a minority ethnic background compared to the national population or the composition of medical students. There were proportionally more students from an Asian or Black background (for all categories) attending the summer school than applicants to medicine.

- 76 students are young carers (an increase of 100% on last year).

- Nearly two-thirds (65.4%) have parents with no experience of higher education, an increase on last year.

Against all measures, the MSC have recruited students who are most under-represented in medicine (and higher education). When the summer school participants are compared to medical school applicants and students the MSC have recruited a more socially diverse group, representing the areas of lowest higher education participation rates and the most deprived communities.

Importantly, through the attitudinal gain survey and interviews there has been a significant impact on the students participating on the summer schools.

The survey found:

- The greatest change was in students feeling more confident in applying to medicine (up 18%). This was an increase compared to last year.

- There was also a substantial increase in students' confidence in applying their thoughts and ideas to others up 15% (compared to 12% last year

- There was an increase in the understanding of careers available in health.

- Following the summer school students said they felt more confident interacting with a wide variety of people and that they know their own strengths and areas to develop to be successful.

The interviews found:

- The summer schools had a notably positive impact on the participants who attended in 2021, helping them to gain a greater understanding of medicine, increase their understanding of the application process and to have more confidence in moving to higher education. There were minimal negative comments reported.

- The programme is a powerful tool in changing participants behaviour and thoughts they had about their ability to study medicine, with participants leaving with increased self-confidence and belief in themselves.

- The students felt that the student ambassadors and contributors reflected their diversity and backgrounds.

- Students need more clarification around the type of experiences they need to support their application to medicine

- Summer schools allow participants to undertake a variety of tasks and experiences where they can try new things

- More guidance needs to be given to students regarding the application process.

The findings from the interviews align to the four principles of Bandura's theory of self-efficacy – enactive mastery (for example, practising tests), vicarious experience (for example, hearing from clinicians and medical students), social persuasion (students felt safe to develop capabilities) and positive physical and emotional states (reducing stress and increasing positive mood).

As part of the move to online delivery the MSC (as last year) undertook a survey of the students' IT capability. It found that the majority of students were satisfied with their internet, have access to a computer and a suitable location to work. However, it was clear that there was a small cohort of students that were struggling, and who may need further support.

The survey found:

- Students accessibility to the internet has increased from last year.

- All students have access to a computer.

- The majority of students were satisfied with their internet, have access to a computer and a suitable location to work.

- The majority of students have a smart phone (99%).

- High levels of satisfaction with their internet connection (only 2.2% unsatisfied – similar to last year's 2.6%.

- Those that were unsatisfied with their internet connection had four or more others sharing.

- 68.5% would access the summer school in their own bedroom.

- Only 0.8% described their location of study as unsuitable or highly unsuitable (down from 1.4% last year).

- Nearly 60% report having responsibilities at home (same as previous year).

- 9am-3pm is the best time for online learning.

Recommendations

The MSC wish to continually enhance the programme.

The following recommendations are made:

Targeting

- Greater focus on the cold spots, and further extending our reach

- Enhanced targeting of male applicants to the programme.

- Continue to ensure we target and recruit those students who have experienced significant disadvantage, for example care experienced students.

Content

- Continue with high levels of varied interactions and opportunities to enable the students to demonstrate and practise their skills

- Guidance on the application process.

- Ensure that clinicians and medical students continue to reflect the diversity of the students.

- Be clear on the types of experiences that are required for students applying to medicine.

- Explore with the hosts to include sessions to increase support of Bandura's fourth principle of self-efficacy – positive physical and emotional states. Implement specific and focussed sessions about stress, coping and mental health.

- Year 11 summer schools should have a continued focus on other healthcare careers.

Online delivery

- Some participants are finding that their location and/or distractions to engage with the summer school difficult. Consideration should be given to the timing of live events.

- Advice should be given to students alongside their parents/carers on how to support (especially during live sessions). Consideration should be given to where students can find quiet spaces (for example at school or college).

- Events should be held during a time that works for the students.

- Individualised support should be given to some students that find accessing the online programme challenging.

Background

The Medical Schools Council has been awarded funding from Health Education England to run residential summer schools. The objectives are to:

- Deliver a high-quality summer school programme which provides accurate, up-to-date advice on medicine and healthcare across England.

- Work with young people from geographical areas that have limited access to medicine-related outreach (the 'cold spots').

- Offer an England-wide approach with accessible summer school provision across the country.

- Develop a sustainable programme that will continue beyond this funding period by supporting individual medical schools to co-create and adopt best practice.

During 2021 we ran a series of residential and online summer schools to target 420 students from disadvantaged or under-represented backgrounds in Year 11 and Year 12. The summer schools were run by:

- Brighton and Sussex Medical School in partnership with Kent and Medway Medical School (online)

- Bristol Medical School (residential)

- Exeter Medical School (online)

- Imperial Medical School (online)

- Lancaster Medical School (online)

- Leicester Medical School (online)

- London Medical Schools (online)

To be eligible for the programme students had to be from a widening participation background, which we identified from a list of eligibility criteria (see below). We targeted and then prioritised students who were from a cold spot area (that is from an area where there is limited

engagement by medical schools). All eligible students were then prioritised using a weighting system on each of the criteria. Our criteria was determined following previous year's best practice, alongside consultation with universities and medical schools and alignment with the MSC's best practice guidance for contextual admissions.[1]

To be eligible for the programme the students must be currently studying at a state school and:

- In, or been in local authority care.[2]

Or hold a minimum of two of the following:

- Studying in a state school that achieved below the national average Attainment 8 score at GCSE or had attended to the age of 16.[3]

- Studying in a state school that achieved below or well below the national average Progress 8 score or had attended to the age of 16.[4]

- From a school with a high percentage of students receiving free school meals.[5]

- Living in a geographical area with low levels of progression onto higher education.[6]

- Are a young carer.[7]

---

1   https://www.medschools.ac.uk/media/2413/good-practice-in-contextual-admissions.pdf
2   Experience of local authority care is defined as being looked after by a local authority, foster parents/other family members, at home with their parents under the supervision of social services, in a residential children's home or in another residential setting such as school or secure unit, or some-one who has experienced a period of three months in the care of the local authority within the last ten years.
3   We will use the England average score of Attainment 8 to be 46.7 out of 90. This is the latest statistic for 2018/19 the average score for 'Attainment 8'
4   This will be any school that gets below 0 (zero) as its Progress 8 score.
5   The percentage of students' eligible for free school meals is 27.7% or above. If this information is not available for their current school, for example they are now attending a college, we will accept the school the free school meal data for the school attended at age 16.

6   This is available at www.officeforstudents.org.uk/data-and-analysis/postcode-search/. When using POLAR we will use POLAR4. POLAR4 students from quintile 1 and 2 will automatically meet this criterion.
7   Young carers are defined as under the age of 18 who help look after someone in their family, or a friend, who is ill, disabled or misuses drugs or alcohol. There is no time limit on the amount of care they provide for their dependents, this is just above and beyond what is normally expected.

- From a family where the parents do not have a university degree from the UK or abroad.

- In receipt of or eligible for free school meals or the 16-19 Bursary Fund or Discretionary Learner Support or Means Tested Benefit or Pupil Premium.

- Be estranged from both parents or guardians and/or be an asylum seeker or refugee.

In addition, we required the students to have:

- The potential to study medicine and be capable of achieving the minimum grades required for entry (whether that is for standard entry programmes or programmes with a gateway year).

- An interest in STEM subjects, (science, technology, engineering and mathematics) and be considering studying science in their post-16 studies and medicine post-18.

Whilst each summer school had its own distinctive nature they operated within a common framework. All had:

- A simulated experience of what it is like to study medicine, (including a range of teaching methods), not only to consider the choice of medical school but also aid transition from sixth form study to university.

