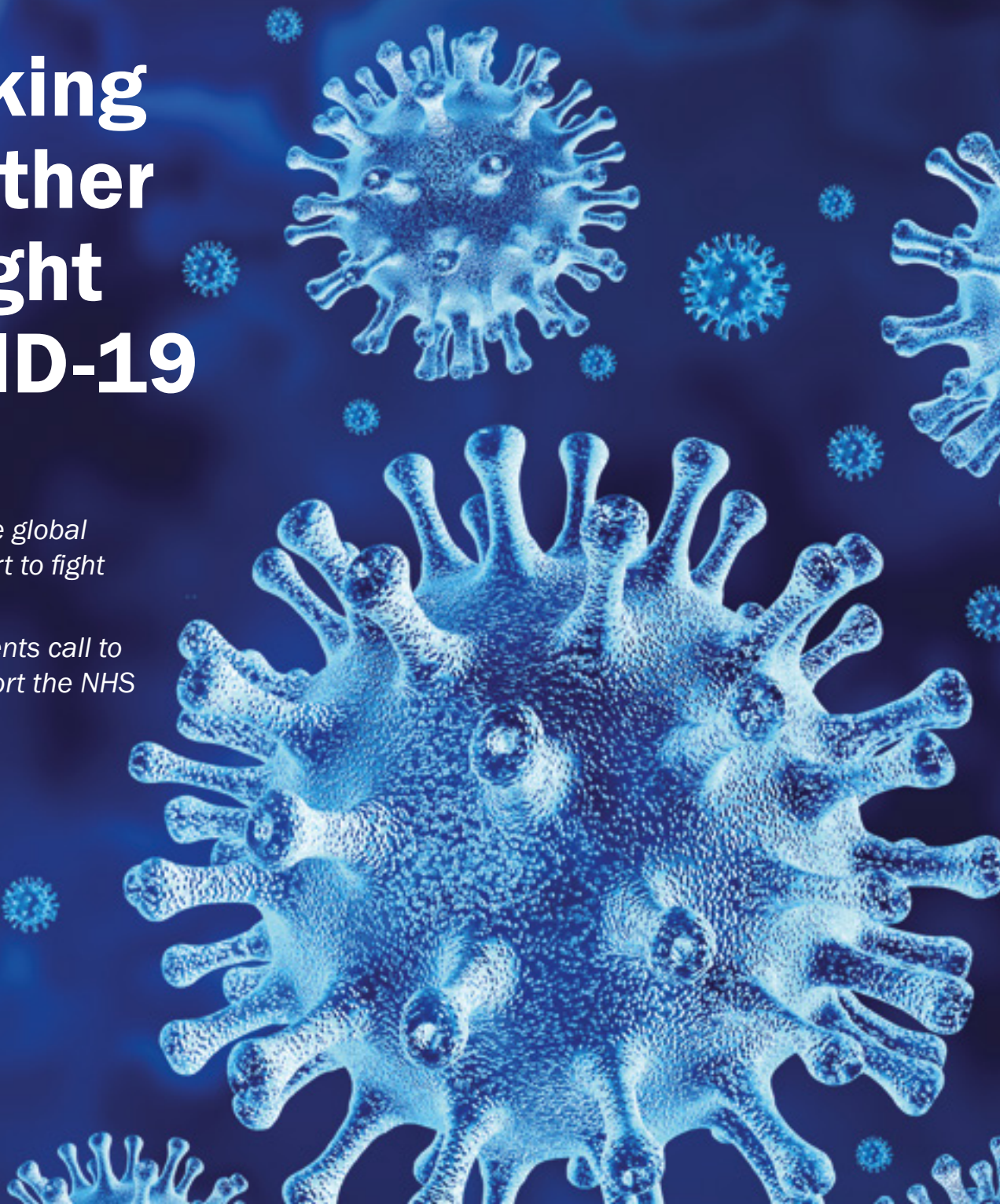
CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

School of Medicine
Ysgol Meddygaeth

Edition 34 – Autumn 2020

REMEDY

Working together to fight COVID-19



Inside:

Welcome

Welcome to the 34th Edition of ReMEDy.

Since our last publication in January, the world has changed dramatically and we have all had to adapt our social and professional lives, while global research efforts continue to work on ways to fight COVID-19. First and foremost, during these most challenging times, I hope that you and your families are keeping safe and well.

I took over as the Dean of Medicine at the start of 2020 and I reflect on my first nine months in the role. There has been a mammoth team effort by staff and indeed students to mitigate against the restrictions placed upon us and continue to deliver high quality student learning, research and public engagement. I am very proud of how strong, agile and adaptable we as a Medical School community have shown ourselves to be.

Over our months in 'lockdown' we achieved a number of successful firsts including our first virtual Open Days; our first Science in Health online event and our first virtual celebration of graduation for the class of 2020.

The Black Lives Matter movement emphasises the importance of continued development and prioritisation of race equality actions and I am fully committed to embedding this within the School. We have established a Student Staff Race Equality Task Group to collaborate on curriculum, assessment and pastoral initiatives to ensure that our values related to inclusivity, and support for students from all backgrounds, are meaningfully demonstrated. Working with students in the African Caribbean Medical Association (ACMA), Cardiff Healthcare International Perspectives Society (CHIPs) and MedSoc, I hope that collectively we can address race inequalities and ensure increasing student engagement to support an inclusive healthcare delivery in a multicultural society. Other School-wide work on equality, diversity and inclusion (EDI), continues and will be discussed in future issues of ReMEDy.

The School Executive team recognises that there is still much to do, and we are committed to embedding EDI in our practice and process and keeping this high on our programme of work.

I am pleased to report that the National Student Survey 2020 results show that our Medical Pharmacology programme has again received 100% overall satisfaction, and the MBBCh has increased from 86% to 91% overall satisfaction.

In this edition of ReMEDy we explore how we as a School are working together to fight this pandemic, highlighting many of the ongoing COVID-19 research projects which are part of a global response to fight this virus. We also highlight the efforts of our students, our greatest ambassadors, to support the NHS. Here I have to acknowledge our 2020 cohort as truly outstanding - entering the workforce under the extraordinary COVID conditions that nobody could ever have predicted. The design of our undergraduate programme, ensuring community and primary care exposure from a very early phase and the dedication of our clinical, academic and professional services staff played a huge part in ensuring that each and every one of our students was equipped for this unprecedented acceleration into the health workforce for the future.

