BSMS
Pulse
Autumn/Winter 2018
The Brighton and Sussex Medical School magazine

Harmful cocktail

One in three older adults experience harm from medicines

In this issue

brighton and sussex medical school

from the Dean,
Professor Malcolm Reed

I was delighted when our students put BSMS in third position in the 2018 National Student Survey (NSS) for medical schools. BSMS achieved an overall satisfaction rate of 98%, with 97% of participants agreeing that the course is intellectually stimulating and 98% believing that they have been provided with opportunities to apply what they have learnt.

There have been many notable achievements over the past year with the school continuing to be regarded highly by our students and colleagues, many of whom have gained individual and team recognition through a whole range of accolades and awards. The award which I find most significant is achieving Athena Swan Silver status. To me this represents a recognition of the attitudes, values and behaviour of each and every member of BSMS in their interactions and relationships with those around them. The work of the Inclusivity Team in leading this is vital but it is not something that can be achieved unless the aspirations of the programme are embedded throughout the institution. There is still a long way to go in achieving genuine equality of opportunity regardless of gender, race, sexuality and disability but there is no doubt in my mind that we are making progress.

On the subject of progress, 2018 marks 15 years since BSMS began and 10 years since our first cohort graduated. We celebrated the latter milestone with alumni and current and past staff back in July. Turn to page 10 to see the timeline of our 15-year history.

Also in this issue, we look at the subject of body donation and what benefits this brings for the learning of our medical students and the families of the donors (page 6).

We also find out about the exciting new project which engages local school children with scabies mites and learn about the gene test that could predict long-term risk of disease for people with eczema (page 8 and page 17).

Researcher Jo Middleton tells us about his recent fieldwork in Papua New Guinea, his research on Lyme disease here in Sussex's South Downs and his exciting collaborative work with the Planetary Health Alliance (page 12).

We hope you enjoy this issue of *BSMS Pulse* magazine, and please do let us know if you have any suggestions for features.

Best wishes,

Contents

Cover story
(see page 4)

BSMS Pulse is the magazine of Brighton and Sussex Medical School.
Contact Julie Wilton at **j.wilton@bsms.ac.uk** if you have any news stories, comments, or would like to amend your mailing details.

BSMS Pulse is published on 100% recycled paper.

One in three older adults experience harm from medicines

Up to 37% of older patients experience medication-related harm following hospital discharge, a new study shows. In addition to distress and potential dangers to patients, this harm costs the NHS in England an estimated £396 million annually.

In the first UK study to investigate medication harm in older adults following hospital discharge, researchers from BSMS and King's College London recruited more than 1,200 older adults, with a median age of 82 years, discharged from five hospitals in South of England.

The participants were followed up for eight weeks by senior research geriatricians and pharmacists using three sources of data: hospital readmission reviews, participant and/or carer telephone interviews, and primary care records, in order to determine medication-related harm.

Range of conditions caused

The study found that more than one in three patients (37%) experienced harm from their medicines within two months of hospital discharge, and that this was potentially preventable in half of the cases. Medication-related harm was most commonly found to occur from the toxicity of the medicine itself and in a quarter of cases from poor adherence. The medicines found to pose the highest risk were opiates, antibiotics and benzodiazepines. Patients suffered a range of conditions including serious kidney injury, psychological disturbance, irregular heart rhythms, confusion, dizziness, falls, diarrhoea, constipation and bleeding.

Professor Chakravarthi Rajkumar, Chair of Geriatrics and Stroke Medicine at BSMS, and senior author, says: "As the use of medicines in the ageing population is rapidly increasing, it is vital that we improve awareness among clinicians of the harm that medicines commonly cause. The risk-to-benefit analysis is particularly complex in the older population. Once medicine is initiated, there should be a tentative stop date, monitoring of correct usage and vigilance for adverse reactions.

"When a patient is due for surgery, full informed consent is taken after the risks and benefits are clearly discussed. Medication-related harm can be life-threatening and similarly decisions to prescribe high-risk medicines should be taken after a comprehensive discussion with the patient. While the cost implications are significant, the magnitude extends beyond finances to adversely affect the quality of life for patients and families."

A costly consequence

The study found there was a substantial use of NHS services attributable to the medication-related harm. Four out of every five patients who experienced harm then utilised NHS services, and 8% of patients were readmitted to hospital as a consequence. Based on these results, the estimated cost to the NHS in England is £396 million annually.