- The values and behaviours of doctors and medical students.

- Dedicated sessions that focus on the shortage specialties, especially general practice.

- Confidence and social capital building activities (including meeting academics and medics).

- Opportunity for students to discuss their options and seek advice.

- Overview of the range of medical careers available (including other healthcare and non-patient focused options).

- Application and admissions advice and support, including preparation for interviews and admissions tests.

- Social activities for the students to build a community and network amongst like-minded people.

Participant Characteristics

Headlines

- We recruited 826 students to the summer schools. Our target was 420 students. We exceeded the target by nearly twice the number students, a percentage increase of 97%.

- 188 local authorities were reached. 25.2% of students were from the cold spots. This is 208 students (almost half of the original target).

- 24.0% of students were from Year 11, the remainder from Year 12.

- A high proportion of participants were female (74%).

- This 25.2% of participants were from the cold spots (this compares with 61% last year).

- Over half (57.0%) were from the most disadvantaged IMD quintiles and over one-third (39.7%) were from the lowest POLAR 4 quintiles. Compared to last year in POLAR we had more students from the lowest quintile than last year, and for IMD more students for the lowest two quintiles.

- When the summer school participants are compared to medical school applicants and students in POLAR 4 we have recruited a more socially diverse group, representing the areas of lowest higher education participation rates.

- When the summer school participants are compared to medical school students in IMD we have recruited a more socially diverse group from the most deprived areas.

- 22.4% qualified for Free School Meals (or other support measures) against a national average of 17.7%.

- 24 students have been or are in local authority care. This compares to only 10 students entering medicine in 2017 from a care background. This is a 118% increase on the previous year.

- There is a greater representation of students from a minority ethnic background compared to the national population or the composition of medical students. There were proportionally more students from an

Asian or Black background (for all categories) attending the summer school than applicants to medicine.

- 76 students are young carers (an increase of 100% on last year).

- Nearly two-thirds (65.4%) have parents with no experience of higher education, an increase on last year.

Recommendations

- Greater targeting of the cold spots.

- A greater targeting of male applicants to the programme.

- Continue to target those who are at greatest disadvantage, for example care experienced students.

- To continue to focus on the cold spots and further extending our reach.

We analysed the participants against a series of socio-economic and educational categories. All students were eligible for the programme, and so met the definition of being from under-represented or disadvantaged backgrounds.

Methodology

The data was collected by the hosts through a combination of:

- Information provided by the student

- Confirmation and further information provided by the teacher

- Review of school data

Analysis

Numbers participating

As last year we exceeded our target. This is easier to do if providing an online offer as not limited to residential accommodation space (and cost).

During 2021, with these summer schools, our target was to engage 420 students, but we contracted for 430 students (to mitigate drop off).

Medical school	Numbers	Participants
BSMS/KMMS	70	97
Bristol	35	34
Exeter	70	102
Imperial	50	63
Lancaster	70	74
Leicester	100	392
London	35	64
Total	**430**	**826**

Table 1: Participants of the summer school

We have exceeded the target by 406 students, a percentage increase of 97%.

For those that provided information (820), 24.0% (198) were from Year 11, and 75.3% (622) from Year 12.

Engagement in the cold spots

One of the objectives of the summer schools is to increase engagement in the cold spots. The cold spots are defined as those areas in which the secondary schools have limited engagement with medical schools (that is at less than 50%). This was also extended to include 'cold schools' that do not engage with medical schools.

It was recognised that there were significant difficulties in engaging with the cold spots. Schools are cold for a reason, for example, remote location, facing challenging circumstances or low academic performance. The programme, therefore, prioritised cold spots but was not exclusive to these areas.

This year there was a reduction in the numbers from cold spots. This may have been due to the large expansion of numbers.

Area	2021 %	2021 N	Last Year %	Last Year N
Non-cold spot	74.8	618	38.25	280
Cold spot	25.2	208	61.75	452

Table 2: Participants from cold spots

A full list of local authority area engagement is included in Annex 1.

Targeting areas of disadvantage

We reviewed the participant's school location based on two key measures indicating areas of disadvantage – the Index of Multiple Deprivation (IMD) and POLAR 4.

POLAR 4 is used in higher education. POLAR 4 is a classification of areas across the UK based on the proportion of young people who participate in higher education. It looks at how likely young people are to participate in higher education across the UK and shows how this varies by area. It should be noted that POLAR 4 is not necessarily a measure of social disadvantage. Postcodes vary in size across the UK and they also have varying levels of affluence within them. Therefore, a student in quintile five may still be a widening participation student when other criteria are looked at.

POLAR 4 classifies local areas into quintiles - quintile one shows the lowest rate of participation, and quintile five shows the highest rate of participation.
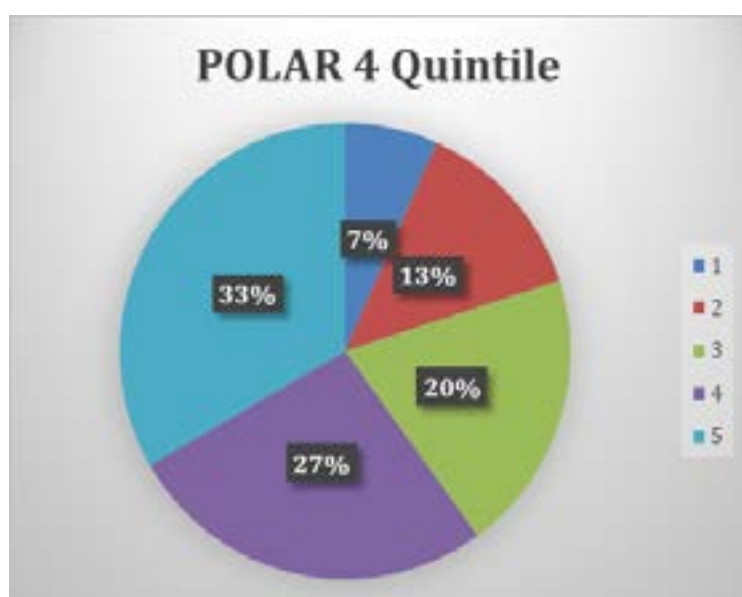

Figure 1: Participants by POLAR 4 quintile

POLAR 4 Quintile	2021 %	2021 N	Last Year %	Last Year N
1	21.4	176	21.7	161
2	18.6	153	23.8	176
3	23.1	190	18.5	137
4	22	181	19.8	147
5	14.9	123	16.2	120

Table 3: Number of participants by POLAR 4 quintile

We had more students from the lowest quintile rate than last year, and similar numbers for the lowest two quintiles. In total we had 329 students from the areas with the lowest rates of participation, at 39.7%, this compared to 337, 45.48% last year.

For individual summer schools there was some difference in POLAR 4.

Summer school	% from POLAR Quintiles 1 and 2
Bristol	76.5
BSMS/KMMS	56.1
Exeter	24.8
Imperial	54.0
Kent	48.4
Lanacaster	44.6
Leicester	29.2
LMSS	68.3

Table 4: POLAR 4 quintiles 1 and 2 for summer schools

Demographic	Measures Values	%	Summer School %
1 - Lowest rate of participation	860	7.9	21.70
2	1240	11.4	23.80
3	1750	16.0	18.50
4	2495	22.8	19.80
5 - Highest rate of participation	4580	41.9	16.20

Table 5: Applicants to medicine in 2018[8] compared to summer school participants in POLAR 4

When we compare the summer school participants against medical school applicants and students we can see we have targeted a more socially diverse group. We have targeted participants who are from the lowest areas of higher education participation.

Both POLAR 4 quintiles 1 and 2 represent some of the hardest to reach areas for higher education, and in particular a high tariff/aspirational subject such as medicine.

