Medical Innovations

PAST BRIEFINGS

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Medical Innovations

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2018 Summits & Briefings

261st Briefing – Dr Mitch Besser

Dr Mitch Besser is an obstetrician and gynaecologist. He is also an extraordinary medical and healthcare innovator. His professional career has been dedicated to the public health needs of women. He founded mothers2mothers (m2m), which has provided care to nearly 1.5 million mothers living with HIV in nine countries in Africa; and is currently providing service in over 600 sites in seven countries in Africa. In 2014, Dr Besser launched AgeWell, dedicated to the needs of older persons living in communities. Applying a peer-to-peer model of support, AgeWell employs and trains independent older people to provide companionship and promote well-being and wellness among less able older people. The program has been piloted in Cape Town, the U.S. and will soon launch in Ireland.

260th Briefing – Ms Lindsey Noakes

Toilets change everything. They keep girls in school, reduce childhood mortality, prevent disease, increase productivity and keep cities clean. The co-founder of ‘Gather’, Lindsey Noakes will explain how ‘Gather’ brings people and data together to help solve the urban sanitation crisis. By 2020, Gather wants to expand sanitation services for 15 million people in eight emerging cities across the world. This is critically important given the extraordinary statistic that over 4.5 billion people do not have access to sanitation.

259th Briefing – Dr Grace Collord

Scientists have discovered that it is possible to identify people at high risk of developing acute myeloid leukaemia (AML), years before diagnosis. AML is an aggressive blood cancer that affects people of all ages. Dr Grace Collord is the joint first author on the paper from the Wellcome Sanger Institute and University of Cambridge.

258th Briefing – Dr Mendel Kaelen

Around the world, a series of high-profile clinical trials are shifting public perception of psychedelic drugs like MDMA (better known as ecstasy) and LSD, rebranding them as potentially revolutionary treatment tools. Mendel Kaelen is a former neuroscientist with Imperial College London who studied psilocybin, the active ingredient in magic mushrooms, as a therapy tool for treatment-resistant depression. In one 2016 study reported that their depression had lifted after a single psilocybin treatment. In August 2017, the FDA gave MDMA “breakthrough therapy status,” accelerating the process for its approval as a prescription drug to treat PTSD. More recently, as reported in Rolling Stone magazine, Mendel has been working with musician Brian Eno, psychotherapists and AI specialists, on a psychedelic therapy app called Wavepaths, which has secured seed funding from the European Institute of Innovation and Technology.

257th Briefing – Professor Joanne Hackett

The Department of Health & Social Care set up Genomics England in 2013. Their aim is to deliver the 100,000 Genomes Project. Sequencing 100,000 DNA codes of patients should lead to better, earlier diagnosis and personalised care, for cancer, rare diseases and infectious diseases. Professor Joanne Hackett is their Chief Commercial Officer and will explain the extraordinary value of the largest data set of its kind in the world, how companies and other institutions can access the data and will open a conversation about the value of striking a partnership with Genomics England. He first gene therapy to restore sight to individuals who suffer from a rare inherited form of blindness was
recently approved by the US-based FDA. The treatment was developed by Spark Therapeutics (with the Children's Hospital of Philadelphia and the University of Pennsylvania) and represents the first US therapy for a disease caused by mutations in a single gene. Dr Katherine High, who is flying in from the US, is the president, head of R & D and co-founder of Sparks Therapeutics.

256th Briefing - Ms Kathy Nothstine

How close are we to looking into the sky and seeing ‘medical’ drones travelling in British skies? In a recent and impressive report by Nesta called 'Flying High', detailed research has been published about drones travelling between hospitals. Case studies have been worked up in London, Southampton & the Isle of Wight, the West Midlands and in Bradford. Kathy Nothstine, Nesta’s lead on Future Cities will explain the logistics, social benefits, financial incentives and challenges of drone technology.

255th Briefing - Professor Asma Khalil

Research by the University of East Anglia states that health services could save £ 44 million per year if pregnant women use a new digital healthcare smartphone app. Professor Asma Khalil, a consultant obstetrician who specialises in maternal and and fetal medicine at St George’s University Hospitals NHS Trust, has created the HaMpton smartphone app and programme which enables expecting mothers to safely monitor their blood pressure at home, and alert their doctor to any problems. Khalil's business venture - Trakka - is a perfect example of how the NHS is collaborating with its entrepreneurial doctors to drive innovation.  

254th Briefing - Dr Sonia Quaratino

Currently, there is no cure for eczema. Finding a cure would significantly transform the lives of over 6 million sufferers in the UK and 230 million people globally. The biotechnology company Kymab, based in Cambridge, announced in July, positive results from their first human trials. Kymab’s technology has caught the eye of investors and in late 2016 the company secured $ 100million. Dr Sonia Quaratino, the company’s Chief Medical Officer will talk about their success to date and their plans to use their technology to tackle illnesses such as arthritis, multiple sclerosis and lupus.

253rd Briefing - Professor Frances Bu’Lock

Hear about how a small dedicated team of surgeons, obstetricians, anaesthetists, neonatologists and midwives perform miracles at The East Midlands Congenital Heart Centre at Glenfield Hospital in Leicester. Consultant paediatric cardiologist Professor Frances Bu’lock will be speaking about how her colleagues managed the birth of Vanellope Hope Wilkins who, before birth, was missing a breastbone and her heart was growing outside her body. And if that wasn’t challenging enough, at the same time, the heart centre was under threat of closure.

252nd Briefing – Professor Sarah Tabrizi

Hailed as 'enormously significant', results in a groundbreaking trial are the first time a drug has been shown to suppress effects of Huntington’s genetic mutation. Huntington’s disease is an inherited or genetic disorder of the central nervous system and there are approx 6,700 patients in the UK with the disease. Professor Tabrizi, co-founder of University College London’s Huntington Disease Centre recently reported at a conference in Los Angeles in April, significant results for a first-in-human, multicentre, double-blind study. The results of the trial have also caused ripples of excitement across the scientific world because the drug, which is a synthetic strand of DNA, could potentially be adapted to target other incurable brain disorders such as Alzheimer’s and Parkinson's.
We are all aware of the NHS capacity crisis in hospitals and the media regularly report on growing figures of ‘bed-blockers’. So how best to increase the number of available beds in our local hospitals? Step forward Paul Gaudin, the co-founder and CEO of CareRooms, which exists to provide a safe, comfortable alternative to a hospital bed. CareRooms tackle social isolation, offer a cost-saving solution to an ever-worsening crisis and engage people in building a solution that is mutually beneficial to patients, families, hospitals and hosts alike. He will be joined by Professor Jonathan Sackier, CareRooms Chief Medical Officer.

In 2010 the Marmot Review was commissioned by government to propose strategies to reduce health inequalities. Marmot found that around 70% of health outcomes are determined by social factors, and just 30% by clinical interventions. As a result ‘social prescribing’ has been a hugely successful development in recent years, yet its profile remains low. Sir Sam Everington, a practising, longstanding and pioneering GP (and chair of Tower Hamlets CCG), will speak about the benefits of social prescribing and the success achieved at the innovative Bromley-by-Bow Centre.

"Three years ago a decision was made to create a united, single leadership for health and social care across Greater Manchester – to ensure the greatest and fastest possible improvement to the health and wellbeing of the 2.8 million residents. Working closely with senior health, social care and council leaders from across the region, Jon Rouse is overseeing a new era for Greater Manchester, as it takes charge of a £6 billion health and social care budget. Hear about the extraordinary and innovative progress Greater Manchester is making and how can other cities and regions learn from this unusual new approach.

In 2015, the RSM hosted Lord Darzi and Mustafa Suleyman to talk about the potential of artificial intelligence in healthcare. Three years on, a two year partnership between DeepMind (part of Google) and Moorfields Eye Hospital has showed promising signs in analysing retinal scans for signs of glaucoma, age-related macular degeneration and diabetic retinopathy. Dr Dominic King will speak about the challenges experienced at the Royal Free Hospital, success at Moorfields and plans for DeepMind to partner with UCL to analyse radiotherapy scans and Imperial College, to look at mammograms.

From the ward to the Board, everyone can make suggestions on improving their workplace and receive updates on implementation. But how can healthcare professionals better communicate ideas to management? Lara Mott is the co-founder and CEO of ImproveWell which works with a number of NHS Trusts to aggregate data, complete feedback loops and facilitates shared knowledge. Dr Amar Shah, a consultant forensic psychiatrist and chief quality officer, will speak about the impact ImproveWell has had at East London NHS Foundation Trust.

Over 1.1 billion people worldwide lack formal identification, preventing access to essential services for the people who need them most. Simprints are building open source software and biometric hardware to empower mobile tools used by researchers, NGOs, and governments fighting poverty around the world. In August, the Bill and Melinda Gates Foundation granted Simprints $2 million
following an innovation competition, to prevent maternal deaths in hardest-to-reach world regions. Alexandra Grigore is a co-founder of this Cambridge-based tech not-for-profit.

245\textsuperscript{th} Briefing - Mr Andrew Thompson

Data suggests that up to 60\% of patients with depression do not take medicines as prescribed. Nor do more than half those with asthma and two-thirds with HIV. The internet of things possibly offers the prospect of tackling this. In November the US-based FDA gave approval to Otsuka Pharmaceutical to market a version of its antipsychotic drug Abilify, which has an ingestible sensor embedded in the tablet. Commentators have described this as the world’s first digital medicine. The sensor was devised by Proteus Digital Health and their co-founder, president and chief executive Andrew Thompson, is flying in from California to explain why the company has invested over $500m in technology platform and product development.

244\textsuperscript{th} Briefing - Dr Katherine High

The first gene therapy to restore sight to individuals who suffer from a rare inherited form of blindness was recently approved by the US-based FDA. The treatment was developed by Spark Therapeutics (with the Children's Hospital of Philadelphia and the University of Pennsylvania) and represents the first US therapy for a disease caused by mutations in a single gene. Dr Katherine High, who is flying in from the US, is the president, head of R & D and co-founder of Sparks Therapeutics.

243\textsuperscript{rd} Briefing - Professor Sarah Gilbert

Each year outbreaks of flu cause 3-5 million cases of severe disease and approximately 500,000 deaths worldwide. Currently no single vaccine can give immunity against even a majority of circulating flu virus strains. Sarah Gilbert, Professor of Vaccinology at Oxford University and co-founder of Vaccitech, will be speaking about a number of vaccines going through clinical trials, including one which Vaccitech hopes to increase protection for the over-65s and another for prostate cancer.

242\textsuperscript{nd} Briefing - Lord Saatchi

Five years ago, in April 2013, Lord Saatchi visited the RSM to speak about his medical innovations bill. Now he returns to the RSM to explain what challenges he faced, why the bill had to be amended and what ultimately led to the Access to Medical Treatment (Medical Innovation) Act. Following his legislative success, Lord Saatchi has recently proposed the urgent need for a Royal Commission on the long term future of the NHS.

241\textsuperscript{st} Briefing - Mr Yaron Neudorfer

Many populations are experiencing an explosion in diabetes and as a consequence, rising and substantial hospital costs. What to do? In an innovative and extraordinary approach, Yaron Neudorfer, the CEO of Social Finance Israel, has secured $19 million to run an experimental programme with over 2000 citizens who are pre-disposed to diabetes. This is a major preventative public health initiative, financed in a highly unusual way. Mr Neudorfer is flying in from Israel and this is his first speaking engagement in the UK.

240\textsuperscript{th} Briefing - Mr Dom Raban
How does a child with a significant illness learn about their condition, their treatment, the medical staff they will meet and the hospital environment they may live in? Should kids rely on what their parents tell them and is this the most effective way for them to learn? Dom Raban’s daughter had a rare form of bone cancer and whilst the clinical care she received was excellent, information and communication for his daughter was lacking. As the MD of a digital innovation agency based in Manchester, Dom decided to build the world’s first healthcare app to use augmented reality, gamification and artificial intelligence to deliver health information directly to children.

**239th Briefing – Ms Ellie Van Leeuwen and Ms Naomi Campbell**

Dehydration is a huge issue for families, carers and nurses, when looking after older people at home, in care homes and in hospitals. Ellie Van Leeuwen studied product design at Bournemouth University where she designed a product called Droplet to remind people to drink on a regular basis. Droplet uses personalised audio messages and flashing lights to encourage people to drink more and to alert healthcare professionals if the person is not drinking regularly. She has been working with a manufacturer called Spearmark for the past three years to bring Droplet to market. Droplet has been developed in partnership with over 100 healthcare professionals. A recent trial at Musgrove Park Hospital in Somerset, proved successful and as a result it is hoped the ‘Droplet’ mug will be rolled out across the NHS and beyond. Ellie will be joined by Naomi Campbell, inventor of the Reliance On a Carer Hydration tool, and the UK’s first hydration nurse specialist, and chair of the National Hydration Network.

**238th Briefing - Professor Daniel Freeman**

In 2015, approximately two million people in the UK sought advice for mental health issues - 800,000 up since 2010. Meanwhile the number of mental health nurses fell by nearly 15% during the same period. Innovation may be the key to addressing some of these issues. Might virtual-reality therapy help people with mental health challenges, including those with phobias, paranoia, pain management and post-traumatic stress disorder? Daniel Freeman, professor of clinical psychology will be joining us from the University of Oxford.

**237th Briefing - Ms Katy Whitney and Ms Jane Brinson**

How can a school cut exclusions and referrals to mental health services, to zero?! Jane Brinson, an integrative child psychologist and Katy Whitney, will explain how Highgate Primary School in London - with a school roll of over 450 pupils, transformed the usual pastoral function into an innovative grassroots model that has achieved incredible results. Last year the school’s therapeutic team won a public services award from The Guardian.

**236th Briefing - Ms Suzi Godson and Dr Kerstyn Comley**

“Half of lifetime mental ill health, is already present by the age of 14” according to the Department of Health. Suzi Godson, a psychologist and journalist and Dr Kerstyn Comley, an educational technologist have established ‘MeeTwo’ - an award-winning app which is a unique early intervention solution to adolescent anxiety. Using the (fully moderated) app, young people can post problems, share solutions and access expert help, educational resources and a directory with links to a broad range of support groups.
Antibiotics have started to fail. Resistant bacteria already cause more than 500,000 deaths every year. This number is predicted to rise dramatically if radical actions are not taken. Antibiotic resistance has become one of the greatest threats to global health. The chief executive of Absynth Biologics, Dr Fiona Marston spoke about how Absynth develops innovative vaccines to prevent bacterial infections.

Sankha and David are students at Loughborough Grammar School. Recently they received the title of ‘UK Young Engineer of the year 2017’, beating over 21,000 entries. The award was made following their success in developing ‘MediVest’ a wearable vest for people with epilepsy that monitors heart rate variability and body temperature. The vest can efficiently predict a fit up to eight minutes in advance. Once a fit is detected, the vest sends a message to both the wearer’s phone as well as possibly a carer to warn them that they need to seek help.

An innovative approach to preparing patients for surgery has improved their health and reduced post-operative complications at Imperial College Healthcare NHS Trust. Lead upper gastrointestinal clinical nurse specialist Venetia Wynter-Blyth (who was also Nurse of the Year 2016) and her team in the oesophagogastric cancer service felt that the traditional perioperative approach missed an opportunity for a more holistic approach, including diet and nutrition, psychological wellbeing and physical fitness. In answer to this, Venetia devised the ‘PREPARE’ programme. The results are impressive. Venetia’s co-presenter is Krishna Moorthy, a senior lecturer and honorary consultant surgeon.

