

MANCHESTER  
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The University of Manchester

**Tackling taboos  
around stillbirth**

**Addressing gender  
imbalance**

Research in  
Manchester  
**saving lives  
in India**

**SOCIAL  
RESPONSIBILITY**

**FBMH**

Spring 2019

INEQUALITIES

ADDRESSING GENDER IMBALANCE

TACKLING THE TABOOS AROUND STILLBIRTH

ACTION ON DIABETES

TREATING CANCER IN INDIA

DENTAL HEALTH

FOCUS ON RWANDA

**Mahesh Nirmalan**  
Vice Dean for Social  
Responsibility



# Introduction

**The Social Responsibility agenda of Faculty of Biology, Medicine and Health (FBMH) has a strong local, regional, national and international focus. This issue reflects the breadth and depth in our involvement and engagement with wider society.**

Many of our activities are now externally peer-reviewed and financed through prestigious funding bodies. A key feature worth mentioning is the strong inter-disciplinary approach that has been made possible by our Faculty in 2016 bringing laboratory scientists and applied clinical scientists closer. It is very rewarding to see this vision being realised in some of the work reported in this issue. The increasing

application of Arts and Humanities in medical and health related research focussing on problems such as Parkinson's disease, takes this inter-disciplinary approach one step further.

The Faculty's commitment to the complex health needs of Low and Middle Income countries, particularly in Sub-Saharan Africa, is articulated through an interview with one of our leading academics Professor Dame Tina Lavender. Our commitment to Social responsibility – across all its facets is what makes the University of Manchester and FBMH a special place to work and study in, and this issue provides an insight into this commitment.

**A chance conversation on Twitter between an enthusiastic Pharmacy student at the University of Rwanda, Christian Mugabo, and the Faculty of Biology, Medicine and Health's Dr Roger Harrison has taken our antibiotic awareness programme further afield to sub-Saharan Africa**

The programme 'Action on Antibiotic Resistance: One Student, One Campus, One World' now works in partnership with other universities, and the local health economy. Initially established by Dr David Allison and Dr Roger Harrison, Roger is now leading this international work after being contacted by the student who was keen to learn more about the approach taken at Manchester. Coinciding with this was a report Roger had read from the Tanzanian Pharmacy Students' Association, which described how they run summer camps to learn about a specific topic and then return to their local communities to run workshops to help educate local children.

Bringing together these different groups is the International Students' Partnership for Antibiotic Resistance Education (ISPARE) which was recently formulated, and Roger led the first meeting in Rwanda. It was an opportunity to meet the inspiring students from three different countries to help shape ideas for future work.

A meeting with the Vice Chancellor from University of Rwanda added additional impetus to continue with this approach.

*"Most people in the world who need antibiotics (or appropriate antibiotics) don't get them. It is not about stopping use of antibiotics, but making sure only people who need them for clinical reasons, actually get them, regardless of where they are in the world."*

*Dr Roger Harrison*

One Student, One Campus, One World:

**A focus on Rwanda**



Addressing the imbalance

## International Women's Day 2019



Another of the innovative approaches Jess has taken looks to redress the lack of prominence and recognition women in STEM subjects can have by creating Wikipedia pages for every woman who has achieved something impressive in science. She has created over 300 Wikipedia pages in the last year.

More than 400 people filled the lecture theatre to hear Dr Wade speak, and the audience took to Twitter throughout the talk, joining the conversation and sparking powerful emotions around gender inequality.

Not only did the event start discussions on equality, attendees actively addressed imbalances by generously donating sanitary products for the local foodbank Emmeline's Pantry.

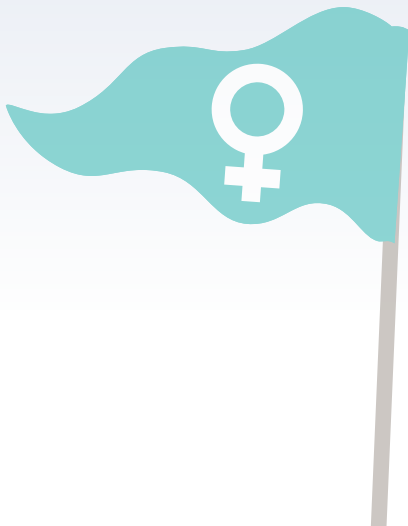
Jess inspired listeners to follow in her footsteps saying: "You feel like you're doing something really small but you can change things in a big way."

Whether this is through social media, Wikipedia editing, and even just sending emails to speak out against inequality, we can all do something to help better the gender balance.

