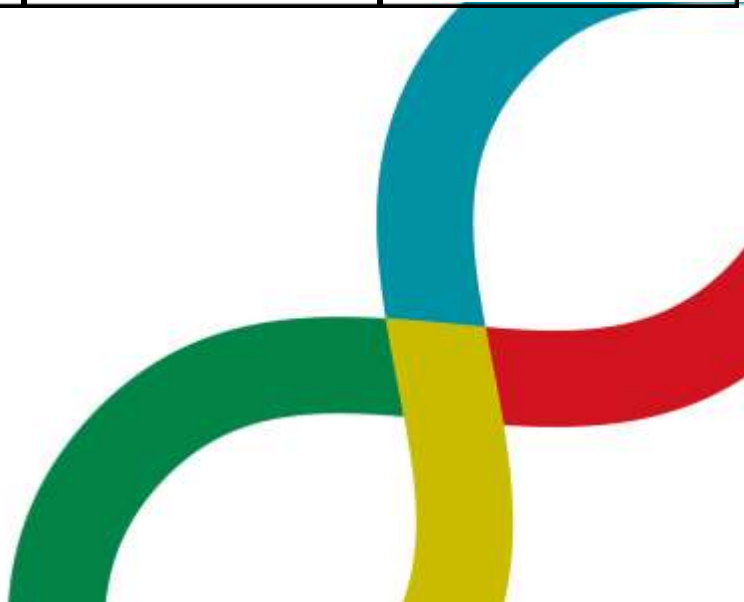


Uned Ymchwil Arennol Cymru Wales Kidney Research Unit



2021 - 2022
Annual report



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F O R E W O R D

Dear reader,

If I had to pick one word for Kidney Research in Wales for the year just passed, it would be renewal. Our research community, in which I include all our stakeholders, be they patients, families and carers, charities, funders, clinicians or researchers, faced a huge challenge through Covid. As a community we worked together very well through this time, and it's impressive to see how quickly the green shoots of renewed activity are coming through now. You'll read about some great examples in this report. Each year we also try to give a flavour of some of the key "under the hood" activity in the WKRU -things that don't grab the headlines, but without which we wouldn't see the progress that our community achieves. On this, this year you'll read an in depth look at our biobank. This is a crucial part of the programme of laboratory science that WKRU investigators undertake. It is also very dependent on patients and other volunteers-not just because they give the samples that the work depends on, but also because those on our tissue bank

steering committee are central to reviewing and authorising proposed work using biobank samples. Engagement with the research and dissemination of the outcomes are also common themes throughout this year's report. You'll read about patient involvement in research design, and then some of the innovative ways that WKRU members have got together, virtually or otherwise, to celebrate and disseminate research findings. The final theme I wanted to highlight is an international one. Kidney disease is a worldwide challenge, and we'll only do our best work in combating it if we team up with the best worldwide. You'll read about some excellent examples this year of how WKRU members team up with researchers across the globe to make the best possible advances in the fight against kidney disease. I hope you enjoy what you read, and please do get involved.

Professor Donald Fraser
WKRU Director

Uned Ymchwil Arennol Cymru
Wales Kidney Research Unit



The only Biomedical Research Unit in the UK funded to focus solely on Kidney Disease

450,000 people in Wales have Chronic Kidney Disease (CKD) Stages III-V (less than 50% of kidney function remaining) and that places them at a greatly increased risk of death and cardiovascular illness.

10,000 people are under follow up in renal secondary care, including 2,000 people dependent on Renal Replacement Therapy (RRT) to keep them alive.
WKRU is built on internationally recognised

research in each step of the translational pathway, from fundamental disease mechanisms and better diagnosis, to improved implementation and health outcomes.

WKRU research successes are informed by and involve patients, families and carers, service providers and service commissioners, as well as researchers.

WKRU SENIOR TEAM AND CORE STAFF



UNIT DIRECTOR
Prof Donald Fraser

BANGOR



**Social Care
Research Lead**
Prof Jane Noyes



Research Officer
Dr Leah
McLaughlin



**Administrative
support**
Ms Barbara
Neukirchinger

CARDIFF



Unit manager
Dr Chantal Colmont



Research Assistant
Dr Irina Grigorieva



**Outreach and
Dissemination Lead**
Dr Robert
Steadman



Clinical Research Fellow
Dr Farah Latif



Research Technician
Dr Kate Simpson

SWANSEA



CIPHER link Lead
Dr James Chess

Our Mission:

To bring benefit to the population of Wales and further afield, through delivery of collaborative, multi-disciplinary research that answers important renal health and social care problems.

Strategic objectives:

-Improve the infrastructure supporting kidney research in Wales.

-Involve stakeholders (patients, families and carers, service commissioners, service providers, as well as researchers) in planning and undertaking research, and dissemination of findings and subsequent **improvements in practice**.

-Build a portfolio of research funded by external awards at all stages of the pathway from basic research to healthcare delivery, resulting in **research with impact**.

-Build a portfolio of industrial partnerships in research projects leading to **changes in activity**.

-Engage with the public to raise awareness of kidney disease, its clinical and social effects and **share the findings of our research**.

WKRU MEMBERSHIP

The membership of WKRU is based in three Centres around Wales: Bangor University, Cardiff University, Morriston Hospital/Swansea University.

