BSMS Pulse
Spring 2017
The Brighton and Sussex Medical School magazine

Facing barriers to mental health

In this issue

- Tackling TB superbugs with 'survival gene'
- Racial bias in a heartbeat
- Studying medicine with dyslexia

brighton and sussex
medical school

from the Dean,

Professor Malcolm Reed

I would like to welcome you to the Spring 2017 edition of *BSMS Pulse*, which I hope you will find informative and interesting. It is always rewarding to share some of the exciting and positive results of the work we do here in Brighton, both in terms of our teaching activity and our research.

Everyone is aware of the challenges facing the NHS at the present time and the strain this places on patients, staff and students. It is widely recognised that staff shortages across the NHS are significant, with approximately one-third of staff in all professions having trained overseas. Many of these are recruited from countries that can ill afford the drain this represents in terms of the cost of education and the loss to healthcare systems and economies.

Higher education is, however, a global activity which clearly transcends the ebbs and flows of politics and economics, and this is reflected in the high percentage of international staff and students at BSMS and our parent universities. In addressing the shortfall of healthcare graduates for the NHS, we must always maintain the movement of students and staff in higher education and healthcare.

Naturally, there are concerns about the impact of BREXIT and other developments, and at present it is too early to tell how these changes will influence BSMS, which has a significant number of staff and students from European countries. Reassuringly, to date there has been little immediate impact and we will do everything possible to maintain BSMS's open and international approach and to support our colleagues and students.

Recently I had the pleasure of teaching the first cohort of Physician Associate students here at BSMS. This innovative new course aims to produce individuals who are capable of adding to the NHS workforce in roles currently undertaken by a range of different professionals. Physician Associates are long established in other countries such as the US and should not be seen as competition for traditional medical, nursing or other roles, but rather as flexible and well-trained professionals who are capable of undertaking a range of roles given the appropriate training and supervision.

Here in Brighton we are fortunate to be hosting the 2017 British Science Festival, Europe's longest-standing national science event. The September festival will see tens of thousands of people come together in our city to celebrate the latest developments in science, engineering and technology. You can read about BSMS's exciting contributions to the festival on page 6.

In this issue, we also look at what life is like for a medical student living with dyslexia (page 14), and how the heart can affect the brain, exacerbating any inherent racism, to such an extent that this may be contributing to the high number of shootings of unarmed black people in the US (page 4).

Best wishes,

Dinner with Professor Alice Roberts, new students and families (see page 19)

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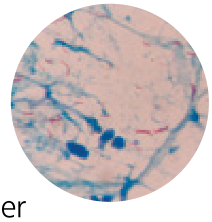

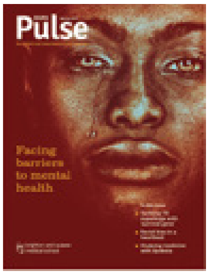

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(see page 10)

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.

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Racial bias in a heartbeat

If you're black and you live in the US, you're five times more likely to be fatally shot when unarmed by police than your white counterpart. Far too many such controversial killings over recent years have led to the international Black Lives Matter movement, and a call for police to take drastic action to reduce such preventable deaths.

New research shows that our heartbeat can increase pre-existing racial biases when we face a potential threat. In particular, participants in the study were likely to misperceive a situation involving a black person as life threatening, when experienced during a heartbeat rather than between heartbeats.

The research could lead to the development of new approaches to responding to threatening situations, say scientists at Royal Holloway, University of London and BSMS, whose study was published in *Nature Communications*.

Gun or phone? A potentially fatal mistake

Participants of the experiment saw pictures that depicted black or white individuals holding either a gun or mobile phone. It was found that when the image was flashed at them during the heartbeat, as opposed to between heartbeats, they were approximately 10% more likely to perceive the object as a gun when it was held by a black person.

"There is much existing evidence to show that people are more likely to misidentify harmless objects as weapons when held by black people," says Professor Manos Tsakiris, from the Department of Psychology at Royal Holloway. "The fact this bias exists is well documented, but until now we haven't understood how our heart may influence our head when it comes to perceiving threat in this situation. Bodily arousal plays a significant part in how our brain interprets a situation, and the decisions we subsequently take."

Snap decisions in a heartbeat

The study extends previous research from co-authors Professor Hugo Critchley and Dr Sarah Garfinkel from BSMS, which identified how on each heartbeat (known as cardiac systole), the heart fires powerful signals to the brain. Between heartbeats (cardiac diastole), these signals are silent. This study shows that the combination of this firing of signals, along with concurrent presentation of potential threat, increases chances that even a non-threat will be perceived as threatening.