To celebrate International Women's Day the Faculty of Biology, Medicine and Health welcomed Jess, physicist, early career researcher and STEM (Science, Technology, Engineering and Mathematics) public engager, to talk about gender balance and her mission to change perceptions of women in science.

While working as a research associate at Imperial College London on polymer-based light emitting diodes, Jess tirelessly campaigns for gender equality through a variety of different activities and initiatives, such as using social media (@jesswade) to challenge the science gender gap.

**Gender inequality is a societal concern and many scientific disciplines are male dominated. Dr Jess Wade defies this stereotype and actively encourages and empowers other women to do the same.**



**When visiting Manchester Central Library you expect to see thousands upon thousands of books, not thousands upon thousands of socks hanging from the ceiling. However, the 'Seven Thousand Feet' installation, created to draw attention to one of the region's most destructive diseases – Diabetes, challenged this expectation.**



Masterminded by artist Christine Wilcox-Baker, in conjunction with scientists and clinicians at The University of Manchester, Manchester Metropolitan University and Manchester hospitals, the exhibition was a major attraction at the 2018 Manchester Science Festival. The 7000 socks represented the 7000+ lower limb amputations each year in the UK among diabetic patients caused by complications of the disease. Built using

socks donated by Diabetes UK support groups and lower limb amputees, the installation contained thought-provoking messages from patients with the condition, encouraging people to look after their health.

Amputations become necessary due to the most severe effects of diabetes including nerve damage and poor circulation, leading to ulcers -most commonly located on the foot.

Lecturer, Dr Karen Cosgrove said: 'Manchester Science Festival was a wonderful opportunity to bring together Manchester scientists and clinicians with the common aim of raising awareness of Diabetes. We hope that our Seven Thousand Feet project may help to drive the changes we need to prevent more people developing this condition in future, offering a fresh perspective on the condition, and a motivating force to alleviate the personal and collective burden of this dreadful disease.'

## Putting our best feet forward for action on Diabetes



## Fieldwork in Fancy Dress

### Linnean Society Annual Lecture



**The magnificent John Rylands Library was the backdrop for the Linnean Society's Fourth Annual Irene Manton Lecture, founded in 1788; The Linnean Society of London is the world's oldest active biological society.**

The lecture celebrates the significant contribution made by women to the Natural Sciences and is named after British botanist Irene Manton who, as well as being the first female president of the Linnean Society, studied for her PhD at the University of Manchester.

Guests heard stories of inspirational female scientists from Dr Sandy Knapp, President of the Society. Dr Knapp delivered her lecture entitled 'Fieldwork in Fancy Dress', highlighting the natural history of women in the field and emphasising the critical role of fieldwork in understanding and protecting the planet.

She commented: "The audience was so varied, it was wonderful to see the diversity of people interested in science from sixth form students to Linnean Society members, working with Faculty of Biology, Medicine and Health towards inspiring and encouraging those interested in a career in the Natural Sciences was fantastic!"



# 'Spice': criminal or medical issue?

Recently released figures report that 95% of homeless people in and around Manchester are users of the synthetic cannabinoid, 'Spice'. The devastating effects of the use of the drug, predominantly used to escape the harsh realities of life on the streets, are hitting the headlines more than ever.

Dr Jo Neill, Professor of Psychopharmacology has initiated work alongside other major organisations, and individuals such as David Nutt – a well-known voice on this issue for a number of years- hoping to help reform current UK drug legislation.

She said, "Our drug laws criminalise and marginalise people who are already vulnerable – as an example, Spice has gone through the homeless and prison populations like wildfire".

To this end, Jo has organised a series of public events at the University, aiming to educate around the harm caused by prohibition and advocating a strong case for the regulation of currently illegal drugs. Keynote speaker at one of the events was Andy Costello from Greater Manchester Police, who traced the start of the widespread use of Spice in our homeless population to May 2016, when the Psychoactive Substances Act were introduced. This made 'legal highs' (such as synthetic cannabinoids) illegal, pushing the production and supply to the black market, with devastating effects on the users.

Jo commented: "It's a similar story with other illegal substances too; drugs have become increasingly adulterated, causing more harm to users, whilst the organised crime groups get ever richer. The war on drugs has been a disaster and that is why I am campaigning to change things".



95% - the estimated proportion of Manchester's homeless population who have used 'spice'.

Among Portuguese adults, there are 3 drug overdose deaths for every 1,000,000 citizens. In the UK there are 44.6 per million and the EU average is 17.3 per million.