The Index of Multiple Deprivation (IMD) is the official measure of relative deprivation for small areas in England. One indicates the most disadvantaged areas, with 5 representing the most affluent.
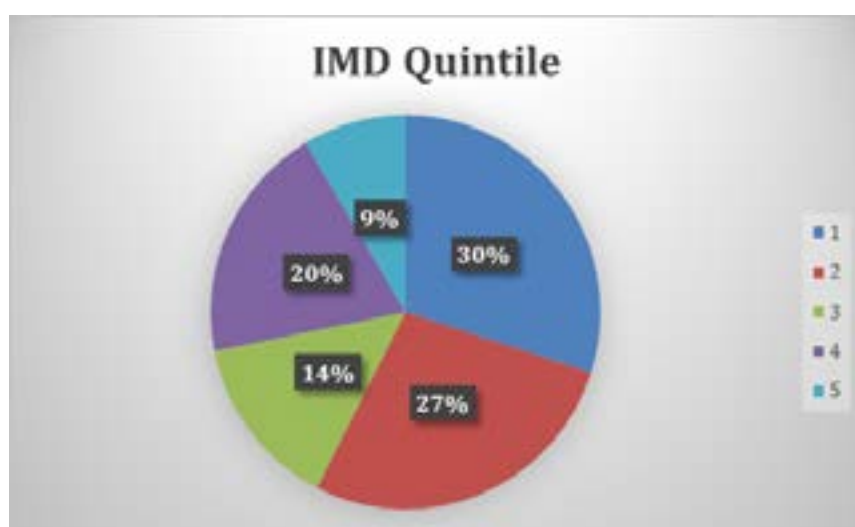

Figure 2: Participants from IMD areas.

IMD Quintile[9]	2021 %	2021 N	Last Year %	Last Year N
1	29.7	242	36.1	264
2	27.3	222	21.6	158
3	14.2	158	19.4	142
4	19.4	123	11.3	83
5	8.5	69	11.6	85

Table 6: Number of participants from IMD areas

We have a larger number of students from IMD quintiles 1 and 2 attending the summer schools than last year. This is a similar percentage as last year from the most disadvantaged IMD quintiles 1 and 2. In total we had over 57.0% from the most disadvantaged IMD quintiles, this compares to 57.65% last year.

Demographic	Measures Values	Medical student %	Summer School %
1 - Most deprived	615	11.7	29.7
2	660	12.6	27.3
3	890	17.0	14.2
4	1270	24.2	19.4
5 - Least deprived	1815	34.6	8.5

Table 7: Summer school participants compared to medical students using IMD data[10]

When we compare the summer school participants against medical school students we can see we have targeted a more socially diverse group. We have targeted participants who are from the areas of greatest deprivation.

We analysed the different summer school participants' by IMD.

---

9   Note – 10 postcodes could not be mapped and have been excluded.
10   No applicant data is available at the moment. It should be available in the future.

Summer school	LAst year % from IMd quintiles 1 and 2	% from IMD deciles 1 and 2
Bristol	N/A	41.1
BSMS/KMMS	41.1	28.9
Exeter	33.8	12.0
Imperial	52.5	36.5
Lancaster	N/A	47.3
Leicester	65.7	28.8
LMSS	N/A	31.7

Table 8: Summer school participants compared to medical students using IMD data[1]

Free school meals

In order to understand socio-economic background we asked about their entitlement to various income support measures, where they in receipt of or eligible for free school meals, the 16-19 Bursary Fund, Discretionary Learner Support or Means Tested Benefit.

From our recorded figures it shows that 22.4% qualified for one of these support measures. We can only compare with free school meals where the national average for free school meals is 17.7%. Whilst we note that we have recorded other measures it demonstrates that the targeting has identified those from lower socio-economic groups.

However, last year the percentage stood at 37.2%.

FSM/Bursary?	2021 %	2021 N	Last Year %	Last Year N
Yes	22.4	185	37.2	277

Table 9: Participants wth FSM or eligible for other mesures

Have been in or are in local authority care

It was important for us to ensure we were targeting those most disadvantaged, and least likely to apply for medicine. Currently, only 6% of care leavers go onto university. From the HESA data we see that only 10 students entered medicine in 2017.

---

1   No applicant data is available at the moment. It should be available in the future.

We are pleased to see that 24 students, this is a 118% increase from the previous year (11 students). However, we recognise that more needs to be done to support this group and they remain a key target group.

Gender

For the first time we collected data on gender.

Of the 826 respondents, there was a significant proportion of female participants compared to male.

	Percentage %	Number
Male	22.4	185
Female	74.0	611
Non-binary	0.4	3
Prefer not to say	4.6	38

Table 10: Gender of the participants

Ethnicity

Ethnicity data was collected from 628 participants (76%).
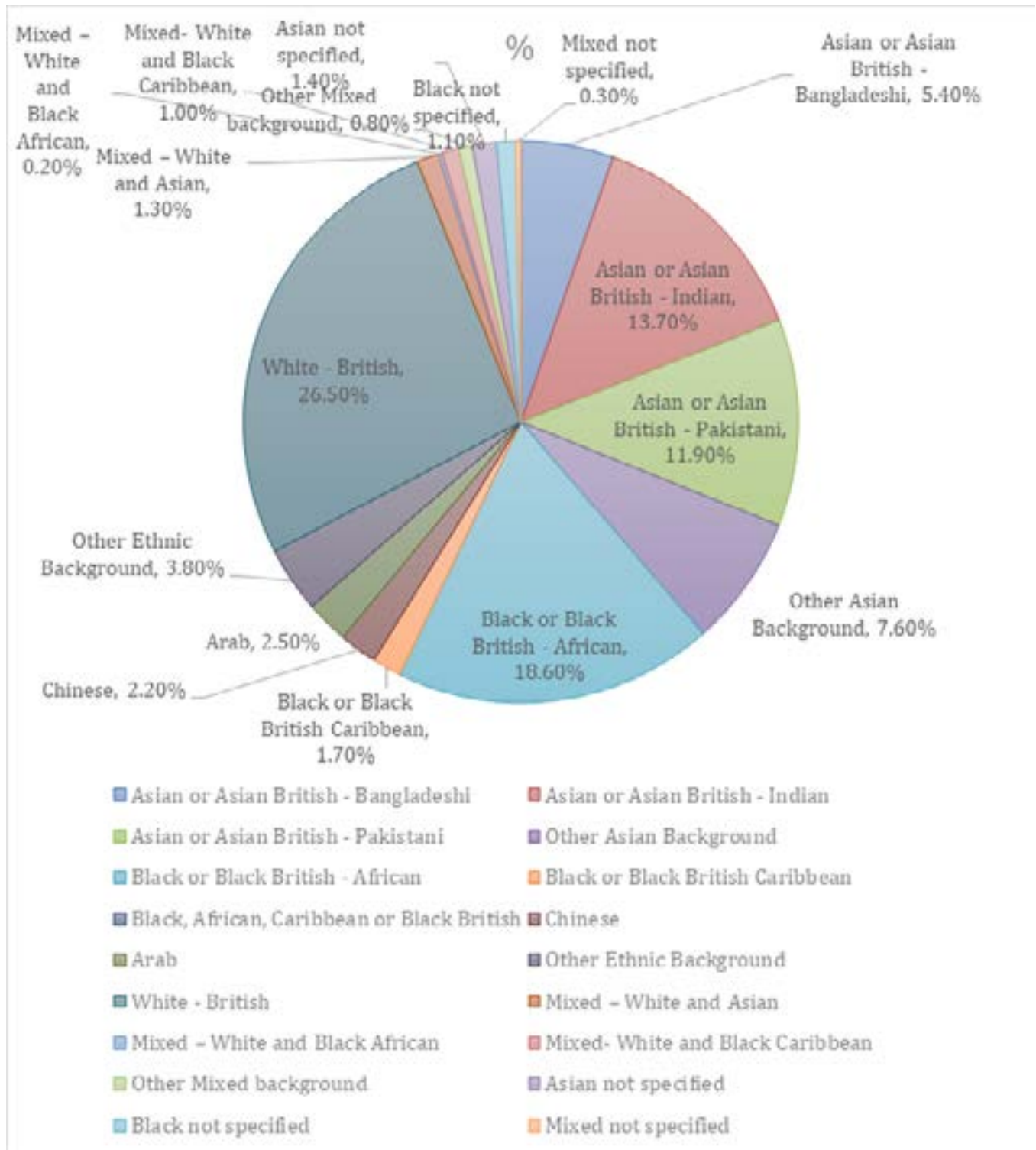
Figure 3:Composition of participants by ethnicity