"While our study specifically looked at the bias against black individuals, which so often in real life has tragic consequences, it is entirely possible that this could apply in other situations. When physically and emotionally aroused – as in a tense situation, faster, stronger heartbeats may lead to greater likelihood of perceiving threat where there is none and making an error in judgement," says Dr Ruben Azevedo, also from Royal Holloway.

Looking to the future

In particular, the study has implications for how to tackle police shootings. "We can build on this research by developing ways to target heart-brain communication to reduce the tragedies caused by racial bias," says Dr Garfinkel. "Perhaps the most promising approach is to make people aware of this issue, and implement training. We can prepare them to perceive situations where bias might emerge and to think twice. Also my recent work shows that we can now train people to gain a better representation of their bodily signals in a way that can diminish the negative effects of bodily arousal on behaviour.

"Certain blood pressure drugs such as beta-blockers, which slow the heart down, may also suppress this mechanism. However, drugs have a range of side effects and may affect performance, both physically and psychologically, and to suggest use of them on such a wide scale would be highly controversial.

"We might also want to consider the other effects of physiological arousal," adds Dr Garfinkel. "For example, a person's pupils become bigger when aroused, and in darker lighting conditions, such as when they're wearing sunglasses. We know that larger pupil size makes it harder for people to differentiate held objects, so in fact may amplify the same racial bias effects in misidentification of weapons. So perhaps we need to ask whether police should be wearing sunglasses?"

BRITISH SCIENCE FESTIVAL

Talking science

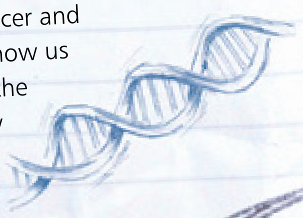
The British Science Festival is coming to Brighton this September for the first time since 1983. The Universities of Brighton and Sussex are co-hosting the festival, which will feature cutting-edge science and research from some of BSMS's leading academics. Here's our pick of what to look out for:

Ageing with HIV in the era of survival

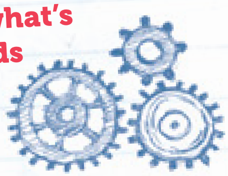
Modern treatments for HIV are highly effective, turning HIV into a chronic infection and heralding the era of survival. But with survival comes ageing and a host of new challenges for those living with HIV. Join our panel of experts, led by Dr Tom Levett, Clinical Research Fellow in Elderly Medicine, as they share their research on ageing in HIV from diagnosis to care.

Nothing is certain except death and taxes: risk and uncertainty in breast cancer treatment

Professor Dame Lesley Fallowfield, Director of Sussex Health Outcomes Research & Education in Cancer (SHORE-C), will explore questions around cancer and treatment. She will show us that medicine is not the exact science we may have believed, and that even when presented with facts, the individual characteristics of patients and their doctors, and their tolerance of uncertainty and attitudes to risks, powerfully influence decision-making around treatment.

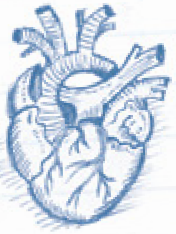


Perpetual motion machines: how our bodies are always revealing what's in our minds



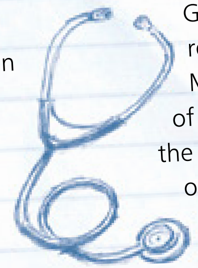
From Googling to gogglebox, our bodies are revealing our thoughts and actions through the smallest micromovements. Dr Harry Witchel, Discipline Leader in Physiology, will show how motion capture reveals suppressed emotions, taking breaks and other 'non-activities'. Thanks to an improvisation artist, you will witness first hand how you are never truly 'doing nothing'.

Secrets of inside the living human body



Head of Anatomy, Dr Claire Smith, and her team will take you on a tour through clinical cases and examine the human body in real time through live ultrasound scanning and 3D prints. Anatomy has come back from the dead and is a living and vibrant subject.

Every child is different



Groundbreaking asthma research by Somnath Mukhopadhyay, Professor of Paediatrics, has found that the 'one size fits all' philosophy of strict guidelines is giving way to a more 'one size fits one' approach where the doctor explores unique treatments that are tailored towards the individual. But how can we implement these key changes in personalised medical treatment?

The British Science Festival takes place from **5-9 September 2017**

The full programme of events will be announced in the coming months. For more information, go to **www.britishscienceassociation.org**

Study investigates link between sleep and memory in older adults

We all know only too well how difficult it can be to function properly after a bad night's sleep. Now researchers at the Centre for Dementia Studies, BSMS, are conducting a study to find out about the interplay between sleep and cognitive function among older adults with early dementia of the Alzheimer type.