Dr Khalid Ali, Senior Lecturer in Geriatrics at BSMS and Chief Investigator of the study, adds: "Supporting health literacy within the older population, specifically in terms of medication usage, is crucial. There is also an increasing volume of work on the potential benefits of 'deprescribing' medicines in older adults, whereby medications are reduced safely in a way that is acceptable to patients."

This study was published in the *British Journal of Clinical Pharmacology*.

Celebrating the silent teacher

On a Friday morning in mid-May, St George's Cathedral, London, was host to a service with a difference as 1500 guests came to celebrate the lives of loved ones who had donated their bodies to medical education. The seats were full and dozens had to stand at the back.

Before the service began, family members and friends came up to the front, carefully unwrapping a photo, and finding just the right space on the tables for it. By the time the service started, the tables were completely full with a gallery of young and old, smiling and serious, precious faces.

Roshan Pedder came to celebrate the life of her husband Sam Pedder, who died last year, and donated his body to medical education.

"Sam was the one who came up with the idea of donating his body for medical education, having heard about a friend's father who had done this many years ago. Both of us were atheists, and Sam was a very modest man who didn't really like the idea of rituals and memorials," says Roshan.

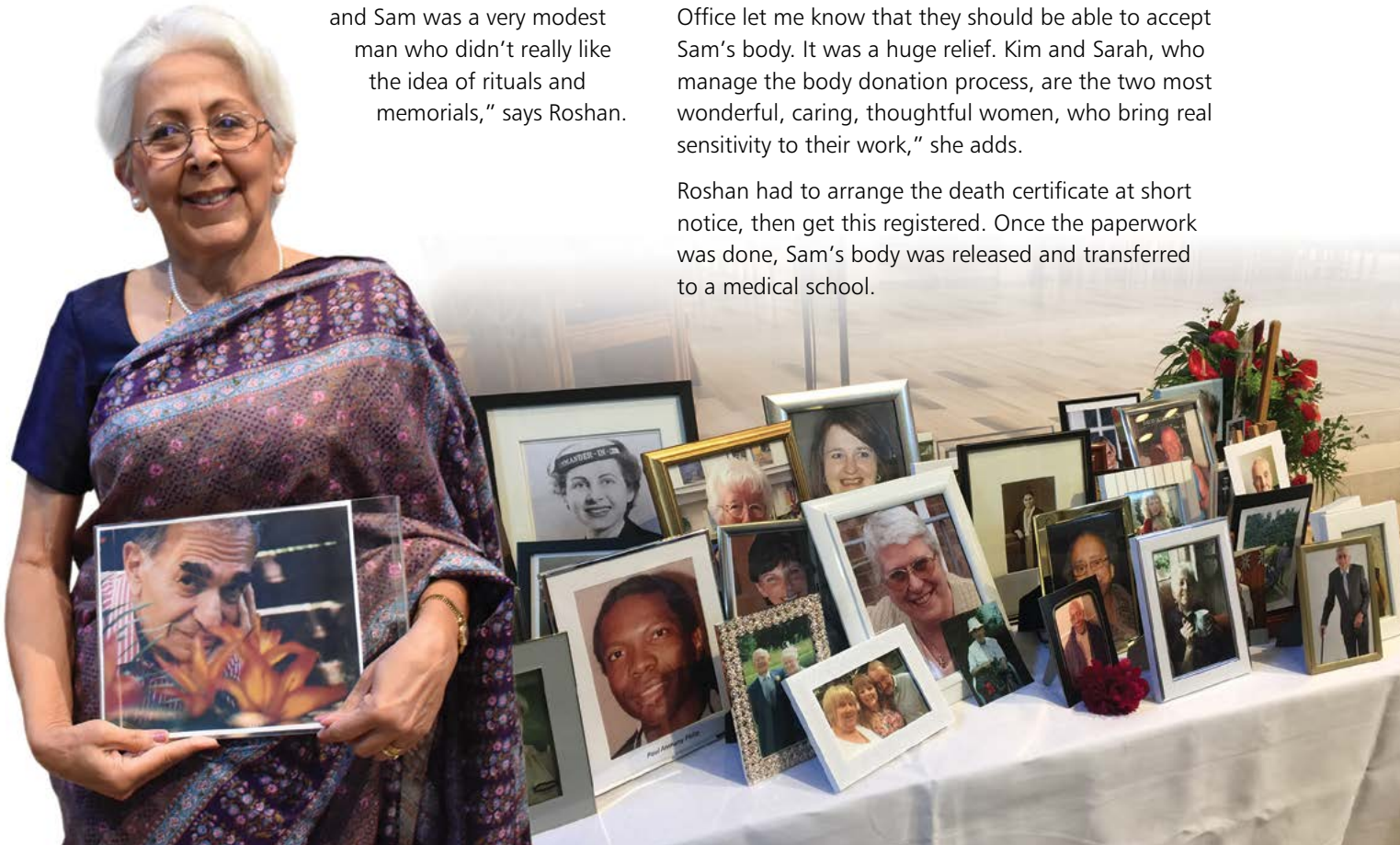
"We had always been fascinated with science and its amazing achievements and Sam felt that this was the most useful way he could contribute to furthering that cause."