Administration

Kim Abberley

Bangor: Social Care

Leah McLaughlin
Barbara Neukirchinger
Jane Noyes

Swansea: Data Analysis

James Chess

Cardiff: Laboratory and Clinical Research

Elijah Ablorsu
Mohammad Alhadj Ali
Argiris Asderakis
Timothy Bowen
Esra Cetin
Rafael Chavez
Matthias Eberl
Siân Griffin
Irina Grigorieva
Shivaram Hegde
Ian Humphreys
Simon Jones
Usman Khalid
Mario Labéa
Farah Latif
Yueh-An Lu
Morgane Mazzarino
Soma Meran
Anne-Catherine Raby

James Redman
Steve Riley
Shrea Roy
Dan Smith
Tanya Smith
Robert Steadman
Michael Stevens
Bnar Talabani
Phillip Taylor
Alexa Wonnacott
Aelia Zaidi

Tissue Bank Governance

Timothy Bowen
Rafael Chavez
Katherine Craig
Donald Fraser
Bob Hall
Simon Jones
Usman Khalid
Soma Meran
Pam Parkhouse
Anne-Catherine Raby
Stephen Riley
David Hywel Thomas

Other WKRU collaborators

Jessica Baillie
Jamie Hugo-Macdonald

Patient Focus Group

Lesley Cole
Bob Hall
Jackie Holder
Gloria Owens*
Margaret Parry
Joanne Popham
Helen Williams
Janet Williams*

*WKRU patients' representatives



SUMMARY

**1 MILLION PEOPLE
IN THE UK DON'T
KNOW THEY HAVE
KIDNEY DISEASE**

Why a Wales Kidney Research Unit?

Kidney disease is common and often silent. 15% of the UK population have Chronic Kidney Disease (CKD) but half will not be aware of their diagnosis and so will not be taking measures to slow progression and avoid future morbidity. Renal Replacement Therapy consumes 2% of the NHS

budget, or £120 Million p.a. in Wales. The NHS in Wales, therefore, needs to understand the service pressures and how best to meet them.

The WKRU helps meet these challenges by providing core infrastructure, enabling patients, families and

carers, third sector organisations, service providers, service commissioners, industry partners, and researchers to explore important renal health and social care questions, and to develop state of the art services that benefit the population needs.

Who benefits from the Unit's work ?

Patients and carers

Advise and participate in research studies to improve outcomes for patients.

Contribute to the wider service improvements of care in Wales and beyond.

Researchers

Connected to other stakeholders, ensuring that the research questions will improve the health and social care of kidney patients.

Health and Social Care Professionals

Help direct research activity towards goals with impact beyond advancing knowledge.

Commissioners

Connect with other stakeholders to advance a prudent healthcare agenda.

Get involved, get in touch

WKRU invites all patients, carers and members of the public to get involved with the design, delivery and dissemination of our research. In our quarterly **Involvement in Research Design** meetings we discuss grant ideas, each focusing on one aspect of kidney disease. The project is explained in detail in lay terms and a knowledge of science isn't necessary. We believe it is essential that patients and carers inform our research ideas. In Cardiff, we also regularly open our laboratory to the public.

More details at:

<http://kidneyresearchunit.wales/en>

You can also watch the [video](#) "WKRU: a day in the life" to see what we do.

To get involved in our research please email colmontcs@cf.ac.uk or wkru@bangor.ac.uk or call 02921848469.

Who is in the unit?

The Wales Kidney Research Unit has members from every Renal Unit in Wales.

Studies of population-scale health outcomes data have the potential to transform NHS services, and the WKRU is working with the Swansea-based world-leading SAIL (Secure Anonymised Information Linkage) Databank to develop this capacity. In addition to laboratory and clinical research taking place in Cardiff, researchers in Bangor are focusing on social care aspects and wellbeing of renal patients.

Core Metrics

Reporting period: **2021/2022**

Health and Care Research Wales infrastructure award to the group



Direct funding awarded
£150,000

Jobs created through direct funding



Grants won during reporting period

Grants won	Led by group	Group collaborating
Number	11	3
Value	£785,671	£230,000
Funding to Wales	£785,671	£230,000
Funding to group	£785,671	£230,000
Additional jobs created for Wales	4	2
Additional jobs created for group	3	0



Number of publications



Number of public engagement events



Number of public involvement opportunities

Biobanking metrics



Consents



Research requests



Research requests approved



Samples issued to research projects



Projects receiving samples



Publications using samples

WORK PACKAGES

WKRU activity is organised into five work packages

WP1. MANAGEMENT

WKRU management is robust, democratic, efficient and responsive to opportunities and challenges. Activity is overseen by the grants-management team at Health and Care Research Wales. WKRU reports to them on a quarterly basis with additional financial reporting mid-year, and a full annual progress report.

Funding from third sector organisations, service commissioners, and industry partners

WKRU director roles:

Liaise with and report to the funder
Day to day project and financial management

Collecting and distributing network information to all stakeholders

Director and Unit Manager review all activity and operational issues weekly

Senior management team (leads from Cardiff, Bangor and Swansea with Unit Manager) hold teleconferences to assist the director

Input and design from public and patients

WP2. RESEARCH INFRASTRUCTURE

Our researchers are based in Cardiff, Swansea and Bangor Universities, and the NHS with WKRU members in all dialysis units in Wales.