Our popular alumnus conversation feature is with Dr Huw Williams, Director of our intercalated Emergency, Pre-hospital and Immediate Care course. We also recognise the work of the Clinical Skills and Simulation team, and the development of a unique new course, 'All Wales C-19 Ward Preparedness Course' by Dr Paul Frost, who is also a busy frontline, Intensive Care Consultant. This course covers the assessment, triage and management of COVID-19 patients and is aimed at junior doctors, senior students, nurses, and returning GPs.

ReMEDy is available electronically to the School's alumni and to ensure that you receive your copy, please inform us if you have changed your contact email address.

Update your details now:
www.cardiff.ac.uk/alumni-update

I hope you enjoy reading this edition and it finds you safe and well.

Professor Stephen Riley
(MD 2003, MBBCh 1993)
Dean, School of Medicine

In Conversation with...

Dr Huw Lloyd Williams

(MBBCh 2008, MRCEM, MSc 2016, FHEA)

Huw currently works alternating weeks between Cardiff University and the NHS. His role in Cardiff University is Programme Director of the 'Emergency, Pre-hospital and Immediate Care' (EPIC) intercalated BSc programme and the 'Hospital Front Door' (HFD) year 3 module lead for the Medicine MBBCh programme. He is also a final year trainee in the emergency medicine training programme.

"A regular day? There is no such thing in emergency medicine" says Huw. He continues: "I have also learnt that there is no such thing when working for the University either! There are always new challenges facing us each day both clinically and at the University (particularly with the rapid adjustments we have had to make due to COVID-19 over the last six months)."

Immediately after graduation, Huw started working as an F1 in Princess of Wales Hospital, Bridgend and lived in the doctors' accommodation for a year. Huw said: "My very first job was in the Emergency Department. As soon as I left to work in other specialties, I immediately missed emergency medicine and decided that is where my future would be."

Huw completed his foundation training in South Wales and started his emergency medicine training in Swansea and then at other Emergency Departments in South/South-East Wales, including Cardiff, Merthyr and Abergavenny. Huw adds: "In 2016, I started an 'out of training programme experience' (OOTPE) where for 2 years half of my time was spent with the Division of Population Medicine at Cardiff University as part of a team developing a new Emergency Medicine intercalated degree programme. Following the launch of the degree I moved to the School of Medicine where I have worked since 2018. I continue to work for the NHS every other week as an Emergency Medicine trainee and I am about to move into the new Emergency Department at the new acute Grange University Hospital (Cwmbran) in November this year."

On being asked why Huw chose Cardiff, he explains: "I grew up in South Wales and I was drawn to Cardiff because it seemed to give the ideal balance in a medical degree course: opportunities to have student life in a city and placement experiences in West Wales and rural North Wales. I had always imagined practicing in Wales, so becoming familiar with all of these different settings as a student seemed like a great idea. I studied at Cardiff at a time when change was afoot; the University of Wales College of Medicine (UWCM) merged with Cardiff University and students from the newly created Swansea Postgraduate Programme joined the final two clinical years. They were exciting times!"

As an undergraduate student, Huw describes his most favourite memory: "Launching the Cardiff Medics First Responders in 2006. On that evening MPs, AMs, staff from the ambulance service and the medical school joined us in launching the scheme (which was later adopted by a few other medical schools in the UK). It felt particularly close to our hearts as it was something that a group of us had worked towards for a long time and because the Medical School had backed us (both the concept and financially). This recently became all the more memorable for me, as 11 years later we launched the 'Emergency, Pre-hospital and Immediate Care' intercalated BSc (EPIC iBSc) programme from the very same room in the hospital."

Huw's most memorable memory as a member of staff has come recently: "At the beginning of this pandemic I was taken aback by how the medical students volunteered to stand shoulder-to-shoulder with us working clinically. Some have continued doing so in a lot of the Emergency Departments across Wales until just a few weeks ago. The way they stepped into the breach before truly knowing the extent of what we might face, speaks volumes for their commitment to healthcare and integrity. It was very moving to see and will be a lasting positive memory of this turbulent period."

Reflecting on how Cardiff School of Medicine contributed to his success, Huw mentions: "I have completed two degrees at Cardiff University, and I am now involved in running two degree programmes. The Medicine MBBCh programme taught me how to be a caring, and importantly a safe, doctor and the Medical Education MSc programme introduced me to education as a career. I owe the University everything and I think this is why I enjoy working here so much."

Huw concludes: "I think that investing oneself in Cardiff University School of Medicine as both a student and then as a staff member has given me a unique perspective. I look back and think how quickly time has passed. I started here in 2003 as an undergraduate student, 2013 as a postgraduate student and 2018 as a member of staff. As I am still here, my lasting impression is ever-evolving and always for the better. However, I know this - I wouldn't change a thing over the last 17 years, and I am looking forward to where we are heading in the future."

Huw's shared **alumni wisdom:**

"Make the most of all the opportunities available to you, they may never come round again."

"The COVID-19 pandemic has changed a lot of things. The NHS has made significant clinical adjustments over the last six months, and similarly the medical school has made changes to the educational and pastoral support for students. Whilst you are on clinical placement over this coming winter period, you may see difficult clinical decisions being made. You may also be spending a lot more time apart from friends and family as we are asked to observe social distancing. For some of us this will be harder than it is for others, which is why it is more important than ever to keep on talking. Think of your fellow students and remember that you are part of a large healthcare community/family and that as part of that family you can count on the support from both NHS Wales and Cardiff University staff. "

Huw's five words describing Cardiff School of Medicine:

- Ambitious
- Caring
- Leading
- Fair
- Inclusive

In the Spotlight:

The Clinical Skills and Simulation Team

The clinical skills team worked tirelessly throughout lockdown to provide essential, COVID-related training to student volunteers and NHS staff.

At the onset of the pandemic, it was clear to medical educators in the School of Medicine and in the NHS, that a major collaborative, effort was required if the training challenges presented by COVID-19 were to be met.

These educators recognised that the clinical skills team, which has decades of experience in the provision of large group teaching and ready access to purpose built teaching facilities, was well-placed to contribute to the massive training effort that was needed.