The couple discussed the issue at length, and Roshan did not need any convincing to register to donate her body as well.

Sam was 92 when he died last April, five years to the day after suffering from a debilitating stroke. "Although the end was anticipated," says Roshan, "it was more sudden than expected. Death came at 3.15am on a Saturday morning, and being the weekend we lost two days of the four-day window in which the body donation needed to be processed with all the required paperwork in place. I knew just how much this meant to Sam, and not knowing whether it would be possible to follow his wishes made what was already a difficult time even more so.

"But on Monday morning, the London Anatomy Office let me know that they should be able to accept Sam's body. It was a huge relief. Kim and Sarah, who manage the body donation process, are the two most wonderful, caring, thoughtful women, who bring real sensitivity to their work," she adds.

Roshan had to arrange the death certificate at short notice, then get this registered. Once the paperwork was done, Sam's body was released and transferred to a medical school.



The non-denominational service at St George's celebrated the lives of, and gave thanks to, the 350 people who in the last year had donated their bodies for medical education among the eight medical schools in the south east of England. They ranged in age from their 30s to 106 years old. Each year one of the medical schools hosts the thanksgiving event, and this year it was the turn of BSMS.

"We are all unique and while a textbook or virtual app can show the pattern of muscles, nerves, arteries and veins, the reality is this map is slightly different in all of us," says Dr Claire Smith, Head of Anatomy at BSMS. "That's why this real-life learning experience is so important in enabling doctors and healthcare professionals to deliver high quality diagnosis and treatment."

In total around 1,300 donated bodies are accepted by medical schools around the UK each year, for study by medical and allied health professional students, to understand the arrangement of the human body.

Second-year medical student at BSMS Katie Clifford shared her poem on body donation and cadaveric dissection 'Confessions of a Second Year Medical Student' at the service. She believes that being able to study cadaveric dissection has made a real difference to her learning. "The opportunity to experience dissection is something I looked for when choosing a medical school as I am a very practical learner. However, I did not expect it to become such a key part of my development. While I could read about a structure over and over, until I can see it in the lab I struggle to draw connections and see the larger picture. Full cadaveric dissection is an integral part of my learning at BSMS."

Looking back, Roshan says: "I am truly proud of Sam for thinking about his death in the rational manner that he did, and making such a wise and beautiful choice. His body was handled with great respect, and I know he would be pleased to have been able to play a part in helping future doctors further their knowledge and understanding of the human body."

You can find out more about donating your body to medical education by contacting your local medical school – details can be found on the Human Tissue Authority website (**www.hta.gov.uk**). Dr Smith's new book *The Silent Teacher: The Gift of Body Donation* is available on Amazon.

Confessions of a Second Year Medical Student

A poem by BSMS student Katie Clifford

Not because of blood, or nausea –
But because I knew what it meant.
Your heart had ceased.
Your soul departed.

Departed!?
Where had you gone? What had you seen?
How did it feel?
And, more importantly – who had you left behind?

These were all the questions I had, the very first time we met.
Although, even if I could have asked you – I wouldn't have
Because you were a stranger –
And that would be rude!

So for the next few weeks I tried to stick to small talk.
Focus on the science.
Cling to the dissection notes.

I marvelled at the complexity of your body
Traced the networks of arteries and veins and capillaries and nerves and nodes and fibres and…
And…
Then it hit me!
I knew more about your insides than I did my own.
And yet – I didn't know what made you tick.
I didn't know what made you happy, or sad, or angry, or mad.
I didn't know the last time you cried,
Or the last movie you watched.
I didn't know the people you loved,
Or the lives you'd changed.

But… I knew my life was different.
This was more than science, or anatomy, or academia.
This was about life.
And death.
And giving.
And selflessness.

You believed in something greater.
And for that – I truly thank you

P.S. I no longer fear meeting you.
In fact… I kind of look forward to it.