We work closely with Kidney Research UK (KRUK), the principal UK funder of renal research, and Dr Tim Bowen sits on the KRUK Research Grants Committee.

Dr Siân Griffin is General Secretary of the Transplantation Society and also liaises with the KRUK Research Grants Committee.

The WKRU underpins the Wales Kidney Research Tissue Bank, which includes samples from patients recruited locally, nationally and internationally.

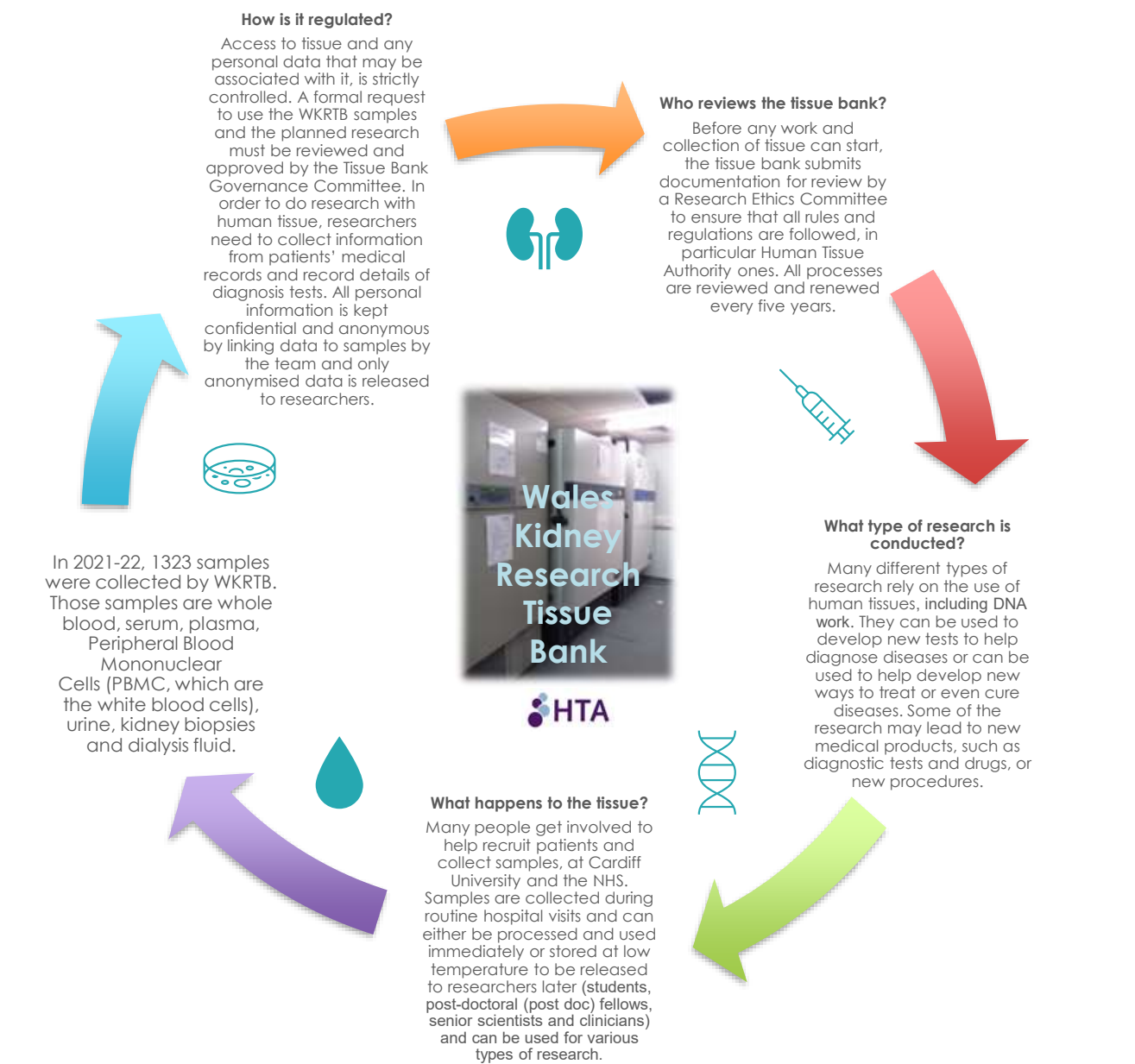
The senior team meets face to face annually at the Unit's Annual General Meeting, together with representatives of all stakeholder groups, the funder and our independent external experts.

BIOBANKING

The purpose of the Wales Kidney Research Tissue Bank (WKRTB) is to serve as a repository of samples donated by patients and healthy volunteers for use in studies advancing the prevention, understanding and care of kidney diseases.

What is a tissue bank?

This is an organisation that collects and stores biological samples (tissue, blood, urine etc...) and data, and makes them available to researchers to learn more about how diseases start, develop and how to treat them. The WKRTB collects such samples and supports research into kidney and related diseases by making anonymised samples available to scientists involved in such research.