Chief Investigator, Dr Sara Balouch, explains: "Sleep plays a key role in restoring and repairing the body and mind, preventing illness, brain development, and memory consolidation and learning. As we age, sleep quantity, quality and efficiency decrease. We know that poor quality sleep, lack of sleep and sleep disorders are associated with neurocognitive disorders. What we want to find out is how daily variation in sleep affects daily variation in cognition among older people."

The study is recruiting 60 older people to take part: 20 of whom have mild Alzheimer's disease, 20 with mild cognitive impairment (a preclinical stage of dementia) and 20 with no memory impairments as the control group.

Dr Balouch will visit participants in their homes at the beginning and end of a fortnight to administer a range of measures on cognitive ability, quality of life, activities of daily living, IQ, sleep quality, anxiety and depression. Over this period, participants will wear a sleep monitor, complete a sleep diary, and answer daily questions on memory slips and mood, while daily cognitive measures are taken over the phone.

"We hope that the results of this study will inform a larger scale study on sleep and cognitive and functional performance in older adults, and ultimately lead to new advice on the best sleeping pattern for these people," adds Dr Balouch.

Are you or a family member interested in taking part in the study? You must be aged 65-85 years and have no memory problems OR have been diagnosed with mild Alzheimer's disease OR have been diagnosed with mild cognitive impairment.

For further information, please contact Dr Balouch at **s.balouch@bsms.ac.uk** or on **01273 872691/07393 761947**.

A conversation with ...

Dr Kebede Deribe

Tell us about your current research

I am Postdoctoral Research Fellow at BSMS, and am being funded by a five-year Wellcome Trust Intermediate Fellowship in Public Health and Tropical Medicine to develop the Global Atlas of Podoconiosis. I'm working on methods for mapping the disease to provide an improved evidence base for its control and elimination at local, national and global levels.

What is podoconiosis and what got you interested in working on the disease?

Podoconiosis (or podo) is a form of elephantiasis found in the tropical, highland areas of Africa, central America and Asia, where the volcanic soils cause swelling and disfigurement of the feet and lower legs. It is most prevalent in subsistence farming communities, who spend their time working barefoot in these irritant soils. Years of exposure can cause debilitating disfigurement, affecting a person's ability to work, and local stigmatisation of the disease can result in them being ostracised from their communities.

I first learned about this neglected tropical disease (NTD) when a woman with elephantiasis came to the health centre where I was working. Just looking at her face you could see the pain and suffering she had been through. Believing she had lymphatic filariasis, I referred her to a nearby hospital, but the doctor referred her back to me, with a diagnosis of podoconiosis, which I had never heard of. From that time on, I started to read about podo and became interested in working on this disabling disease.

How did you come to work in public health?

I was born and raised in Negelle, a small rural town 600 kilometres south of Addis. My family have a small farm where we grow crops and rear cattle. Although neither my mother nor father had a formal education, they considered education very important and sent my six siblings and me to school.

As a child, I would see the health workers at the nearby hospital, and from an early age I knew I wanted to be a health professional. Only a few from my town went on to university, and I was privileged to get into Haramaya University to study public health. I soon understood that public health is my calling, and since then there has been no turning back.

What brought you to BSMS for your PhD?

After completing my Masters programme, I was very eager to use public health interventions to tackle real life problems. By using the tools I had acquired to develop and publish research from the settings I worked in, I quickly realised my continued passion for research. I knew Professor Gail Davey from BSMS during her time in Ethiopia – it's through her and the generous support of the Wellcome Trust I was able to study for my PhD at BSMS.

What did your PhD focus on?

I mapped the historical distribution of podoconiosis in Ethiopia, then led nationwide mapping of the disease. Using the data, I identified individual and environmental drivers of podo, determined the environmental limits and estimated the population at risk across Ethiopia. Based on this work, I have also set up endemicity classifications and targets for podoconiosis elimination. All these findings have informed the national podoconiosis control programme and have been included in long-term national plans.

Tell us more about the Global Atlas of Podoconiosis?

Over the span of five years, the Global Atlas of Podoconiosis will define the epidemiology and distribution of podoconiosis globally. National academic and research institutes in the suspected endemic countries will help collect new and existing data that will allow us to define the global limits of podo, estimate the population at risk, the burden of the disease and the cost of its elimination. This will help countries to target podo in their national plans.

The atlas will also be used as an advocacy tool to develop an evidence-based global strategy and a case for investment by organisations such as WHO. We believe the atlas will provide an important basis for expanding prevention and treatment services, and help lead us towards a world without podoconiosis.

What are your plans for the future?