Changing perceptions through textiles

A unique collaboration between researchers at BSMS and the School of Art at the University of Brighton is educating local school children and changing their understanding of scabies. The scabies project, which uses textiles as a medium for raising awareness about the mites, has already helped reduce the stigma of this common condition by educating children on how symptoms differ in older people and enabled them to challenge any incorrect beliefs held by their families.

Stefania Lanza, Research Coordinator at BSMS, has a background in fashion design and is one of the leaders on this project. "Scabies is an age-old but now increasingly common skin condition, particularly within care homes for the elderly, where close contact between residents and staff is the norm," she says. "Outbreaks of scabies are common in this setting as scabies can spread easily, and may go unnoticed until symptoms develop usually after about four weeks.

"Diagnosis is problematic in elderly people as it can be difficult to spot and can be misdiagnosed as a pre-existing dry skin condition. This is especially difficult where residents are suffering from dementia, making them unable to communicate their discomfort."

Left: Local schoolchildren showcase their mites

Below: Children learn about mites through textiles

Dr Vikki Haffenden, from the Department of Fashion Textiles at the University of Brighton, introduced the concept of textiles to educate children about scabies. "Textiles are tactile and sit next to the skin, making them a perfect medium with which to explore skin conditions," she says. "Scabies is a stigmatising skin infestation caused by a mite. It is often wrongly associated with poor hygiene, so we decided to use creative, textile-based methods to raise awareness of scabies in primary school children. We hope that the children will challenge any incorrect beliefs held by their families and ultimately reduce the stigma."

As part of the project, a series of workshops were organised where the schoolchildren created scabies mites which would feature in short, fun, videos to raise awareness and educate health care professionals and the wider public about scabies.

The project was supported professionally by local children's author and scriptwriter Julie Middleton and animator Holly Morton, a recent University of Brighton graduate. A scabies game was also designed using beanbags created from the children's drawings of the mites.

Following the workshops in schools, the children were invited to a celebration day at BSMS, where the animations were previewed and they could see their mites in action on the big screen.

The project proved to be a real success in raising awareness and changing attitudes. Prior to the workshops, 8 out of 10 children had not heard of scabies but after taking part, 9 out of 10 reported that they enjoyed learning about scabies and 8 out of 10 had told family members about scabies.

Sophie Clifford, a teacher at Coldean Primary School in Brighton, said: "The project was an amazing opportunity for the children to develop an understanding of something that they wouldn't get the chance to learn about normally in school. The creativity of the project combined with the project's aim to raise awareness of scabies ensured that the children thoroughly enjoyed all aspects of it."

Find out more about this interdisciplinary collaboration by visiting its dedicated blog page at **blogs.brighton.ac.uk/textilesandscabies**

A look back at our history

2018 marks 15 years since BSMS was officially opened, with the school going through a number of exciting changes and developments in that time. Here, we look back at some of our milestones and successes.

2000

The government recognises the need for more doctors, particularly in certain areas of the UK, including Sussex.

2001

The Universities of Brighton and Sussex successfully submit a joint bid to build a medical school. Building work begins on the Medical Teaching Building.

2003

The Secretary of State for Health, Dr John Reid, officially opens BSMS on Wednesday 15 October 2003. There are 135 students in the first cohort who learn in the newly built Medical Teaching Building.

2004

Work on the four-storey Medical Research Building is completed. The building houses five research laboratories including a unit for work on microbial research, a tissue culture facility, an image analysis and microscopy suite, together with other laboratory facilities.

2005

The Audrey Emerton Building, a new base for third to fifth-year students, is opened by Baroness Emerton. Costing £10 million to build, it contains a 150-seat lecture theatre, teaching and seminar rooms, a clinical skills room and a library which houses 100 computers and a quarter of a million journals.

2007

His Royal Highness the Duke of Gloucester KG GCVO opens the new Clinical Imaging Sciences Centre (CISC) on 25 May, meeting donors, students and researchers. The Centre houses an integrated Positron Emission Tomography-Computed Tomography (PET-CT) imaging system and a 1.5T Magnetic Resonance (MR) imager.

2008

After five years of early morning lectures, afternoons in the dissection room, writing up portfolios and joining ward rounds at hospitals around Sussex, the first cohort of BSMS students graduate.

2013

BSMS celebrates its 10th birthday with a series of celebrations, titled 'BSMS10'.

2014

BSMS becomes one of just five Wellcome Trust Centres in the UK. The Wellcome Trust Brighton and Sussex Centre for Global Health Research, a partnership between BSMS and institutes in Ethiopia, Cameroon and Sudan, promotes interdisciplinary research and supports researchers working in public health and tropical medicine.