WORK PACKAGES

WP3. RESEARCH ACTIVITY: HIGHLIGHT



Answering Renal Research questions:

Acute Kidney Injury (AKI)
Chronic Kidney Disease (CKD)
Renal Replacement Therapy –
Dialysis and Transplantation
Social care

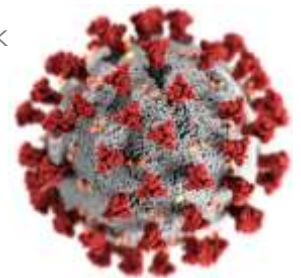
During the last year, the Unit has been involved in 19 clinical trials investigating these research areas in partnership with the Nephrology and Transplant Directorate and other areas of the NHS. We support 8 interventional and 11 observational trials, with 11 receiving laboratory support for sample processing.

Focus on Transplantation and Dialysis Research: The effect of COVID-19 vaccines.



Supported by kidney patients and families, WKRU and the Kidney Wales charity are participating in two research studies exploring vaccine effects on dialysis and transplant patients. Researchers from the Cardiff Transplant Unit and Cardiff University Immunology Department are leading the ENLIST project, looking into the antibody response of transplant patients. This is the **largest study of its kind in the UK and is facilitated by the Wales Kidney Research Unit.**

For the second study, members of the WKRU, together with Kidney Wales, Kidney Research UK and the National Kidney Federation, are joining research led by Imperial College London and the Francis Crick Institute, to investigate how people on haemodialysis respond to the vaccines. The research teams took blood samples from patients before and after they received their first and second vaccine doses and at regular time points following vaccination programmes. Preliminary results show a higher level of protection in Welsh patients, potentially highlighting the impact of different medical practices between England and Wales. This could help inform further best practice to vaccinate immuno-compromised patients.



WORK PACKAGES

WP4. TRAINING

The WKRU is a hub of activity for people at all stages of their careers in research and a core aim is to train new generations of clinical and non-clinical researchers to advance knowledge and improve patient care.



This year we offered:

Four medical students research projects as part of their courses.

Three 2nd year medical students short summer projects in our laboratories. Two of these were sponsored by the Inspire programme with Wellcome Trust funding through the Academy of Medical Sciences.

Two academic clinical trainees part-time research projects over several months.

One part-time Clinical Fellow in transplant surgery at the University Hospital of Wales to be trained in laboratory techniques over 12 months.

One Wales Clinical Academic Trainee (WCAT) – a pathologist with 20% research time, to experience renal laboratory research.



Recruitment of high calibre, academically minded clinical trainees has also increased engagement of full-time NHS staff with research, leading to the award of senior honorary positions. Two WKRU fellows, who were recently appointed as consultant nephrologist (Dr Alexa Wonnacott) and consultant transplant surgeon (Dr Usman Khalid) have just been awarded honorary senior lecturer status in Cardiff University School of Medicine.

This allows the training of the next generation of highly skilled and creative research-focussed and research-interested clinicians and gives them the opportunity to fulfil their research ambitions.

Science in Health Live: Science in Health Virtual Laboratory Work Experience

WKRU produced two videos detailing some of the projects carried out in the WKRU Cardiff laboratories as part of the School of Medicine "Science in Health Live" online event and "Identifying CD147 in kidney cells" for the online School of Medicine "Work Experience Day". Both were aimed at years 12 & 13 school pupils from around South and South-East Wales. This was followed by a Q&A session the next day.



WORK PACKAGES

WP5. DISSEMINATION AND ENGAGEMENT

WKRU aims to disseminate its work to patients and public to improve communication and collaboration between researchers and service providers to coordinate research and delivery to patients.

One of the ways to achieve this has been our annual meeting where researchers at all levels present and discuss their research with WKRU stakeholders (patients, service commissioners and providers).

WKRU 2021 AGM was held online on 8.10.21 with a shorter programme than usual. Presenters were from all around Wales. This year there was a COVID19 focused session to present some of the work around the virus and vaccination programme. It was well attended throughout the day with good feedback.



Stakeholder feedback:



WKRU was well represented at UK Kidney Week, the biggest multi-disciplinary UK event for the renal community and the American Society of Nephrology annual meeting, the largest and most prestigious annual renal meeting in the world, from organising and chairing sessions to plenary speakers and presentations in both oral and poster sessions.



Bristol – Cardiff Academic Renal meeting



Researchers from the WKRU Cardiff labs met with the Academic Renal Unit of Bristol University Medical School. There have been close ties between the two units for many years and the "show and tell" meeting was held to strengthen these and to examine potential future research collaborations.

More than 40 basic science and clinical researchers took part with a 50:50 split between face to face and online.

Professor Donald Fraser described the meeting as "a great restart to our face to face programme of events. It was exciting to see the connections being made and the plans for joint working developing".



This meeting has already led to discussions between Professors Moin Saleem and Gavin Welsh in Bristol and Mr Usman Khalid in Cardiff to train and work with a scientist funded by Bristol University.