I would like to contribute to the elimination of podoconiosis in our life time, and I believe mapping the global distribution will take us a step closer to this goal. I would like also to contribute to the realisation of the WHO road map and the London declaration to end the scourge of NTDs.

Map of environmental suitability of podoconiosis in Ethiopia

Dr Kebede Deribe (far left) and the podo mapping team in Cameroon

BME groups face barriers to mental healthcare

Many people from black and minority ethnic (BME) communities are struggling to access mental health services because of stigma, cultural identity and a communication breakdown between healthcare users and providers.

Professor Anjum Memon, Chair in Epidemiology and Public Health Medicine at BSMS, led a study to find out what is getting in the way of these groups accessing mental health support. "We already knew that mental health services are not meeting the needs of BME communities. Our study has identified a number of barriers that these groups are facing – both from within their community and through the service provision process. Until barriers such as stigma, communication problems and discrimination are counteracted, BME communities will continue to miss out on mental health support," he says.

The prevalence of common mental health disorders varies markedly in different BME communities, says Professor Memon. For example, more than twice as many south Asian women are diagnosed with anxiety and depression as white women (63.5% vs 28.5%), and psychotic disorders are more than ten times more prevalent among Afro-Caribbean men than white men (3.1% vs 0.2%). Use of mental health services also varies widely, with people from ethnic minorities less likely than their white British counterparts to contact their GP about mental health issues, be prescribed antidepressants or referred to specialist mental health services.

The qualitative study was conducted to determine perceived barriers to accessing mental health services among people from BME backgrounds to inform the development of effective and culturally acceptable services to improve equity in health care.

Findings were grouped into two key themes:

Personal and environmental factors

These included a negative perception of, and social stigma against, mental health, an inability to recognise and accept mental health problems, the positive impact of social networks, a reluctance to discuss psychological distress and seek help among men, and cultural identity, along with financial factors. For example:

"Deal with it…you are supposed to be strong. You are from Africa."

"Men, we tend to keep things to ourselves. We do not think that by exposing our own insides to outside will bring any solution at all […] I am a man, I can sort it out."

"Our people cannot go to mental health services because […] it is only crazy people going there."

"In our country if you hear somebody in a family is mentally sick you lose trust in this person and their whole family."

Factors affecting the relationship between BME community service user and healthcare provider

These included the impact of long waiting times for an initial assessment, language barriers, poor communication between service users and providers, inadequate recognition or response to mental health needs, imbalance of power and authority between service users and providers, cultural naivety, insensitivity and discrimination towards the needs of BME service users, and lack of awareness of different services among service users and providers. For example:

"He was six months on the waiting list – my friend's son. He died two weeks ago."

"I know one person, he has struggled and struggled. He said what he could say but the limit of the words, the real words he wanted to say to the GP, he did not know the meaning of them in English. Then in the end they end up getting the wrong treatment."

"Being talked down to."

"If we don't know that something is available, how are we going to access it?"

"I got an English friend and she said to me that she has the same problem [...] her GP transferred her to a consultant and her problem was solved. Why would my GP not transfer me to a consultant instead of giving me a different tablet every time?"

"Just fill this form in and say how your mood is and I will give you some antidepressants."

"She had to fight to get him assessed and they were telling her 'no, there is nothing wrong [...] from the first time he was sectioned after an overdose."

"The interpreter service does not send to the GP because of the ten minute time."

Making improvements

"Our study identified not only key barriers that are relevant to the BME population, but also barriers likely to be shared with the white majority population as well as other minority or marginalised groups. Perceptions regarding stigma, recognition and acceptability, gender and inability of health systems and providers to respond to needs are relevant to most cultures," says Professor Memon.

"The recent announcement by the Prime Minister Theresa May that the government will take action to tackle 'stigma' and work on improving support for people with mental illness is excellent news. Now we need to ensure that these improvements reach members of all communities in the UK.

"We need to engage people from BME backgrounds in the development and delivery of culturally appropriate mental health services, in order to facilitate better understanding of mental health conditions and improve access to services.

"Alongside this, healthcare providers need training and support in developing effective communication strategies to deliver individually tailored and culturally sensitive care. In order to improve mental health literacy, raise awareness of mental health conditions and combat stigma among BME communities, we need to improve information about services and access pathways for these groups."

Published in the *BMJ Open*.

Can we break the link between autism and anxiety?

A new treatment that aims to prevent people with autism from developing anxiety is being trialled at BSMS.

At more than one percent of the population, there are 2.8 million people in the UK living with autism. Of these, at least one in four are also diagnosed with an anxiety disorder. Unfortunately, existing psychological and drug-based treatments for anxiety appear to have limited success among people with both conditions.