2016

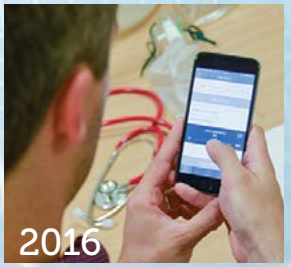
CAPSULE, the quiz-based learning resource designed to support undergraduate medical students in the application of medical knowledge in the clinical setting, is launched with great success.

2018

April: BSMS is awarded an additional 50 undergraduate medical students per year, taking the total number of students to just over 200 per year.

May: The medical school is recognised for its commitment to gender equality by achieving the Silver Award as part of the Athena SWAN Charter.

July: We hold our first-ever reunion event to mark 10 years since the first cohort graduated. BSMS alumni and staff, current and former, are reunited at the event.



BSMS in numbers

1,341

The number of students that have graduated from BSMS

340

The total number of BSMS research awards (either as Lead or Co-Investigators) since 2002, at a total value of £41,146,457

95%

The average satisfaction rating given to BSMS in the National Student Survey (NSS)

The figures above are correct as of 1 October 2018

A conversation with ...

Jo Middleton

Tell us about your role at BSMS

I'm a Research Fellow in the Department of Primary Care and Public Health. Much of my research and teaching involves interrelated work at two very different scales, that of microscopic parasites and that of planetary health, an emerging field which aims to safeguard both human health and the natural systems that underpin it. Recently my workday has ranged from conducting a health needs assessment in the New Guinea jungle, to teaching and supervising students, and collecting ticks across the South Downs National Park.

What were you doing before you joined BSMS?

My interest in diseases related to mites and ticks brought me to BSMS in 2014 to work on the Scabies Research Project, a collaboration with Public Health England and the London School of Hygiene & Tropical Medicine. I had previously worked in the ambulance service, and taught courses for NHS staff and those travelling to remote areas. I had my first contact with BSMS back in 2006, as part of a team taking students out onto the South Downs for night-time scenario training in outdoor emergency care. Prior to health work, I spent a decade in biodiversity conservation. These varied roles all inform my present work at BSMS. For example, in New Guinea we are providing health services and pre-hospital training to clans who have protected their forests from logging, but partly as a result have little way of accessing external medical care.

Tell us about your work at BSMS?

Scabies, an infestation with mites, is a public health problem in care homes for the elderly. We carried out clinical visits to outbreaks to determine why, and I am very chuffed our report was published as the August cover story of *The Lancet Infectious Diseases* (the world's leading infectious disease journal). Having generated the evidence, we are now developing diagnostic and outbreak management guidelines.

Scabies is a worldwide problem and so having started in UK care homes we have now broadened out to communities in developing countries with very high rates. I've just returned from Ethiopia, where we are supporting a scabies mass drug administration to control outbreaks triggered by a climate change exacerbated drought. My main project at present is SURFACES, which is integrating public health and biodiversity conservation in the threatened rainforests in Papua New Guinea, focusing first on neglected tropical skin diseases, including scabies. Nearer to home, with the University of Brighton, I am investigating ecological determinants of tick-borne Lyme disease and evaluating interventions to decrease hazard in national parks without negatively affecting ecosystem health.

Tell us more about your fieldwork in Papua New Guinea – what did this entail?

New Guinea has the third largest remaining rainforest on Earth, and some of the world's worst health metrics, so it is a global priority for action in both conservation and health. In July 2018, I led a multidisciplinary team carrying out a clinical and anthropological assessment of the medical needs of nine remote forest clans. These communities have worked with University of Sussex to protect 100 square kilometres of rainforest from loggers, and requested health services as the next step in the collaboration.

To get to the protected area we drove a 4x4 down a logging road for three hours, then trekked through the jungle for a further two. This is the same journey clan members have to take to get medical care. We collected data to support the setting up of a long-term base for medical aid and research. We had some great discussions and interviews where the clans outlined their priorities, and we gave clinical assessments and treatments to most of the 200 people in the area. Many of these were suffering from multiple infectious skin diseases and acute bouts of malaria.

Jo's interest in mites and ticks brought him to BSMS in 2014

What other roles do you have?

BSMS is a member of the Planetary Health Alliance (PHA), a worldwide consortium of 95 universities and NGOs. The Rockefeller Foundation–Lancet Commission on Planetary Health concluded that the continuing degradation of natural systems threatens to reverse the health gains seen over the last century. As the BSMS liaison, I'm responsible for building research with other PHA member institutions. Locally, as I'm partly based at Life Sciences at the University of Sussex and Pharmacy and Biomolecular Sciences at the University of Brighton, an important part of my job is helping our researchers link-up with those of our host institutions.