Flying in from Australia for the Innovations Summit, is the co-founder of CliniCloud Inc, Dr Hon Weng Chong. Inventing the world’s first digital stethoscope that connects to a phone, and a Bluetooth non-contact thermometer, CliniCloud’s mission is to build affordable, intelligent and intuitive medical devices and services that any patient can access. The company has achieved huge success with their digital stethoscope, thermometer and app, and they looking to launch CliniCloud scales, a blood pressure monitor and pulse oximeter.

Elasmogen is a bio-pharmaceutical company located in the thriving biologics cluster in Aberdeen, Scotland. The company is rapidly progressing a pipeline of next-generation soloMER products for the sight-saving treatment of inflammatory diseases of the eye and inflammatory conditions of the gut. In March, Deepbridge Capital, Innovate UK and Scottish Investment Bank awarded Elasmogen a grant of £1.2 million to support development of next generation Ophthalmology biologics. Dr Caroline Barelle is Elasmogen’s impressive CEO.
Eagle Genomics innovate at the intersection of biology, data science and bioinformatics. They use their knowledge in these fields with best in class enterprise software skills and apply their expertise in the critical emerging markets of human genomics and microbiomics. Eagle Genomics was recently named as one of the pioneering UK company’s leading the sector. Anthony Finbow is their highly experienced Executive Chairman and William Spooner is their Chief Science Officer.

229th Briefing - Mr Christian Hogg

Flying in from Hong Kong for the Innovations Summit is Christian Hogg, Chief Executive of Hutchison China MediTech Ltd (Chi-Med). The innovative biopharmaceutical company is aiming to become a global leader in the discovery, development and commercialisation of targeted therapies for oncology and immunological diseases. They are on the verge of launching the first mainstream drug developed in China from design to production. The company is listed on AIM and NASDAQ and is majority owned by CK Hutchison Holdings, a leading international conglomerate with over a quarter of a million employees in more than 50 countries and annual sales of over US$50 billion.

228th Briefing - Professor David Wald and Mr Ben Wald

Ben Wald is 17. When he was 16 he spent some time on a work experience with his father, Professor David Wald, a heart surgeon at Barts Heart Centre in London. You might think a 16 year old school student would have nothing to teach a cardiologist, but in this case you would be wrong. A-level student Ben, suggested the idea that surgeons could ‘write’ a patient’s medical history in code inside their chest. In March, Ben’s code won a prize for Innovation awarded by The Society of Cardiothoracic Surgery.

227th Briefing - Dr Anas Nader

In 2014 Proximie was established to bring together a team of clinicians, engineers and designers who are passionate about improving healthcare. The company created a flourishing augmented reality platform which allows doctors to virtually transport themselves into any operating room to guide, teach, train and support other surgeons and medical experts independent of any specific hardware. Dr Anas Nader is a Clinical Entrepreneur Fellow at NHS Digital.

226th Briefing – Dr Lorin Gresser

DEM DX is a medical diagnostic app used by medical students and professionals around the world. The app guides users through symptoms, to the most likely medical diagnosis, while enabling access to decades of clinical experience along the way. Dr Lorin Gresser is the CEO of DEM DX and won a 2016 Woman in Innovation award by Innovate UK.

225th Briefing - Mr Dean Sellis and Mr Ed Godber

Antidote is a digital health company on a mission. Their aim is to accelerate the breakthroughs of potentially life-saving treatments, by bridging the gap between medical research and the people who need it. In a world where 80% of clinical trials are delayed or closed due to lack of awareness, Antidote uses cutting-edge technology to match the right patients with the right trials. Dean Sellis will explain how the company is helping medical researchers make progress, faster – and offering new treatment options to patients in need. Ed Godber is Antidote’s Entrepreneur-in-Residence.

224th Briefing - Mr Stephen Burke and Dr Alibeth Somers
Imagine what would happen if you bring a group of nursery-age children into a home for older people. Short visits by very young people are fairly common these days, but what happens if a nursery school is situated permanently in the grounds of a residential home? Imagine the excitement, wonder and opportunities created by new contact and new relationships between the very young and much older citizens. Stephen Burke is the Director of Good Care Guide, the TripAdvisor style website for the care industry which enables people to find, rate and review care providers in their area. Alibeth Somers is the co-founder of the Apples and Honey nursery at Nightingale House in London - the UK's first nursery co-located within an elderly care home.

223rd Briefing - Dr Sophie Dix and Dr Rina Dutta

Right now, one in four people in the UK is living with a mental health condition. That's nearly 15 million people with an illness that affects their wellbeing, their relationships with family and friends, and their ability to work. Despite extraordinary advances in treating physical health conditions, progress in understanding mental illness, and research into its causes, treatments and prevention, is nowhere near equal. Dr Sophie Dix is the Director of Research for MQ, the first major charity funding much-needed scientific research to transform the lives of everyone affected by mental illness. She will brief us on MQ’s diverse, innovative and integrated approach. Dr Rina Dutta is a Consultant Psychiatrist and receives funding from MQ. She and her team are linking data from schools with mental health data to determine if factors in schools can help predict suicidal behaviours.

222nd Briefing – Ms Nicci Gerrard, Ms Julia Jones and Ms Jo James

Rules are rules but what if those rules are not only outdated, but ignore evidence and diminish the prospects of good or improved care for a patient. Nicci Gerrard and Julia Jones are on a mission to help carers support patients with dementia. They also want to encourage hospitals and clinics provide better care on a collaborative basis by involving and engaging with carers. Their innovative initiative ‘John’s Campaign’ has won the support of over 1000 medical and healthcare institutions, including Imperial College Healthcare NHS Foundation Trust, where Jo James is Lead Nurse – Dementia.

221st Briefing – Ms Samantha Payne

There are an estimated two million hand amputees in the world. Open Bionics was co-founded by Samantha Payne to spread the use of affordable, highly functional prosthetics around the globe, by combining open source developer software with low-cost 3D printing techniques. Recently the company has partnered with Disney and Marvel to turn children with limb differences into superheroes with robotic hands.

220th Briefing - Dr Sonia Kumar, Dr Ravi Parekh and Ms Atisha Tank

‘It wasn’t like that in my day’ is one of those comments so many older doctors and healthcare professionals state when meeting medical students. Yet many medical students and a growing number of medical educators believe the current medical curricular has barely changed in years. They also think teaching methods are anachronistic and medical students are ill-prepared to become doctors in 2017. So how can the teaching of medical education be improved? GP and Head of Undergraduate Primary Care Teaching at Imperial College, Dr Sonia Kumar will talk about some extraordinary educational programmes she has initiated and will be joined by Dr Ravi Parekh, ST4 GP Registrar and Academic Clinical Fellow from Imperial and Ms Atisha Tank a Fifth Year Medical Student.

219th Briefing - Professor Michael Hornberger and Mr Maxwell Scott-Slade
Do you have kids or grandchildren who spend a ridiculous amount of time sitting on the sofa playing mindless video games? You might want to look a little closer at what game they are playing. 'Sea Hero Quest' is a game that has been played by more than 2.4 million people and contains a diagnostic test for the early signs of Alzheimer’s disease. It has become the largest dementia study in history. Our speakers are Professor Michael Hornberger, Chair of Applied Dementia Research at Norwich Medical School (UEA) and the Co-Creator of Sea Hero Quest. He will be joined by Mr Maxwell Scott-Slade, Co-Founder and Game Design Director of Glitchers the video company behind the development of Sea Hero Quest.

218th Briefing - Dr Russell Razzaque and Dr Mary Olson

Have you heard of Parachute therapy? Established by the New York Department of Health and Mental Hygiene, the Parachute programme’s approach is ‘open dialogue’ in which a team of therapists, social workers and peers, encourage patients and their families to develop their route to achieving recovery. The programme has proven its ability to reduce rates of hospitalisation and to save money. The programme is due to be trialled in London in 2017/18 and will be led by Dr Russell Razzaque, Associate Medical Director at the North East London NHS Trust. The presentation will also include a contribution by Dr Mary Olson, Assistant Professor of Psychiatry at the University of Massachusetts Medical School.

217th Briefing - Professor Nicholas Dale and Professor Christina Roffe

Each year in the UK, 50,000 people have a stroke and up to 50% of stroke diagnosis are inaccurate. What to do? The Observer newspaper described Professor Nicholas Dale’s pioneering contribution to stroke medicine as a classic tale of scientific innovation replete with accidental discoveries, chance meetings and frustrating setbacks. In 2014 Dale began clinical trials in three hospitals, Salford, Coventry and Stoke-on-Trent using a unique biosensor. Dale will tell his story alongside Professor Christina Roffe who has been trialling the biosensor in Stoke’s acute stroke unit. The results are impressive.

216th Briefing - Dr Gordon Sanghera

Dr Gordon Sanghera has a grand ambition: To build a new science-based company under British ownership that commands a large global market. He is already on the way with Oxford Nanopore Technologies, the gene-reading company he has led since its foundation. The aim is to become the world’s leading producer of equipment to decode the DNA of any organism, from people to viruses, in applications from medical diagnosis to food safety. In December the company raised £100 million in new funding.

215th Briefing - Ms Karen Aiach and Dr Michel Zerah

Imagine being told by a doctor that your child has an incurable disease. Ms Karen Aiach, an accountant in France, found herself in exactly this situation. Her baby daughter, Ornella, was diagnosed with Sanfilippo Syndrome A, a rare neurodegenerative disease. What she did next was exceptional and extraordinary. She established her own biotech company, Lysogene which is developing gene therapy treatments for rare central nervous system diseases. Karen will speak about the progress the company has made and will be joined by Dr Michel Zerah, Professor of Neurosurgery at Necker Hôpital Enfants Malades, Paris, who has been directly involved in Lysogene’s clinical trials.

214th Briefing - Dr Ronald Brus
Dr Ronald Brus is flying in from Holland just for the Summit. He founded ‘myTomorrows’ after his father developed cancer and had run out of treatment options. He started to contact big pharmaceutical companies to see if he could get access to drugs in development. ‘myTomorrows’ has raised over 20 million Euros in order to help doctors and for patients without other options access drugs and establish a global database of unapproved medicines.

213th Briefing – Mr Max Alexander-Wall and Mr Keller Rinaudo

More than two billion people lack adequate access to essential medical products, often due to challenging terrain and gaps in infrastructure. Because of this, over 2.9 million children under the age of five die every year and up to 150,000 pregnancy-related deaths could be avoided each year if mothers had reliable access to safe blood. Mr Max Alexander-Wall and Mr Keller Rinaudo will speak about ‘Zipline’ a small robot airplane designed to carry vaccines, medicine or blood. Max will be presenting in London and Keller will be speaking via video-link about their trials in Rwanda.

212th Briefing - Professor Jackie Hunter

‘AI’ – Artificial intelligence is a term used in the media on an increasingly regular basis. What does it mean and how does it apply in the medical sector? Professor Jackie Hunter CBE, a board member of Benevolent AI and the CEO of BenevolentBio, has established a business based on software which sifts through vast chemical libraries, medical databases and conventionally presented scientific papers, looking for potential drug molecules.

211th Briefing - Dr Christina Coughlin

Immunotherapy is a class of treatments where the body’s immune system is activated to attack cancer. Patients with some of the most aggressive tumours have lived on for years thanks to immunotherapy innovations. In 2015 Immunocore raised over £205 million in the biggest private financing for a European life sciences company. Dr Christina Coughlin, Immunocore’s Chief Medical Officer, is flying in from the USA to provide a briefing on Immunocore’s story, challenges, trials and plans.

210th Briefing - Dr Rowley Cottingham and Mr Jonathan Weinberg

In the USA alone, over 325,000 people suffer cardiac arrest out of hospital every year. Heat stroke is an equally challenging problem in the Middle East and other hot regions, and also causes deaths at sporting events worldwide. Dr Rowley Cottingham and Mr Jonathan Weinberg have created CAERvest® - a radical life-saving solution to the previously unsolved problem of rapidly cooling the body after heat stroke or cardiac arrest. The first and only portable, practical and effective device of its kind. Dr Cottingham is a Consultant in Emergency Medicine, at Brighton and Sussex University Hospitals NHS Trust and Mr Weinberg is the Chief Executive of BodyChillz.

209th Briefing – Professor Eleanor Stride

Professor Eleanor Stride is an expert in drug delivery systems engineering and biomedical ultrasonics. She works at the Institute of Biomedical Engineering at the University of Oxford and last year appeared in the Daily Telegraph’s list of the Top 50 Women in Engineering. Her research aims
to develop new methods for delivering chemotherapy drugs that minimise side effects and reduce the risk of recurrence. One of her main projects currently is delivering oxygen in combination with chemotherapy to treat drug resistant tumours.

2016 Summits & Briefings

208th Briefing – Dr Gavin Armstrong

What to do to tackle malnutrition in South East Asia? About 60% of pregnant Cambodian women are anaemic as a result of dietary iron deficiency, resulting in premature labour and childbirth haemorrhaging. Babies have an increased incidence of brain development problems. This problem was initially and successfully addressed by Canadian biomedical student Christopher Charles who tested the idea of placing iron ingots in the cooking pots used by the local population. The success of his initial project led to Gavin Armstrong establishing The Lucky Iron Fish Project. Dr Armstrong will be flying in from Canada to make a presentation about a simple, safe, clinically proven innovation that prevents iron deficiency: A condition that affects 3.5 billion people worldwide.

207th Briefing - Miss Renuka Chintapalli

Renuka Chintapalli is making discoveries about the biology of cancer – and she’s still only 16. Thanks to her understanding of how cells operate, her ability to use bioinformatics tools and her sheer hard work, Renuka has discovered a new protein suspect in the biology of oesophageal cancer, and she may have identified a potential way for doctors to find out if that cancer is aggressive. As a result she won two major prizes at the BT Young Scientist & Technology Exhibition 2016 for her remarkable project – the Royal College of Surgeons Special Award and the Individual Runner-up prize for the entire competition.

206th Briefing - Dr Libery Foreman and Dr Katie Oliver

Dr Liberty Foreman and Dr Katie Oliver are two dedicated entrepreneurs. They met whilst PhD students at UCL and as a result of their research established in 2015, BeamLine Diagnostics. Their lives have been taken over by their desire to develop a diagnostic system for cancer and pre-cancer. They have combined commercially-available hardware with their own patent-pending data analysis method to provide a rapid, accurate and low-cost system for screening biopsies at the point-of-care. The technology uses infrared spectroscopy to reveal subtle differences between healthy and diseased samples. The success they have achieved to date is in part a result of a multi-disciplinary approach between biophysicists, statisticians and clinicians.

205th Briefing - Ms Susanne Mitschke and Mr Patrick Renner

In 2015 it was reported that over 850,000 had dementia in the UK. One of the responses to this growing phenomenon is MindMate, which was founded by four friends from Glasgow and Strathclyde universities who worked in consultation with the University of Glasgow’s Geriatric Medicine Department. MindMate is a technology platform designed to help people with dementia – along with their families and carers. The interactive app – which comes in three versions for patients, carers or family members, and care homes – includes brain training games, reminder tools, advice on nutrition and exercise, music, patient information and a reminiscence timeline called My Story. Co-Founders Susanne Mitschke and Patrick Renner will be speaking about their success and the impact the app has had on 30,000 unique users a month. In July 2016 MindMate joins an accelerator programme – Techstarts NYC ’16 - in the United States, after which it plans to raise over £1 million of funding to fuel its expansion.