Jo believes that the UK Government should follow examples from other countries such as Portugal where decriminalising drugs, and treating addiction as a medical, not a criminal issue, have reduced harm and produced social benefits.

Jo's initiative supports an evidence-led solution to the clear and sustained failure of UK drugs policy. Through these public symposia, she has brought together key individuals and stakeholders to present the case for reform of UK drug laws and has the support of local MP, Jeff Smith and many others in a cross-party drug law reform group and intends to continue to raise awareness of this challenging problem.





# Saving the lives of children in India

**With a population of 1.3 billion, the country of India is the second most populous in the world and health inequality is a rising challenge. Conditions that require specialised treatment are only found in the two biggest cities -Delhi and Mumbai-meaning poor, rural families can be faced with the prospect of travelling hundreds of miles if they are to be treated, causing heavy time, and cost burdens.**

Professor Vaskar Saha is helping to make finding treatment easier for families in eastern India – who are situated furthest away from the two major cities. He has led research at the University of Manchester for many years which has increased survival rates among children with acute lymphoblastic leukaemia (ALL) by 10% in the UK.



Acute lymphoblastic leukaemia is a rare type of cancer that affects the white blood cells, progressing rapidly and aggressively, requires immediate treatment if there is a hope of survival. In the West, thanks to widespread provision the vast majority of children will now survive ALL, whilst for the 80% of children globally who live in countries with limited resources, the survival rate is only around 40%.

Professor Saha now splits his time between Manchester and the Tata Medical Centre in Kolkata, India where he is the Senior Paediatric Consultant and Director of Translational Cancer Research. He demonstrates a tender touch

to his work, whether interacting directly with young children or in affecting change in the funding and governance of Indian healthcare.

**Professor Saha is clear in his commitment to this issue;**

“For a child to die in 2018 of a disease that is curable is unpalatable. Acute lymphoblastic leukaemia is curable. We need to develop strategies, using the lessons learnt from the west to improve outcomes in children globally. At the end of the day, whether I am in Manchester or Kolkata, I’m a paediatrician and I do this because it’s my vocation and passion to look after sick children and their families”.

**Across the world, dealing with dying patients is a fundamental component of working in hospitals. However differences in the ability to spot subtle changes in a patient's condition, at times following routine surgical procedures or other reversible diseases, is reflected in variations in hospital fatality rates between different countries.**

Such small but tell-tale signs have frequently not received due recognition in undergraduate nursing or medical training programmes and the gaps in knowledge and skills amongst junior health care professionals continue to be a challenge in India.

This led NHS doctors and Faculty of Biology, Medicine and Health staff, alongside counterparts in India such as Professor Mahesh Mishra, Vice Chancellor of Mahatma Gandhi International University in Jaipur, to develop a multi-disciplinary course designed to address this problem.

The Acute Critical Care Course for Clinicians (ACCC) is now supported by senior NHS doctors in the UK and India and has been held at 18 sites in India – including some of the most remote villages. There are hopes to run the course in Asia and Africa.

Professor Mahesh Misra, the patron of ACCC said, "We surgeons are not good at identifying and managing unexpected events in the wards and the ACCC aims to address this gap".

*An ageing population and increased expectations from the public will inevitably mean greater demands on NHS services based around acute deterioration and critical care needs in the future.*



## A case of life or death



## Tackling the taboos around stillbirth

*Despite falling to its lowest rate in 20 years, there are around 3,000 stillbirths in the UK per year.*

**In the UK, around one in 225 pregnancies end in stillbirth, causing an unimaginable amount of pain and suffering, yet there is little understanding as to why stillbirth occurs. In addition, care for mothers who are at risk of stillbirth, or for couples who have experienced the loss of their unborn child, is sorely limited.**

Dr Michelle Desforges is a scientist at The Maternal and Fetal Health Research Centre who is interested in how problems with the placenta can lead to pregnancy complications and loss. Her project, *Still Life*, is an engagement-based programme that has been awarded £63,000 from the Wellcome Trust's Public Engagement Fund, a scheme which enables individuals and organisations to use creative approaches to engage the public with health research.

*Still Life* will focus on lived experiences of pregnancy and loss of children to stillbirth or neonatal death, focusing on the Jewish

community of Greater Manchester and will also co-ordinate input and conversation from creative partners, the national pregnancy research charity, 'Tommy's' and Faculty of Biology, Medicine and Health researchers in maternal health.

Why the Jewish Community? - Greater Manchester has a growing Jewish population, with predominantly high birth rate families, increasing the likelihood of pregnancy complications or loss. Stillbirth remains a taboo due to Jewish cultural beliefs, the Torah says: "We do not mourn for fetuses (nefalim), and anything which does not live for 30 days, we do not mourn for it." — Maimonides, Mishneh Torah.