The BSMS team are investigating whether a new computer-based therapy – known as ADIE – could prevent people with autism from developing anxiety disorders in the first place. Professor Hugo Critchley explains: "Our previous research has shown that people with autism often misjudge physiological changes in their body, such as a faster heartbeat. They can react very strongly to such changes, with a consequent increase in their levels of anxiety.

"ADIE works by using a finger monitor that measures heartbeats as users work through a number of exercises on a computer. So it helps them to understand why such changes might be happening, and to respond to these changes without anxiety."

The therapy is now being tested in a clinical trial, funded by the mental health charity MQ. If successful, the team plan to develop an app version that patients and therapists could use in clinical settings.

New measures assess life with cancer

The treatment of cancer has been revolutionised in recent decades, to the extent that many patients are now surviving long term. But what does living with cancer mean for these people?

Researchers at BSMS have set out to address this question, and are developing new measures to help researchers and health providers get the full picture of long-term cancer survival for patients and informal caregivers, such as partners, family and friends.

First, the team at Sussex Health Outcomes Research and Education in Cancer (SHORE-C) conducted two systematic reviews into current measures used to evaluate the quality of life of patients and informal caregivers. These reviews identified a number of gaps in the content and quality of existing measures.

The team have now developed two measures that they believe will help fill these gaps. The new measures include, among other things, family and home life, financial wellbeing, and jobs and careers. They are currently being evaluated in a large, multi-centre study. The team hope to make them available for use nationally and internationally, following further testing.

Chief Investigator, Dr Valerie Shilling explains: "It is important to understand these broader implications of disease and treatment; for example, to inform consideration of different treatment options and supportive interventions for both patients and caregivers."

The patient review is published in the *Journal of Cancer Survivorship* and the caregiver review in *Quality of Life Research*.

‘Survival gene’ stops strains of TB mutating into deadly ‘superbugs’

Multi-collaborative research has identified a key ‘survival gene’ that prevents strains of tuberculosis (TB) from mutating into drug-resistant ‘superbugs’.

Researchers have discovered that the gene NucS dramatically reduces mutation rates in mycobacteria – the infectious microbe that causes TB.

Tuberculosis is the leading cause of death worldwide by an infectious disease, killing 1.8 million people every year. Drug-resistant TB is on the rise, with drug-resistant strains of the disease identified in 105 countries. TB accounts for one-third of all drug-resistant bacterial infections. The research team believe that the identification of this key gene, required to suppress mutation rates in mycobacteria, is an important step towards understanding how ‘superbugs’ develop.

Dr Simon Waddell from BSMS and the Wellcome Trust Brighton and Sussex Centre for Global Health Research collaborated on the study with Professor Aidan Doherty and Dr Mark Paget from the University of Sussex, and Professor Jesús Blázquez from the Centro Nacional de Biotecnología, Spain.

Using a genetic screen, which involved individually knocking out nearly every gene (11,000 genes) in mycobacteria, and screening whether mutant strains grew on a specific antibiotic (rifampicin), the scientists discovered that a DNA repair enzyme, produced by the NucS gene, dramatically reduces mutations from occurring. They also discovered that genetic variations in the NucS gene significantly influence the mutation rates in clinically isolated strains of mycobacteria, which could lead to a greater understanding of the development of antibiotic resistance in patients already suffering from TB.

“Discovery of the NucS gene controlling mutation rates in mycobacteria is an exciting step towards tackling tuberculosis,” says Dr Waddell. “This gene may influence the emergence of drug-resistant TB in patients during treatment, allowing us to screen for TB strains that are likely to develop drug resistance. Insights into the basic biology of TB bacteria will help us to develop new strategies against the disease and enable drugs to be used more effectively in the clinic.”

Published in the journal *Nature Communications*.

Dyslexia and medicine

Final-year student Sebastian Shaw took a year out of his medical degree to study an intercalated Masters in Medical Education. As part of his research, he was able to explore how his dyslexia has affected his journey to becoming a doctor.

My story

Reading and writing were always difficult for me, but it wasn't until arriving at BSMS that I was diagnosed with dyslexia. Despite challenges, I did well at school until my A-Levels, when I struggled to understand what the exam questions were asking of me. As a care leaver, I got 'lucky' – I was called to interview by all of my chosen medical schools – allowing me to discuss my passion for medicine in person. BSMS was my first choice, my first interview and my first offer.

When I started here, the Student Support team gave a talk on dyslexia. This resonated with me. I self-referred for testing and was diagnosed in my second year. Many of my friends seemed to be diagnosed at a similar point in their degree. At first, I was afraid of the stigma. "I might not want you to be my doctor if you can't read the drug chart," a relative had joked – I worried that others might genuinely feel that way. Following further thought I decided that, with or without the label, the problem would still be there, but, with the label, I could receive the appropriate support to help me deal with it head-on.