Tell us about your teaching?

I teach about parasites on courses from our undergraduate medical course to our postgraduate MSc in Public Health, and supervise fourth-year medical student research projects. One of my students this year is searching historical records of scabies outbreaks in crowded 19th institutions such as workhouses and asylums, bringing up interesting parallels and lessons for our work on institutional scabies outbreaks today. I teach Planetary Health at the University of Sussex and I'm the lead within PHA of a working group developing curriculum across member medical schools, from Sydney to Yale. In our rapidly changing world, clinicians will be faced with new challenges both at the level of individual patients and of public health. I'm excited about introducing Planetary Health education to tomorrow's doctors.

What research areas are you looking to work on in the future?

My colleagues and I have external grant applications pending to carry out an oral medication trial for scabies in UK care homes, expand our scabies work to Brazil and Ghana, and also evaluate deforestation's effect on rates of non-communicable and infectious diseases.

Keep up-to-date with Jo's research on Twitter: **@MedVetAcarology**

Above top, Jo investigates tick-borne Lyme disease in the UK

Above bottom, the team visit Papua New Guinea in July 2018

Smiling doesn't necessarily mean you're happy

Smiling may not always indicate happiness, according to new research at BSMS.

It is widely believed that smiling means a person is happy, and it usually occurs when they are engaging with another person or group of people. However, a new study led by body language expert Dr Harry Witchel, Discipline Leader in Physiology at BSMS, shows this is not always the case.

Dr Witchel claims that the way people often behave during one-to-one Human-Computer-Interaction (HCI) is as if they were socially engaged. His research involved asking 44 participants aged 18-35 to play a geography quiz game consisting of nine difficult questions so that they often got the answer wrong. Seated participants interacted with a computer alone in a room while their faces were video recorded.

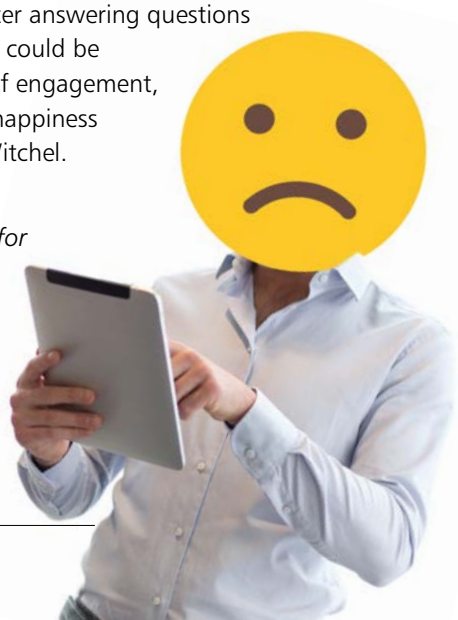
After the quiz, the participants were asked to rate their subjective experience using a range of 12 emotions including 'bored', 'interested' and 'frustrated'. Meanwhile, their spontaneous facial expressions were computer analysed frame by frame in order to judge how much they were smiling.

"According to some researchers, a genuine smile reflects the inner state of cheerfulness or amusement," says Dr Witchel. "However, Behavioural Ecology Theory suggests that all smiles are tools used in social interactions; that theory claims that cheerfulness is neither necessary nor sufficient for smiling. Our study showed that in these HCI experiments, smiling is not driven by happiness; it is associated with subjective engagement, which acts like a social fuel for smiling, even when socialising with a computer on your own."

Statistically, the emotion that was most associated with smiling was 'engagement' rather than 'happiness' or 'frustration'. The frame-by-frame smile analysis broke down each of the nine questions into a question and answer period. Participants did not tend to smile during the period when they were trying to figure out the answers. However, they did smile right after the computer game informed them if their answer was correct or wrong, and surprisingly, participants smiled more often when they got the answer wrong.

"During these computerised quizzes, smiling was radically enhanced just after answering questions incorrectly. This behaviour could be explained by self-ratings of engagement, rather than by ratings of happiness or frustration," adds Dr Witchel.

The study can be found online by the *Association for Computing Machinery*.



Podoconiosis patients at the health centre in Debre Meway, West Gojjam, Ethiopia

Best foot forward

A conference billed as the 'first step to eliminating a disabling foot disease' attracted around 150 delegates from Africa, Europe and beyond in September.

The first International Podoconiosis (podo) Conference took place in Addis Ababa, Ethiopia, a country where the disease affects an estimated 1.6 million people at an annual cost of $200 million per year in lost productivity.