204th Briefing - Dr Kris Famm and Dr Nishan Ramnarain

In August this year, GSK and Verily Life Sciences (the medical division of Google’s parent company Alphabet) announced that they have agreed to jointly invest £540 million in a new venture called Galvani, to use electronics to treat disease. The media have dubbed this field ‘electroceuticals’. The rewards from such an enterprise could be enormous, particularly for patients suffering from chronic
diseases such as asthma, arthritis and diabetes. Galvani’s designate chairman recently said ‘we now have the opportunity to develop innovative medicines that speak the electrical language of the human body’. Kris Famm is the designate president of Galvani and GSK’s head of bioelectronics – he will be speaking about this exciting and potentially transformative programme. He will be joined by Dr Nishan Ramnarain, GSK’s bioelectronics Director of Experimental Medicine.

203rd Briefing - Mr Osman Kibar

We are grateful to Osman Kibar who will be flying in from San Diego to make a presentation at the RSM’s Medical Innovations Summit. He is a Turkish-American billionaire who established the biotech company Samumed - currently valued at $12 billion. His company is exploring a number of initiatives including healing arthritis and curing baldness. A longer term aim is to reverse the ageing process. Kibar’s background is unusual having studied mathematical economics, engineering and biophotonics. Whilst in graduate school he founded a biotech company which was later sold for $470 million.

202nd Briefing - Liz Scarff, Alexander Masters and Dominic Nutt

Every year, dozens of promising new cancer treatments are thrown out because the researchers run out of money. On a mission to save a friend’s life, biographer Alexander Masters stumbled on a neglected potential cure for cancer and with Liz Scarff and Dominic Nutt invented a unique new way of funding medical research. This led to 2,001 people living in 40 countries crowd-funding a potential life-saving drug. Over £ 2 million was raised which provided Professor Magnus Essand and Dr Justyna Leja at Uppsala University, Sweden with the funding to restart clinical research into a genetically modified oncolytic adenovirus. Such was the success of the fundraising that the team are now focussed on how crowd-funding can get other neglected drugs out of the freezer and into clinical trials.

201st Briefing - Dr Helen Lee

Dr Helen Lee is a winner of the European Inventor Award 2016 in the Popular Prize category. Based at Cambridge University, Dr Lee and her team have invented a revolutionary device which is transforming the diagnosis of HIV in sub-Saharan Africa, a virus thought to be carried by over 20 million people. The device is specifically designed for a low resource setting and will be manufactured by a company Dr Lee has set up with the backing of the US National Institutes of Health and the Wellcome Trust. The device has been tested on 40,000 men and women in Malawi and Uganda in a collaboration with MSF.

200th Briefing – Dr Alan Detton and Mr Niall Johnston

How can medical students and patients learn more about the human body? ‘Complete Anatomy Lab’ is a medical education app for an iPad which this year received a design award from Apple. Described as “a world-class education tool that utterly transforms the way people learn about the human body.” The app makes impressive use of layers to overlay various nerve, muscle, and tissue elements on the body frame. Dr Alan Detton is the Vice President of Anatomical Education at 3D4Medical, an Irish company and is flying in from California for the RSM Medical Innovations Summit he will be joined by 3D4Medical’s Co-Founder Niall Johnston.

199th Briefing - Mr Hugo Lynch and Mr Richard Hindley

Over 47,000 men a year in the UK discover they have prostate cancer. 23 year old Hugo Lynch, an engineering and polymer science masters graduate, has created the first transparent 3D printable model of a prostate gland in Europe. By using these bespoke models, doctors have more information to help them decide on the best treatment options for their patients in a shorter amount of time. The major benefit of Lynch’s idea is that surgeons can make models from MRI scans meaning the results
are easier to interpret. By doing this, early diagnosis is more likely, and it is hoped that less intrusive treatments will be required for many patients. This will be a co-presentation with Mr Richard Hindley, Consultant Urological Surgeon at Hampshire Hospitals NHS Foundation Trust.

198th Briefing - Shahed Alam and Edith Elliott

How do you produce better results for people undergoing major surgery in chaotic, overtaxed hospitals? According to Noora Health, you do it by teaching family members to assist with their relatives’ care. Noora Health began as a graduate project at Stanford University. Today it works with 26 hospitals in India and has trained over 45,000 people at a cost of less than one dollar per person. Co-Founders Edith Elliott and Shahed Alam will share their success story and plans for the future which include expanding the model in diabetes, neonatal and cancer care.

197th Briefing - Mr Shafi Ahmed

The world’s first surgery to be broadcast live in 360-degree video took place at the Royal London Hospital in April this year. Consultant Surgeon and cancer specialist Shafi Ahmed performed the operation. Medical students, trainee surgeons and members of the public watched the operation through the ‘VR in OR’ app, using a virtual reality headset that can be paired with a smartphone. The global reach of this initiative follows a similar educational initiative Mr Ahmed led in 2013 when he used Google Glass to live-stream the removal of a liver cancer from the surgeon’s point of view. About 13,000 students from 113 countries tuned in. This will be a very special presentation about medical education today and tomorrow.

196th Briefing – Ms Dallas Pounds

Dallas Pounds is the CEO of the oldest hospice in the UK, the Royal Trinity Hospice. She and her colleagues have introduced business-led practices to raise the standards of care and be in a stronger position to provide patients and their families with the care they need. She has ambitious plans to raise the profile of end-of-life care and to promote more and better informed conversation about planning for our twilight years – this includes opening a ‘shop’ on the high street where members of the public can pick up literature or meet with experienced staff to discuss sensitive issues. Royal Trinity has also pioneered initiatives to support the LGBT community.

195th Briefing - Krtin Nithiyanandam

What were you doing when you were 15 years old? You'll probably be thinking about that when you watch online a video of Krtin Nithiyanandam making his presentation about a potential test for Alzheimer’s disease which could allow the condition to be diagnosed 10 years before the first symptoms appear. Currently Alzheimer’s can only be detected through a series of cognitive tests or by looking at the brain after death. The new test is based on the development of a ‘trojan horse’ antibody which can penetrate the brain and attach to neurotoxic proteins which are present in the very first stages of the disease. The antibodies, which would be injected into the bloodstream are also attached to fluorescent particles which can then be picked up on a brain scan. In recognition of his research, Nithiyanandam received the 'Scientific American' Innovator Award and was runner up in the 2015 Google Science Fair Competition. He attends Sutton Grammar School and at the time of the Summit, was in the run up to taking his GCSE's.

194th Briefing - Suzy Willson, Sara Abdelhamid and Dr Iona Heath

Performing Medicine is an award-winning programme created by theatre company Clod Ensemble, which uses methods found in the arts to help medical students and health professionals develop skills essential to clinical practice and healthcare. Performing Medicine works in partnership with
organisations across the UK such as Barts and The London School of Medicine and Dentistry, King's Health Partners, and Health Education England to create courses for medical students, foundation year doctors and health professionals. It is the only initiative of its kind; unique because it is led by established associate artists from a range of creative disciplines, in collaboration with medical educationalists and health professionals. Suzy Willson is the Artistic Director of the Ensemble and is also Honorary Non-Clinical Senior Lecturer at Barts and The London School of Medicine and Dentistry. Suzy co-presented with Sara Abdelhamid, a medical student at King's College London and Dr Iona Heath, a member of the Performing Medicine Advisory Board and former President of the Royal College of GPs.

193rd Briefing - Hawaa Budraa and Gina Dorodvand

Dentists and toothpaste manufacturers relentlessly remind us to brush our teeth more effectively, otherwise plaque will damage our teeth and gums. The existence of plaque results in a local inflammatory reaction, gingivitis, an extremely common condition effecting up to 90% of the adult population in the UK. One of the reasons for poor oral hygiene can be attributed to the challenge of seeing or identifying plaque and inflamed gums in the mouth, at home. Poor access or low lighting makes it difficult for people to see evidence of plaque on their teeth. To address this problem, Hawaa Budraa and Gina Dorodvand who graduated with biomedical engineering degrees from City University in summer 2015, have developed a unique way in which the public can identify plaque build up on their teeth and inflamed gums. They are young, dedicated innovators and are taking their first steps along the road to creating a product that could have a huge public health benefit. At the time of the Summit they were being supported by Bethnal Green Ventures, a London-based accelerator.

192nd Briefing – Mr Moni Milchman

Most British citizens when needing an operation or procedure will follow their GP and/or specialist consultant's advice. They might seek a second opinion. In most cases the operation would take place locally and in the UK. This is the tried and trusted method, however, other ways of finding the right doctor, surgeon, clinic or hospital are now coming online and a search can be conducted on a global basis. Moni Milchman is the founder and CEO of Archimedicx. The company's search engine uses a rating system which has helped create the world's first unbiased hospital search engine available for free for the benefit of patients seeking access to better treatment worldwide.

191st Briefing - Dr Federico Sallusto

Two surgeons made medical history last year with a world first operation performing a kidney transplant (between two sisters) through their vaginas using robotic surgery. This robotic intervention was conceived and coordinated by Dr Federico Sallusto, Surgical Director of the Kidney Transplant Program and performed by Dr Nicolas Doumerc, Surgical Director of the Robotic Surgery Unit in the Department of Urology. The removal and insertion of the kidney via the vagina was completed at the same time (rather than via an incision, which is the standard procedure). The operation took place at the University Hospital Centre in Toulouse, France.

190th Briefing - Professor Paulo Stanga

Professor Paulo Stanga is a Consultant Ophthalmologist and Vitreoretinal Surgeon at the Manchester Royal Eye Hospital as well as Professor of Ophthalmology and Retinal Regeneration for the University of Manchester. He is Manchester's Principal Investigator for the 'Argus II' - often
referred to as the 'Bionic Eye' which is the focus of a 10-centre international trial on the epiretinal electronic implant for blindness in Retinitis Pigmentosa. Professor Stanga has also set-up a Manchester-only pilot study of the Argus II system in Age-Related Macular Degeneration.

189th Briefing - Lauren Braun

The World Health Organization estimates that 1.5 million children die of vaccine-preventable diseases each year, accounting for 20% of childhood deaths, and 18-22 million children are vaccinated late. A key reason children are vaccinated late is that parents forget when to return to clinics for vaccines. Lauren Braun is the founder of the nonprofit social enterprise Alma Sana Inc. She will explain how she developed an innovative, life-saving bracelet as a childhood vaccination reminder for mothers in developing countries. Lauren came up with the idea during a summer internship at a clinic in Cusco, Peru and received a Bill & Melinda Gates Foundation grant to pilot the bracelets’ use in Peru and Ecuador. Her award-winning innovation has been recognized on UNICEF’s Innovation Map as a "locally adapted" child health solution, she was nominated for Forbes 30 Under 30 Social Entrepreneurs, and she gave a TEDx talk on her design process. With high-level support from UNICEF, Gavi, WHO and PAHO, Lauren is now scaling up her innovation.

188th Briefing - Professor Waseem Qasim and Professor Paul Veys

The story made the front page of most of our newspapers - the world's first use of gene-edited immune cells to treat 'incurable' leukaemia. A new treatment that uses 'molecular scissors' to edit genes and create designer immune cells programmed to hunt out and kill drug resistant leukaemia had been used at Great Ormond Street Hospital (GOSH). The treatment, previously only tested in the laboratory, was used in one-year-old patient, who had relapsed acute lymphoblastic leukaemia. The patient (at the time of the Summit) was cancer free and doing well. This breakthrough comes from GOSH and UCL Institute of Child Health's pioneering research teams with support from the National Institute for Health Research (NIHR) Great Ormond Street Biomedical Research Centre, who together are developing treatments and cures for some of the rarest childhood diseases. Professor Waseem Qasim, Professor of Cell and Gene Therapy at UCL ICH and Consultant Immunologist at GOSH and a NIHR Research Professor, and Professor Paul Veys, Director of bone marrow transplant at GOSH and the patient's lead clinician, explained how this treatment was successfully used for the first time.

187th Briefing - Katrine Bosley

Editas Medicine is a transformative genome editing company founded by world leaders in the fields of genome editing, protein engineering, and molecular and structural biology, with specific expertise in CRISPR/Cas9 and TALENs technologies. The company's mission is to translate its genome editing technology into a novel class of human therapeutics that enable precise and corrective molecular modification to treat the underlying cause of a broad range of diseases at the genetic level. The company is backed by Bill Gates and Google Ventures and in February 2016 Editas Medicine became the first publicly traded company to specialize in a new technology to edit flaws in genes. Katrine Bosley is their President and CEO.

186th Briefing - Professor Guang-Zhong Yang
In 2009, Professor Guang-Zhong Yang of Imperial College made a presentation as part of our medical innovations programme about imaging for robotic-assisted surgery. In the last six years there have been huge technological developments in surgery and on that basis the RSM has invited Professor Yang to make a return visit to provide a detailed update on medical imaging, sensing and robotics. He spoke about the Imperial team which is pioneering nanoscale robotic surgical instruments which can, among other uses, better target cancer cells with chemotherapy drugs.

185th - William Mapham

Globally, there are 39 million blind people. An estimated 80% of all blindness is preventable or curable, which means that there are in excess of 30 million people around the world who have lost their sight unnecessarily. In the developing world, where most cases of preventable blindness occur, primary healthcare workers often lack the access to appropriate information, skills, and basic diagnostic tools. The Vula Eye Health mobile app aims to change the way that primary health workers access information, carry out eye tests, connect with specialists and make referrals. Vula is the brainchild of South African doctor William Mapham. He spoke about how he saw the potential for technology to improve referral networks while working in a hospital in rural Swaziland.

184th Briefing – Dr George Frodsham

With over 200 million cases and 600,000 deaths every year, many affecting children under five, malaria is one of the world’s biggest problems. MediSieve is the developer of a groundbreaking drug-free malaria treatment. Using a magnetic sieve to physically remove malaria infected blood cells directly from a patient’s bloodstream, MediSieve is a life-saving intervention for severe and drug-resistant malaria patients. Founded in 2015, MediSieve has raised £350,000 in seed funding from angel investors. The company aims to perform first-in-man clinical trials on the malaria device by the end of this year. In February, the founder of MediSieve George Frodsham won an award at the first bio-tech themed event run by ‘Pitch@Palace’ an initiative hosted by HRH Prince Andrew.

183rd Briefing - Dr Sophie Bostock

Sleepio is a digital sleep improvement programme, clinically proven to help overcome even long term poor sleep without pills. The programme has proved extraordinarily popular and has been used by over 100,000 people. The company was co-founded by Professor Colin Espie of the Nuffield Department of Clinical Neurosciences at University of Oxford. His colleague Dr Sophie Bostock a behavioural health scientist and Operations Lead at Big Health, made a presentation about Sleepio and how the programme has been validated in the world's first placebo-controlled RCT for a digital sleep intervention. On average Sleepio helped users fall asleep 54% faster, reduce night time awakenings by 62% and boost daytime energy and concentration by 58%.

2015 Summits & Briefings

182nd Briefing - Lord Darzi and Mr Mustafa Suleyman
This fascinating briefing examines the complex challenges of improving and bringing high-impact innovation to patient care. Estimates show that as many as 1 in 10 patients are harmed while receiving hospital care and health systems are undertaking an abundance of initiatives to improve safety. As part of this, healthcare has recently turned its attention to digital health technologies and better data to support safer care. This briefing - also the 2nd Naim Dangoor Lecture - was delivered by Professor the Lord of Denham, a surgeon and Director of the Institute of Global Health Innovation at Imperial College and Mustafa Suleyman, the Co-Founder and Head of Applied Artificial Intelligence at Google DeepMind.