The scale of the challenge was made more daunting by pandemic modelling, which suggested that the first COVID-19 surge was just weeks away and that the pandemic would last for months.

The clinical skills team rose to the challenge magnificently and worked exhaustively to recruit faculty, prepare material, identify facilities, timetable and deliver relevant teaching.

Training started in earnest in March and delivery was underpinned by some key principles: firstly, that the sessions should be delivered safely, by minimising risks of viral transmission. Secondly, that the content should be relevant, quality assured and consistent with national guidance and thirdly, that the sessions should be multi-disciplinary, open to all and readily accessible.

A blended, multi-modal approach to training was taken, utilising e-learning, simulation and small group tutorials, with particular emphasis on debriefing to ensure that learning outcomes were met.

Initial training focussed on personal protective equipment (PPE) for aerosol generating procedures (AGP). These are medical procedures that can result in the release of airborne particles (aerosols) from the respiratory tract when treating someone who is suspected or known to be suffering from an infectious agent transmitted wholly or partly by the airborne or droplet route, such as SARS CoV2.

AGPs are undertaken by a wide variety of NHS staff. Examples include, respiratory tract suctioning by physiotherapists, emergency tracheal intubation by anaesthetists and non-invasive ventilation by specialist, respiratory nurses. It was very important that all staff involved in these procedures had a high level of confidence in their PPE to keep themselves and their patients safe.

Teaching how to prone an intubated patient.

Early management of clinical deterioration.

Personal Protective Equipment.

Oxygen delivery devices.

The Clinical Skills Team.

The training provided by the clinical skills team augmented the teaching videos provided by Public Health Wales by allowing participants to practise donning and doffing PPE using appropriate equipment. At that time PPE was in short supply and after a request for help, other schools and departments in the University generously donated surplus and outdated equipment that was perfect for training purposes.

Following the PPE training the clinical skills team turned their attention to the delivery of a bespoke, COVID-19 ward preparedness course. This course had been designed to assist medical student volunteers, as well as NHS staff to care for ward patients with COVID-related illnesses. The course included workshops on oxygen delivery devices, PPE, the recognition and early management of clinical deterioration and on the techniques required to prone intubated patients. Expert, clinical faculty from throughout south east Wales generously gave up their time to assist the clinical skills team deliver this course throughout May.

In a little over 8 weeks the clinical skills team delivered COVID related training to over eleven hundred student volunteers and NHS staff throughout Wales.

The training was highly evaluated with participants typically reporting increased levels of confidence in their ability to manage patients with COVID disease.

Dr Paul Frost who is the Director of Clinical Skills and Simulation in the School of Medicine and a Consultant in Intensive Care Medicine at the University Hospital of Wales said: “As a clinician working in the intensive care unit during the height of the pandemic I am in no doubt that the clinical skills team has made a significant contribution to the high-quality care experienced by critically ill patients suffering from COVID-19 related disease in hospitals throughout south east Wales.”

Medical students call to arms...

...to support the NHS

Since the outbreak of the pandemic, the School of Medicine has been working day and night to support the NHS and ensure students' learning is not disadvantaged by necessary change.

The School continues to work in close partnership with key stakeholders including MedSoc, Cardiff University's Student Medical Society to innovatively support the NHS in Wales.

At the outset of the pandemic, many Cardiff medical students answered the call to arms, volunteering to help in the fight against coronavirus by supporting the Welsh NHS. Many worked on the front line in COVID-19 wards or A&E departments at hospitals across Wales, while others were located in other hospital settings, general practice or supported efforts through providing training and resources.

The MEDIC Volunteering Team consisting of colleagues Dr Sarju Patel (BSc 1991, PGCert 2019), Dr Liz Forty (PhD 2009, MSc 2017), Dr Rhian Goodfellow, Joshna Patel, Olga Athanasiou and Louise Mills developed a database of 953 students able to be deployed to healthcare providers requesting help. This huge task required appropriate governance and risk assessment to be put in place to ensure student safety and appropriate support for students in their volunteering roles.

Below, Zoe Hinchcliffe tells us about her work as a clinical assistant in Wrexham Emergency Department earlier this year:

"My name is Zoe, and I am a fourth year medical student who will be intercalating in Emergency Pre-hospital and Immediate Care (EPIC) next year. Right now, I should be celebrating the end of my fourth year ISCEs... But instead, I find myself working as a clinical assistant in the second largest emergency department in Wales!

Over the past five weeks, I have immersed myself into the exciting A&E department at Wrexham Maelor Hospital by becoming a member of the frontline team. Working 12 hour shifts and nights, my main responsibilities are to assist staff by recording observations, taking bloods, inserting cannulae, suturing and dressing wounds (and many more!). Taking handover from the ambulance crews, I am able to see and examine patients and perform SBARs to relay clinical details back to the ED Doctors. I have also had the opportunity to assist in the resuscitation room during trauma calls. Overall, I feel privileged to be able to utilise the skills I have learnt throughout medical school to help the NHS in such an uncertain time. The sense of camaraderie I have seen between the frontline healthcare staff is outstanding, and I have never been so proud to be a part of the NHS as a doctor-in-training."

Below are some examples of how our students have been helping our NHS during the pandemic crisis so far:

- Final-year medical and healthcare students were fast-tracked to be available to support front line NHS teams. 223 Year 5 students were on SSA (Senior Student Assistantship) in hospitals until mid-May, after which they became Foundation Year 0 (FY0) doctors, relieving the load for NHS staff in the run up to FY1 in early August.
- Working as medical student technicians and clinical assistants within the Welsh Health Boards. Roles included supporting clinical teams in ICU with patient care, phoning families for patients and communicating with relatives. For some this has involved working in full PPE across eight Emergency Departments in North and South Wales.
- Forming a printing group to support NHS Wales, working shifts 9-5 weekdays, taking orders for, and delivering, thousands of free A4 and A3 laminated COVID-19 posters to GPs and hospitals across Wales.
- Volunteering with Public Health Wales to support the increasing need for COVID-19 testing and contact tracing.
- Volunteering in primary care practices, freeing GPs to treat more patients.
- Providing childcare to front line workers, enabling them to return to work.
- In collaboration with MSc Critical Care staff, creating PPE eLearning packages which have been shared by other medical schools, healthcare trusts and hospitals across Wales and used by Cardiff undergraduate students, Swansea postgraduate students, postgraduate trainees and NHS staff.