A form of elephantiasis, podo is one of the lesser known and often forgotten neglected tropical diseases (NTDs). It affects many of the world's poorest communities, subsistence farmers who spend their time working barefoot in the volcanic soils of highland areas, causing debilitating disfigurement and pain, and carrying widespread stigma. Yet podo can be prevented and treated with simple interventions such as foot washing and wearing shoes.

"Podoconiosis impacts four million people in more than 15 countries around the world," says Dr Kebede Deribe, Postdoctoral Research Fellow at BSMS, who is mapping the global distribution of the disease, "but we are now at the point of translating our many years of research into implementation. With the right interventions, we can eliminate podo within our lifetime, and this conference was a first step in achieving that."

Gail Davey, Professor of Global Health Epidemiology at BSMS, hosted the conference with local partners. "The day went brilliantly, galvanizing researchers, implementers and policy makers towards a podo-free world. It was fantastic to hear running legend Haile Gebrselassie and broadcaster Nunu Wako offer their support in front of the wider NTD community," she says.

Delegates called on the World Health Organization to develop a clear strategy for tackling podo, and signed a declaration calling for an end to podo in our lifetime.

Haile Gebrselassie with Professor Gail Davey

Online information on vaccines and autism unreliable

Websites can provide unreliable information based on old, 'weak' scientific studies, according to new research.

Researchers at BSMS carried out an online search for 'vaccines autism' and then analysed the results for the top 200 websites. They found that people can get misinformed advice and information from the internet, with 10%-24% of the websites analysed having a negative stance on vaccines (20% in the UK). Although searching on Google.com did not return such a website in the first 10 websites generated, searching on the UK and Australian versions of Google did.

Professor Pietro Ghezzi, Chair in Experimental Medicine at BSMS, who led the research, says: "This study reveals a pollution of the health information available to the public with misinformation that can potentially impact on public health. It also shows that weak scientific studies can have a detrimental impact on the public."

Some vaccine-negative websites also ranked highly in the Italian, French, Mandarin Chinese, Portuguese and Arabic versions of the search engine. The way in which Google ranks websites in different languages could be a factor, but it could also be because these websites are visited more often in some countries, which would increase their ranking and the likelihood of people using them as a source of information.

"The approach of using Google search results to monitor the information available could be a useful tool for identifying countries at greater risk of misinformation," Professor Ghezzi adds. "Public health organisations should be aware of the information people can find online when designing vaccination campaigns."

The study 'Where fake news meets weak science' is published in *Frontiers in Immunology*.

Gene test could predict long-term risk of disease

A simple saliva gene test that can be done anytime in life could help predict the long-term risk of more severe disease and long-term healthcare costs for people with common chronic conditions such as eczema and asthma.

Testing for changes in the filaggrin gene may help predict future healthcare needs, researchers at BSMS found. The filaggrin gene helps produce a protein that creates a protective barrier on the skin against the entry of outside substances that trigger allergies. Around one in ten people carry a change in this gene, which results in the production of defective protein that can no longer help maintain this skin barrier. The study shows that children with eczema and asthma carrying this gene change have substantially increased needs for both eczema and asthma medication through most of their childhood.

"Having a gene test available at birth could help healthcare professionals provide a more personalised approach to treatment for the 10% of children who carry the gene defects, by more regular use of emollients and other creams and better support from nurses," says Professor Somnath Mukhopadhyay, Chair in Paediatrics at BSMS and lead author of the study. "Started early in infancy or childhood, such a targeted approach could lessen the impact of disease in children with eczema and asthma over the rest of their childhood."

Although this targeted approach could be more expensive at the start, this could reduce longer term costs for hospital admissions and medicines, as well as the human costs of these conditions, such as a loss of earnings or schooling.

Professor Mukhopadhyay adds: "We have identified that genetic changes in the filaggrin gene will influence a cost difference of at least £20 million for childhood sufferers of eczema and asthma in the UK. This suggests that when genetic profiling for thousands of genes become widely available, we may be able to identify substantial differences in terms of healthcare costs between different individuals."

This study is published in the *British Journal of Dermatology*.

Research news

Elizabeth Hurley (second from right) meets researchers at BSMS and the University of Brighton

• Elizabeth Hurley visited BSMS and the University of Brighton in October as part of her Global Ambassador role for The Estée Lauder Companies' Breast Cancer Campaign. She met Professor Dame Lesley Fallowfield (pictured far left), Professor of Psycho Oncology at Sussex Health Outcomes, Research & Education in Cancer (SHORE-C), whose research is assessing the psycho-social aspects of breast cancer and ways in which gentle exercise, yoga and mindfulness can reduce stress hormones and improve patients' well-being during treatment.