BSMS organised a range of support, including extra time in exams, taking exams on a computer, extensions for assignments and access to a dyslexia tutor. Despite this, medical school has largely been a matter of struggling but surviving. I have felt challenged to the limit by the demanding environment, and have often felt stupid, slow, stressed… and, at one stage, depressed. With finals approaching, my struggles now manifest in high levels of anxiety – as I am sure they would in many others! Throughout this time, however, the staff here have been incredibly supportive.

My particular challenges and solutions

With my dyslexia, my spelling is largely as accurate as anyone else's. I do, however, have very slow reading and writing speeds, and difficulty in assimilating large chunks of verbal information. I have also struggled with the colour of PowerPoint slides and hand-outs used in classes. Both my speed of reading and eye strain are greatly improved when reading black text on a pastel yellow background. This simple change to slides can make a big difference for me.

People tend to develop other skills to compensate for their dyslexia. For example, I'm a very fast typist, and I find myself naturally able to teach others in simple and empathic ways.

The early clinical experience here allowed me to build on my compensatory learning strategies. So I used my monthly visits to a GP surgery to talk through the basic concepts of my academic modules. I honestly believe that without the regular exposure to clinicians in a clinical setting I wouldn't have completed the first two years.

A natural disadvantage

In the early years of the course, I saw non-dyslexic peers able to write entire assignments just hours before deadlines, while I would work weeks ahead, carefully articulating my thoughts. Even then, I would usually get lower grades. My inability to work at the fast pace of my friends has led to me missing out on some of the 'uni experience', and I have often found myself at home writing assignments while my friends are out socialising.

The poor grades from before my diagnosis have always depressed my overall position within my year group.

Because medical students are ranked according to their results, if you don't do well, you are less likely to get a good work placement when you qualify. This could have a follow-on impact on your career, and ultimately your life. While I have achieved good grades during my last three years, they can only compensate for so much from my first two years.

The clinical years

In the later part of our course, when we are using practical skills and out in hospitals much more, I have really come into my own. In these clinical environments, being a kinaesthetic (learning through doing) and verbal learner has been a blessing. My strong communication skills have helped me develop good relationships with my patients and supervisors – more easily than many of my peers seem to. I am also very methodical, so my patient notes are above average as well. Although I'm a bit slower, I have my own system – one that I have taught to dyslexic peers to help them.

Although I excelled on many occasions when assessed practically or verbally, my grades were still heavily impacted by essays and written exams until the end of Year 4. So, despite wonderful feedback in the clinical environment, I continued to let myself down with my results. I have therefore spent a lot of time overthinking things and negatively analysing myself, because my best was not quite enough.

As we head towards finals the pressure is building, and I know that I need to get through this final push, before I start the next challenging stage of my career. Looking back over my time here, I am extremely grateful to the wonderful, encouraging and supportive staff that I have encountered along the way. In short, my time at BSMS has been the making of me in more ways than I can comprehend.

Sebastian has had several papers published on studying medicine with dyslexia and has presented at a number of conferences. His full autoethnographic study is published in *The Qualitative Report*.

Down with the kids

A new course at BSMS is training professionals to provide top-quality paediatric care.

Dr Soluchi Amobi (right) and Shelagh King (second left) in class

The MSc in Paediatrics and Child Health draws on the significant academic and clinical expertise in Kent, Surrey and Sussex to further paediatric skills and knowledge in all areas of practice involving the care of children. Led by Professor Somnath Mukhopadhyay, Chair of Paediatrics at BSMS and other senior paediatric health experts working in the region, the course focuses not only on clinical aspects of paediatric care but also on the provision of that care across different providers. Paediatric registrar Dr Soluchi Amobi and children's nurse Shelagh King are two of the first cohort of students.

Dr Soluchi Amobi is just 18 months away from becoming a paediatric consultant and decided to study for the MSc after completing her training as a paediatric registrar with a subspecialty in community paediatrics. "I wanted to get back into a programme of study to complement my clinical learning at work with some more theoretical training," she says. "I was also keen to explore research relevant to my chosen specialty and to experiment with ideas that I had developed over the years. In addition, learning formally about pathways, leadership and management makes the prospect of becoming a consultant a lot less daunting." Soluchi has particularly enjoyed being taught with people from a range of other disciplines, something she considers a learning experience in itself. "There is so much to learn about how different professionals view and approach problems, which will help when working with them in the future."