Mr Shakir Mustafa at Cwm Taf Morgannwg University Health Board, told us:

"Cardiff University year 3 and 4 Medical students have been working with us over the summer as COVID-19 Taskforce workers and they have all been fantastic! They have now carried out a wide range of duties on the wards, at our Emergency Departments, critical care units and more recently as part of a COVID community testing team.

They have all been trained, assessed and signed off as competent. Since then the testing taskforce has completed around two thousand tests for our communities across the CTM UHB patch.

Thank you for stepping up and putting yourselves forward and for doing such an amazing job! I could not be more proud of you all, you are a credit to your families, your university and to all of us and I have no doubt that our NHS will be safe in your hands for many years to come."

While the fight continues, the School of Medicine is ready and prepared to support the NHS during the ever changing COVID-19 pandemic.

Our role in the global research effort to fight COVID-19

Since the outbreak of the coronavirus, researchers across the School have joined the global research effort to fight this disease. Here is some of the work taking place across our four research divisions:

Researchers at the National Centre for Mental Health (NCMH) in the Division of Psychological Medicine and Clinical Neuroscience have launched two new studies to learn more about the impact of the COVID-19 pandemic.

The mental health consequences of the crisis will be far-reaching and researchers at the NCMH want to understand how the restrictions to everyday life have affected people living with mental health problems, and people living with learning disabilities and/or autism.

Professor Ian Jones, Director of the NCMH, said: "The COVID-19 crisis has already had an incredible impact. At NCMH we want to ensure that the particular experiences of people with mental health problems, learning disabilities, and autism aren't forgotten.

"We would like to understand how the crisis has affected their day-to-day life and what it has meant for the treatment and support people are receiving.

We hope the findings of these studies will help inform the NHS and policymakers to provide better services and support."

As well as launching new research into the impact of the pandemic, senior academics from the division are volunteering for a scheme that offers mental health support for health professionals and healthcare students who have been working on the frontlines of COVID-19 care. Health for Health Professionals Wales (HPP Wales), set up and run by Cardiff University, offers support and advice to all healthcare professionals, including doctors, nurses, medical/healthcare students, paramedics, therapists, dentists and medical volunteers.

Professor Debbie Cohen, Director of HHP Wales and a principal investigator at NCMH, set up the service with funding from Welsh Government for the 10,000 doctors who work in Wales, eight years ago.

"This has been an extremely difficult time for healthcare workers who are on the frontline of the fight against COVID-19 so we expanded our doctors' support scheme so everyone is able to access the same psychological support, regardless of what role they have in the Welsh NHS and where they are in Wales," said Professor Cohen.

Professor Jon Bisson, a professor in psychiatry, is one of the clinicians supporting HHP Wales.

Professor Bisson said: "It is essential NHS staff are able to access mental health support while they deal with the current health crisis and I am pleased that my colleagues and I are able to support this initiative during this time.

"It's fantastic the scheme has been rolled out to all frontline healthcare workers in Wales so that we are able to help them as they continue to care for us."

The 9am-5pm service is available by calling 0800 058 2738 or by emailing HHPCOVID19@cardiff.ac.uk.

Researchers from the Division of Infection and Immunity have joined a UK effort on how the immune system responds during COVID-19. Professor Ian Humphreys said: "This research will generate vast insight into the good and bad aspects of immune responses to this virus.

"This information will be really important in designing new treatment strategies for COVID-19 patients and in the race for a safe and effective vaccine."

This work will help identify patients most at risk from severe disease, assist doctors in deciding treatments and aid the rapid development of vaccines and novel treatments for severe COVID-19.

In a collaborative effort with clinicians and data scientists across Cardiff and Vale University Health Board and the Systems Immunity Research Institute, researchers in Professor Eberl's group have successfully collected and curated the electronic health records of all patients admitted to the Health Board during the COVID-19 pandemic. The team are now working towards predictive modelling to help triage patients in future outbreaks and guide treatments and interventions.

Professor Alan Parker and his team in the Division of Cancer and Genetics are drawing on their expertise in viruses to seek out "tools" which could be used to deliver a vaccine for COVID-19. Their work over the past seven years has centred on modified adenoviruses such as the common cold as viral vectors - or carriers - that can seek out and destroy cancer cells.

They have already identified about half a dozen viral vectors which may be useful for encoding coronavirus antigens – the name for the part of the virus used to safely induce an immune response, which may then offer protection against subsequent infection, or immunity.

"Our aim is to produce potential vaccines and then pass these on to immunologists to test to see if they are able to induce an immune response that can protect against coronavirus infection," said Professor Parker.

UK Biobank's (UKB) Participant Resource Centre, based in the Division of Population Medicine, is proving to be an important link in the chain supporting UK Biobank's major study of coronavirus immunity. The study will recruit 20,000 people from existing UKB participants, their adult children, and grandchildren. This is the first time UKB has recruited to a study that includes the next generation of participants. Participants will return by post monthly finger prick blood samples over six months. These samples will be analysed for COVID-19 antibody levels in order to better understand the immunity levels across the UK and contribute to the body of information being used to ease lock-down measures.

The Centre for Trials Research, again hosted in the Division of Population Medicine, is part of a collaboration co-ordinated by Health and Care Research Wales and involving Public Health Wales and Aneurin Bevan University Health Board, that will take part in the next phase of the vaccine trial sponsored by the University of Oxford and funded by CEPI (Coalition for Epidemic Preparedness Innovations) UK Research and Innovation.

Public Health Wales will lead the recruitment of 500 participants within Aneurin Bevan University Health Board for the Oxford Vaccine Group COVID-19 vaccine trial.

The aim is to find a safe vaccine that will develop immunity against the virus and thus prevent the disease. The study aims to recruit 10,000 participants overall.

Professor Kerry Hood, Director of the Centre for Trials Research at Cardiff University said: "We are delighted to be able to build on our previous collaborations with Public Health Wales and Aneurin Bevan University Health Board to help them to set up this vitally important vaccine trial. Usually a study like this would take months to set up, but with such a dedicated, skilled team working across organisational boundaries, it has achieved an amazing feat. This is a mighty step for research, even if it is only what may seem a small step in our national response to COVID-19."