181st Briefing - Dr James Olson

"Is it possible to light up a cancer cell?" asks Dr Jim Olson a paediatric oncologist based at the Fred Hutchinson Cancer Research Centre in Seattle. Dr Jim Olson is working with researchers at Seattle Children's Hospital and the University of Washington to develop an innovative "tumour paint" - a drug that finds and attaches to tumour cells, illuminating them to show surgeons exactly where to cut. The experimental technique has been shown to illuminate brain, prostate, breast, colon, skin and other cancers and is now advancing to human clinical trials. Olson's goal is for the technique to spark such dramatic improvement that we will look back and consider it barbaric that we ever did surgery without such guidance. This breakthrough is only one part of Olson's ambitious push to improve the lives of children and adults with brain cancer. His research focuses on developing new ways to remove brain tumours, finding new treatments for tumours that have few therapy options and identifying new uses for existing drugs. Olson also spoke about Project Violet, a citizen science initiative that is using crowd funding to enlist the help of the community to develop a fundamentally new class of anti-cancer compounds derived from scaffolds of nature - chemical templates from organisms such as violets, scorpions and sunflowers - to attack cancer cells while leaving healthy cells untouched. The ultimate goal is to develop highly targeted treatments that kill the cancer while sparing patients from the toxic side effects of chemotherapy such as hair loss and nausea.

180th Briefing - Ms Sarah Sobka

Sarah Sobka, 17, from Sheffield High School was recognised in March this year as the 'UK Young Scientist of the Year' for a project aimed at helping people who suffer from Cystic Fibrosis. Sarah won a prestigious competition with her project to investigate whether a drug commonly used to treat irritable Bowel Syndrome could be used to treat cystic fibrosis, a life-shortening inherited disease, affecting over 10,000 people in the UK. She undertook her project while on a Nuffield Research Placement at the University of Sheffield Biomedical Sciences department in summer 2014.

179th Briefing - Paul Landau

Wearable technology - aka ‘wearables’, comprising smart clothing and smart accessories such as 3D glasses and fitness trackers - is arguably the biggest tech craze of the past 12 months and is predicted to be worth £12 billion over the next few years. Paul Landau has spent the past decade building his wearable tech firm, Fitbug, which tracks and assists people's fitness and wellbeing. The business received early backing from the entrepreneurs behind Holmes Place International and LA Fitness plus a team of experts at the helm including a past Managing Director of Bupa.

178th Briefing - Dr Natasha Hezelgrave and Dr Jeffrey Smith

The world's first medical device to detect shock and high blood pressure in pregnant women could cut maternal deaths in developing countries by up to 25%, saving more than 70,000 lives a year. Researchers from Guy’s and St Thomas’ and King's College London have developed the Microlife Vital Signs Alert (VSA) with a $1 million grant from the Bill and Melinda Gates Foundation. The hand-
177th Briefing - Dr Ripley Ballou

It's the greatest killer disease in human history. Every year, malaria causes 198 million illnesses and is responsible for 584,000 deaths. Half the world's population (3.2 billion) is at risk from malaria, with expectant mums and children under five particularly vulnerable. After 30 years of research, Dr Ripley Ballou established the world's first malaria vaccine. In July 2015 European regulatory authorities gave a positive scientific response for GlaxoSmithKline's (GSK) candidate malaria vaccine Mosquirix™ (RTS,S) for prevention of malaria in young children aged 6 weeks to 17 months in sub-Saharan Africa. The GSK research is part of a PATH (Program for Appropriate Technology in Health) Malaria Vaccine Initiative (MVI). This is a global program established at PATH through an initial grant from the Bill & Melinda Gates Foundation. MVI's mission is to accelerate the development of malaria vaccines and catalyze timely access in endemic countries.

176th Briefing - Professor David Kuhns, Jane Perry and Charlotte Scott-Wilson

In the USA, there are over 100,000 Physician Associates who provide an essential medical service in thousands of hospitals. Professor David Kuhns from Royal College of Surgeons in Ireland, spoke about their role and contribution across America. Jane Perry, Associate Head of Institute for Business & Workforce Development at the University of Worcester described the MSc Physician Associate course at the university and the role Physician Associates currently perform in the UK. Charlotte Scott-Wilson, an MSc student talked about why she joined the course, her experience as a Physician Associate student and her plans for the future.

175th Briefing - Professor Scott Hollister and Associate Professor Glenn Green

Glenn Green is associate professor of paediatric otolaryngology at CS Mott Children's Hospital and Scott Hollister is professor of biomedical engineering and mechanical engineering and associate professor of surgery at the University of Michigan. They are flying in to London to speak about the 3 year old boy who became the first patient in the world to be cured of a potentially fatal illness with a biodegradable implant made to the patient's exact specification by 3D printing technology. The case broke new ground, using 3D printing to design a device that successfully restored the patients breathing through a procedure that had never been done before. The doctors received emergency clearance from the FDA to do the procedures.

174th Briefing - Dr Jesse Selber

Getting a kidney transplant is a big deal. Getting a pancreas transplant is a big deal. But getting a kidney and a pancreas transplant while simultaneously undergoing a scalp and skull transplant - that was unheard of until very recently. In May 2015, doctors in Texas performed the first-ever multi-organ transplant paired with the transplant of a skull and scalp tissue. Speaking about this extraordinary feat of surgery was MD Anderson Cancer Center's Dr Jesse Selber, an associate
professor of plastic and reconstructive surgery, based in Houston, Texas. More than 50 health care professionals were involved in the procedure, which took 15 hours to complete.

173rd Briefing - Dr Eric Elenko

PureTech is a science-driven healthcare company, seeking to solve some of today's toughest health challenges through disruptive approaches. The Massachusetts-based company focuses on areas of significant unmet medical need, evaluates and tests on average, 650 ideas per year and selects only the most scientifically and commercially promising concepts to advance. With over $250M in funding, PureTech has active strategic partnerships with some of the most forward thinking health and technology companies in the world. Several of their programmes are at or beyond the stage of human clinical testing, developing technologies poised to disrupt several multi-billion dollar market segments. Dr Eric Elenko is their Executive Vice President, Science & Technology.

172nd Briefing - Dr Lucie Mondoulet

France-based DBV-Technologies is a clinical-stage biopharmaceutical company focused on changing the field of immunotherapy by developing a novel technology platform called Viaskin. This is an electrostatic patch, which offers a convenient, self-administered, non-invasive immunotherapy to patients. The company has just begun Phase III trials which if successful may make a huge difference to an estimated population of over 5 million in Europe and the USA who have a peanut allergy. DBV-Technologies Deputy Chief Scientific Officer is Dr Lucie Mondoulet.

171st Briefing - Dr Steve Lonsdale and Naomi Walker

Earlier this year over 11,000 people died from Ebola in West Africa. Healthcare innovators were under immediate pressure to find a cure, different forms of treatment and to diagnose the disease as quickly as possible. A rapid Ebola diagnostic kit similar to a pregnancy kit was developed by British military scientists and NHS medics in Sierra Leone. It can be administered at the bedside and return its first results within 20 minutes, slashing dramatically the normal 24-hour turnaround for lab results. Early bedside tests in the Connaught hospital in Freetown have shown a 100 per cent detection rate. As and when the kit is approved by the relevant health authorities it could transform the admissions process, allowing doctors to quickly isolate Ebola patients and release others for treatment. Speaking about the creation of the new diagnostic kit was Dr Steve Lonsdale, Principal Scientist for 'Defence Science and Technology Laboratories' and Naomi Walker who used the kit in the field in West Africa.

170th Briefing - Dr Marie Johnson

When Marie Johnson first started developing a computerized stethoscope as part of her doctorate program, she used her husband, Robert, as a test subject. Although she noticed an intermittent sound in his heart, doctors found no reason for concern. Only a few months later, Robert died of a heart attack aged 41. The tragedy led her back into her research, with a mission to save lives.
through early detection of coronary blockages. Dr Marie Johnson is the founder and president of AUM Cardiovascular, Inc., a company dedicated to the development of a non-invasive, hand-held, fast, extremely affordable device for the assessment of coronary artery disease. The CADence device is intended for use in patients with chest pain and two or more coronary risk factors. Currently in pivotal testing to prove non-inferiority to a nuclear stress test, CADence promises to change the way stress testing is performed. CE marketing has been confirmed, pending FDA approval, CADence will be for sale in the US in Q1, 2017 and the device is being sold in Germany.

169th Briefing - Mr Simon Berry

In 2011 the RSM hosted Simon Berry of ColaLife who impressed the audience with his idea to distribute medicines to African children under the age of 5, by placing them in a container which fitted into a crate of CocaCola and then piggybacking the CocaCola distribution network which reached very marginal areas. Four years on and following an extensive trial in Zambia, Simon returned to the RSM to explain what has happened and to talk about the impact of the Kit Yamoyo anti-diarrhoea kit.

168th Briefing - Dr Joanne Mountford and Professor Marc Turner

How to develop a technology to create a limitless supply of clean, laboratory-grown blood for use in clinics around the world? This is the task of Dr Joanne Mountford of the University of Glasgow and Professor Marc Turner, the medical director of the Scottish National Blood Transfusion Service. Their research is based on using stems cells to create artificial blood for transfusions. A limitless supply of blood would remove the logistical headache of juggling different kinds of blood, simplifying global distribution logistics. Mountford and Turner hope to move onto human trials in 2016-2017.

167th Briefing - Mr Kenneth Shinozuka

Kenneth Shinozuka, is the winner of the third annual $50,000 Scientific American Science in Action Award, powered by the Google Science Fair, for his project "Wearable Sensors: A Novel Healthcare Solution for the Ageing Society." Inspired to help his family care for his grandfather, who suffers from Alzheimer's disease, Kenneth's super-slim sensors, attached to a foot or in a sock, can alert caregivers via their smart phone if a patient begins to wander. Shinozuka's grandfather, Deming, was diagnosed with Alzheimer's when Shinozuka was four years old and he regularly wanders out of bed at night. In the first six months Shinozuka attached his device, called the "Safe Wander," to his grandfather's sock, it detected all of Deming's 437 known cases of wandering out of bed with no false alarms. Kenneth is 16 and at school in the USA.

166th Briefing - Dr Claire Guest

Dr Claire Guest is a scientist and animal behaviour expert, she is also the founder of Medical Detection Dogs. The charity harnesses the connection between dogs and humans for a range of medical purposes: to nudge sufferers of severe Type 1 diabetes that their blood sugar is low; to alert Addison's patients of the onset of an attack; even to sniff out cancer cells. One dog, Daisy, has correctly indicated 500 cases of cancer as a result of screening 6,500 samples. The same dog
helped alert Dr Guest to her own case of cancer. Recently the charity has launched a groundbreaking breast-cancer trial involving 1,500 patients to determine whether dogs can detect mutated cells from breath samples.

165th Briefing - Paul Varga

Paul Varga is a UCL Bright Ideas Award Winner and Co-Founder and CEO of the startup Playbrush. With colleagues, Paul created a device for young children to make the task of brushing teeth fun and more effective. Playbrush is the first 'iPad toothbrush'. The design transforms the toothbrush into a game controller which is able to monitor the time, speed and direction of the brushing. The results are relayed to a tablet or smartphone in the form of a mobile game. Paul's idea followed his MSc in technology entrepreneurship at UCL.

164th Briefing - Neeti Kailas

Every year, some 100,000 hearing-impaired babies are born in India, but there is no routine screening countrywide to detect the condition, and the existing tests are expensive and require skilled health-care workers. Early screening is vital because, if left unaddressed, by the time the baby is six months old, a hearing impairment can impede the development of speech, language and cognition. Neeti Kailas is a designer who wants to make a difference, improving life opportunities for hearing-impaired children by detecting infant hearing loss early on. Her passion for design is coupled with a desire to transform health care in India, and she has used her skills to create a non-invasive portable device that screens newborn babies for hearing impairment. The device is still a prototype, and a recent Rolex Award will allow Kailas to start clinical trials. This is the first device to come out of the Sohum Innovation Lab in Bhopal, India which she co-founded.

163rd Briefing - Mr Douglas Dunlop and Professor Richard Oreffo

Last year, doctors and scientists completed the first hip surgery with a 3D printed implant and bone stem cell graft. The 3D printed hip, made from titanium, was designed using the patient's CT scan and ‘CAD CAM’ technology. Mr Douglas Dunlop, Consultant Orthopaedic Surgeon, conducted the operation at Southampton General Hospital, which followed a translational research programme developed by Dunlop and Professor Richard Oreffo to drive bone formation using patient skeletal stem cells in orthopaedics.

162nd Briefing - Dr Jamie Wilson

HomeTouch is an award-winning online care marketplace that helps families find affordable, high quality care in their local area. Dr Jamie Wilson is the Founder and CEO of HomeTouch and was previously an NHS psychiatrist and saw how the difficulties accessing quality carers impacted his patients with disabling conditions such as dementia. The service was initially developed in collaboration with NHS memory clinic patients suffering from mild cognitive impairment and HomeTouch has received support from the Nominet Trust, the UK Government's Technology Strategy Board and UnLtd, the foundation for social entrepreneurs.
161st Briefing - Professor Paul-Peter Tak

Imagine a world in which health disorders could be treated by an implantable device which 'speaks' the electronic language of the body. Signals travelling along the nervous system could be analysed for abnormalities and corrected to treat conditions as diverse as arthritis, asthma, diabetes and perhaps one day, even cancer. SetPoint Medical, an American company is developing a tiny implantable device that stimulates the vagus nerve in the neck with electronic pulses. This is intended to counter the inflammation behind rheumatoid arthritis and Crohn's disease. Professor Tak of the Academic Medical Center at the University of Amsterdam (and also Senior Vice President/Head, Immunoinflammation at GSK) talked about the preclinical work and clinical trials and present some preliminary findings.

160th Briefing - Professor Geoffrey Raisman

It was reported in October 2014 that a paralysed man with a completely severed spinal cord has learnt to walk again in a 'historic' British-led breakthrough that raises the prospect of a treatment for a condition previously believed to be permanent. In a revolutionary procedure, cells from the patient's nose were transplanted into the damaged part of the patient's spine. A presentation about this exciting development was made by the pioneer of this latest technique, Professor Geoffrey Raisman of University College London. The operation took place in Poland and was led by Pawel Tabakow a neurosurgeon in Wroclaw.

159th Briefing - Dr Geraldine Hamilton

It's relatively easy to imagine a new medicine, a better cure for some disease. The hard part, though, is testing it, and that can delay promising new cures for years. Flying in from the USA, Dr Geraldine Hamilton showed how her lab creates organs and body parts on a chip, simple structures with all the pieces essential to testing new medications - even custom cures for one specific person. Dr Hamilton is the President and Chief Scientific Officer for Emulate Inc which is a platform that achieves a new standard for mimicking true human physiology. This ensures that responses to medicine, chemicals and diseases can be accurately predicted.

158th Briefing - Mark Offerhaus and Bjorn Herpers

The UK's Chief Medical Officer, Dame Sally Davies has predicted an 'apocalyptic' scenario in which basic procedures such as hip replacements to chemotherapy become fatal unless new drugs are rapidly brought to market. Her concern is that conventional antibiotics are steadily losing their effectiveness at treating infections. Scientists have now developed the first effective alternative to
antibiotics in what is being hailed as a significant advance in the fight against drug-resistant infection. Mark Offerhaus, chief executive of biotechnology company Micreos and Bjorn Herpers, a clinical microbiologist travelled from Holland to speak at the summit about the new treatment. The advance is based on a treatment inspired by naturally occurring viruses that attack bacteria using enzymes called endolysins.