Course Leader, Dr Christina Jones agrees: "Our first cohort of student comes from diverse backgrounds in terms of their jobs, duration of employment and motivation for enrolling on our course. They are enthusiastic and engaged and we've already seen great things from them on their first clinical module." Teaching is delivered by experts in week-long blocks, allowing students to continue working full-time and to fit self-directed learning into their personal schedules.

For nurse Shelagh King, this flexible learning approach was one of the reasons to take up further study at this point in her life. “I work well under pressure studying after work and at weekends: it keeps me away from the housework! I’m thoroughly enjoying studying at university and the clinically relevant approach to teaching and learning.” Shelagh’s background is in children’s nursing and her current role as a WellChild Community Nurse Specialist for Sussex Community Foundation Trust includes undertaking detailed assessments of children with very specific health needs to develop a package of care within the home setting. Encouraged by her own children, one of whom had just completed his MSc, she felt further study would help to keep her knowledge and skills up-to-date with other professionals. “I was also aware that often families themselves, with Google at their fingertips, are very well informed on their children’s conditions and options for care, making it more important than ever to keep up with developments in paediatric care,” she adds.

If you are a paediatric specialist working within the South East, and are looking to further your research and clinical skills, you can find out more about the MSc in Paediatrics and Child Health by contacting Course Leader Dr Christina Jones at **c.jones@bsms.ac.uk**

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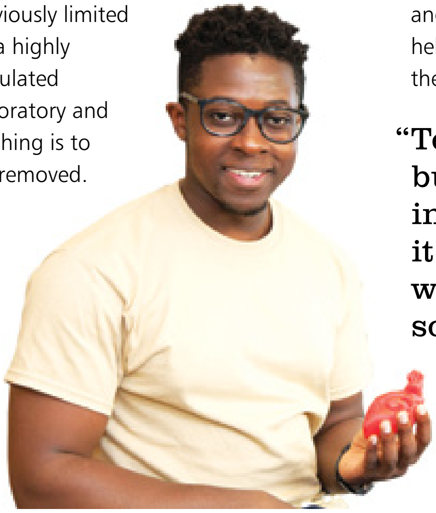
3D printing changes shape of anatomy learning

Three-dimensional (3D) printing is being used to enhance medical students' learning, by allowing them to take away printed 'body parts' that they are studying in dissection sessions. BSMS creates the colourful 3D prints after taking a very high-res CT scan of a donor. This is the first such wide-scale use of 3D printing for medical students' learning in the UK.

"Learning anatomy is clearly a three-dimensional experience. While our students have the advantage of being able to use dissection of donors to learn about the body, this is obviously limited to a highly regulated laboratory and nothing is to be removed. Our students study at all hours so the 3D prints enable them to consolidate their knowledge at home after the main teaching sessions," says Head of Anatomy, Dr Claire Smith.

BSMS student Patrick Tano finds the models a valuable learning tool. "Textbooks are great but everything is in 2D which makes it hard when you're working with something that is three dimensional, like the human body. The 3D models have helped me a lot, especially with our module on the heart, as I could revise the content we covered in the dissection room at home in my own time. I was able to follow the blood vessels as they wrap and divide round the heart, which helped me to visualise and understand their arrangements in space."



> "Textbooks are great but everything is in 2D which makes it hard when you're working with something that is 3D, like the human body"
>
> BSMS student Patrick Tano

Research news

- Dr Yoko Nagai won the prestigious Clinical Science Gowers Award for epilepsy research at the International League Against Epilepsy conference in Dublin.
- Professor Hugo Critchley, Chair of Psychiatry, received the Paul D MacLean Award for Outstanding Neuroscience Research in Psychosomatic Medicine at the American Psychosomatic Society's Annual Scientific Meeting in Seville.
- Dr Simon Waddell's research group has been awarded more than £99K from the Wellcome Trust to define early markers of treatment success for TB.
- The Sussex Sustainability Research Fund has awarded BSMS's 'Surfaces' project £100,000 to study skin diseases and their environmental relationships in the Papua New Guinea rainforest.