Above are just a few examples of the research efforts that the School of Medicine is involved in, others are highlighted in the 10 Ways MEDIC is Making an Impact feature (pages 8 and 9).

Further information can also be found on our website: **www.cardiff.ac.uk/medicine/news**

Professor Stephen Riley, Dean of the School of Medicine, said:

"It's great to see how the scientific community across the world is rising to the challenge of dealing with the COVID-19 crisis – I am very proud of the role our School is playing in the global research effort to fight this pandemic."

10 ways MEDIC is MAKING *an* IMPACT

The School of Medicine has a successful track record of contributing to society through its Research, Learning and Teaching, and Innovation and Engagement activity. Efforts by many staff and students highlight a rich variety of ways in which the School is engaging and benefitting society. Here are just ten recent examples:

1 Science in Health Goes Online

Following the outbreak of the COVID-19 pandemic, the School of Medicine's Science in Health LIVE event and work experience schemes had to be cancelled. To ensure current year 12 pupils did not miss out, Science in Health went online to provide a unique opportunity to engage with a range of our researchers (including scientists working on COVID-19), participate in an online science quiz, ask questions of an expert panel and be taken on a virtual lab tour.

Over 500 participants logged into the webinar from as far afield as Singapore, Nigeria, Malaysia, Hong Kong, Saudi Arabia, India, and the USA.

To view a recording of the webinar, please visit: **www.youtube.com/watch?v=BA1Cxy36Uqc**

2 Free module released during the COVID-19 pandemic gains over 2,500 plays

A free module designed by a School of Medicine MSc programme to aid the rehabilitation of critically ill patients has achieved great success, with over 2,500 online sessions.

The Rehabilitation of the Critically Ill interdisciplinary module was designed by the Critical Care MSc team to engage the learner with evidence and theories about the rehabilitation of patients who are, or have been, critically ill. Released during the pandemic, when closed in July it had been accessed 2,598 times.

Critical Care programme lead Sharon Norman said: "We are delighted this free module reached so many critical care practitioners dealing with COVID-19. Critically ill patients may have lasting physical, emotional and mental health problems long after their discharge from hospital. Understanding the causes and developing early rehabilitation strategies will benefit these patients."

3 Quest for COVID-19 T cell blood test

A leading biotech company co-founded by a Cardiff University alumnus, Dr James Hindley (BSc 2006, PhD 2011), has been awarded funding from Innovate UK to develop a new immunity test for COVID-19

If successful, the Simple Cellular Immunity Test (SCIT) can identify the presence of T cells which play a critical role in controlling and eradicating viral infections.

Dr Martin Scurr (BSc 2009, PhD 2013), a post-doctoral researcher in the School of Medicine, who has secured a secondment as project manager at Indoor Biotechnologies to set up the test, said: "The aim is to develop a T cell test that can be easily used by labs across the world, enabling mass testing of COVID-19 T cell immunity to be performed."

The test may also be valuable during vaccine development to help identify whether an adequate immune response has been generated to protect people from COVID-19, and for testing how long that immune response remains.

4 Getting to grips with COVID-19

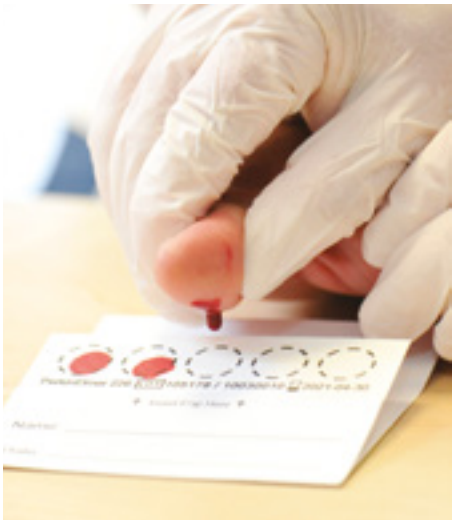
Understanding how the immune system responds to SARS-CoV-2 is essential for developing new therapeutics for tackling the virus.

Different approaches are currently underway and research findings across the globe are being reported at an unprecedented pace. To support this effort, a community journal club was established within the School, to identify and highlight key research findings for distillation and dissemination to COVID-19 researchers and clinicians worldwide.

The reviews are focussed on: Immune mechanisms that underpin COVID-19 pathogenesis, as well as the latest developments in vaccines, serological assays and antibody responses, virus structure, lifecycle, transmission and innate and adaptive immune responses. The posted reviews are the work and opinions of highly motivated PhD students, post docs and early career researchers within Cardiff University and the University of Oxford (since edition 16), who have voluntarily taken on the work. All editions can be found here: **www.cardiff.ac.uk/news/view/2260179-getting-to-grips-with-covid-19**

5 New pinprick blood test for COVID-19

Dried blood spot (DBS) samples have been used since the 1960s to test newborn babies for inherited disorders.



Experts from the University Hospital of Wales (Newborn Screening, Immunology, Point of care testing, ICU and Haematology), Cardiff University (Immunology and Clinical Innovation) and the Welsh Blood Service have now developed DBS methods for testing COVID-19 antibodies in adults.

Professor Ian Weeks OBE (BSc 1976, PhD 1980), Dean of Clinical Innovation at Cardiff University's College of Biomedical and Life Sciences said: "This approach could prove important in tackling the COVID-19 pandemic. The test only requires a finger prick sample of blood, rather like a diabetic patient checking their blood sugar levels."

The method itself is presently being further evaluated on larger numbers of samples and funding is being sought which is needed to allow the method to be scaled up and used routinely.

6 Webinar highlights cancer research is progressing during pandemic

Professors Awen Gallimore and Andrew Godkin, Dr Sarah Lauder (BSc 2002, PhD 2007) and Lorenzo Capitani,(PhD student) engaged with the public via webinar to highlight the efforts researchers are making to progress vital cancer research during this challenging time.