157th Briefing - Dr Rupert Page

It is estimated that over 50 million people across the world, including 600,000 in the UK, have epilepsy. In Dorset, Poole Hospital is spearheading an innovative approach to improving the quality of life and treatment for people with epilepsy. The aim is that novel clinical pathways, including real-time pre-emptive interventions, will reduce the costs of care and improve the treatment of a life-altering condition. Dr Rupert Page, a Consultant Neurologist spoke about the integration of patients' smartphone apps with their medical records and the use of ‘seizure detection bracelets’. Recently Dr Page secured over £720,000 as part of a consortium with the University of Kent, Graphnet Health and Shearwater Systems.

156th Briefing - Shakardokht Jafari, Professor Andrew Nisbet and Shabnam Jamshidi

"Radiotherapy is a double-edged sword: you deliver too much and it kills healthy cells, but with too little, the tumour won't be killed" says Afghan-born medical physicist Shakardokht Jafari. Jafari, a PhD student at the University of Surrey, has established TrueInvivo a start-up company that is focused on a system for measuring how much radiation the body receive during radiation therapy. Under supervision of Professor Andrew Nisbet, research is now well advanced in developing a low cost method of measuring an accurate dose delivery of radiotherapy. With co-founder Shabnam Jamshidi, Jafari is developing a working prototype so that commercial testing can begin, following funding from the UK Trade & Investment Sirius programme.

155th Briefing - Dr Joshua Landy

Flying in from Canada just for the summit, Dr Joshua Landy made a presentation about an app which enables healthcare professionals to share photos of their patients both with each other and with medical students. The app has been described as 'Instagram for Doctors' and such is its success that to date, over 150,000 doctors have uploaded case photos (with the patient's identity obscured). Dr Landy is the founder of Figure 1 and has rolled out his app in North America, the UK and Ireland.

154th Briefing - Simon Stevens

Simon Stevens, the CEO for NHS England spoke about NHS test beds for innovation. His presentation was followed by three five-minute presentations by Sarah da Costa and Dr Pooja Basnett who spoke about alternative modes of drug delivery for disease prevention including a prototype bra embedded with the drug Tamoxifen; Jake McKnight, CEO of Altitude Medical, who discussed a revolutionary PullClean door handle which sanitises the hands of the user whenever the door is opened; and Dr Devesh Sinha on HOT-TIA (Hyper-acute online TIA referral System), which helps GPs identify and refer patients at risk of stroke or TIAs, often known as mini-strokes.
Twin 18-year-old girls Ameeta and Aneeta Kumar won the UK Young Scientist of the Year award in Spring 2014 for their research into developing an early diagnostic tool for cancer, which is hoped could save many lives. Their work is now going to be developed by a team at Oxford University. The pair beat off competition from 4,000 others, the shortlisted entries were showcased to over 80,000 visitors at the Big Bang UK Young Scientists & Engineers Fair and the Kumars had to pitch to a panel judges to win the trophy. Sir Tim Hunt, Nobel Prize winning biochemist and one of the judges of the award, said: "Their grasp of what they were doing and the ease of their understanding of such a complex project was truly impressive". The National Science and Engineering Competition is an annual event open to pupils aged 11-18.

Dr Dominic King from Imperial College is trialling an app for use by a GP practice in West London. 'MyGP' provides patients of Brook Green Medical Centre with a range of services to improve their health and better access our services. Using the app, patients can find out more about the different services provided at Brook Green: access appointment booking and repeat prescription services through their phone; search and rate local health services including hospitals, pharmacies and dentists; keep a record of blood pressure and blood sugar readings and receive updates and information from Brook Green Medical Centre.

Inventor and Entrepreneur Michael Pritchard is the Founder of LIFESAVER systems. Using unique patented technology, originally developed by Pritchard to produce safe sterile drinking water anywhere, the company’s goal is simple, to 'End Water Poverty'. Removing all microbiological contamination, LIFESAVER has been proven in the harshest conditions from the flooding in Pakistan to the cholera outbreak in Haiti. As a result, LIFESAVER has been chosen by the UK Department for International Development (DFID) to be part of the UK’s Rapid Response Facility for short-notice deployment to any future international disaster. By the end of 2013, this project alone will have lifted 1 million people out of water poverty, permanently.

Researchers in the medical and life sciences are increasingly finding that specific chemical compounds are present in the breath or bodily fluids of people with certain medical conditions, such as TB, cancers or diabetes. This suggests a new way of diagnosing these diseases early without the need for costly and invasive medical procedures; simply test for the presence of these tell-tale chemicals. Billy Boyle is a co-founder of Cambridge-based Owlstone, which secured a share in a multi-million pound NHS England contract, which will fund in-house development and testing of Owlstone's Lonestar Analyzer, for use in the diagnosis of lung cancer.
HeadMeds is a unique new website about mental health medication for young people aged 13-25, created by YoungMinds. Created in the style of the 'Talk to Frank' website about drugs, HeadMeds provides young people with accessible and useful information about mental health medication and conditions like anorexia, self-harm, depression and anxiety during a time which is often confusing, frightening and isolating for them. It includes information about potential side effects, when a young person should go and get help, and who to talk to. HeadMeds provides much needed, straight talk on mental health medication whenever young people need it. Sarah Brennan, the CEO of YoungMinds and Dr Elizabeth Fellow-Smith, Consultant Child and Adolescent Psychiatrist co-presented, along with Katherine Cormack who spoke about the 'Well Happy' app which aims to revolutionise healthcare for young people aged 12-25 by providing information about mental and sexual health and substance abuse in a readily accessible format.

It is understood that copper has anti-bacterial and healing properties. Last year the life of a new mother was possibly saved as a result of copper-infused pyjamas. The patient had a 10-inch hole in her stomach after acquiring MRSA from a C-section wound. Various treatments including flesh-eating maggots had not resolved the problem, so a friend of the patient, Amber McCleary - who was 18 at the time - stepped in to help as she had spent a year and a half researching antimicrobial fabric testing. With inventor Paula Ward, the pair produced a pair of copper-infused pyjamas for her friend. As a result of the success, Consultant Obstetrician and Gynaecologist Mr Abdul Sultan is leading a trial which will test the use of copper in fighting infection, at Croydon University Hospital. In addition, Professor Bill Keevil, Chair in Environmental Healthcare from the Centre for Biological Sciences at Southampton University, also spoke and detailed the scientific evidence for the effectiveness of copper.

More than 15,000 women of childbearing age in the UK do not have a womb - having either been born without it or having had to have it removed when young due to a condition such as cervical cancer. In the UK, surrogacy is legally complex, and in many countries (including Sweden) it is illegal, so a womb transplant is the only hope for hundreds of thousands of women around the world who wish to have their own biological child. A team in the UK are currently hoping to be able to carry out a trial involving 5 womb transplants sometime in the near future. They will be guided by Dr Mats Brännström who spoke about an extraordinary trial when he successfully transplanted the wombs for nine women in Sweden, including the womb from mother to daughter. "This is a new kind of surgery," Dr Brännström told Associated Press in an interview from Gothenburg, "We have no textbook to look at."

Presentation 6: 285 million people worldwide are visually impaired; 39 million of these people are blind; 80% of blindness is avoidable. PEEK is a smart-phone based system for comprehensive eye examinations in the remotest of settings. The system is currently being trialled in Kenya and the success being achieved to date is down to a team of ophthalmologists, engineers, business experts and software developers who share a common vision to expand access to high quality eye care. Andrew Bastawrous is an Ophthalmologist, a Research Fellow in International Eye Health and a TED Fellow (2014)
The developers of a cure for hayfever and cat allergies achieved one of the biggest ever UK biotech flotations. The value of the public offering was £581 million and over £200 million was raised. The British company Circassia is hoping to tap the market for treating the estimated 30% of adults and 40% of children who suffer from allergies. Four products have gone through successful phase two trials and are now preparing for a phase three study - the final stage before seeking regulatory approval - on its cat allergy drug. Dr Stephen Pawsey, Circassia's Chief Medical Officer, will be speaking about the challenges the company have overcome and plans for the future. Dr Pawsey has 20 years of experience in a broad range of medical and development roles in the pharma industry.

A growing phenomenon in the western world is an interest in mindfulness. The mission at 'Headspace' is to encourage as many people in the world as possible to take 10 minutes out of their day, to practice an easy-to-learn meditation technique. This could become a life-long skill in order to experience a scientifically-proven, healthier and happier mind. Andy Puddicombe is the voice of Headspace, a former Buddhist monk with a degree in Circus Arts, and a meditation consultant in the UK. He has trained cabinet ministers, Premiership footballers, heads of business and Olympic athletes in mindfulness, to help them with the demands of their work. He co-presented with Dr David Cox, Chief Medical Officer for Headspace. Previously, Dr Cox worked for several years in a Central London Accident & Emergency department.

Endorsed by the Care Quality Commission, 'babylon' is a smartphone app which links patients with GPs. For £7.99 per month, patients get 'face-to-face' access to GPs, specialists and nurses from 8am to 8pm, six days a week. The app is the brainchild of Founder and CEO Dr Ali Parsa, Former Chief Executive of Circle; the first private company to manage an NHS hospital. 'babylon' has teamed up with Bupa and will offer consultations with Harley Street doctors. The app will collate patient's health including body-mass-index and blood pressure and raise the alarm if its analysis spots any risks. Dr Parsa was named by the Times among the 100 global people to watch in 2012, and by the Health Service Journal among the 50 most influential people in UK healthcare.

Heptares Therapeutics discovers and develops new medicines targeting GPCRs (G protein-coupled receptors), a super-family of drug targets linked to a wide range of human diseases. The company is an industry pioneer in GPCR structure-based drug design and have built a unique capability for discovering novel molecules that target historically undruggable or challenging GPCRs. Their integrated discovery platform has enabled them to generate a broad pipeline of novel drugs directed towards these targets, which they are advancing towards the clinic for the treatment of a number of diseases. To date, the company has raised over $60 million in financing. Dr Fiona Marshall is the Co-Founder and Chief Scientific Officer of Heptares Therapeutics and has over 20 years' experience in drug discovery.
141st Briefing - Dr Henrietta Bowden-Jones

The National Problem Gambling Clinic is the first and only NHS multidisciplinary treatment centre in the UK for the treatment of problem gamblers. It has been inundated by more than 3000 referrals since its opening in 2008 and holds the only extensive national database on pathological gambling. Dr Henrietta Bowden-Jones is the clinic's Founder and Director; she is also a Medical Doctor and Neuroscience Researcher, an Honorary Senior Lecturer in the Division of Brain Science at Imperial College. In her charity work she is a Trustee of Sporting Chance Clinic, a high profile addiction charity which helps top sportsmen and women in the UK in their fight against drugs, alcohol and gambling.

140th Briefing - Rt Hon David Willetts MP

The Science Minister, Rt Hon David Willetts MP was interviewed by the science journalist Vivienne Parry at The Royal Society of Medicine in April 2014. The interview covers medical innovation, priorities at the Dept for Business, Innovation & Skills. The Minister shares stories about some of the scientists, innovators and entrepreneurs he has met and impressed him.

This briefing also included five 5 minute presentations by: Fiona Nielsen, the founder of DNA Digest; Frazer Bennett of PA Consulting on new low cost skin patches; Daniel Perez, the founder and CEO of Oxbridge BioTech Roundtable which enables an on-campus conversation between academia and industry; Dr Jack Kreindler of Jointly Health Inc which is building a next-generation remote patient analytics platform; and Pablo Graiver, CEO of TrialReach which improves the links between patients and research & pharmaceutical companies conducting clinical trials.

139th Briefing - Krista Donaldson

San Francisco-based D-Rev has a vision to improve the health of people living on less than $4 per day. Krista Donaldson D-Rev's CEO, spoke about the Re-Motion Knee which is a low-cost and high-performance knee joint for amputees living in the developing world. D-Rev is creating partnerships and sales with top-tier prosthetic providers worldwide with already established distribution channels and local expertise. Krista also spoke about jaundice being the number one reason why newborns are readmitted to hospitals worldwide. Severe jaundice, when left untreated or ineffectively treated, can lead to severe brain damage or death. To tackle this problem D-Rev has licensed ‘Brilliance’ to Phoenix Medical Systems in Chennai, India, the largest manufacturer and seller of quality neonatal care equipment in India with 70% of the market share of compact florescent bulb phototherapy devices in the country.

138th Briefing - Elli Kaplan

An early diagnostic test for Alzheimer's was the focus of a presentation by Elli Kaplan, the CEO of Neurotrack, based in California, USA. The safe and non-invasive test was validated by a 5-year NIH-sponsored study. The test predicted patients' risk of developing mild cognitive impairment and Alzheimer's disease. Physicians will be able to administer the computer-based test in their offices or via the web in under 20 minutes. The test is non-invasive, easy to take, and is not language-specific.
137th Briefing - Dr Ian Hampson and Dr Lynne Hampson

In February 2014, molecular virologist Dr Ian Hampson and viral oncology lecturer Dr Lynne Hampson announced that they may have found a revolutionary therapy for women who have a high risk of cervical cancer. Based at St Mays Hospital, Manchester, they have discovered that the drug lopinavir (used for HIV treatment) attacks the strain of HPV that causes virtually all cases of cervical cancer. Their results are not yet published or peer-reviewed, however given Lord Saatchi’s Bill on medical innovation and the idea of a ‘window trial’, now is a great time to learn more about their success and its implications.

136th Briefing - Professor June Andrews

Professor June Andrews is the Director of the Dementia Services Development Centre at the University of Stirling. The centre is an international centre of knowledge and expertise dedicated to improving the lives of people with dementia. Professor Andrews was recognised in 2013 as one of the Top 100 most influential clinicians in the UK and also one of the 50 most inspirational women in the NHS. She will be speaking about the work of the centre, specifically about the ‘Ideas Lab’ and ‘Innovation Wall’.

135th Briefing - Ross Hunter and Dr Mark Carlson

In January, a skilled surgical team at Barts and The London NHS Trust successfully implanted a revolutionary pacemaker. Ross Hunter along with Dr Mark Carlson, Chief Medical Officer at St Jude Medical, will be speaking at the medical innovations summit about how the Nanostim requires no leads and no chest incision, and as a result there is no scar and no permanent lump under the skin. The Nanostim may prove to be the new ‘go to’ device for surgeons who oversee over 40,000 procedures for patients requiring pacemakers every year within the NHS.

134th Briefing - Dr Farid Khan

Potentially saving huge amounts of time and money, Manchester-based PharmaKure are focussed on discovering new uses for known compounds or drugs through their phenotypic screening methods. Their focus at the moment is Alzheimer’s Disease where PharmaKure hopes to offer new therapeutic options to Alzheimer’s patients. The company already owns intellectual property on one drug discovered by their screening approach. Hear more about the company’s novel approach and progress to date from Dr. Farid Khan, Chief Executive Officer.
133rd Briefing - Jen Hyatt

Big White Wall is a leader in digital integrated healthcare, delivering personalised mental health. In partnership with The Tavistock and Portman NHS Foundation Trust, Big White Wall (BWW) offers 'wellbeing pathways' through a range of safe therapeutic services. Award-winner, social entrepreneur and founder of BWW, Jen Hyatt will speak about the impact of this vital mental health service and the success being achieved.

132nd Briefing - Dr Sarah Fidler and Dr John Frater

A potential cure for HIV will be tested on British patients this year in a ground-breaking trial of a treatment that aims to put sufferers into cancer-style remission. The virus will be 'woken up' from its hiding place within cells so that it can be targeted by a combination of drugs. Dr Sarah Fidler of Imperial College and Dr John Frater of Oxford University will be speaking about the trial which will be closely watched by over 100,000 people in Britain who have HIV.