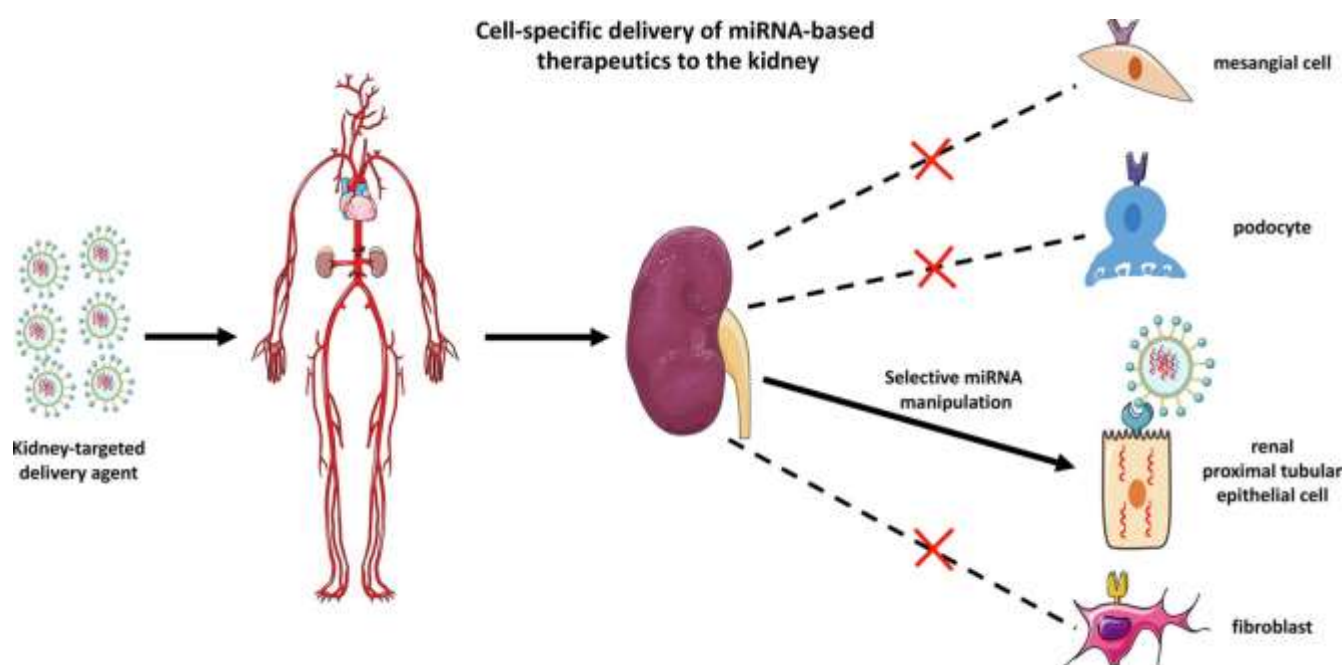
This year we publicised World Kidney Day through social media posts and messages from the international steering committee promotion: “Kidney Health for All” as you can see on the front cover.

We also joined forces with Kidney Research UK who were very grateful for the collaboration: “Thank you very much for joining us on World Kidney Day through your post and stories on Instagram. The day was a huge success and we saw an uplift in impressions and engagement across all social media platforms.

We reached 59% more people than last year’s World Kidney Day and our engagement increased by 47% from last year - so a huge success thanks to your support! We were able to reach new people, raise awareness of kidney health and empower the kidney community.”

New publication from WKRU in collaboration with Bristol Renal Unit reviewing increasing developmental treatments in diabetic kidney disease-
unleash the potential of microRNAs!

The global prevalence of diabetes was estimated to be 463 million people in 2019 and is predicted to rise to 700 million by 2045. The associated financial and societal costs of this epidemic demand an understanding of the pathology of this disease, and its complications, to inform treatment and improve patient outcomes. Nearly two decades after the sequencing the human genome, noncoding RNA expression is still being assessed. This family of RNAs (**microRNAs**) regulates the expression of most genes in the human genome. Altered microRNA expression profiles have been observed both in diabetes and in diabetic complications and have significant potential and novelty as targets for therapy, therapeutic agents and biomarkers. Access the full article [here](#).



MEET THE RESEARCHER

FOCUSING ON RENAL PROXIMAL TUBULAR CELLS



Dr Yueh-An Lu is a nephrology specialist from Taiwan. She started her PhD research into Chronic Kidney Disease in Cardiff in 2019, funded by the Chang Gung Memorial Hospital.

Her work was published in one of the world's most prestigious kidney journals: The Journal of the American Society of Nephrology.

It was also included as a highlight of the month and as the cover illustration.

This Month's Highlights

“Proximal tubular cells (PTCs) are numerically the predominant cell-type in the kidney and are central to regeneration versus organ fibrosis following injury. However, variations in their phenotype are not well characterized. Single-nuclear RNA sequencing revealed phenotypes of PTCs in normal mouse kidney and changes in kidneys undergoing regeneration and fibrosis following aristolochic acid exposure. Five abundant and four rare PTC phenotypes were found, with abundant clusters mapped to different tubular segments and rare phenotypes mapped to proliferative, dedifferentiated, and fibrosis-associated phenotypes. These data identify unrecognized heterogeneity in PTC phenotypes and reveal novel PTCs associated with kidney fibrosis.”



Professor Eddie Wang is a Professor of Viral Immunology within the 'Viral Immunology' Research Group (VIRG) of the Division of Infection & Immunity. Eddie has recently been successful in being awarded a research project grant from Kidney Research UK.