Ethnicity (grouped)	%	N	% Last Year	Last Year N	% at medical school	% UK 18/24 population
Asian or Asian British - Bangladeshi	5.4	34	1.60	12	1.4	1.1
Asian or Asian British - Indian	13.7	86	2.70	20	10.3	3.0
Asian or Asian British - Pakistani	11.9	75	4.30	32	5.1	2.6
Other Asian Background	7.6	48	2.60	19	5.3	1.8
Black or Black British - African	18.6	117				
Black or Black British - Caribbean	1.7	11				
Black, African, Caribbean or Black British			5.60	42	3.0	2.1
Chinese	2.2	14	0.80	6		
Arab	2.5	16				
Other Ethnic Background	3.8	24	2.10	16		
White - British	26.5	167	11.90	89	41.8	75.8
Mixed - White and Asian	1.3	8				
Mixed - White and Black African	0.2	1				
Mixed - White and Black Caribbean	1.0	6				
Other Mixed background	0.8	5				
Asian not specified	1.4	9				
Black not specified	1.1	7				
Mixed not specified	0.3	7				
Not recorded			68.30	509		

Table 11: Composition of participants by ethnicity

We have increased minority ethnic representation from last year. From those recorded we see a greater minority ethnic representation from both the general population and for students within medicine.

Estranged from parents

We had 12 students recording that they were estranged from their parents. This is an increase from 7 reported in the previous programme.

Refugee or Asylum seeker

We had 11 students recording that they were refugees or asylum seekers. This is an increase from the previous year of four students.

Young carer

We had 76 students recording that they were a young carer. This is a 100% increase from 38 students reported in the previous programme.

Parental engagement in higher education

Whether your parents attended higher education is a predictor of whether or not you will attend higher education. We gathered this information from the student's application.

Well over half (65.7%) of the participants had parents who had not attended higher education. This is an increase from last year which stood at 47.2%.
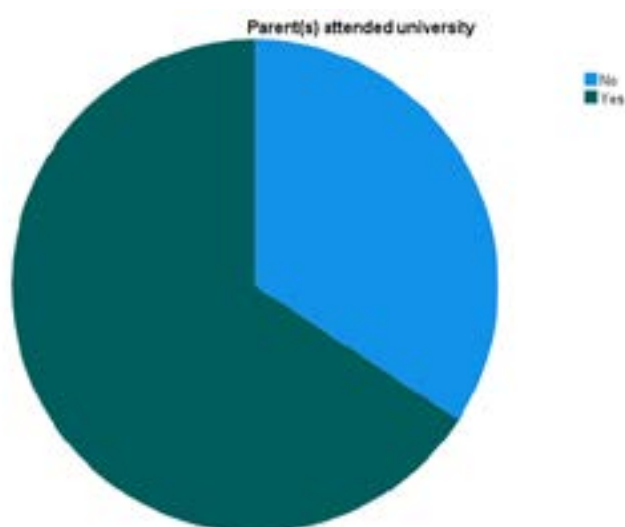

Figure 4: Parental engagement in higher education

Parental HE	%	N	Last Year %	Last Year N
No	34.3	283	47.20	352
Yes	65.8	543	52.30	390
Not recorded			0.40	3

Table 12: Parental engagement in higher education

Attitudinal Change

Headlines

- The greatest change was in students feeling more confident in applying to medicine (up 18%). This was an improvement from last year.

- There was also a substantial increase in students' confidence in applying their thoughts and ideas to others up 15% (compared to 12% last year).

- There has been an increase in the understanding of careers available in health.

- Following the summer school students said they felt more confident interacting with a wide variety of people and that they know their own strengths and areas to develop to be successful.

- Two Year 12 summer schools reported less of an interest in studying healthcare following the programme. Year 11 summer schools in the main showed a greater increase in this area compared to Year 12 summer schools (with London Medical Schools programme being the exception).

Recommendations

- Year 11 summer schools should have a continued focus on other healthcare careers.

Students were sent a questionnaire before and after the summer school. The change in response provides us with an indication of the attitudinal shift of students following the summer school.

Interviews

Headlines

- The students were overwhelmingly positive about the summer school experience.

- The summer schools had a notably positive impact on the participants who attended in 2021, helping them to gain a greater understanding of medicine, increase their understanding of the application process and to have more confidence in moving to higher education.

- The contributors and medical student ambassadors reflected the diversity and backgrounds of the students.

- Students need more clarification about the type of experiences they need to apply to medicine.

- Specific sessions about stress and mental health are necessary to incorporate within the summer schools.

Recommendations

- Continue with high levels of varied interactions and opportunities enable the students to demonstrate and practise their skills

- Ensure that clinicians and medical students continue to reflect the diversity of the students.

- Be clear on the types of experiences that are required for students applying to medicine.

- Explore with the hosts to include sessions to increase support of Bandura's fourth principle of self-efficacy – positive physical and emotional states. Implement specific and focussed sessions about stress, coping and mental health.

This section is authored by Sewa Omolewa, a medical student at the University of Southampton.

Introduction and aims

This report presents the participants' experiences of the MSC Summer Schools delivered in 2021. The primary aim of this exploratory project was to evaluate the impact of the summer schools on the participants who attended.

This report will also explore differences between the participant experience of the Summer Schools delivered in 2020 and in 2021, and to see if recommendations made by Aysun Ocak, who completed last year's exploratory project, had an impact on the participant experience.

Method

A qualitative study was undertaken to evaluate participant perspectives of the MSC Summer School programme. Seven summer school leads collated a list of participants who expressed an interest in taking part in the study, the contact details were then passed to the researcher and participants were contacted via email, with a participant information sheet and consent form attached.

Data collection took place via semi-structured telephone interviews with participants from the summer schools. Interviews were then transcribed, and the data was analysed using inductive analysis to determine key perceptions of the summer school experience, and the impact that attending had on the participants. The inductive analysis was undertaken using NVivo software and Braun and Clarke's[1,2] guidelines on Reflexive Thematic Analysis were implemented. A secondary deductive analysis was then applied using a framework adapted from Bandura's Theory of Self-Efficacy[3] to identity any differences between the summer schools in 2020 and 2021.

ERGO number: 60516.A1

Results

A total of 19 participants were interviewed from all seven summer schools: 5 from Imperial College London, 3 from Pan London, 3 from Exeter, 2 from Brighton Sussex Medical School and Kent Medway Medical School partnership, 2 from Lancaster, 2 from Leicester and 2 from Bristol. Interview duration ranged from 9.29-33.54 minutes, with a mean interview duration of 15.58 minutes.

