

## June 2018

The MRC Festival Zone was a four-week-long event funded by the Medical Research Council (MRC) as part of the MRC Festival of Medical Research. There were **25 MRC scientists and support staff** taking part.

“*I’ve learnt that people doing research are just like us, and I could do it too – Student*”

32 schools from all over the UK participated in the zone, with **1,404 students** logging in over the four weeks. **Over half the schools were widening participation and/or under-served.** Teachers from 45 schools accepted places in the zone. However, several were unable to participate, mostly due to scheduling difficulties.

In the Ask section, students asked 740 approved questions. Of these, **over 50% were relating to science and medical research topics**, a figure higher than the average for an *I’m a Scientist* two-week, general science zone.

76 online, text-based live chats took place during the MRC Festival Zone, three of which were evening chats, where students could access the chat from home to show their families, increasing parental engagement with the activities students do in school.

### Participating Scientists and Support Staff



Above: Map of MRC locations taking part

The 25 MRC scientists and support staff were from a range of MRC institutes, units and centres, and included MRC-funded PhD students. One PhD student, Lauren, works at Swansea University researching the diagnoses and treatment of mental health, while another, Jason from University of Manchester, uses 3D imaging to look at immune cells.

Those at MRC institutes, units and centres, were at varying stages in their careers. Donna, from the MRC Centre for Medical Mycology at the University of Aberdeen, is a senior lecturer and post-graduate academic lead. Helen is a facility manager at the MRC Laboratory of Molecular Biology and Alexandra is a mathematical infectious disease modeller at the MRC Centre for Global Infectious Disease Analysis.

The scientists and support staff each had a profile page to share information about their job and any hobbies with students, along with details of any other MRC Festival activities they were part of.

## Participating Schools

In total, 32 schools took part in the MRC Festival Zone. 19 of those schools (59%) were widening participation (WP) and/or under-served (U), the criteria for which is defined on our website, here: [about.imascientist.org.uk/under-served-and-wp/](http://about.imascientist.org.uk/under-served-and-wp/)

Ysgol Uwchradd Glan Clwyd, Sir Ddinbych (U)

Ysgol Rhosnesni, Wrexham (U)

Wymondham High Academy, Norfolk

Wilmington Academy, Kent

Willows High School, Cardiff (WP)

Walker Technology College, Tyne and Wear (WP)

Trinity CofE High School, Manchester (WP)

The Priory School, Shropshire (U)

The John Henry Newman School, Hertfordshire (U)

The Gateway Academy, Essex (WP/U)

The Elton High School, Lancashire

Stranraer Academy, Stranraer (U)

Stanborough School, Hertfordshire (U)

St Mary's High School, Surrey

St Laurence School, Wiltshire

St John Wall School, West Midlands (WP)

St Bartholomew's School, Berkshire (U)

Silverdale School, South Yorkshire

Sheringham High School, Norfolk (U)

Saint John Houghton CVA, Derbyshire

Reepham High School and College, Norfolk (U)

Ormiston Park Academy, Essex (WP/U)

Mulberry UTC, London

Herne Bay High School, Kent



Above: Map of participating schools in UK

Furness Academy, Cumbria (WP/U)

Darrick Wood Junior School, Kent

Corpus Christi CHS, Cardiff

Convent of Jesus and Mary Language College, London

Consett Academy, County Durham (WP)