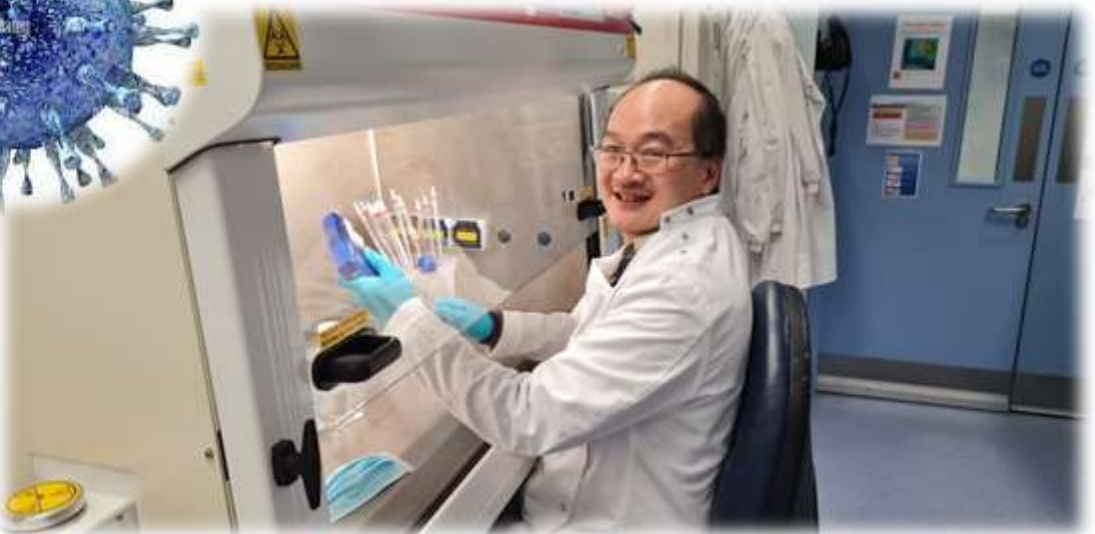
Identifying risk factors in kidney transplant patients for disease caused by human cytomegalovirus (HCMV) infection.

In announcing the award Kidney Research UK said:

"HCMV is a common viral infection and the majority of people in the UK have been infected with it at some point in their lives. In healthy people, the immune system controls the virus, it rarely causes illness, and most people don't even know they have been infected. However, it is never fully cleared from the body. This means it can 'reactivate' and cause symptoms if something suppresses the immune system.

People with a transplant can develop HCMV disease due to reactivation of the virus already in their body, or due

to virus carried in the new kidney from the donor. Without treatment, HCMV can cause a severe illness affecting many different organs. We currently don't know who will go on to develop HCMV disease after transplant so all patients are given anti-viral medication for the first few months following their transplant, but these drugs can have nasty side effects. We desperately need a better way of identifying which patients are at risk of developing HCMV disease, so we only give anti-viral drugs to people who need them. We have awarded Eddie with a Research Project Grant to answer this question. "



RESEARCH WITH IMPACT

The development of a rapid Lateral Flow Test for use in sepsis and other life-threatening conditions.

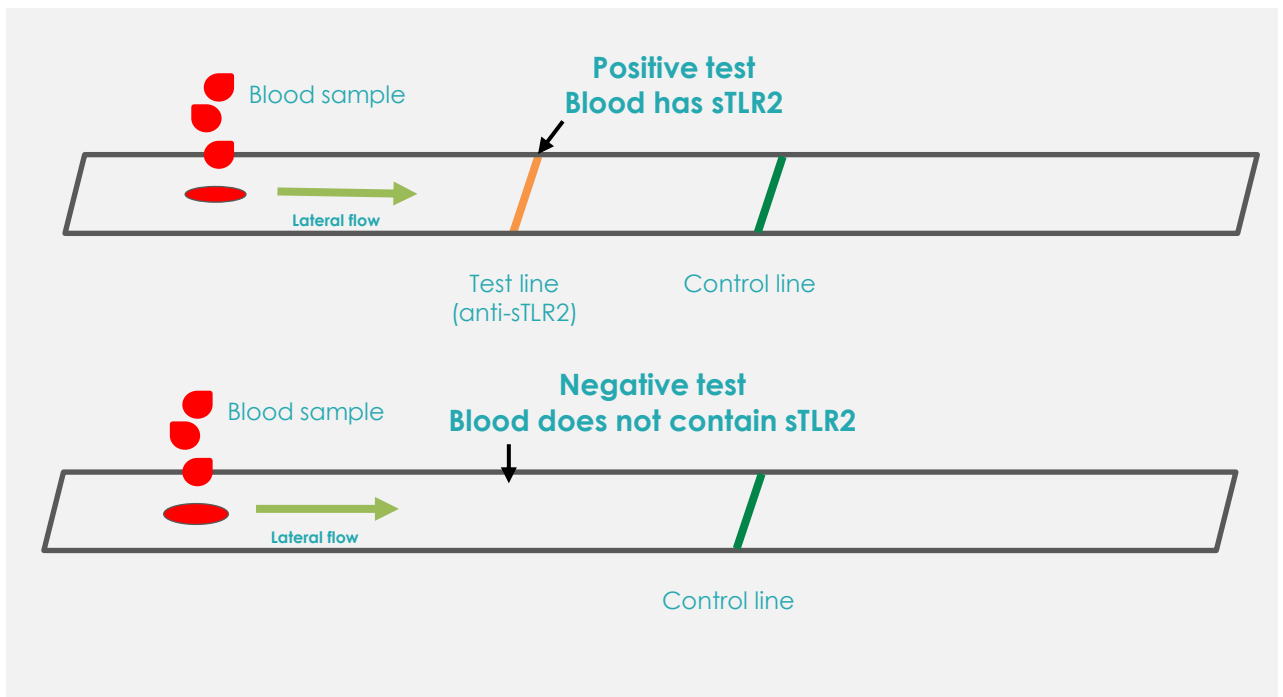
Dr Mario Labeta and colleagues

Not making a prompt and conclusive diagnosis of serious infections, including sepsis, can result in slow and/or inappropriate treatment with poor outcomes. Current tests to help diagnose and monitor infections are not specific and have limitations. So, novel, sensitive and specific biomarkers to help diagnose infections and monitor treatment are the focus of current investigations.