• A vending machine which dispenses a self-testing kit for HIV won the Innovation Award at the BMJ Awards in May 2018. The machine, designed by staff from BSMS and Brighton and Sussex University Hospitals NHS Trust, makes testing accessible for people who are at high-risk of HIV but don't attend traditional clinical settings.

• Professor Sumita Verma and her team won *The Lancet* Research Award at the Royal College of Physicians' Excellence in Patient Care Awards 2018 for their REDUCe study, which aims to improve end-of-life care in end-stage liver disease.

• *Footwork*, the podoconiosis initiative led by Gail Davey, Professor of Global Health Epidemiology, has been awarded $100,000 of recurrent funding for the treatment and care of podoconiosis patients who have not previously accessed treatment.

Top: Jack Whiting receives his Student of the Year Award

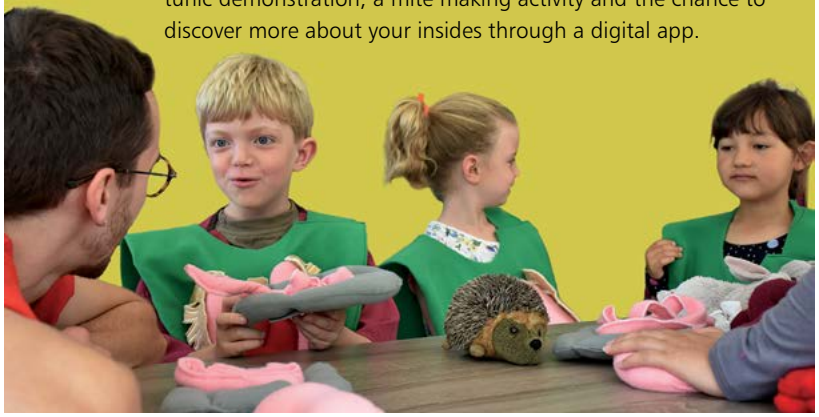
Bottom: Staff and former students at the first BSMS reunion

School and student news

- BSMS has been recognised for its commitment to gender equality by achieving the Athena SWAN Silver Award.
- Undergraduate student Jack Whiting won Student of the Year Award at the National Education Opportunities Network awards for his outstanding commitment to widening access to medicine. Darren Beaney, Head of Admissions at BSMS, was also commended for his Contribution to Widening Access at the ceremony.
- The medical school was the top UK institution in the Times Higher Education (THE) Young University Rankings, placing 47th overall. The Young University Rankings are part of a suite of THE tables focused on universities that do not have centuries of history or tradition.
- BSMS was ranked third for student satisfaction in the 2018 National Student Survey (NSS) of all undergraduate medical schools in the UK, with 98% overall satisfaction.
- Fifty alumni joined both past and current staff in Brighton this summer to celebrate 15 years of BSMS and 10 years since our first cohort graduated.
- BSMS was recognised in the Higher Education Academy 2018 Teaching Excellence Awards. Dr Claire Smith, Head of Anatomy at BSMS, received a National Teaching Fellowship and the Time for Dementia Team won a Collaborative Award for Teaching Excellence.

Local community enjoy a day of entertainment and discovery

Young visitors flocked to BSMS in June to take part in a range of activities as part of the University of Sussex's second community festival. Children took part in activities including the teddy bear hospital, an organ tunic demonstration, a mite making activity and the chance to discover more about your insides through a digital app.



Seafront science

Dr Kristy Themelis, BSMS Research Fellow, joined 12 other female academics on Brighton seafront with Soapbox Science to give beachgoers an opportunity to learn about science in a fun way.

Science and the media with Dr Chris van Tulleken

Doctor and TV presenter Chris van Tulleken's work straddles both the media and science. He gave a free public lecture on 1 November at BSMS where he considered the challenges of working in both disciplines and how we can accurately represent science in a world of constant social media updates and fake news. Look out for the next issue of *BSMS Pulse* magazine for more about this event.

BSMS anatomy team reveal your body's secrets

At 'Secrets from within the human body' the BSMS anatomy team gave around 100 guests a chance to learn about everything from taste buds to the palmaris longus tendon, as well as the chance to explore the organs and anatomical resources themselves.

This Brighton Fringe event gave guests a rare and fascinating opportunity to gain a deeper understanding of our bodies and how they work.

BSMS
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