Barr Beacon School, West Midlands

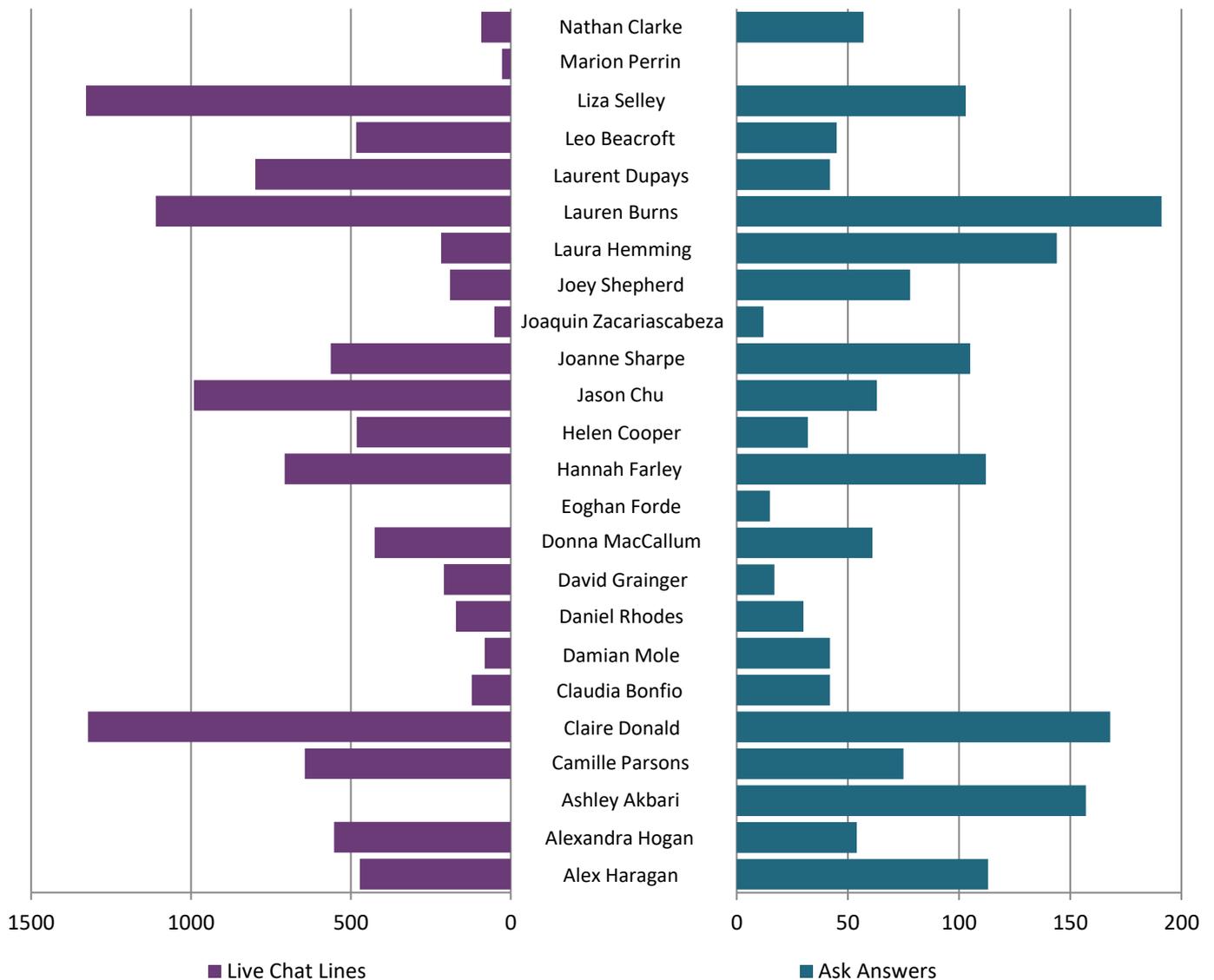
Barnsley Academy, South Yorkshire (WP/U)

Alec Hunter Academy, Essex (U)

## Scientist and Support Staff Activity

Each live chat lasts for 30 minutes and involves scientists and support staff connecting with a class to answer their questions in real-time. Ask questions are sent to the scientists and support staff outside of the chats and can be answered at any time.

Across the four-week event there were 76 live chats, equalling 26,661 lines of conversation between students and the MRC scientists and support staff. Students sent 740 approved Ask questions during the MRC Festival Zone and received 1,758 answers.



## Key figures from the MRC Festival Zone

Compared with a typical two-week *I'm a Scientist* Zone from June this year, the 4-week MRC Festival Zone reached three times as many schools, and thus offered more students the chance to connect with scientists and support staff.

PAGE VIEWS	4 WEEK MRC FESTIVAL ZONE 2018	JUNE '18 2 WEEK ZONE
Total zone	53,945	19,125
ASK page	3,277	1,307
CHAT page	5,485	1,422
VOTE page	1,842	1,252

POSITION	SCIENTIST	PROFILE VIEWS
Winner	Liza Selley	476
2nd	Lauren Burns	250
3rd	Jason Chu	295
4th	Claire Donald	190
5th	Leo Beacroft	193

	MRC FESTIVAL ZONE 2018	JUNE '18 2 WEEK ZONE
Schools	32	9
Students logged in	1,404	393
% of students active in ASK, CHAT or VOTE	95%	91%
Questions submitted in ASK	1,125	461
Questions approved in ASK	740	225
Answers given in ASK	1,758	400
Comments on ASK questions	170	68
Votes	751	300
Live chats	76	18
Lines of live chat	26,661	6,513
Average lines per live chat	351	357

## Popular topics

Students had often read the scientists' and support staff's profiles ahead of their live chat session, which meant they were able to ask specific questions about various areas of medical research.