We have discovered a biomarker called soluble Toll-like receptor 2 or sTLR2, which is present in plasma and other biological fluids. One of the earliest responses to pathogens involves the fast release of sTLR2. We have

now shown that the plasma levels of sTLR2 increase very early and significantly in sepsis and can be used to differentiate between sepsis and non-inflammatory inflammation.

With the support of the ACCELERATE programme (University-Industry collaboration, co-funded by the European Regional Development Fund, Welsh Government, Universities, and the Life Sciences Hub Wales) we are currently developing in collaboration with a Welsh commercial partner (JR Biomedical Ltd) a fast, accurate, simple, and low-cost one-step Lateral Flow Test, which will be CE marked, allowing research and clinical use.



The Lateral Flow Test will differentiate between patients who do not have sTLR2 in their blood and those who do and may well have sepsis.

INVOLVEMENT IN RESEARCH DESIGN

OUR PATIENT FOCUS GROUP

For many years we have been lucky to have a dedicated and very experienced group of patients and family/carers to whom we present our latest research ideas. As well as presenting the ideas to them, we listen to their comments and criticisms and use them to improve the research plan. We currently have eight regular reviewers in the group.

Below are two research projects that were presented to the group, who emphasised the importance of the work to all renal and transplant patients and contributed to the Lay Summary of the final submitted grants.



Understanding how kidney transplant patients' immune systems respond to cytomegalovirus infection

This first project has now been funded by Kidney Research UK, following the incorporation of the focus group's comments. This is the Kidney Research UK description of the award.

Dr Farah Latif from Cardiff University will investigate how human cytomegalovirus – a common viral infection - interacts with the immune system in people who have had a kidney transplant. Human cytomegalovirus is particularly dangerous in patients who haven't been exposed to

the virus but receive a kidney from an infected donor. Understanding cytomegalovirus infection in kidney transplant patients is the first step towards developing new antiviral drugs to protect patients.





Dr Tim Bowen is a Reader in Matrix and Molecular Biology and leads a team that has been successful in gaining a Kidney Research UK - Stoneygate Trust Innovation Award with a start date of 28/9/2021, following involvement of our patient focus group.

Development of a novel electrochemical biosensor for the rapid and non-invasive detection of microRNA biomarkers of delayed graft function

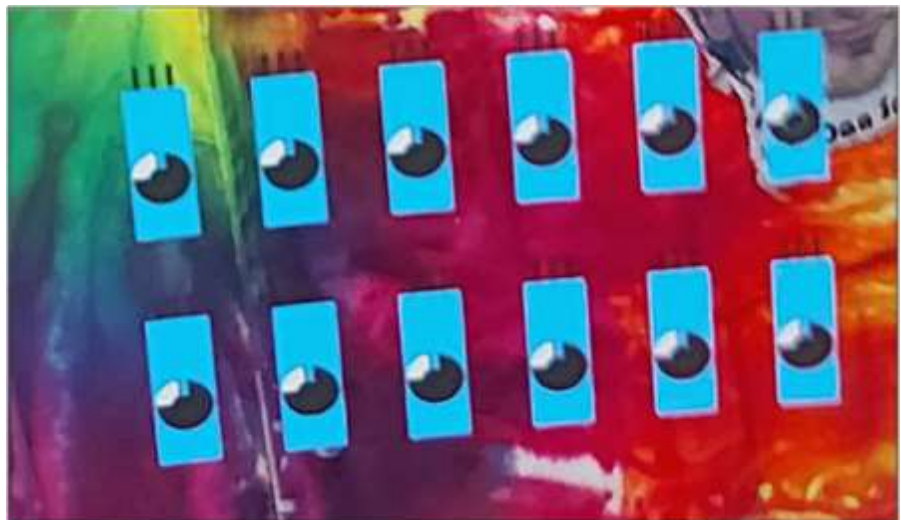
Chronic kidney disease (CKD) affects 1 in 10 people in the UK. Transplant is the treatment of choice as it provides better quality of life, prolongs the length of patient survival and is comparatively cost-effective. Currently more than 6,000 CKD

patients in the UK are waiting for a kidney transplant. Typically, since transplanted kidneys have longer periods without oxygen, their tissues become damaged, and the kidney takes longer to start working (delayed graft function-DGF).

Over the last five years, our laboratory has shown that molecules called microRNAs are different in urine samples from kidney patients compared to unaffected people. We have developed lab-based methods to detect specific microRNAs indicative of specific kidney diseases. We recently carried out experiments to look at the microRNAs in urine from kidney transplant patients with DGF and compared them to patients without DGF.