Professor Awen Gallimore, webinar organiser stated: "Despite the challenges and restrictions placed on us by COVID-19 our research is progressing. Indeed many positives have come out of our new way of working. For example, as lab based scientists we usually feel compelled to be in the lab to do as many experiments as we possibly can. This time has allowed us to take stock and reflect on our data, to discuss with colleagues in the UK and abroad, and to learn new skills so we can move forward in a far more informed way.

"I firmly believe we will return to the lab as far better scientists and better equipped to deliver research benefit to patients."

Against the prevailing belief that non-COVID related research was being put on hold, following this session, 86% of the webinar's survey respondents felt reassured that cancer research is progressing during the pandemic.

7 Frailty is as important as age or underlying health issues in COVID-19 death risk, study finds

The study, published in The Lancet Public Health (**www.thelancet.com/journals/lanpub/article/PIIS2468-2667(20)30146-8/fulltext**), was carried out by researchers from Cardiff University, King's College London, Salford Royal and North Bristol NHS trusts, among others, and is the first to explore the impact of frailty on death risk in the current pandemic.

Chief investigator and lead author Dr Jonathan Hewitt, said: "NICE guidelines put in place in March already recommend using frailty to assess COVID-19 patients – but we don't know how much this is being used in practice.

"Our study shows it is vital to frontline care; every COVID-19 patient should be assessed for frailty because we now know that being frail – no matter how old you are or what underlying conditions you may have – affects your chance of recovery from this disease."

8 Agreement tackles Alzheimer's disease

Cardiff University has signed an agreement with Cytox to help the company develop a genetic risk assessment tool for Alzheimer's disease. Under the licence, Oxford and Manchester-based Cytox will access the University's intellectual property (IP) regarding polygenic risk scoring algorithms for predicting the future onset of Alzheimer's disease.

Cytox will gain exclusive commercialisation rights to IP and know-how generated under its ongoing collaboration with Cardiff University, plus non-exclusive rights to further IP from Cardiff University.

Cytox is incorporating the technology defined within the licence in the development of genoSCORE™, a genetic risk assessment tool to identify patients most at risk of cognitive decline from Alzheimer's disease: genoSCORE™ improves clinical trial patient recruitment enrichment to Alzheimer's disease clinical studies and aids physicians in the management of patients in clinical practice.

Cytox expects to launch genoSCORE™ as a product registered for professional use in the US and Europe, towards the end of 2020.

9 UK-wide research to look at impact of COVID-19 on early cancer diagnosis

Study principal investigator Professor Kate Brain (BA 1992, PhD 1996), a health psychologist, said: "From early on in the pandemic the 'stay home, protect the NHS, save lives' message, along with the halting of national cancer screening programmes, sent a strong message to the public that 'cancer can wait'.

"It's important that we now look at how this has affected people's attitudes and behaviours to all aspects of cancer - from putting off visiting their GP with worrying symptoms to missed screening."

"Our study findings will be used to rapidly develop clear public health messages encouraging people to act on the early signs of cancer, take up cancer screening when it becomes available, and engage in healthy behaviours," said Professor Brain.

Professor Kate Brain

"We believe this will help to reduce the negative impact of COVID-19 on cancer outcomes in the longer term."

10 How are people with OCD coping during the COVID-19 pandemic?

Dr Athanasios Hassoulas, director of the MSc in Psychiatry, is leading a project to investigate the impact the COVID-19 pandemic is having on people with obsessive-compulsive traits or a history of OCD – obsessive-compulsive disorder.

"OCD can be a very debilitating and distressing disorder even during normal times but during a pandemic the level of anxiety and worry being felt may become overwhelming"

"For many what tends to drive their OCD is recurring unpleasant thoughts, such as guilt and concern that their actions could cause harm to others or anxiety over contamination. They know these thoughts are irrational but the only way to find relief is by acting out a compulsion.

"I hope this research will help us better understand how people are coping – and help us to offer better tailored support that can be delivered remotely" said Dr Hassoulas.

MEDIC people

ReMEDy talks to Dr Nick Burnley-Hall, alumnus; Ellen Nelson-Rowe, undergraduate student; Dr Liam Mealey, postgraduate student and Professor Alex Tonks, member of staff, to ask the questions we love to know the answers to!

1. As a child what did you want to be when you grew up?

NB Taller

ER Interestingly as a child, I had always wanted to do something related to maths or music - my favourite subjects - even at GCSE and A level as well! I was considering being a full time musician and teacher, but then I became more attracted to the sciences and kept on changing my mind between medicine and music!

LM I loved playing computer games as a kid so wanted to be a "Games Designer" for a while but then I set my heart on a career in Medicine fairly early on in high school.

AT Well as a child, I always liked math, art, and martial arts. I think I wanted to be in films either as an actor or stuntman. I would envisage myself as a ninja on the big screen! As I grew up a little more, I thought science was the career of choice, but it was not until my third year of university that I thought a scientific research career was for me.

2. Who is your personal or professional hero?

NB Rafael Benitez; manager of Newcastle United between 2016-2019. He always spoke in facts. He meant so much to me I acknowledged him in my thesis.

ER Samantha Tross – Britain's first black female orthopaedic surgeon! It is always so great to see excelling professionals of African Caribbean heritage and I look up to her greatly!

LM On a professional level, I really looked up to a GP I worked with when I was at Medical School. He ran a GP surgery solely for homeless people and seemed to really have a passion for his work. I think that was one of the factors that led to me pursuing a career in General Practice.

AT So many to choose, but several of them are from my own experiences and interactions rather than an idol to emulate. If I were to pick one, then it would be Dr Andrew Brain who supervised my undergraduate research project, which I undertook during my placement at Royal Gwent Pathology lab in 1997. He is both a personal and professional hero for introducing me to research and Racket sports!

3. What first brought you to our School of Medicine?

NB I grew up in South West Wales and had always wanted to go to university in Cardiff. My sister also went to university in the city, so I was already familiar with it. It was a quick train home to enjoy the beaches of Pembrokeshire and politely ask my mother to do my washing!

ER Firstly, I wanted to move away from home (as far as possible!) so I thought I might as well move country! Then I came to an open day in April and I fell in love with the city. I just instinctively felt at home and loved the atmosphere. I loved the Cochrane building and the fact that the course offered full body dissection really interested me!

LM I really liked the sound of the MSc Psychiatry Course offered in Cardiff and the online learning aspect of it is a good fit for my schedule.