Liza, the winner of the MRC Festival Zone, is researching the effects of pollution on our lungs. Her work proved popular, with 'lungs' being one of the most used keywords in Ask.

Lots of students asked about cancer in both live chats and Ask. These questions were often answered by Alex, who researches lung cancer. Several of the scientists worked with animals and they received lots of questions from students worried about animal testing and cruelty within experiments. The most popular medical science topics with students in Ask can be seen on the next page.

Where scientists had put their interests outside of work on their profiles, students would ask for more information – Damian's photo showed him playing the trumpet and he was asked about his music; Daniel said he did muay thai in his spare time and he described its benefits when students asked. Students were also keen to know how many of the participants' played video games, and frequently discussed popular online games such as Fortnite and PlayerUnknown's Battlegrounds in the live chats.

There was also a lot of interest in the scientists' career history and educational background. In live chats students asked about GCSE and A-Level options for certain job roles, and wanted to know the scientists' experiences at university.

In addition to the medical science questions asked by students, there were also lots of questions relating to biology in general, as well as space and the universe.

**?** Question: What is the worst thing that can happen to our lungs because of pollution? Where is the place with the worst pollution that you know of?

Keywords: lungs, pollution

Asked by [m@you](#) to [Liza](#) on 20 Jun 2018.

## Top keywords used in live chats

The illustration below depicts popular keywords **used by both students and scientists** during live chats. The size of the word represents its frequency (its colour has no significance).

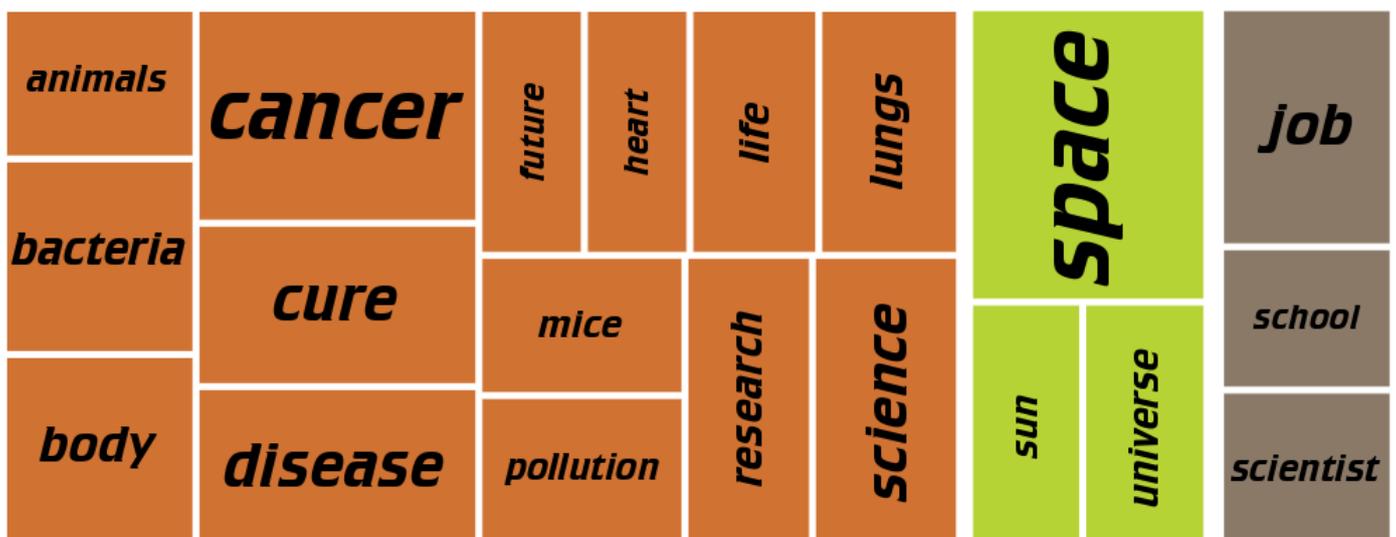


## Top keywords in approved questions in Ask

Keywords in questions asked by students. Arranged based on their frequency (size) and category (colour):