Analysis of the transcripts suggested that feedback from the participants was overwhelmingly positive. Six themes were identified which suggested that the summer schools made a positive difference and had an impact on participants' confidence and how they viewed themselves. The first four themes out of the six were: Skill Development, understanding of the application process, Impact on self and Interaction with others, which helped in creating a positive difference for participants. These themes were facilitated by the last two themes: Organisation of the summer school and Atmosphere of the summer school.
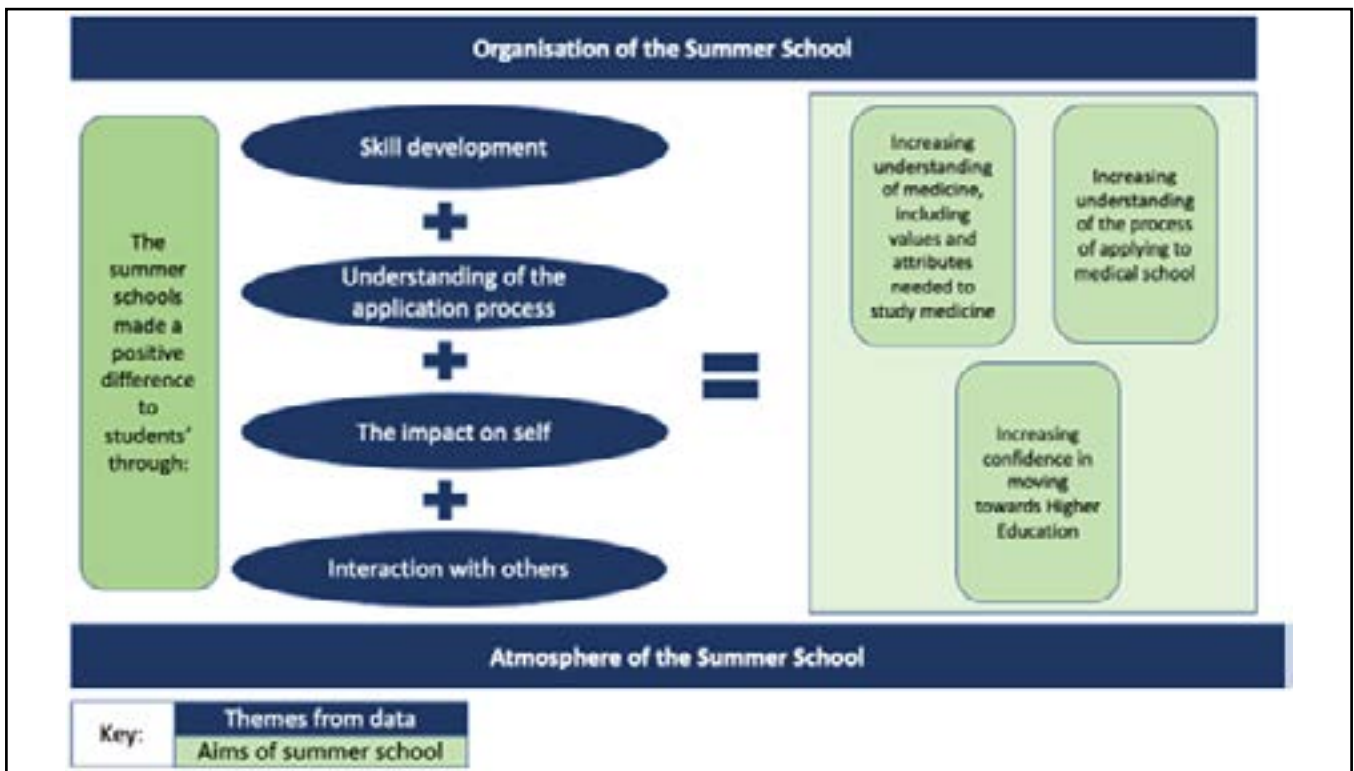
Results Schematic: Themes from the data are highlighted in blue, with the four themes in the centre supported by two outer themes: Organisation of the Summer School and Atmosphere of the Summer School. These themes were key in addressing the aims of the summer schools, highlighted in green.

Organisation of the summer school and Atmosphere of the summer school

Eleven out of nineteen participants interviewed said they had an enjoyable experience and believed that the summer school they attended had a great atmosphere, which helped shaped the way they viewed higher education and medicine.

The organisation of the summer schools was integral in shaping the experiences that participants had, and the balance and variety of tasks they did was helpful in keeping participants engaged.

"I actually thought it was really well-balanced between sort of practical, us sort of doing activities and engaging, and also balanced between that and sort of lectures about how to actually get in, and applications and stuff, so, I wouldn't change anything. It was really good" (Year 11 participant)

Understanding of medicine, including the values and attributes needed to study medicine

Fourteen participants felt that their understanding of medicine had changed for the better. Participants may have originally had a vague idea or limited understanding of medicine and the values and attributes needed to study medicine. A year 11 participant said:

"I wanted to find out if I liked the idea of medicine, because it's so popular and stuff, I felt like I didn't know a lot about it to commit to wanting to do medicine and stuff, but yeah, I found out stuff and I'd say I want to do medicine now"

The summer school allowed participants to explore and develop skills that shaped their understanding of medicine and increased their confidence. These skills include communication skills they learnt, participants increasing their ability to empathise, having a greater understanding of the key skills surrounding being a medical student and having space to think and reflect. Participants also had the chance to experience and carry out research.

"I was able to like, we were put into breakout rooms to discuss first, and then feedback as a whole, and like that gave me an opportunity to kind of build on my communication skills as well, because applying for medicine I think communication is key" (Year 12 participant)

When it came to understanding medicine, participants enjoyed being able to develop skills and recognised the importance of the skills, as seen in the following quotes:

"The most challenging bit was probably talking to the patient, just because of the amount of emotions that was elicited and the amount of things we had to deal with and understand and empathise with; I felt like that was quite challenging"
(Year 12 participant)

"I mean from the Summer School I was able to understand that there is a lot of key skills that I would need to become a medical student, for example, teamwork, communication, there are so many more, and so I did learn that from the Summer School" (Year 12 participant)

"They also sent that booklet, and in that booklet, there was lots of things on reflections. So, they gave us ways to reflect on what we did every single day, so, obviously reflection is a very important part of medicine, and it makes it like a kind of enjoyable process" (Year 12 participant)

Understanding of the application to medical school process

The summer schools gave participants a chance to gain advice and help for the medicine application process and to understand the process of applying. Also, participants were able to learn more about aptitude tests and how to prepare for the UCAT and the BMAT. In some summer schools, participants were given the chance to do practice BMAT questions which they found useful and helpful in quelling fears they may have had surrounding aptitude tests.

"Well, I feel like the most challenging was the BMAT and UCAT questions. Even though they were really, really good, it was just like those questions are phrased in such a way that you've never like answered before, they're kind of weird, but a lot of them were common-sense. They gave us the easy ones; I don't think they wanted to scare us, but yeah, that was fun" (Year 11 participant)

Participants were able to gain relevant experience where they felt they could use their experience at the summer school in their personal statement:

"I'm actually using the Summer School quite a lot in my personal statement, as work experience, due to the amount of things that we were taught and we were told, such as, like I was saying, personalised care and patient history" (Year 12 participant).

A number of participants also said something similar to this year 11 participant regarding work experience:

"I would just make sure that I've done lots of work experience and stuff, because they seemed to say that that was really important"

This is contrary to current advice given by the MSC and medical schools, but it may be a result of preconceptions participants may have of needing work experience to get into medical school.

A few participants highlighted that at times explanation of the application process was a bit vague and could have gone into more detail, with a year 11 participant saying:

"I wanted to know like how to get into Medicine, like the steps I should take, any backup steps, like maybe what other doctors did, and that was given, but I think it could have maybe been a bit more in-depth"

Another Year 11 participant said:

"So, the application process, we weren't taken through it I'd say, like through an application or anything, so, I do understand it, but I don't. So, it's like a bit of confusion; it's cloudy, it's kind of cloudy, so, I think I might need one of my teachers to like help me with that and go through it for me, you know, and just to tell me how it would be and how the applications are going to be. So, I'm not so sure about the applications yet."