Michelle explains: "Raising awareness, stimulating thinking, and promoting discussion of placental research with the public is an important part of my job. The funding for this project will enable an in-depth creative exploration of stillbirth and research focussed on its prevention, working hand in hand with a community to whom pregnancy research is hugely relevant."

## From the lab to the dancefloor:

### Investigating benefits of dance for people with Parkinson's

*Someone is diagnosed with Parkinson's every hour in the U.K. Most are 50 or older.*



*Parkinson's is the second most common age-related neurodegenerative disorder after Alzheimer's disease.*

**Dance is becoming increasingly popular as a therapeutic activity for people living with Parkinson's Disease, with evidence suggesting that dance can have beneficial effects on movement, mood and cognition.**

Following on from their recent laboratory studies on action representation in Parkinson's, Judith Bek and Ellen Poliakoff of the Body Eyes and Movement (BEAM) Lab have been investigating how observing, imitating and imagining movement might contribute to the benefits of dance in Parkinson's disease. These processes are known to activate brain areas involved in producing movement, as well as having a role in empathy and social interaction. Dance naturally utilises observation, imitation and imagery. The use of action representations in dance, such as using imagery to enhance

movement quality, may translate into strategies to facilitate everyday tasks and activities. Additionally, imagery and imitation in dance may help to improve communicative actions such as facial expressions and gestures, which can be affected in Parkinson's.

'More than Movement' was a collaborative project conducted in partnership with English National Ballet and social enterprise Equilibrium Dance and Arts. The project investigated a dance programme co-developed with dance artists, physiotherapists and people with Parkinson's, which drew on aspects of Ballet

and Bharatnatyam (classical Indian dance), and incorporated the use of imagery and imitation.

A pilot study involved a six-week trial of the dance programme with 10 people with Parkinson's, and potential outcomes were explored using quantitative and qualitative measures.

Preliminary results suggested that the dance programme may help to improve everyday mobility and hand movements, as well as mood and well-being, although further research is needed to explore these effects.



**Winning a gold Engage Watermark is the highest honour that can be awarded to an institution and recognises 'exceptional strategic leadership of public engagement; high standards of professional support; and excellence in partnership working'.**

Awarded by the National Co-ordinating Centre for Public Engagement (NCCPE), the Engage Watermark has been launched as a charter mark for universities that assesses their support for public engagement across all aspects of their work. The Watermark was announced at the NCCPE Engage Conference in Edinburgh.

The award followed a rigorous assessment involving staff from across the campus, and partner organisations working with them. It recognises the strategic support for public

engagement across the University, as well as plans to develop this work in the future.

At Manchester this includes a range of public facing events such as Science X – an event held annually at the intu Trafford Centre – and Bluedot Festival – a science and music festival at the world-famous Jodrell Bank.

The University also actively encourages staff to involve the public in research: including in ageing, mental health and The Britain Breathing citizen science project, created by FBMH's Professor Sheena Cruickshank.

Professor Dame Nancy Rothwell, President and Vice-Chancellor, said: "Public engagement is a key part of our social responsibility agenda. We are all delighted that this recognises the excellent track record we have for delivering and supporting public engagement and our ambitious plans to embed this work further."

## University recognised for excellence in Public Engagement

Gold Engage Watermark

National Co-ordinating Centre for Public Engagement



## Stand up, speak up and shout out for psoriasis

**Psoriasis is a condition that although affecting over 75,000 people in Greater Manchester, isn't spoken about much - something Psoriasis Shout Out® is trying to change.**

First launched in 2014 by scientists from the Manchester Centre for Dermatology Research, the aim is to spread the word about what psoriasis is and what it isn't, and to bring psoriasis patients together with practitioners and researchers working in the field to bring about transformative research.

The third Psoriasis Shout Out® coincided with the launch of the 50th anniversary celebrations of the UK Psoriasis Association. To mark this, people have been creating 50 Second Shout Outs, posted on YouTube. Featuring members of the public and scientists in the field, the videos capture thoughts about living with psoriasis and

involvement in psoriasis research, setting out the aims of current and future research.

50 Second Shout Outs is a collaboration between the Manchester Centre for Dermatology Research and the Public Programmes Team, supported by the NIHR Manchester Biomedical Research Centre and the Wellcome Trust.