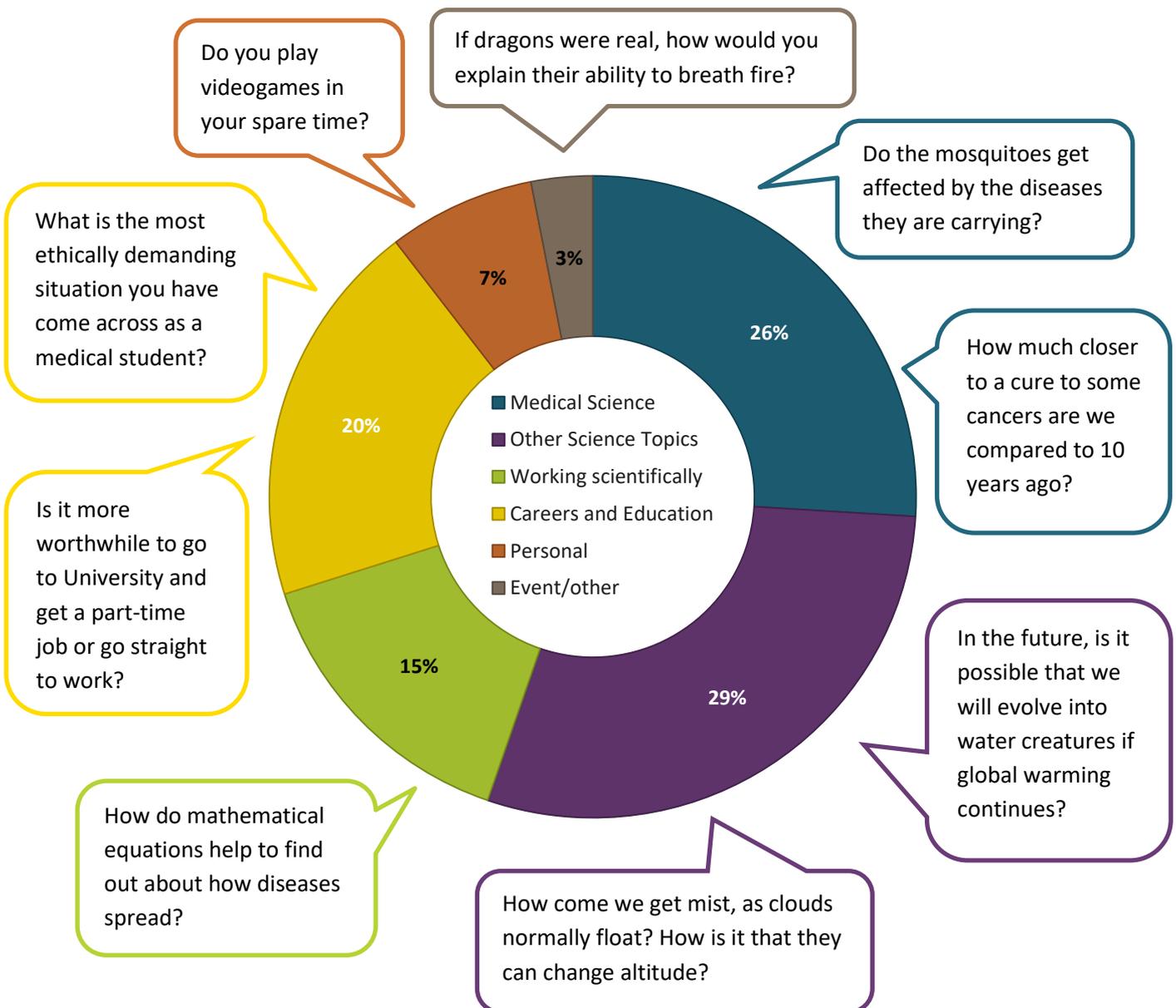


■ Medical science    
 ■ Other science topics    
 ■ Being a scientist



## Question themes and example questions in the Zone

Find out about how we've coded the questions at [about.imascientist.org.uk/2017/student-question-coding](http://about.imascientist.org.uk/2017/student-question-coding)



## Examples of good engagement

Students were interested in the scientists' research methods, and many wanted to know about the use of animals within their experiments. Helen is one of the MRC support staff working with mice, and was able to answer some of this student's concerns about animal testing:

*"So what do you do for a living?" – Student*

*"I'm the manager of a facility that breeds mice for medical research." – Helen*

*"What sort of things do you do to the mice?" – Student*

*“We mainly breed them but some are used in studies. For example some mice are used to look at dementia which blocks the signals in the brain. It causes memory loss in humans but it also means they struggle to walk; which some of our mice do too. We can look at ways to slow down or stop this process and hopefully transfer this to people in the future.” – Helen*