It's important to note that the two participants who had some difficulty around understanding the application process were both in year 11 at the time of the summer school. This could be because participants in year 11 are at different stages in school and may not have explored the application process as thoroughly as participants in year 12. Or the summer schools did not go into as much detail as the participants needed.

Overall, nearly all the participants had an increased understanding of the application process and believed that they had acquired enough information from the summer schools around applying for medicine.

"I think the application to Medical School one was the most useful" (Year 11 participant)

"Yes, because before the Summer School, I didn't know like the process of being a medical student, like I didn't know you had to get an A-Level Chemistry, to go to a Medical School, so, now I know about that, I actually chose Chemistry for my A-Level" (Year 11 participant)

Confidence in moving towards higher education

The summer schools were important in changing participants' confidence in moving towards higher education. They had an impact on participants' sense of self and were essential in changing perceptions that they had about medicine, medical school, medical students and importantly, in changing perceptions of themselves.

One year 12 participant said:

> *"so, initially I was thinking that it's going to be a big jump, which it is, that I wouldn't be able to cope with it, but now, I feel like I can cope with the big jump, and I know how to do the note-taking, I know how to, if I don't understand anything, I have the confidence to ask the teacher, that I don't understand it, and like I feel that my confidence has boosted enough".*

Participants were able to imagine a possible positive future self in medical school, based on what they may have seen or what they might have done at the summer school, what they saw or learnt changed their mindset.S

The summer schools also increased participants' confidence in going to university and it helped them in deciding what medical schools they wanted to apply for. Although, some of the participants were swayed to want to attend the medical schools that their summer school was hosted at which was not an aim of the MSC summer schools programme:

> *"…being hosted by the University of Leicester, it kind of made me realise that I really like the environment there, the people, the mentors, just the whole environment was something I really loved about Leicester… I wasn't really considering the University of Leicester at first, but after Summer School… I decided to put that as one of my options"* (Year 12 participant).

The summer schools motivated participants to want to study medicine. When asked about confidence in going to university, many participants echoed the sentiment reflected in the following by a year 12 participant:

> *"I'm very confident in wanting to go to medical school, yeah, the amount of motivation it gave me, the amount of exposure and experience it gave me, was really important"*

Being able to interact with medical students and hear about their first-hand experiences studying medicine meant participants were able to gain a realistic insight into studying medicine.

> *"Yeah, it did, because I genuinely thought that being a medical student was going to be like, pretty much, not boring, but I thought it would be pretty much full-on, and you don't really get to enjoy it much, but listening to, because there were so many medical students there that were taking part, and like helping us like understand it more, we got to speak to them about what they're doing and what they're learning, things like that, and it's actually quite like fun"* (Year 12 participant).

Interaction with medical students, staff and healthcare professionals helped participants feel more confident in going to university and had a real impact on their overall experience of the summer school, even more so because for a lot of these young people, this was the first opportunity for them to meet people they would not normally have had access to, and participants were able to build new relationships with like-minded people.

> *"I really liked the interactive part, especially the other students as well, like in the same shoes as me, who are like looking to go into medicine, and the same age as me and we kind of could relate as well, so it was really nice"* (Year 11 participant)

Differences between summer schools in 2020 and 2021

Similarly, to last year's exploratory project, participants who took part in the study were very positive about the summer school. Being able to speak to and learn from healthcare professionals and medical students, having aptitude test practice sessions and hearing encouraging words from mentors and fellow participants helped in shaping an enjoyable experience.

Following the initial inductive analysis, a deductive analysis was carried out using a framework adapted from Bandura's Theory of Self-Efficacy. Perceived Self-Efficacy is defined as a person's belief about their ability to control their behaviour and be able to succeed during an event that may be challenging[3]. People's beliefs regarding their efficacy can be created or developed from four sources of influence which are: enactive mastery (e.g., practice), vicarious experience (e.g., having role models), social and verbal persuasion (e.g., persuading someone that they have the capabilities to success through reassurance), and positive physical and emotional states (e.g., identifying personal strengths and vulnerabilities in order to reduce stress responses). Much like the summer schools in 2020, the findings aligned to the four principles in the theory.

In last year's evaluation project, the 4th principle, positive physical and emotional states, was reported as not being clearly addressed by the host summer schools. Again, the findings of this study suggest that recommendations to increase support of the 4th principle were not directly implemented with interventions addressing this. However, it may be that participants did not realise it was being addressed or find it to be one of the more useful or memorable things they experienced.

Although participants may not have identified specific interventions targeted at supporting positive physical and mental health, the significant volume of feedback regarding the friendly and welcoming and organised environment appears to have supported the participants' well-being whilst attending the summer school. It is possible this could have a long-lasting effect, with a positive association created between preparing for medical school applications and a relaxed atmosphere.

There were only a few references that aligned to positive physical and emotional states such as:

"I'm currently preparing for the BMAT right now and I think I've learned to give yourself space and not stress yourself out and make sure to actually have a life in between that and just sort of balance things and sort of look at your progress and see where you're sort of going wrong or you're not as strong and sort of make a whole round application and just be more confident in myself." (Year 12 participant)

Enactive mastery was a concept that came up several times in the interviews. Participants were able to take part in various tasks. Being able to practice speaking to patients, breaking bad news and aptitude test questions were just a few of the things participants were able to experience first-hand in a safe environment and complete successfully, with the hope being if they encounter the task again, they will have increased resilience and confidence.

"Personally, the PBL sessions we had, because I like the whole process of setting the objectives, doing my own independent research and then feeding back into the same group" (Year 12 participant)

Hearing people's experiences and seeing role models overcome difficulties helped participants to feel more confident because being able to see themselves in someone who has achieved a goal, opens participants up to the idea that they can succeed as well. The idea of vicarious experience was brought up by quite a few of the participants, being able to hear from doctors and medical students from similar home backgrounds or faith backgrounds meant participants could really relate to the mentors. It suggests that diversity in the staff and mentors looking after the participants is important at the summer schools.

"Well, I don't know, because like, because I'm a foster child and stuff, I feel like opportunities are like a bit more limited when applying for something like medicine, but I mean like the mentors, I don't know, but like the mentor I was with, so all of that home and stuff, and like everyone like from diverse backgrounds and from different places, and it didn't feel like being in foster care would stop me from wanting to do medicine." (Year 11 participant)

Social and verbal persuasion was also something that was identified through analysis of the transcripts. Participants were recommended things to do to get into medicine suggesting a belief in their capabilities. Participants were also originally apprehensive about trying something new and through persuasion from those supervising them, allowed themselves to do new things and with increased effort as well, increasing perceived self-efficacy.

"but listening to, because there were so many medical students there that were taking part, and like helping us like understand it more, we got to speak to them about what they're doing and what they're learning, things like that, and it's actually quite like fun, and it's something that caught my eye, so, yeah, it looks quite interesting learning about it." (Year 11 participant)

Conclusion

We found that it was important that:

- Mentors and contributors reflect diversity and the backgrounds of participants.
- Students need more clarification around the type of experiences they need to apply for medicine.
- Summer schools allow participants to undertake a variety of tasks and experiences where they can try new things.
- Specific sessions around stress and mental health are necessary and important to implement within the summer schools.
- More guidance is given to students regarding the application process.

To conclude, the summer schools had a notably positive impact on the participants who attended in 2021, helping them to gain a greater understanding of medicine, increase their understanding of the application process and to have more confidence in moving to higher education. There were minimal negative comments reported.

Similarly, to the summer schools in 2020, participants identified less benefit from or awareness of activities relating to enhancing positive physical and emotional states, the 4th principle of self-efficacy. These findings clearly show the summer schools are helping to support positive behaviour change and are encouraging participants to apply for medicine as well as providing skills to help them as a medical student.

The MSC summer school programme is powerful tool in changing participants behaviour and thoughts they had about their ability to study medicine, with participants leaving with increased self-confidence and belief in themselves.