*Both inherited and environmental factors play a role in the development of psoriasis, and, importantly, it is not infectious.*

This digital campaign follows on from their wonderful 'Flashmob' videos for the 2014 and 2016 Shout Out campaigns, which starred patients groups, healthcare professionals, 'Psoriasis Shout Out juniors', and Professor Chris Griffiths, who leads the initiative.

The effects of the condition are more than skin-deep and can have a significant impact upon an individual's quality of life, but the overarching message from Psoriasis Shout Out® is a positive one: it is perfectly possible to live well with psoriasis and people should know that.

US performing arts group, 'The Story Collider', runs intensive writing workshops to help researchers and academics tell better stories about their scientific work. The Story Collider believes that now, more than ever, science is a part of everyone's lives, that everyone has a story about how science has impacted them - and that those stories, whether heart-breaking or hilarious, have the power to transform the way we think about science.



## True, personal stories about science



PhD student,  
Leslie Molina

'The Story Collider' has been working with the University's academic community to collect science stories from as many different voices as possible, and to help these storytellers develop their stories so they can connect with a wide and varied audience.

A University performance at The Birdcage in Manchester showcased five staff who told stories about their scientific career, or journeys into science, that were funny, engaging and moving.

Professor Sheena Cruickshank, one of the University's Academic Leads for Public Engagement, who participated at the event said:

"As a public engagement practitioner, I strongly believe that the skills learnt here will help our researchers to be able to communicate more effectively to both academic and non-specialist audiences. Storytelling can also enhance the quality of our teaching and so I see this as an incredible opportunity for us to enhance our distinctive social responsibility in teaching and learning practices too."





# Spotlight on Tina Lavender



*“My reason for coming to Manchester was that it has the strongest research culture and the best Nursing”*

**Dame Tina Lavender is Professor of Midwifery and Director of the Centre for Global Women’s Health at the University of Manchester. She was awarded a DBE “for services to midwifery” in 2012.**

#### **What’s your role with The Faculty of Biology, Medicine and Health?**

I have two roles really. Firstly I am a lecturer and a supervisor to students as Professor of Midwifery, and secondly I am Director for Global Women’s Health -part of the Centre for Women’s Health. In both of these roles I contribute to the training of midwives, which improves care and the outcomes for women and new-born’s both at home and abroad.

#### **Tell us more about the international focus of your work.**

I work through the Global Women’s Health group in six sub-Saharan African countries;

Kenya, Tanzania, Zimbabwe, Malawi, Uganda and Gambia which are all low or middle income countries with an under developed health infrastructure. Over many years we’ve built up a great working relationship working on projects that look at stillbirth, obstetric fistula, and improving maternal and neonatal morbidity and mortality. We also train midwives use research to get the results to publish their own papers and then implement changes in their institutions.

#### **What are the major challenges of working in these countries?**

I think that some of the infrastructure challenges can sometimes delay the things you want to do in low/middle income settings, but this is counter-balanced by the enthusiasm of the midwives we work with who have such a vision to improve the care that often we are able to succeed despite these challenges; without them we wouldn’t have any impact really.

#### **What inspired you to dedicate so much time and energy to this area of healthcare?**

I got involved with working in Africa around 18 years ago when I was invited to give a lecture in Tanzania. That was the first time I experienced the reality of the challenges for midwives there, and after being asked back to support some of the research training, I was hooked. One of the inspirations was a midwife I met from Tanzania called Helen Ligena. She was really motivated to improve conditions for midwives across sub-Saharan Africa and a programme we run called the Ligena African Midwives Researcher Network, is named after her, as she sadly passed away. Working with her was a real inspiration.

#### **So you’ve developed a board game to help in this area?**

Yes, it’s an educational board game based on maternal and neonatal morbidity and mortality which involves questions but also an element of chance. Answering questions correctly

means the players gets a little segment like Trivial Pursuit, and have to get one of each segment to win. Answers are timed, to reflect the pressure of real life obstetric emergency situations in hospitals. People get really competitive playing it – especially the male Kenyan nurses!

#### **What’s your favourite thing about being at the University of Manchester?**

My reason for coming to Manchester was that it has the strongest research culture and the best Nursing, Midwifery and Social Work Department in the country across all the universities, as evidenced by the REF. Personally felt I could develop more by coming to such a research-active institution.

The interdisciplinary nature and expertise at your fingertips is brilliant- we have some of the best statisticians, the health economists, midwives, nurses and people from social sciences. I like the fact there is that impetus for people to work together.



MAKING A  
**DIFFERENCE**

**Social Responsibility**

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ENGAGING WITH OUR STAKEHOLDERS