131st Briefing - Sarah Bateup and Barnaby Perks

Sarah Bateup and Barnaby Perks will be speaking about the growing success of their start-up Psychology Online, which offers a secure messaging service for patients to undertake cognitive behavioural therapy with a therapist. The therapy can be conducted from the patient's home and at a time convenient to them. The results show the new system has higher recovery rates, requires fewer sessions and has now been commissioned by five NHS clinical commissioning groups.

130th Briefing - Dr Sultan al-Sedairy and Shazia Subhani

Saudia Arabia is to sequence the genomes of 100,000 citizens, in one of the most ambitious attempts to drive forward personalised medicine. Over the next five years, scientists plan to produce one of the world's largest and best-integrated DNA databases, enabling them to tailor treatment specifically to each patient. Dr Sultan al-Sedairy and Shazia Subhani of the King Faisal Specialist Hospital and Research Centre will be speaking about this exciting and significant initiative.
129th Briefing - Tal Golesworthy and Professor John Pepper

Tal Golesworthy is an engineer who fixed his own heart. When he discovered he had Marfan syndrome he was aware that there was a danger his aorta might stretch and burst. Rather than have pre-emptive surgery and experience the possible side-effects, he decided to use his knowledge and experience as an engineer and designed a ‘personalised sleeve’. Working with RSM Fellows Professor Tom Treasure and Professor John Pepper, Personalised External Aortic Root Support (PEARS) has now been successfully used by over 40 patients in London, Oxford and Belgium. Professor Pepper will speak about the clinical application of the PEARS.

128th Briefing - Pat Christen

As a scientist and video game enthusiast, Pam Omidyar wondered if giving young cancer patients a chance to blast their cancer in a video game might actually improve their health. In 2001, Pam founded HopeLab to develop and test this concept, which led to their first product, Re-Mission which demonstrated that specially designed technology can be both fun and effective in driving positive health behaviour. Zamzee, another product deepened HopeLab's understanding of how to motivate and sustain healthy behaviour change. Pat Christen, HopeLab's President & CEO will explain how their focus on the research and development of new social technologies promote human resilience and improve both psychological and biological health and well-being.

127th Briefing - Dr Zoltan Takats

Zoltan Takats is the inventor of the iKnife - an 'intelligent' knife that can sniff out tumours to improve cancer surgery. His team at Imperial College hope to overcome the dangerous and common problem of leaving bits of the tumour in a patient, which can then regrow. Early results, in the journal Science Translational Medicine, showed the iKnife could accurately identify cancerous tissue on the spot. It is now being tested in clinical trials at three hospitals in London to see if it saves lives.

126th Briefing - Dame Esther Rantzen

According to a survey by Help the Aged, more than 1 million people over the age of 65 reported feeling lonely often or always. Dame Esther Rantzen has launched The Silver Line, a free 24/7 phone service which seeks to support older people, many of whom feel isolated, depressed, bereaved and are reluctant to seek help. The success of the pilot programme, funded by Comic Relief, helped The Silver Line secure a £5 million grant from the Big Lottery Fund. The Silver Line received over 8,000 calls in its first official week and received requests from over 1,500 people requesting regular contact.
125th Briefing - Brittany Wenger

Young people, with no medical qualifications, are increasingly having an extraordinary impact in the medical and healthcare sector. Brittany Wenger, a first year student in the USA, taught her computer how to diagnose leukaemia by creating a diagnostic tool for doctors to use. She built a custom, cloud-based 'artificial neural network' to find patterns in genetic expression profiles to diagnose patients with an aggressive form of cancer called mixed-lineage leukaemia. Previously she used artificial-intelligence technology to diagnose breast cancer. With a non-invasive procedure, her technology was able to help determine whether a breast mass was malignant or benign. Her Cloud4Cancer service can be altered to improve diagnostics for multiple cancer classifications.

124th Briefing - Dr Mohammad Al-Ubaydli, Dr Ronald Hsu, Dr Jane Bethea and Ms Mary Hall

Training medical students for consultations, online with virtual patients - First course of its kind: This was a special event organised by 'Patients Know Best', the University of Leicester's School of Medicine and the RSM's medical innovations programme. The focus of the briefing was the first-ever course to be run at a British medical school designed to train students to consult with patients online, using avatars. The speakers included Dr Mohammad Al-Ubaydli, CEO and founder, Patients Know Best; Dr Ronald Hsu, Teaching Fellow, University of Leicester Medical School (ULMS); Dr Jane Bethea, Lecturer in Public Health, ULMS; and Ms Mary Hall, Specialist Registrar in Public Health.

123rd Briefing - Jean Nehme and Andre Chow

An educational app for surgical students: Jean Nehme and Andre Chow are surgeons and co-founders of 'Touch Surgery' - an educational app for surgical students; the Touch Surgery Simulator teaches every surgical step, identifies decisions that need to be made and facilitates self-testing. Last year Touch Surgery were invited to join a UK trade & technology delegation to China, led by Chancellor George Osborne.

122nd Briefing - Lesley Kitchen and Scot Garg

Successfully tackling variations in NHS care: Lesley Kitchen of the Advancing Quality Alliance based in Manchester, and Mr Scot Garg, consultant cardiologist, East Lancashire Hospitals NHS Trust will be speaking about a healthcare programme which tackles variations in care, cuts readmissions and save lives so that thousands of patients receive the right care at the right time and in the right place. The programme was also a winner at The Guardian's Public Service Awards 2013.
121st Briefing – Robin Vickers and Michelle McLoughlin

An award-winning patient feedback app: Robin Vickers, Executive Director of Digital Life Sciences and Michelle McLoughlin, Chief Nurse, Birmingham Children's Hospital NHS Foundation Trust, will be speaking about a new smartphone app which gives patients and their families an easy and immediate way to provide feedback directly to NHS staff. The app was a winner of The Guardian's Public Service Awards 2013.

2013 Summits & Briefings

120th Briefing Sir Thomas Hughes-Hallett

Preventing a Health Crisis in Essex: Sir Thomas Hughes-Hallett made an entertaining and provocative presentation about an innovative and independent Commission which identified five high-impact solutions to prevent a future crisis in health and social care in Essex.

119th Briefing - Professor Hardev Pandha

A new test for Bladder Cancer: Professor Hardev Pandha, a clinician scientist and medical oncologist at the University of Surrey, presented the research he has been leading into a new test for bladder cancer;

118th Briefing - Professor Martin Dennis

Inflatable Leg Wraps for Stroke Patients: Martin Dennis, Professor of Stroke Medicine in the Division of Clinical Neurosciences at the University of Edinburgh, spoke about the trial he has been leading using inflatable leg wraps for stroke patients.
117th Briefing - Dr Elizabeth Blackburn

Telomeres and Ageing: Nobel Prize Laureate Dr Elizabeth Blackburn speaks about the research program of the Blackburn Laboratory at the University of California in San Francisco, which focuses on telomeres, the structures stabilizing the ends of the eukaryotic chromosomes, and the enzyme telomerase. Human beings can have a long life expectancy, but accumulating evidence suggests that insufficient telomere maintenance may limit the extent of healthy life, including increasing the risks and incidences of common chronic diseases that become prevalent as humans age.

116th Briefing - Dr Bernie Marden

How re-designing a neonatal unit improved patient care: Consultant neonatologist and paediatrician Dr Bernie Marden spoke about the £6.1 million revamp of the neonatal unit at the Royal United Hospital in Bath and its impact on patient care. The unit was part funded and designed by Sir James Dyson.

115th Briefing - Tzameret Fuerst

PrePex - a revolution in HIV prevention: Tzameret Fuerst is the Co-Founder & President of Circ MedTech, developers of the PrePex device for non-surgical adult male circumcision for HIV prevention in resource limited settings. The FDA cleared device was hailed as a revolution in HIV prevention by UNAIDS Chief, Michel Sidibe, and is currently in pilots in all WHO target countries in Africa, funded by the Bill & Melinda Gates Foundation and the US Government.

114th Briefing - Dr Shamus Husheer and Dr Oriane Chausiaux

Helping infertile patients conceive naturally: Cambridge Temperature Concepts develops consumer telemedicine solutions to pressing healthcare needs. Research scientists Dr Shamus Husheer and Dr Oriane Chausiaux spoke about the DuoFertility product which helps infertile patients conceive naturally, by providing continuous at-home fertility monitoring linked to expert support.

113th Briefing - Barbara Spurrier

Innovation at The Mayo Clinic, USA: The Mayo Clinic is undoubtedly one of the most prestigious names in the medical community and is well known around the world for its clinical excellence. But how does it...
maintain this world class status? Barbara Spurrier from The Center for Innovation at the Mayo Clinic will make a presentation about the ways in which innovation has become a central tenet of the Mayo Clinic's delivery of services and vision for the future.

112th Briefing - Professor Paul Anderson

Computerised model of the human anatomy: Professor Paul Anderson, of Glasgow School of Art's Digital Design Studio, will be speaking about how he created a computerised model of the human anatomy which is possibly the most accurate in the world. The new technology will be used to educate the next generation of doctors and dentists.

111th Briefing - Professor Sian Harding and Dr Alexander Lyon

Gene therapy clinical trials for heart failure patients: In the coming weeks, two extraordinary clinical trials will begin. The trials will be the first attempt in Britain to treat heart failure patients with gene therapy. Professor Sian Harding of Imperial College and Dr Alexander Lyon from The Royal Brompton Hospital will explain how they hope the trials will lead to a significant improvement in the efficiency of the diseased heart to pump blood around the body.

110th Briefing - Professor Peter Friend and Professor Constantin Coussios

Keeping livers alive for longer, for transplantation: In a world first, British surgeons have successfully transplanted livers that were kept 'alive' thanks to a new device that can keep the organ functioning outside the body for several days. Oxford University's Professor Peter Friend, who developed the technology, will be making a presentation with Professor Constantin Coussios about this exciting development which may double the number of livers available for transplantation.

109th Briefing - Jannette Spiering

Innovative care for dementia patients: Over 800,000 people in the UK have dementia, supported by over 670,000 carers. These numbers are large and growing fast. What can the UK learn from colleagues based overseas? Many experts are monitoring the progress of an innovative care facility in Holland called 'Hogewey', dubbed by the media as 'Dementiaville'; the world's first and only village for dementia patients. Jannette Spiering, who is the Managing Director, will be speaking about Hogewey's extraordinary history, development and services.
108th Briefing - Professor David Stuart

A new vaccine for foot-and-mouth disease: British scientists have developed a new vaccine against foot-and-mouth disease that is safer and easier to manufacture. Professor David Stuart, who led the research at Oxford University, believes the technology behind the livestock product could be applied to make improved human vaccines against similar viruses, including polio. Between 3 billion and 4 billion doses of foot-and-mouth vaccine are administered every year worldwide, but there are shortages in Africa and Asia.

107th Briefing - Dr Sandro Carrara

A wireless blood-testing device: Scientists have developed a tiny blood-testing device that sits under the skin and gives instant results via a mobile phone. The wireless prototype can simultaneously check for five different substances in the blood. The readings are then beamed to the doctor using Bluetooth technology. Dr Carrara is based at the Ecole Polytechnique Federale de Lausanne, Switzerland.

106th Briefing - Professor Simon Kay

UK's first hand transplant: The UK's first ever hand transplant took place at Leeds General Infirmary in December last year. The surgical team was led by Professor Simon Kay, an internationally renowned microsurgeon. The surgery was two years in the planning and preparation, and lasted eight hours. Professor Kay made history by becoming the first to remove a recipient's non-functioning right-hand and transplanting the donor hand in the same surgery.

105th Briefing – Dr Olga Kubassova

Advance image analysis techniques: Born in Kazakhstan and educated in Russia, Olga Kubassova eventually found herself in Leeds doing a PhD in Computer Science on the development of algorithms. These were used for automated analysis of MRI data in order to provide more accurate disease detection and objective quantification of treatment impact. Using her research she founded a thriving business, Image Analysis which provides advanced medical image analysis techniques. Now based in London and employing over 20 staff, she is an award-winning scientific...
entrepreneur whose ambition is to speed up detection of life threatening diseases and improve the way patients are diagnosed today.

104th Briefing - Dr Thomas Burke

**Life-saving medical technology for the developing world:** Creating simple, life-saving medical technology for the developing world is Dr Thomas Burke's goal. His focus is homemade devices made from readily available materials, such as the invention of the 'uterine balloon'. His day job is as an emergency medicine specialist and Chief of the Division of Global Health and Human Rights at Massachusetts General Hospital, USA.

103rd Briefing - Professor Michael Thali

**Virtual autopsies:** Flying in from Switzerland just for the Summit, Professor Michael Thali of the Universität Zürich, will be making a presentation about his state-of-the-art computer-assisted autopsy system. The method called 'Virtopsy' is being used at selected forensic medical institutes in Europe. Instead of reaching for a scalpel and making the traditional 'Y'-shaped incision, pathologists are now able to examine the corpse in 3D via computer screens. Professor Thali's invention has been described as a 'virtual autopsy'.

102nd Briefing - Anne Wojcicki, Founder and CEO, 23andMe.com

**Explore your own DNA:** 'Discovering your DNA is cheap and easy and that genetic knowledge could change - even save - your life' says Anne Wojcicki, founder and CEO of 23andMe. Her company offers a genetic analysis of a person's risk for more than 100 diseases and conditions, for $99 (equivalent to approximately 64 GBP)

101st Briefing - Dr Tom Carrell

**Using Gaming Technology in the Surgical Theatre:** Dr Carrell, a consultant vascular surgeon and reader in imaging sciences, made a presentation about his trial at St Thomas’ Hospital in 'touchless' gesture-based gaming technology to access and manipulate images to help carry out keyhole surgery.
100th Briefing - Mr Roger Killen

The VitalPAC system: Roger Killen, CEO of The Learning Clinic gave a briefing about the award-winning VitalPAC system which enables doctors and nurses to record clinical data on hand held devices at the bedside, analyse it instantly, and automatically summon timely and appropriate help. This has shortened lengths of stay, reduced admissions to intensive care and cut mortality rates.

99th Briefing - Lord Saatchi

Medical Innovations Bill: Lord Saatchi made a presentation about his Medical Innovations Bill going through the House of Lords. The bill aims to prevent doctors from being held liable for clinical negligence if they innovate during cancer treatment.

98th Briefing - Jack Andraka

A cheaper and faster test for Pancreatic Cancer: Jack is a 15 year old school student from Baltimore and passionate about medicine and science. Earlier this year, he invented a test for pancreatic cancer which is 168 times faster and cheaper than the gold standard in the field. He did it by using ‘Google’ and has now applied for a patent for his test. When not attending regular classes at school, Jack is conducting new research at Johns Hopkins University.

97th Briefing - David Cranston and Professor Gail ter Haar

High-intensity focused ultrasound (HIFU): High-intensity focused ultrasound (HIFU) is a highly precise and novel medical procedure that applies high-intensity focused sonic energy to locally heat and destroy diseased or damaged tissue through ablation. This will be the focus of a presentation by consultant urological surgeon, David Cranston, who is the clinical director of the HIFU unit at the Churchill Hospital, Oxford and Professor Gail ter Haar, the Scientific Director of the HIFU unit. The unit has close links with Chongqing in China.
**96th Briefing - Professor Judith Hall**

The Hall-Lock System: A novel interlocking system which helps to prevent the mis-administration of drugs in hospital, will be the subject of a presentation by Professor Judith Hall of Cardiff University School of Medicine's Infection and Immunity Institute. The Hall Lock system uses shape-and colour-coded interlocking fluid couplings which can only link with the correct fitting, rather than the common locking mechanism currently in use. It aims to prevent wrong route injections for patients, which although rare, can be extremely serious.