Recommendations

The summer schools should:

1. Continue with the high levels of varied interactions and opportunities to demonstrate proactive skills as these are greatly appreciated by the participants.

2. Implement specific and focused sessions surrounding stress, coping and mental health, stressing the importance of a positive physical and emotional state in developing self-efficacy.

3. Continue to provide diverse mentors for the participants.

4. Clarify the type of experiences that students applying for medicine need as per guidelines provided by the MSC.

References

Braun V, Clarke V. Using thematic analysis in psychology. Qualitative Research in Psychology. 2006;3(2):77-101. Available from: 10.1191/1478088706qp063oa.

Braun V, Clarke V. One size fits all? What counts as quality practice in (reflexive) thematic analysis?. Qualitative Research in Psychology. 2020;18(3):328-352. Available from: 10.1080/14780887.2020.1769238

Bandura A. Self-Efficacy. In: V.S. Ramachaudran (Ed.) Encyclopaedia of human behaviour. New York: Academic Press. 1994:4 p.71-81. (Reprinted in H.Friedman (Ed.) Encyclopaedia of mental health. San Diego: Academic Press. 1998).

IT Accessibility Survey

Headlines

- Students accessibility to the internet has increased from last year.

- All students have access to a computer.

- The majority of students were satisfied with their internet, have access to a computer and a suitable location to work.

- The majority of students have a smart phone (99%).

- High levels of satisfaction with their internet connection (only 2.2% unsatisfied – similar to last year's 2.6%).

- Those that were unsatisfied with their internet connection had 4 or more sharing.

- 68.5%% would access the summer school in their own bedroom.

- Only 0.8% described their location of study as unsuitable or highly unsuitable (down from 1.4% last year).

- Nearly 60% report having responsibilities at home (same as previous year).

- 9am-3pm is the best time for online learning.

Recommendations

- Some participants are finding their location to engage with the summer school, or distractions at home difficult. Consideration should be given to the timing of live events.

- Advice should be given to students alongside their parents/carers on how to support (especially during live sessions). Consideration should be given to where students can find quiet spaces (for example at school or college).

- Events should be held during a time that works for the students.

Introduction

There were 489 respondents, from Imperial, BSMS/KMMS, Bristol, Exeter, Leicester and London Medical Schools. The students were in Year 11 and Year 12. All respondents are 'widening participation' students meeting the eligibility criteria. The survey was undertaken after being confirmed a place on the summer school and prior to the start of the programme.
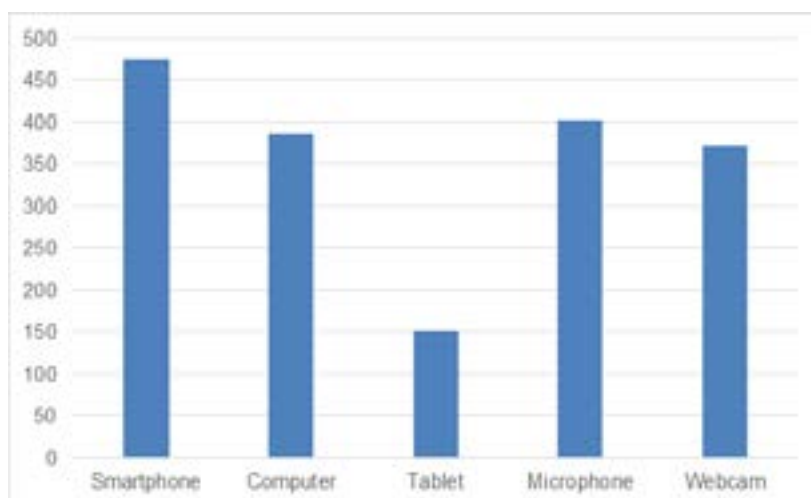
IT equipment

Figure 5: Access to IT equipment

Smart phone

475 (99.0%) have their own smart phone (this compares to 95.2% last year). The other five report sharing one.

Computer

All students report having access to a computer or laptop. 80.9% (385) report having their own device, the remainder have shared access. This is an improvement from previous years, in which some had access solely through a smart phone.

iPad/tablet

151 (56.6%) have access to their own iPad/tablet. This is an increase from 30.5% last year. The remainder (116) have access to a shared iPad or tablet.

Webcam

All participants had access to a webcam, either their own (89%) or shared (11%).

Microphone

All participants had access to a microphone, either their own (91.6%) or shared (8.4%).

Internet connection

We asked how satisfied the students were that their internet access is able to able to do what they want it to do. There were similar levels of satisfaction, with slightly improving levels:

- 34.9% were very satisfied (compared to 33.0% last year)
- 54.6% were fairly satisfied (compared to 53.6% last year)
- 8.2% were neutral (10.8% last year)
- 1.6% were unsatisfied (1.7% last year)
- 0.6% very unsatisfied (0.9% last year)

Figure 6: How satisfied are you that your internet access is able to do what you want it to do
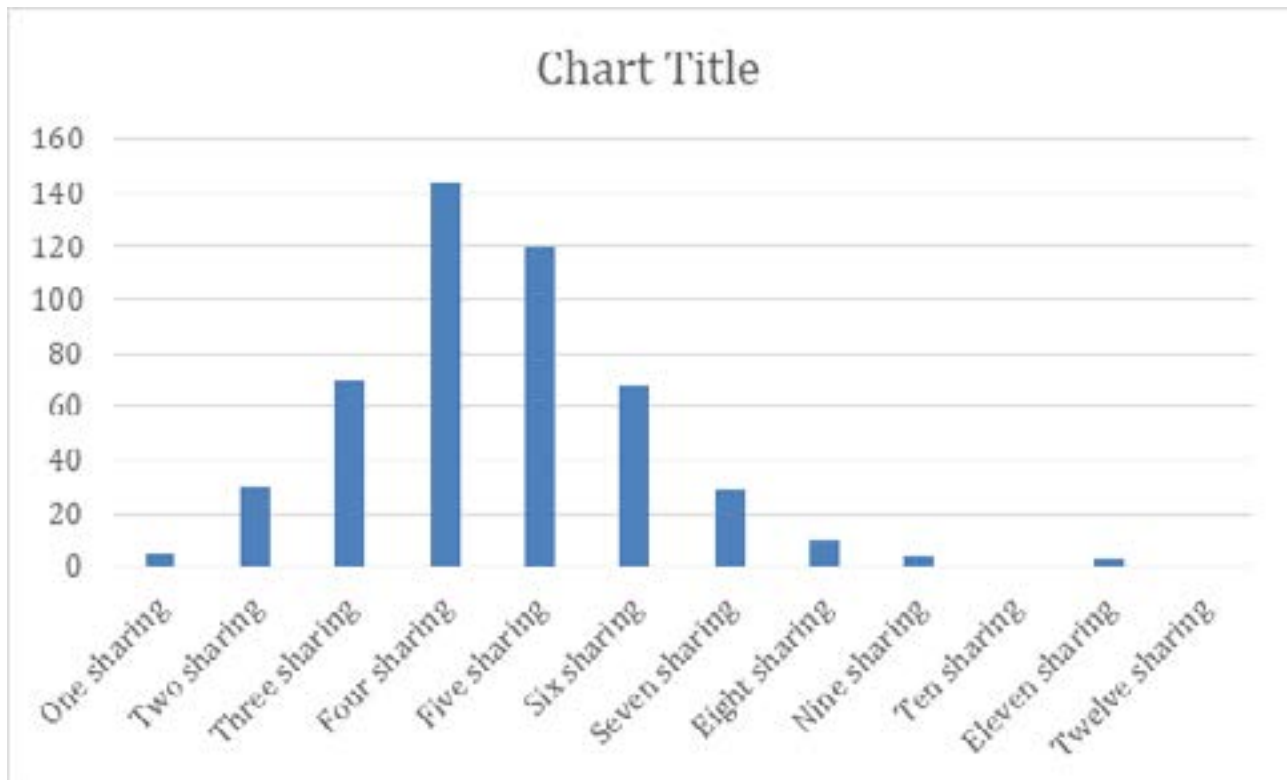
Figure 7: Numbers sharing the internet connection

- One sharing - 5 had one sharing

- Two sharing - 30 had two sharing

- Three sharing - 70 had three sharing

- Four sharing - 144 have four sharing (3 were unsatisfied with their internet connection)

- Five sharing - 120 have five sharing (5 were unsatisfied with their internet connection)

- Six sharing - 68 have six sharing (2 were unsatisfied with their internet connection)

- Seven sharing - 29 have seven sharing

- Eight sharing - 10 have eight sharing (1 was unsatisfied with their internet connection)

- Nine sharing -4 have nine sharing

- Ten sharing - 1 have 10 sharing

- Eleven sharing – 3

- Twelve sharing - 1

Unsatisfaction with the internet appears when there are four or more sharing and for 11 students.