*“Is it not hard to test on animals?” – Student*

*“There are very strict laws to make sure that the welfare of the animals is the most important thing. If there is an alternative way that will give good results then it is actually illegal to use animals!” – Helen*

*“What happens to the mice after they've been tested on?” – Student*

*“Quite often we need to take samples from the mice which means they are put to sleep. Most of the mice that I work with though are used for breeding and some people are researching age related diseases like dementia so we need to keep the animals happy and healthy until they are quite old.” – Helen*

*“How would you respond to animal rights protests?” – Student*

*“If people were to protest outside where I work I would be keen to invite them in to see how we look after our animals. I think a lot of views have been built up from images from 30 years ago when we didn't understand so much about how important happy animals in research were.” – Helen*

*“So has the way we treat animals got better?” – Student*

*“Yes, definitely. We make sure the mice have everything they need; including toys to play with, plenty of space and companions.” – Helen*

Students also wanted to know about specific areas of medical research, such as cancer and air pollution. In one live chat, Liza spoke to students about the way our bodies react to high levels of pollution and offered her own personal experience:

*“Does pollution cause problems to our body which are easily noticeable?” – Student*

*“Have you ever had black snot after a day in London? Or felt a frog in your throat in a big city? That's caused by the pollution.” – Liza*

*“Nope, miss me with that, im #blessed” – Student*

*“Hehe lucky you! I have lived in London for 5 years and am constantly clearing my throat. I get spots here too because pollution clogs up your skin :(” – Liza*

*“What is in the polluted air to cause damage to our lungs?” – Student*

*“It's the metals and the carbon - they react with molecules in our cells to set off big immune responses that go on to damage the lungs. These metals and carbon are produced when we burn fuels like diesel or when friction rubs bits of the tyres and brakes.” – Liza*

## **Scientist winner: Liza Selley**

Liza's plans for the prize money: *“I will create fun science afternoons for schools. After meeting an air quality scientist to find out where air pollution comes from, groups explore their local area to see who can find the most and the least polluted places.”* Read Liza's [thank you message](#).



## Student winners: machopiggies, Ashrea, nscott123 and tiggy

For great engagement during the event, one student was chosen by the scientists and support staff each week to receive a gift voucher and a certificate.

### Feedback

Here are a few of the comments made during and after the event...

"It was a great experience, very valuable and useful to understand what students think about science and scientists. It was definitely complementary to other public engagement activities, because the students felt completely free to ask any kind of questions." – **Scientist**

"I have learnt that all research has a significant value as each other and it is important to know the scientific research occurring in our time and how we can participate to help such as voting in MRC Festival Zone of *I'm a Scientist*." – **Student**

"The pupils got on board really quickly. The end of the lesson came really quickly and none of the students were logging off or losing interest!" – **Teacher**



Follow

I'm absolutely loving being part of MRC festival zone @imascientist. The students are asking such interesting questions, some I just think "wow, yeah that IS a good question!" and immediately consult Dr Google. I've learnt so many new things! #phdchat #scicomm