**95th Briefing - Wayne Guerra MD**

Mobile/Web applications offer a symptom-to-provider pathway: iTriage is a global health care technology company founded in 2008 by two emergency medicine physicians. The company's market-leading platform and mobile/Web applications offer a symptom-to-provider pathway that empowers consumers to make better health care decisions. The iTriage app has been downloaded over 7 million times. Wayne Guerra MD, Chief Medical Officer and co-founder of iTriage will speaking about the company's success and plans for the future.

**94th Briefing - Dr Philip Souter**

Innovative water purification powder for use in the developing world: Dr Philip Souter (with his colleague Dr Greg Allgood) have recently won a Social and Economic Innovation Award from The Economist magazine. Dr Souter, a research scientist for Procter & Gamble UK, will speak about the creation and development of an innovative water purification process, the controlled trials and the impact his packets of powder are having in developing countries.

**93rd Briefing - Professor Eduard Gratacos**

World-first lung surgery on a patient in her mother’s womb: World-first lung surgery while the patient was in her mother's womb, is the subject of a presentation by Professor Gratacos, from Barcelona. This particular surgery, conducted at the Hospital Clinica (which is one of the top five centres in the world for foetal surgery) had never previously been conducted successfully before. The operation was a joint effort with surgeons from the Joan de Deu hospital.
92nd Briefing - Dr Breanne Everett

A state-of-the-art pressure-sensing insole and wristband for Diabetics: Diabetes is one of the most devastating and growing epidemics of modern society. Dr Breanne Everett is the founder of Canadian-based Orpyx and two highly innovative plantar sensory replacement systems which are designed to help patients with diabetes. Orpyx’s flagship product is the SurroSense Rx - a state-of-the-art pressure-sensing insole and wristband system designed to tackle foot complications.

91st Briefing - Dr Yacov Geva

The world's first medical smartphone: The world's first medical smartphone was launched in July. 'The LifeWatch V' offers multiple medical tests. Externally, it looks just like any other smartphone, yet its frame includes quick, accurate and high-quality medical sensors, powering seven health tests. Users can measure and track their health and vital signs. All collected data can be viewed later, online or on the phone and securely shared with a health provider or family member. Dr Geva is the Chairman and CEO of Lifewatch and will be travelling from Chicago just for the Summit.

90th Briefing - Professor Chris Contag

Next generation Micro-endoscopes: Creating next-generation microendoscopes used in the oesophagus, stomach and intestine, allowing pathologists to peer in three dimensions below the tissue surface, is the focus of a presentation by Professor Contag, a microbiologist based at Stanford University, California. ‘Point-of-care pathology’ is part of a convergence of medical technologies that make it increasingly possible for surgeons and medical technicians to make informed, on-the-spot decisions about patient care.

89th Briefing - Professor Hani Gabra and Dr Noel L Johnson

The Alpha-Pump: Just this month it was announced that a British woman is the first cancer patient to have a pump implanted in her body in an experiment that doctors said could be a ‘game-changer’ for thousands of patients. Professor Hani Gabra of Imperial College and Dr Noel Johnson, the founder, President and CEO of Sequana Medical will be making a presentation about everything that has been achieved to date, prior to a full clinical trial.
**88th Briefing - Professor Christopher DeGiorgio and Dr Colin Kealey**

The Epilepsy Patch: A new 'patch' for epilepsy worn on your forehead while you sleep is now available in the UK on prescription. The external Trigeminal Nerve Stimulation system is the brainchild of Christopher DeGiorgio, a professor of neurology at the University of California in Los Angeles (UCLA). In the most recent survey, more than 40% of patients experienced a reduction in symptoms. In other trials the results were over 70%. Around 500,000 people in the UK suffer from epilepsy. Professor DeGiorgio will present with Dr Colin Kealey, Manager for Business Development Director for NeuroSigma Inc.

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**2012 Summits & Briefings**

**87th Briefing - Jack Choi**

The Virtual Dissection Table: Jack W. Choi is the founder and CEO of Anatomage Inc., based in California. Beginning as an imaging software company, Anatomage now makes 3D imaging software, an image-guided surgical device, anatomy modeling contents and the virtual dissection table. The table is a powerful tool for training medical students and is a stretcher-sized multi-touch screen of the human body that allows students to explore, dissect and understand the body's parts and systems.

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**86th Briefing Lucien Engelen**

Crowd-sourcing defibrillators: How can new technologies change patient care models in the context of rising demand for healthcare, shortage of skilled staff and restrictive budgets? This presentation will feature an online community for young cancer patients and an extraordinary initiative crowdsourcing automated external defibrillators. The speaker will be Lucien Engelen, the Director of the Radboud REshape & Innovation Centre at the Radboud University Medical Centre in Nijmegen, Holland.

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**85th Briefing - Matt Jameson-Evans and Jorge Armanet**

HealthUnlocked: For people carrying the burden of chronic health problems like diabetes, hepatitis or cancer, feeling alone and in the dark about their treatment options can be a fact of life. Without tools to discuss and compare notes, the explosion of online health information can be as confusing
as it is helpful. HealthUnlocked, founded by Matt Jameson-Evans and Jorge Armanet, provides tools to make the most of the hidden experts out there. Their web-based tools are designed for specific diseases with patient groups. The tools help gather the knowledge and experience of patients and to share it with a wider patient audience. The information and sense of support can reduce the isolation and fear of people facing chronic conditions.

84th Briefing - Dr Mohammad Al-Ubaydli

The first patient-controlled medical record system: ‘Patients Know Best’ has created the world’s first patient-controlled medical records system. The company was the first to integrate into the NHS secure network for patients and is a system available for use by any patient with any clinician anywhere in the world. Dr Mohammad Al-Ubaydli is the company's CEO and he will be speaking about the way GPs could "prescribe" smartphone apps to patients to help them manage their own health and how patients can better manage chronic conditions such as diabetes and hypertension. The ‘Patients Know Best’ app was one the best received apps as part of a competition run by the NHS and Department of Health.

83rd Briefing - Dr Neil Bacon

The TripAdvisor of Healthcare: Dubbed ‘the TripAdvisor of Healthcare’, IWantGreatCare.org is the UK’s only open, independent service allowing the public to rate and review their doctors, dentists, hospitals, medicines and care homes. Giving patients and the public unprecedented power to feedback and improve the care they receive. Care providers (and their patients) who were early adopters of the service are now benefiting from the transformational way in which IWantGreatCare.org allows strategy and service delivery to be continuously improved through the voice of the user to achieve "astonishing results". The company’s founder, Dr Neil Bacon will be presenting. Dr Bacon is also the founder of doctors.net.uk, the world's largest, online, professional medical network.

82nd Briefing - Josh Nesbit

Medic Mobile: 24 year old, Californian-based, Josh Nesbit is having quite the impact in Africa. He has been using cheap mobile phones to connect the developing world’s poor with remote medical professionals. Nesbit established ‘Medic Mobile’ which has developed tools that allow health care workers to explain patients’ symptoms - and transmit medical records - using simple text messages. Nesbit hopes to soon be in partnership with a group from UCLA to offer a £10 diagnostic tool that uses a mobile phone's light and camera to remotely analyse a blood sample for malaria and tuberculosis.

81st Briefing - Ruth Keir and Dr Jenny Barnett

A new iPad-based memory test: Cambridge Cognition: Ruth Keir and Dr Jenny Barnett of Cambridge Cognition, will be speaking about a new iPad-based memory test which can spot dementia in its earliest stages, when treatment can be most beneficial. Trials show that the CANTABmobile test accurately distinguishes normal age-related forgetfulness from dementia and other treatable memory problems. Patients who receive treatment are more likely to be able to continue working and living independently. Doctors currently use pen-and-paper tests to screen for dementia.
The world's first wirelessly controlled implant for delivering medication has been successfully tested on humans, raising hopes that millions suffering from chronic diseases will soon be able to dispense with daily injections. Doctors would be able to seamlessly adjust their patients' treatment from a computer or mobile phone. Robert Farra, President of the medical technology company MicroCHIPS, will be flying in from the USA to brief us on this extraordinary technology.

Using a camera inside the heart during atrial fibrillation: Oliver Segal is a Consultant Cardiac Electrophysiologist at The Heart Hospital in London. Dr Segal has recently been using a new procedure developed in the USA which allows him to see inside a beating heart. By inserting a clear balloon into the heart containing a tiny camera, ½mm in width, when it's inflated inside the heart, the balloon pushes out the blood in the area, so the camera can acquire a clear view of the tissue which needs treating. The laser balloon cures atrial fibrillation in 90 per cent of cases first time. This new device will potentially transform treatment of atrial fibrillation and will save costs as patients are much less likely to need more than one operation.

The Bionic Eye: Tim Jackson, a consultant ophthalmic surgeon will be speaking about 'The Bionic Eye'. He will explain the ground-breaking surgery which took place at King's College Hospital, London, in March 2012, which involved the successful implantation of an electronic retina into the back of an eye. The retinal implants have been developed by Retina Implant of Germany to restore some sight to people with retinitis pigmentosa, an inherited condition that affects around one in every 3,000 - 4,000 people in Europe. The surgery is part of a UK clinical trial funded by a grant from the National Institute of Health Research with extra support from the Oxford Biomedical Research Centre.

Targeted Muscle Reinnervation: The design of prosthetic arms - basically a stick and a hook - hasn't really been updated since the American Civil War. However, researchers at the Rehabilitation Institute of Chicago are building new arms and hands that can be controlled by the same impulses from the brain that once controlled flesh and blood limbs. A technology called targeted muscle reinnervation uses nerves that remain after an amputation to control an artificial limb. Brain impulses that used to control the intact limb are detected and sent to a computer in the prosthesis that then tells motors how to move the limb. An unexpected benefit for some patients is that not only can they move their new limb more easily, they might also be able to feel with it. Dr Annie Simon, Research
Scientist at the Centre for Bionic Medicine, is flying in from the USA to brief us on this exciting innovation.

76th Briefing - Assistant Professor John Qualter

**Biomedical state-of-the-art visualisation systems:** Flying in from the USA is John Qualter, Research Assistant Professor of Educational Informatics at New York University's Langone Medical Centre. He is the co-founder of BioDigital, a company which specialises in providing biomedical state-of-the-art visualisation systems to improve training, communication and the interpretation of medical information. Using 3D animation, virtual training environments and systems which intuitively store and visualise scientific data, BioDigital is helping to revolutionise the way medical information and concepts are understood.

75th Briefing - Ludvic Zrinzo

**Deep brain stimulation:** Consultant neurosurgeon Ludvic Zrinzo has a subspecialty interest is deep brain stimulation (DBS). In December, Mr Zrinzo and colleagues made national news when they successfully used DBS to treat a patient with severe refractory Tourette syndrome who was losing the will to live, due to uncontrollable tics. Mr Zrinzo will be reporting on innovative work with deep brain stimulation at the National Hospital for Neurology and Neurosurgery, London and the UCL Institute of Neurology.

74th Briefing - Professor Alexander Seifalian

**The world's first synthetic windpipe:** Professor Alexander Seifalian led the team at University College London, which developed the world's first synthetic windpipe - a medical masterpiece in nanotechnology. He will speak about development of surgical implants using nanocomposite materials and stem cells as well as the extraordinary innovation and the operation on a cancer patient, an Eritrean student, which was conducted by an Italian surgeon at a Swedish hospital.

73rd Briefing - Katherine Bomkamp

**Inventing a 'Pain-Free-Socket' to combat phantom pain:** Phantom pain, the pain of a non-existent limb caused by the brain continuing to send signals and commands to the limb, affects 80 percent of the world's 10 million amputees. To tackle this problem, Katherine Bomkamp, a 20 year old student at West Virginia University, USA, has invented an award-winning "Pain Free Socket".
72nd Briefing - Associate Professor Yoav Medan

Incisionless surgery via focused ultrasound: Imagine having surgery with no knives involved and developing a tool for incisionless surgery via focused ultrasound. Yoav Medan is currently a visiting Associate Professor at the BioMedical Engineering department of the Technion - Israel Institute of Technology. He has been until recently Vice President and Chief Systems Architect at InSightec Ltd., responsible for developing new platforms for magnetic resonance guided focused ultrasound technology.

71st Briefing - Piers Gough and Mandy McMahan

Designing a new cancer care centre: The architect Piers Gough and the fashion designer Sir Paul Smith have collaborated to create an unusual cancer centre in Nottingham for the charity Maggie's. The brief was to create a centre of calm beauty to support those undergoing treatment for cancer. Maggie's cancer centres have been so successful there are now plans to build them in Hong Kong and Barcelona. Piers and the Centre's charismatic manager and clinical psychologist Mandy McMahan, will be speaking about the planning that went into the newest and nineth centre.

70th Briefing - Mark Koska

Inventing an auto-disable syringe: Marc Koska is the inventor of an auto-disable syringe and founder of the charity SafePoint. Mr Koska has recently persuaded the Tanzanian government to become the first country in the world to move exclusively to using syringes that self-destruct after a single use, thus preventing the transmission of HIV/Aids by multiple-use of the same syringe. The World Health Organisation estimates over 1.3 million die every year as a result of the reuse of syringes.

69th Briefing - Jonathan O'Halloran and Elaine Warburton

A hand-held sample-to-result DNA sequencer: British company QuantuMDx Group is developing a hand-held sample to result DNA sequencer able to provide the DNA sequence analysis in under 20 minutes. This technology, together with on-board and interactive interpretative aid tools, assist the decision making and patient education processes. The device promises to bring personalised medicine to clinics, GPs' surgeries and possibly pharmacies. The easy to use device can process most sample types to test for any disease with validated DNA/RNA associated disease biomarkers, including genetic testing, infectious disease diagnosis and resistance status, etc, for as little as £10 per test. Jonathan O'Halloran, Chief Scientific Officer and Elaine Warburton, CEO, will be speaking about this exciting and award winning development.
**Total artificial heart transplantation:** Consultant cardiothoracic surgeon Steven Tsui will be speaking about the operation he led on Matthew Green, the first person in the UK to receive a total artificial heart transplant. Mr Tsui led his team through training in Paris before undertaking the groundbreaking surgery.

**Simultaneous delivery of multiple results on a single test cartridge:** Hermes Chan - who was named BioScience Innovator of the Year by The Economist in 2007 - is the inventor of a patented rapid flow-through technology platform, the engine behind advanced rapid tests. These tests help healthcare providers, public health agencies, and individuals prevent and control the spread of infectious diseases like HIV and Hepatitis, two of the top 10 causes of infectious disease deaths worldwide. Unique to Chan's company, MedMira and their rapid tests, is their ability to simultaneously deliver multiple results on a single test cartridge using a single drop of specimen.

**dCELL® Technology:** Professor Eileen Ingham, an immunology specialist and member of the winning team of the Queen's Anniversary Prize, will speak about a revolutionary treatment which has allowed body parts from pigs to be transplanted into humans - without any risk of rejection by the patient's immune system. The new approach could mean functional tissue replacements that will never wear out. Antony Odell, the Managing Director of Tissue Regenix, will talk about the commercial opportunities associated with its patented dCELL® process.