Location of accessing summer school

We asked the students where they planned to access the summer school (multiple answers), the response was:

- 63 (12.9%) shared bedroom (compared to 11.5% last year)
- 20 (4.1%) kitchen (compared to the same 4.1% last year)
- 335 (68.5%) own bedroom (compared to 56.5% last year)
- 52 (10.6%) lounge (compared to 17.5%)
- 0.4% in school or college (2 participants)

Figure 8: Location of access to summer school (multi-responses)

We asked how suitable the location for study was:

- Very suitable = 38% (37.9% last year)
- Suitable= 41.5% (44.4% last year)
- Average=19.6% (16.2% last year)
- Unsuitable =0.4% (0.9% last year)
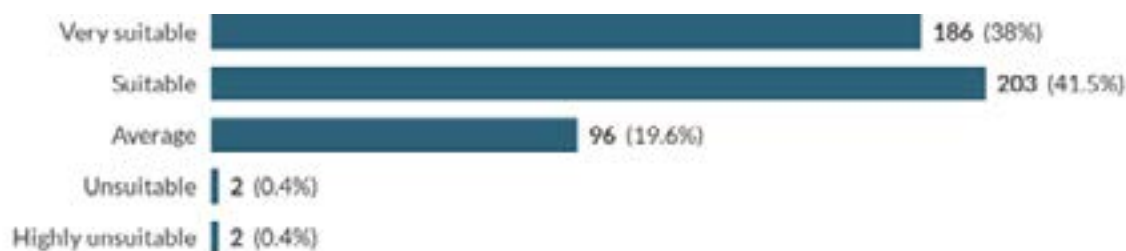- Highly unsuitable =0.4% (0.6% last year)

Figure 9: Suitability of location to access the summer school

There are similar levels of suitability of the location compared to last year, with a slight increase. It should be noted that there are four students who are finding their location unsuitable or highly unsuitable, which may affect their engagement.

Home responsibilities

We asked the students about their home responsibilities. They were able to give multiple answers. In total 290 (59%) describe home responsibilities.

We found that an increasing number are looking after siblings – last year it was a fifth this year it is approach a third (30.0%).
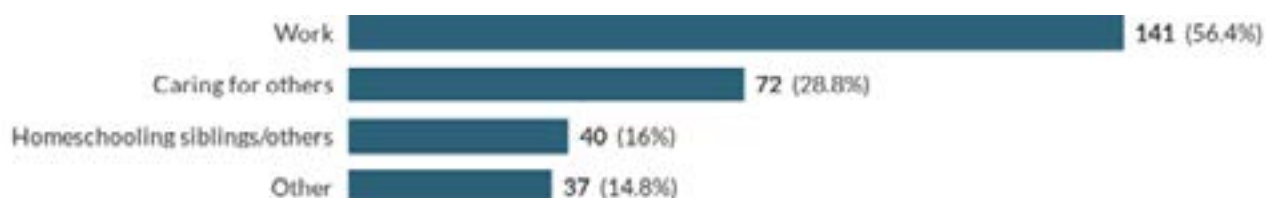

Figure 10: Home responsibilities

Difficulties studying at home

We asked the students if they were facing any particular difficulties studying at home. They described:

- Distractions and not being able to concentrate (50)

- Difficulty concentrating with the noise (42)

- Access to computer/lack of resources (5)

- Balancing home and academic workloads and time management (6)

- Motivation (2)

- Cramped space (1)

- Difficult home life (1)

- Mental health (1)

- Helping round the house (1)

Delivery

As part of the summer school we would be offering some live sessions and we wanted to gauge the best time of day to work online (students gave multiple responses):

- Before 9am = 20.4%

- 9am-12noon =66.7%

- 12noon-3pm = 60.9%

- 3-6pm = 47.2%

- After 6pm = 33.9%

This is a change from last year in which 12noon-3pm was the preferred option, with 9-12noon being second.
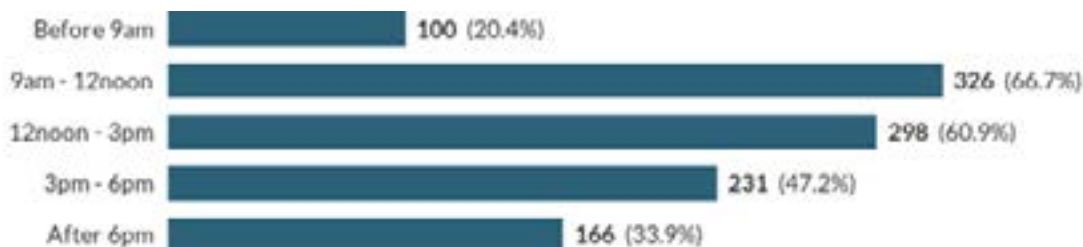

Figure 11: Best time of the day to work online

We asked how many hours they would wish to attend the summer school each day:
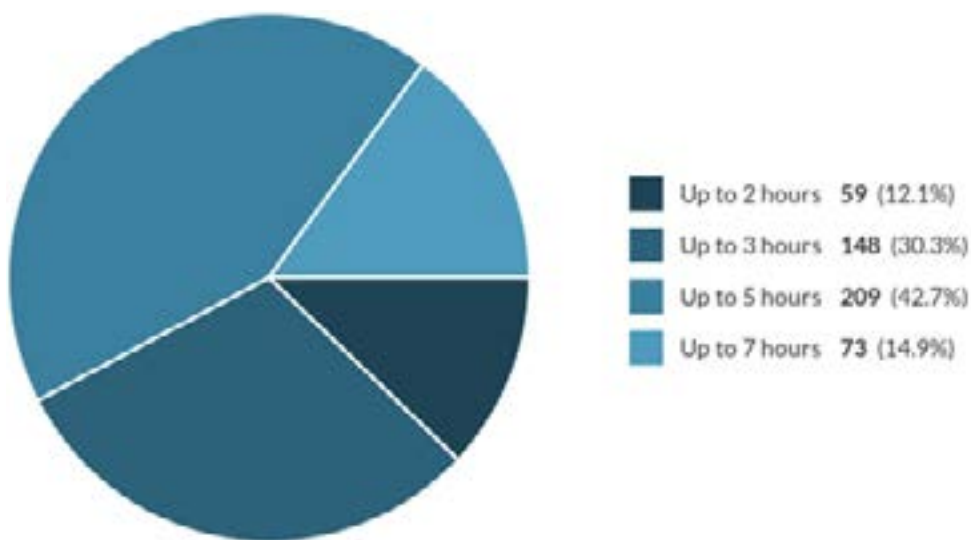
2 hours =12.1%

3 hours =30.3%

5 hours =42.7%

7 hours = 14.9%

Figure 12: Preferred number of hours online