AT My PhD, which I started in 1997 was supervised by Professors Simon Jackson (then UWCM) and Ken Jones (then UWIC). Part of my PhD study was to examine the effect of lipids on immune cell responses in collaboration with Professor Mark Gumbleton (CU, Pharmacy) and effects on Reactive Oxygen Species (ROS) with Simon Jackson at the Heath site. In 2000, I was lucky to be recruited to the Haematology Department (School of Medicine) to work with Professors Richard Darley and Alan Burnett on blood cancer research. Here we managed to integrate my previous ROS expertise with blood cancer research, and myself and Richard co-led three Blood Cancer UK Programs (formerly Bloodwise) since 2009.

4. What is/was your favourite thing about living and working in Wales?

NB The cost of living – everything was so cheap! I now live in London – I can't imagine getting change from a fiver for a pint these days.

ER It is so affordable! To this day I still can't believe it costs £2.90 for a student to go to the cinema! The accommodation and food prices are fantastic compared to other places like London where you would be paying double the amount!

LM As a distance learning student, unfortunately I haven't yet had the pleasure. Maybe someday though!

AT The geography. So close to the coast that myself and my family can enjoy the rugged coastline and wonderful beaches but equally close to the mountains for stunning vistas. If we had a Disney themed ski resort near by then why live anywhere else.

5. What does a day in your life look like?

NB Given I am currently working from home due to COVID, it probably looks rather dull. Eight hours sat at my dining table on my laptop, pop out for some exercise, cook some dinner and watch some Netflix. I refuse to do another Zoom quiz.

ER So pre-COVID, being an early riser, I would usually wake up around 6.30ish, have breakfast and listen to some worship or do bible study. Then (pre-COVID) if I have lectures, I would walk with my housemate to university. After lectures, usually straight to the library to begin writing up notes and then attend afternoon sessions and back home again. Then, head out to an extracurricular activity after dinner and come back and do some more work! Now going into Year 3, I aim to keep a similar routine but for online teaching, I am going to try incorporate more walks and breaks as it can get tiring!

LM It would depend on the day of the week but would generally consist of a mixture

Nick Burnley-Hall (BSc 2014, PhD 2018)

I studied Medical Pharmacology in Cardiff University from 2011-2014. I loved those three years so much I decided to stay for longer; I was luckily offered a PhD at the Wales Heart Research Institute. I completed that in late 2017 and began working at the Thrombosis Research Institute in Chelsea, London in early 2018 and have been there ever since. My role involves developing proposals, grants, manuscripts for various clinical studies. Outside of work, I'm a big Newcastle United fan (unfortunately), exercising and cooking good food.

Ellen Nelson-Rowe (Medicine 2018-)

I am a third year medical student and an aspiring surgeon! I love extracurricular activities: leading the African Caribbean Medical Association, Christian Medical Fellowship and also part of the Cardiff Medsoc committee. I also play the violin and have been part of the University chamber orchestra and medic string quartet! Being the medicine digital ambassador, I write a blog called "Medic Tips" where I share my experiences and advice on the application process and my insight into what life is like at Cardiff. Additionally, I speak to prospective students on a daily basis via Unibuddy and The Student Room!

of doing telephone triage at work, seeing patients in surgery, catching up on work admin and of course working on my MSc assignments.

AT There is no typical day to describe and this is what makes my job interesting. However, what is constant is my laptop! which is why my sons call me "Maptop": half man, half laptop. The typical day now is a little less interesting as we continue to manage the effects of the COVID pandemic and learn new ways to navigate our daily lives. I miss the lab-based days, the human interaction and the 'chewing the fat' around a centrifuge (with a few practical jokes thrown in for good measure – sorry Sian!). However, I can still enjoy the variable nature of the role, discussing the scientific experiments themselves, the collaborative nature of my work as well as planning activities for teaching and career development for PGR students. Fortunately, I have a 'live-in' CU academic (Dr Amanda J Tonks) to interact with on a hourly basis!

6. How do you relax?

NB With a cup of tea and a full pack of custard creams.

ER My favourite way to relax is baking! I bake at least twice a week if not more and have loved it for many years. I also love spending time with housemates and close friends for movie nights and chats to take my mind off!

Liam Mealey (Psychiatry 2019-)

I am a distance e-learning MSc Psychiatry student, currently working on my dissertation. I work as a GP in Liverpool at a busy inner-city practice. I am particularly interested in mental health and I am trying to develop my knowledge and skills in this area.

LM A brisk run along the river or an energetic spin class at the gym normally helps me unwind.

AT Work-life balance is very important. Most of that time is spent doing taekwondo with my two young sons, Ryan and Nathan or teaching in 'fight club' (first rule of fight club!). The philosophy of taekwondo and teaching of, has a lot of parallels with my professional life. Mandy and I also keep in touch with our PhD Alumni. We regularly meet our PhD supervisors, their family and student alumni from the group 23 years later for a beer or five.

7. What is your secret ambition? (just between us)

NB I would like to be a 'morning person' – the sort of that wakes up naturally and does not require an alarm. Actually, no I don't. Those people are psychopaths.

ER If I don't end up as a surgeon, I'd seriously consider retail or hospitality business management!

LM I would love to try to develop a "special interest" in Psychiatry and perhaps take on more responsibility for managing more complex mental health problems as a GP in the future.

AT Win the lotto and fund my own research institute.

8. What is the funniest thing that has happened to you recently?

NB I was walking into my local Sainsburys and stood on a banana peel. It was like something out of a cartoon – I went about 3 foot in the air, everyone stopped and looked. I quickly ensured all CCTV footage was erased.

ER I got locked inside a room with my friend by accident. We got out within 10 minutes but it was a big giggle! (Moral of the story: never leave a key outside your door!)

LM Having a patient steal, and run away with, the hand gel off my desk right in front of my face made me chuckle. I suppose its value has increased recently...

AT Probably funny to everyone else but a little embarrassing for me. I fell into the usual 'kids, home schooling, working from home coupled with lack of Zoom control' scenario. Please enter virtual seminars with the 'Zoom Mute' already activated otherwise refrain from vigorously telling off your kids for not doing their homework. At least I minimised the profanity.