**Separating Conjoined Twins:** Consultant craniofacial surgeon David Dunaway led the team that successfully separated conjoined eleven-month-old twins Rital and Ritag Gaboura after four operations at London's Great Ormond Street Hospital. Mr Dunaway will be speaking about the challenges of this kind of operation, as it is estimated that only one in ten million survive the rare condition of craniopagus.
2011 Summits & Briefings

64th Briefing, Dec 2011 - An Innovative Model of Healthcare: Cardiac Surgery in Bangalore
Dr Devi Shetty, India - www.narayanahospitals.com

63rd Briefing, June 2011 - The Bionic Eye
Mr Lyndon da Cruz, Moorfields Eye Hospital, London - www.moorfields.nhs.uk

62nd Briefing, June 2011 - Regenerative Therapy for Burn Victims
Professor Jörg C. Gerlach, University of Pittsburgh, PA, USA - www.mirm.pitt.edu

61st Briefing, June 2011 - Pluripotent Stem Cells
Dr Paul Fairchild, Oxford Stem Cell Institute, Oxford, UK - www.stemcells.ox.ac.uk

60th Briefing, June 2011 - Genetically modifying mosquitos to combat dengue fever

59th Briefing, June 2011 - Arts for Alzheimer's
Dr John Zeisel, Hearthstone Alzheimer Care, MA, USA - www.thehearth.org

58th Briefing, June 2011 - Birth of Customised Transplants
Professor Shay Soker, Wake Forest School of Medicine, NC, USA - www.wakehealth.edu

57th Briefing, June 2011 - Mobiles Transforming Data Collection in Developing Countries
Dr Joel Selanikio, DataDyne, USA and Kenya - www.datadyne.org

56th Briefing, June 2011 - Harnessing the HIV Virus
Professor Mary Collins, UCL, London - www.ucl.ac.uk

55th Briefing, June 2011 - London Pathway for Homeless Patients
Dr Nigel Hewett, UCLH, London - www.pathway.org.uk

54th Briefing, June 2011 - Animal and human medicine working together - the world's first bionic cat
Dr Noel Fitzpatrick, Fitzpatrick Referrals, Surrey - www.fitzpatrickreferrals.co.uk

53rd Briefing, June 2011 - Campaign Against Severe Acute Malnutrition
Dr André Briend, Inventor of Plumpy'nut, France - www.nutriset.fr

52nd Briefing, May 2011 - Tackling pharmaceutical counterfeiting using mobile technology in Africa
Mr Bright Simons, Founder, mPedigree, Ghana - www.mpedigree.net

51st Briefing, May 2011 - The VivoSight multi-beam hand-held probe
Ms Katie Lacy and Dr Andrew Coleman, Guy's and St Thomas' NHS Foundation Trust, UK
www.michelsondiagnostics.com and www.kcl.ac.uk
50th Briefing, May 2011 - **Using technology to provide remote-care for patients with chronic conditions**  
Helen Lyndon and Dave Tyas, Cornwall and Isles of Scilly Primary Care Trust  
[www.kernowccg.nhs.uk](http://www.kernowccg.nhs.uk)

49th Briefing, April 2011 - **A world first - to perform remote heart surgery using a robotic arm**  
Dr Andre Ng, Glenfield Hospital, Leicester, UK - [www2.le.ac.uk](http://www2.le.ac.uk)

48th Briefing, April 2011 - **Tournistrip – an Innovative disposable tourniquet**  
Dr Christian Fellowes and Dr Ryan Kerstein - [www.asephealthcare.com](http://www.asephealthcare.com)

47th Briefing, April 2011 - **A 'wrist watch' sensor to revolutionise checks on blood pressure**  
Professor Bryan Williams, University of Leicester, UK - [www2.le.ac.uk](http://www2.le.ac.uk)

46th Briefing, March 2011 - **Pioneering a new model of healthcare**  
Mr Ali Parsa, Managing Director, Circle, London, UK - [www.circlepartnership.co.uk](http://www.circlepartnership.co.uk)

45th Briefing, March 2011 - **Extraordinary integrated patient monitors on land, sea and air**  
Mr Graham Murphy, CEO, RDT Ltd, Berkshire, UK - [www.rdtltd.com](http://www.rdtltd.com)

44th Briefing, March 2011 - **A life-saving transplant from a so-called saviour sibling**  
Mr Simon Fishel, CARE Fertility Group, Nottingham UK - [www.carefertility.com](http://www.carefertility.com)

43rd Briefing, Feb 2011 - **ColaLife a unique way to distribute medical supplies across Africa**  
Mr Simon Berry, Founder and CEO, ColaLife - [www.colalife.org](http://www.colalife.org)

42nd Briefing, February 2011 - **Glide Pharma - less invasive injections**  
Dr Charles Potter, Glide Pharmaceuticals, Oxfordshire, UK - [www.glidepharma.com](http://www.glidepharma.com)

41st Briefing, Feb 2011 - **BrainLab - a ‘sat-nav’ guidance system for neurosurgery of the brain**  
Dr Sasha Burn, Alder Hey Hospital, Liverpool, UK and Mr Scott Dawber, BrainLab  
[www.alderhey.nhs.uk](http://www.alderhey.nhs.uk) - [www.brainlab.com](http://www.brainlab.com)

### 2010 Summits & Briefings

40th Briefing, November 2010 - **The world's first artificial pancreas**  
Professor Joan Taylor, De Montfort University, Leicester, UK - [www.dmu.ac.uk](http://www.dmu.ac.uk)

39th Briefing, November 2010 - **A retractable screen / temporary partitions between hospital beds**  
Mr Michael Korn, Creator of KwickScreen - [www.kwickscreen.com](http://www.kwickscreen.com)

38th Briefing, November 2010 - **Groundbreaking surgical technique to rebuild the leg of a patient**  
Professor Anan Shetty, Spire Alexandra Hospital, Kent, UK - [www.spirehealthcare.com](http://www.spirehealthcare.com)

37th Briefing, July 2010 - **Sensei robotic catheter system and Artisan control catheter**  
Dr Frederic Moll, President and CEO, Hansen Medical Inc, CA, USA - [www.hansenmedical.com](http://www.hansenmedical.com)

36th Briefing, July 2010 - **Prescription medication kiosks**  
Peter Ellis and Peter Suma, PharmaTrust, Ontario, Canada - [www.pharmatrust.com](http://www.pharmatrust.com)
35th Briefing, July 2010 - World's first use of ultrasound to treat bowel cancer
Professor Paul Abel, Hammersmith Hospital, London - www1.imperial.uk

34th Briefing, July 2010 - The world's first trachea transplant on a child
Professor Martin Elliott, Great Ormond St Hospital, London - www.gosh.nhs.uk
and Professor Paolo Macchiarini, Careggi University Hospital, Florence, Italy - www.ctsnet.org

33rd Briefing, July 2010 - The world's first artificial heart and stem cell operation
Professor Stephen Westaby, John Radcliffe Hospital, Oxford - www.ctsnet.org
and Dr Kyriakos Anastasiadis, Ahepa University Hospital, Greece - www.ahepahosp.gr

32nd Briefing, July 2010 - The world's first ovary transplant
Dr Sherman Silber, The Infertility Centre of Saint Louis, Missouri, USA - www.infertile.com

31st Briefing July 2010 - One-hour cure for high blood pressure?
Dr Mel Lobo, Barts and The London NHS Trust - www.hypertensionspecialist.co.uk
and Dr Paul Sobotka, Ardian, California, USA - www.coridea.com/innovations

30th Briefing, July 2010 - Wound management using flesh-eating maggots
Dr Alun Morgan and Mrs Gill Davies, ZooBiotic - www.biomonde.com

29th Briefing, July 2010 - A fridge-free vaccine for the developing world
Professor Adrian Hill, Jenner Institute, University of Oxford, UK - www.well.ox.ac.uk

28th Briefing, March 2010 - The digital plaster
Professor Christopher Toumazou, Imperial College, London, UK - www.toumaz.com

27th Briefing, March 2010 - An interview with Prof Dame Sally Davies
Director General, Research and Development, Dept of Health, UK - dh.gov.uk

26th Briefing, Feb 2010 - A suitcase-sized anaesthetic machine for use in developing countries
Dr Roger Eltringham, Gloucestershire Royal Hospital, UK and Mr Robert Neighbour, Diamedica, Barnstaple, Devon, UK - www.diamedica.co.uk

25th Briefing, February 2010 - Wireless touchscreen insulin pump
Dr David Kerr, Bournemouth Diabetes and Endocrine Centre, UK
and Mr William McKeon, President, Cellnovo, UK - www.cellnovo.com

24th Briefing, January 2010 - Safety checklists for surgeons
Dr Atul Gawande, Brigham and Women’s Hospital, Boston, USA - www.gawande.com

23rd Briefing, Jan 2010 - MediKidz: Using modern communications to help teach sick children
Dr Kate James and Dr Kim Chilman-Blair, MediKidz, London - www.medikidz.com

22nd Briefing, January 2010 - CyberKnife
Dr Euan Thomson, CEO, Accuray, California, USA and Mr Nick Plowman, The London Clinic, UK
www.accuray.com
2009 Summits & Briefings

21st Briefing, November 2009 - **Regenerative medicine**
Professor Sir Ian Wilmut, MRC, Edinburgh, Scotland - www.crm.ed.ac.uk

20th Briefing, October 2009 - **Stem cells and care for stroke patients**
Professor Keith Muir, Glasgow University and Dr John Sinden, ReNeuron, Guildford, www.gla.ac.uk and www.reneuron.com

19th Briefing, September 2009 - **Implants that ease symptoms of Parkinson’s disease**
Professor Miguel Nicolelis, Duke University, North Carolina, USA - www.nicolelislab.net

18th Briefing, September 2009 - **Inventing the optysen lens-free ophthalmoscope**
Professor Roger Armour, UK

17th Briefing, September 2009 - **Could stem cells end heart transplants?**
Professor Christopher Denning, University of Nottingham, UK - www.nottingham.ac.uk

16th Briefing, September 2009 - **Self tuning glasses in the developing world**
Professor Josh Silver, Oxford University, UK - www.vdwoxford.org

15th Briefing, September 2009 - **Heart works - a 3D animated heart**
Dr Bruce Martin, Dr Andrew Smith and Dr Sue Wright, UCLH, UK - www.heartworks.me.uk

14th Briefing, September 2009 - **Facial transplantation**
Professor Laurent Lantieri, Creteil Henri-Mondor Hospital, Paris, France - www.face-transplantation.com

13th Briefing, September 2009 - **Single port laparoscopy**
Mr PA Paraskeva, Imperial College, London - www1.imperial.ac.uk

12th Briefing, September 2009 - **Pioneering brain implants for premature babies**
Professor Jean-Pierre Lin, Guy’s and St Thomas’ NHS Trust - www.doctoralia.co.uk
and Mr Richard Selway, King’s College Hospital, London - www.kch.nhs.uk

11th Briefing, Sept 2009 - **Optical tomography in cancer diagnostics & tissue research**
Jon Holmes, Managing Director, Michelson Diagnostics, Orpington, Kent, UK
www.michelsondiagnostics.com

10th Briefing, September 2009 - **Human embryonic stem cell based therapeutics**
Dr Thomas B Okarma, CEO, Geron Inc, California, USA - www.geron.com

9th Briefing, July 2009 - **PillCam**
Mr Nachum Shamir, CEO, Given Imaging, Israel and Professor Paul Swain, St Mary’s Hospital
www.givenimaging.com
8th Briefing, May 2009 - Experimental cancer medicine
Professor John Gribben, Barts and The London NHS Trust, London, UK - www.bci.qmul.ac.uk

7th Briefing, April 2009 - Medical innovations and the patient experience
Lord Darzi of Denham, Imperial College, London UK - www1.imperial.ac.uk

6th Briefing, April 2009 - Imaging for robotic-assisted surgery
Professor Guang-Zhong Yang, Imperial College, London - www1.imperial.ac.uk

5th Briefing, March 2009 - Innovations in Orthopaedic surgery and Acrobot
Professor Justin Cobb, Imperial College, London - www1.imperial.ac.uk

4th Briefing, January 2009 - World’s first tracheal transplantation
Professor Paolo Macchiarini, Careggi University Hospital, Florence, Italy - www.ctsnet.org

2008 Summits & Briefings

3rd Briefing, December 2008 - The latest multi-slice CT scanner
Mr Alistair Howseman and Mr Derek Tarrant, Philips Medical Systems, UK - www.healthcare.philips.com

2nd Briefing, September 2008 - Facial transplantation
Professor Peter Butler, Royal Free Hospital NHS Trust - www.lpsa.co.uk

1st Briefing, June 2008 - Heart works - a 3D animated heart
Dr Bruce Martin, Dr Andrew Smith and Dr Sue Wright, UCLH, UK - www.heartworks.me.uk

List of Innovators

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- Professor Paul Abel - The world’s first use of ultrasound to treat bowel cancer (July 2010)
- Mr Shafi Ahmed - Virtual and augmented reality: The future of global surgery training (September 2016)
- Ms Karen Aiach - Pioneering gene therapies for rare central nervous system (CNS) diseases (April 2017)
- Mr Shaked Alam - NooraHealth (September 2016)
- Dr Gavin Armstrong - A simple innovation to change the world (September 2016)
- Dr Sultan al-Sedairy - Sequencing the genomes of 100,000 citizens in Saudi Arabia to drive forward personalised medicine (April 2014)
- Dr M Al-Ubaydli - The first patient-controlled medical record system (June 2012)
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• **Sarah Brennan** - New website and app for young people with mental health challenges (July 2014)
• **Dr Andre Brennan** - Campaign against severe acute malnutrition (June 2011)
• **Ms Jane Brinson** - Highgate Primary School: Pastoral and therapeutic model (April 2018)
• **Dr Ronald Brus** - myTomorrows: Improving access to pre-approval medicines (April 2017)
• **Hawaa Budraa** - ‘PlaqueChecker’ - a device to tackle gingivitis (April 2016)
• **Mr Stephen Burke** - Ending age apartheid: how the care-home nursery can bring old and young together (September 2017)
• **Dr Thomas Burke** - Life-saving medical technology for the developing world (June 2013)
• **Dr Sasha Burn** - BrainLab - a sat nav guidance systems for neurosurgery of the brain (February 2011)
• **Professor Peter Butler** - Facial transplantation (September 2008)
• **Ms Naomi Campbell** - Introducing Droplet: Improving hydration care (April 2018)
• **Dr Mark Carlson** - A revolutionary pacemaker (April 2014)
• **Dr Sandro Carrara** - A wireless blood-testing device (June 2013)
• **Tom Carrell** - Using gaming technology in the surgical theatre (April 2013)
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• **Dr Oriane Chausiaux** - Helping infertile patients conceive naturally (September 2013)
• **Dr Kim Chilman-Blair** - MediKidz - Using modern communications to help teach sick children (January 2010)
• **Miss Renuka Chintapalli** - Developing a predictive tool for identifying FLNc-associated biomarkers of oesophageal cancer metastasis (September 2016)
• **Jack Choi** - The virtual dissection table (June 2012)
• **Andre Chow** - An educational app for surgical students (March 2014)
• **Pat Christen** - Using technology in driving positive health behaviour (April 2014)
• **Professor Justin Cobb** - Innovations in Orthopaedic Surgery and Acrobot (March 2009)
• **Dr Andrew Coleman** - The Vivosight multi-beam hand-held probe (May 2011)
• **Professor Mary Collins** - Harnessing the HIV virus (June 2011)
• **Professor Christopher Contag** - Next generation micro-endoscopes (February 2013)
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<td>Mr David Cranston</td>
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<td>Lyndon da Cruz</td>
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<td>Professor Nicholas Dale</td>
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<td>Lord Darzi</td>
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