8:51 PM - 22 Jun 2018 from Manchester, England

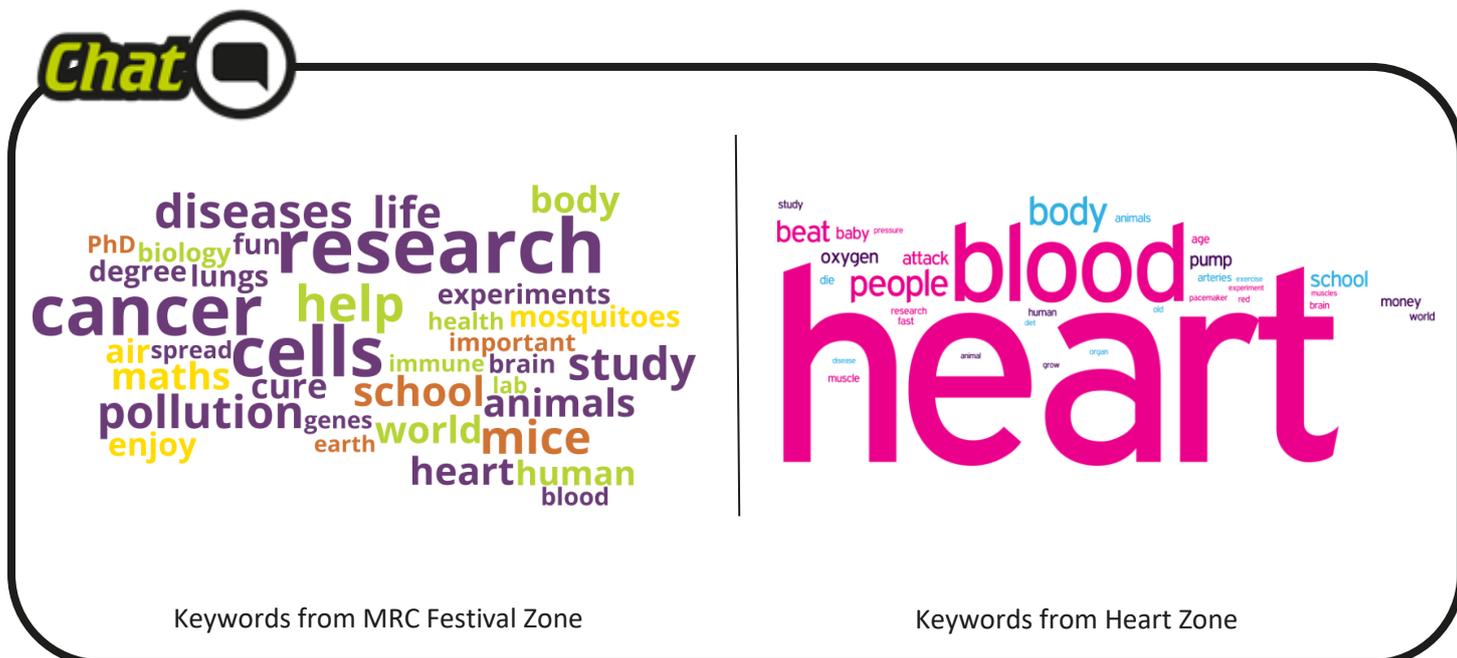
"I felt we definitely reached a wider audience. For example, I'm very happy to take a 40-minute bus journey to a school in Greater Manchester BUT if it wasn't for events like *I'm a Scientist*, there's no way I could have thought to engage with far away schools like Wales or Scotland. This is a great way to communicate with harder to reach schools – or those that may not get the same exposure to science academics!" – **Scientist**

"I have learnt that every person has a different background entitling them to see things from a different perspective than everybody else. This makes this more fun and educational than anything. Thanks for letting me be a part of it." – **Student**

"I've learnt that people doing research are just like us, and I could do it too." – **Student**

## Comparing the MRC Festival Zone and June's two-week I'm a Scientist

When compared to previous *I'm a Scientist* zones, the keywords in both Chat and Ask during the MRC Festival Zone showed the students were interested to know about a broad range of topics, and that questions were not dominated by one or two particular subjects. For example, in the two-week Heart Zone for *I'm a Scientist* June, 'heart' was by far the most popular word in Chat, followed by 'blood'.



The MRC Festival Zone also featured a higher percentage of questions approved in ASK on medical science and other science topics. On average, a June 2018 *I'm a Scientist* zone had 29% questions on science topics, whereas the MRC Festival Zone received 55%. This may reflect the wider range of available medical science areas students could discuss (represented by 25 scientists) compared to a typical themed zone, which usually focuses on a narrower topic.

### Learning and improvement

#### Number of schools

We'd aimed for 40 schools to participate in the MRC Festival Zone, reaching around 2,000 students and running up to 100 live chats for the four-week event. To reach this, we gave places to 45 schools. However, participation rate was lower than expected due to a number of teachers dropping out – in both the lead up to, and during, the event – for factors including weather, school timetable changes and difficulty in finding time to reschedule live chats.

#### Scheduling difficulties

We know live chats are the most popular part of the events. In two-week *I'm a Scientist* events we run up to three live chats per day, and for this larger zone we increased availability to five chats. However, once the event had started, teachers who had to cancel and rebook their chats still often found their possible times were already taken. Typically teachers see each class once or twice per week and therefore need a very specific day and time for the live chat.

We encouraged these teachers to make use of the Ask section instead and in future will put a greater focus on this as a valuable way of engaging so more schools feel they can still participate if a live chat isn't possible. We will also strongly recommend their students use the open evening chats as a way of engaging outside the limits of classroom time.