9. If you could have any job in the whole wide world that you could imagine or make up, what job would that be?

NB Something involving a large amount of dogs – the bigger the better. I grew up with an Old English Sheepdog called Bobby who was a legend.

ER A surgeon 100%! I loved full body dissection and anatomy – I think my skill type is most suited to this field!

LM Similar to my ambitions, it would probably be a job that allowed me to get more involved in mental health care, such as a GP with an extended role (GPwER).

AT It would have to be technology driven combined with some element of science and engineering. Seems like I would be a Starfleet officer.

10. What advice would you offer School of Medicine students today?

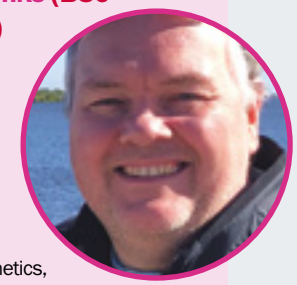
NB Join a sports team. I joined the Medics Football team and it was the best decision I ever made. Such a cliché, but the majority of my university friends I'm still in contact with I met through the club.

ER Don't be afraid to put yourself out there and make your mark – create your own legacy, pursue your ideas – there's so much in store for you to achieve alongside your studies!

LM Try to keep a healthy work-life balance. No matter how busy things get always take time to eat well, sleep properly and talk to friends and family.

AT Getting a bad grade is not the end of the world. Speak to your mentors, supervisors and teachers and lean on their experience and utilise their intellectual as well as social networks.

Professor Alex Tonks (BSc 1997, PhD 2000)



I have been employed by Cardiff University since 2000, and during that time I have been independently successful, establishing and leading a research team. I am based in the Division of Cancer & Genetics, School of Medicine (CBLS) at the Heath Park Site where I lead an interdisciplinary research group focused on cancers that affect blood cell development (leukaemia). In addition to research I also significantly contribute to learning and teaching across Cardiff University, frequently acting as a mentor to staff and students. I have a commitment and enthusiasm to mentoring of junior staff and 'rising stars' and lead on activities within DCG related to PGR. I also sit on many research funding panels for early career researchers and UKRI.

11. What does the School of Medicine need more of?

NB I remember feeling very lost towards the end of my undergraduate degree with no idea what to do career wise. A lot of my coursemates were going on to do postgraduate medicine, but I knew that wasn't for me. It would have been useful if the school were able to provide more guidance for students that didn't want to become a doctor, but move into other research/healthcare careers.

ER I think the medical school need more Caitlin Golaups! She is so passionate and fantastic communicator – if all staff had her passion, there would be energy all over the place! On a more serious side, I think diversity is something which can always be improved, but it's great to see the medical school striving to support outreach and widening participation programmes too!

LM I'm not sure that I'm qualified to comment on this one as a distance learner! But perhaps more online courses and content like the MSc Psychiatry.

AT Reflection. Reflection on our own behaviour; treat others the way you would like to be treated (and hopefully this would include being polite). Reflection on our own work.

12. If you could turn the clock back, what would you do differently?

NB I would remember to always close the bathroom door in Talybont halls. Wandering outside with a towel on whilst the whole building has to evacuate isn't particularly conducive to making friends.

ER I would make more effort to socialise with different groups of medics outside of studying – having such a big year of approx. 300, there's always so many people to meet and get to know.

LM Probably take some of my own advice from the question above...

AT Nothing. Ok perhaps not buy Mandy a Hoover for Christmas. She still tells the PGR students this at induction to ensure my legacy lives on.

My MEDIC

My MEDIC is the most recent version of a service that has been available to medical students at Cardiff University for over 15 years.

Originally, when the service was set-up by Prof Debbie Cohen OBE (MD 2008), it was known as the Individual Support Programme and it was available for both medical students and qualified doctors within the Wales Deanery, but over the years it has evolved into a student centric service.

Today My MEDIC is led by Dr Sara Hunt and when she is not the Director of My MEDIC she is a Consultant Anaesthetist at University Hospital of Wales. My MEDIC consists of a number of specialists including retired GPs, language and communication experts and Occupational Psychologists.

Just recently we have changed our name from Medic Support to My MEDIC and are due to move to the Heath site (when it is safe to do so) to become further integrated within the Centre for Medical Education and to be able to work alongside our colleagues in the School.

MY MEDIC is a confidential service for students in the School of Medicine who are seeking support for issues impacting on their wellbeing, studies or their ability to enjoy their student life. Currently My MEDIC supports 330 students and we have recently closed and archived 136 students who recently graduated.

Issues students are facing are as unique as them and the majority of the time they want a professional ear to 'talk things through'. Some of the issues that MY MEDIC have helped students with over the years include (but aren't limited to) exam anxiety, study skills, work-life balance, stress, low mood or self-confidence, lack of motivation, language or communication issues, or situations that affect the enjoyment of student life or studies, such as family dynamics or relationships.

Dr Sara Hunt, My Medic Director

We also help students work through issues of a wider nature, including professionalism, reviewing their current or life goals, exploring personality-based insights, and can include discussions about habits that help and hinder, decision-making and self-management, to name a few.

Students can refer into My MEDIC in a number of ways. Primarily most are self-referrals whereby the student simply fills in an online form. Alternatively, a student can, with consent, be referred in by their Personal Tutor, Year Director or any supportive or concerned staff member who considers a referral beneficial for the student.

Over the last few years, we have seen an increase of recommendations from GPs who have seen medical students. From initial discussions with the students they have revealed that they have seen their GP for different reasons and the GPs have suggested that along with their treatment they should access My MEDIC for that extra support that is individually tailored to the student's needs.

We can only assume that those GPs who are aware of what we can provide students were once students at Cardiff University. We know many students who have used our service in the past have gone on to be fantastic doctors.

My MEDIC continues to evolve and in particular we are looking to increase the diversity of our case workers which is increasingly important in ensuring that students are able to meet someone who understands their background. The wellbeing of medical students today seems to be more important than ever and the service provided offers that safety net.

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The Editor wishes to thank all contributors to this edition of ReMEDy.

The Editor reserves the right to edit contributions received. Whilst care is taken to ensure the accuracy of information, this cannot be guaranteed.

Views expressed in 'ReMEDY' do not necessarily reflect those of the School.

Feedback and items of interest relating to the School are welcome and should be sent to:

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