School and student news

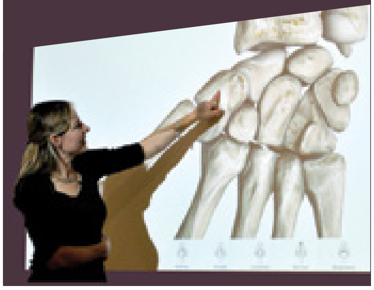
- Students Rebecca Croysdill, Kaushaliya Devandran and Katherine Kirupakaran presented at the 6th Congress of the European Academy of Paediatrics Societies in Geneva.
- Fourth-year Haniah Habash-Bailey has won the prestigious 'Pathfinder Fellowship' from the Royal College of Psychiatrists to investigate care pathways for patients with post-traumatic stress disorder.
- Students Catherine Arthur, Isaac Tay, Rory Mercer and Dean Sharma had abstracts accepted for presentations at the British Society for Allergy and Clinical Immunology annual conference.
- PhD students George Goodwin and Leva Satkeviciute received funding to present posters at the 16th World Congress on Pain in Yokohama, Japan.
- Global Health students David Rassam and Tamara Mulenga presented posters at the Royal Society of Tropical Medicine and Hygiene conference.
- The Time for Dementia project has won 'Innovators and Leaders: Excellence in Training' at the 2016 Laing Buisson Awards, 'Best Dementia Training Initiative' at the Dementia Care Awards and been shortlisted for the Royal College of Physicians 'Excellence in Patient Care' award.

Students Lauren Howell (left) and Danielle Harkett (right) have been visiting Nigel Gibbs, who has dementia, and his wife Mary to get a better understanding of the condition

Events

Broadcaster brings science to life

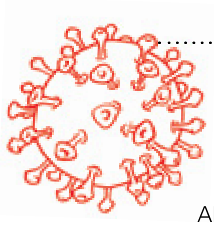
Clinical anatomist, osteoarchaeologist, author, broadcaster and Professor of Public Engagement in Science at the University of Birmingham, Professor Alice Roberts visited BSMS in October 2016, wowing students, parents and faculty in two stimulating lectures. After an interactive student session on 'Limbs & Things', complete with bones, she delivered a public lecture 'The Incredible Unlikeliness of Being,' at the Attenborough Centre for Creative Arts. Professor Roberts received an honorary degree of Doctor of Medicine at the BSMS 2015 graduation ceremony.



Exhibition gets visitors scratching

A unique 'scabies' garment was one of the many novel exhibits in an exhibition that combined medical research, science, history, art, crafts and stories to raise awareness of scabies. Visitors were able to try on the 'cardigan', which replicates the itchy sensation of the infection.

More than 500 people visited 'Sanctuary? Scabies and other afflictions along life's pilgrimage' at Eastbridge Hospital, Canterbury during October. "We wanted to increase awareness and understanding of scabies, and to reduce the stigma of this common infection," says Research Coordinator at BSMS, Stefania Lanza. "We received excellent feedback, from both the public and health professionals who attended. The exhibition dovetails nicely with our current research into scabies among the elderly, particularly in care homes, where it can spread easily."

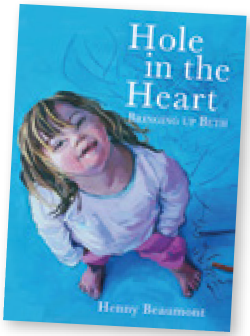


HIV: Is Victory in Sight?

Brighton is set to become the first city in the UK to have United Nations 'Fast Track City' status, joining 65 cities worldwide with high levels of HIV working to end the epidemic of HIV/AIDS by 2030. Might we really achieve this in the UK? How can we reduce HIV globally? What are our successes and challenges? Join us for the BSMS conversation, chaired by Baroness Gould of Potternewton and featuring a panel of experts working in HIV research or care, or living with HIV.

Sun 7 May, 3pm. £10. Sallis Benney Theatre, Grand Parade, Brighton

On birth and death



Artist and author Henny Beaumont visited BSMS last October to discuss her graphic novel, *Hole in the Heart*, which chronicles her journey following the birth of her child with Down's Syndrome. Joined by consultant and comic artist Dr Muna Al-Jawad and BSMS Professor of Clinical and Biomedical Ethics Professor Bobbie Farsides, Henny shared her early battle to accept her daughter, and the joy Beth brings to the family's life, along with the difficulties of dealing with professionals who, themselves, seemed to struggle with the diagnosis.

In 'Let Joy be Unconfined' in December, Nigel Parkin performed a powerful solo performance on spending the last month of his father's life with him in a hospice. "The piece really captured the fact that when you're dying, living in the moment is really all you have, and even small, simple things become special," says Professor Farsides, who held a post-performance Q&A with the audience.

Both events were part of our Ethics in Performance series. To find out about upcoming free events, please go to **bsms.ac.uk/events**

Wanted: examiners

Are you a clinician who is ST3 or above? Are you interested in examining for our undergraduate practical exams?

BSMS is recruiting examiners to help with OSCEs this summer, so if you are interested, please contact **exams@bsms.ac.uk** for further details. OSCEs take place at the University of Brighton Falmer Campus and the Royal Sussex County Hospital. Examiners usually work for half a day, and training is provided. Some Royal Colleges recognise OSCE examining and training and award continued professional development credits for this activity.

BSMS Pulse

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