Using our lab-based methods we identified six microRNAs that, when measured together, predicted DGF risk in transplant recipients. However, these tests can only be undertaken in a lab by laboratory experts. This means results take time, the test is very expensive and is not suitable for general clinical use. To develop the test for clinical settings, we are now working with chemists to develop methods to translate this process into a simple urine dipstick test (see p21 for more details).

microRNAs
biosensors



INVOLVEMENT AND ENGAGEMENT

Early last year the WKRU patients' representatives enquired about the Unit's research projects on Covid19 vaccination in kidney patients. Two studies were set up in haemodialysis and transplant patients, which were discussed with the PPI group and met enthusiastic support (Research

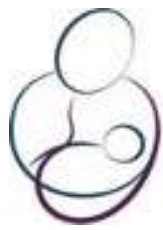
described above in transplant and haemodialysis patients p10). A follow up meeting took place with two presentations and updates on the 8 months old COVID-19 vaccine immunity projects, with feedback and discussions about how to take them forward.



The Bangor University team is working in collaboration with the NIHR funded PIRU (Policy Innovation and Evaluation Research Unit) team in England on the "Evaluation of changes to organ donation legislation in England" as they completed a similar study in Wales. They organised focused discussions with BAME

and various faith groups to discuss specific and under-represented groups' view on organ donation. The study will provide information about the barriers to organ donation, support service design and delivery, and inform policy makers about the impact of the new system.

WOMEN AND KIDNEY DISEASE: PREGNANCY CHOICES RESEARCH



pregnancy choices
with kidney disease



Chronic kidney disease affects one in ten adults. But many aspects of kidney disease have specific gender disparities. More women have kidney disease than men, yet more men are on dialysis or have a transplant. And with an estimated 195 million women affected by kidney disease worldwide, kidney disease can change many things in a women's life, including pregnancy.

Study aims: Decisions about pregnancy and the challenges pregnancy can bring whilst living with kidney disease are complex and emotive. This study is looking at patients' perspectives and their information needs and is very much focused on women's personal experiences. Its aims were to identify the needs, experiences and preferences of women with kidney disease in relation to their reproductive health, including decisions about having children, experiences of care, well-being and psychosocial contexts to inform the development of shared decision-making interventions.

Findings: Kidney disease was associated with defeminisation, negatively affecting current (sexual) relationships and perceptions of future life goals. There was little evidence that shared decision-making was taking place in this context. Unplanned pregnancies were common, sometimes influenced by perceptions of care, complexity of systems, or understanding of impacts of pregnancy on disease. Reasons for (not) wanting children varied. Complex pregnancies and miscarriages were common. Women often felt it was more

important to be a 'good mother' than address their health needs, which were often unmet and unrecognised. Options for alternatives to pregnancy were not well understood by anybody.

Conclusion: The needs and reproductive priorities of women as wives, partners, carers, workers, and mothers are frequently overshadowed by their kidney disease. High quality shared decision-making interventions need to be embedded as routine in a feminised care pathway that includes reproductive health. Research is needed in parallel to examine the effectiveness of interventions and address inequalities.

This study was supported by a **systematic review of nearly 2000 studies worldwide**, with the objective of researching the effects of interventions and to explore the experiences and decision making of women in relation to their reproductive health, family planning options and pregnancy.

The review found "there is a clear need to establish new interventions, test those already in development and develop new clinical guidance for the management of women at high risk or with kidney disease in relation to their reproductive health, including options to preserve fertility earlier. Other health conditions with established personalised reproductive care packages e.g. cancer, could be used to benchmark kidney practice alongside the new model developed here."

Funded by



INDUSTRIAL COLLABORATIONS

A new simple urine test to spot kidney transplant problems

Dr Tim Bowen and his team at Cardiff University are working on a new test that could predict delayed graft function — where the transplanted kidney fails to function straight after transplant — without the need for a biopsy. The urine test will quickly detect the levels of a molecules called microRNAs which can be used to predict the risk of delayed graft function.

The electrochemists in the WKRU Cardiff Labs have recently formed a new collaboration with Haydale® Ltd. of Ammanford in Wales.

Haydale, as a carbon graphene ink developer, are supplying the group with modified Screen Printed Carbon Electrodes giving the group access to many more chemistries to use in their biosensor development. With Haydale representatives on board, the

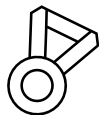
group now have access to a wealth of new knowledge, experience and prototype modified graphene ink materials with which to develop new and advanced biosensors for the diagnosis of **Diabetic Kidney Disease**.

They have also received a MedTech award from Kidney Research UK to further support the research programme.



Dr Daniel Smith from the group said: "This combination of knowledge and material input has vastly increased the rate at which the group has been able to obtain data and has significantly shortened development times. Haydale were also directly involved in the group obtaining 'IN-PART Discover' funding from Kidney Research UK, It is hoped that this collaboration will continue and grow for many years to come."

CONFERENCES AND AWARDS



13th International Conference
HYALURONAN 2021
International Society for Hyaluronan Sciences

BEST POSTER PRIZE

I, hereby, certify that

Irina Grigorieva

has won a Poster Prize Award

Virtual Meeting
June 14th & 15th 2021

Prof. Anthony J. Day
President of ISHAS



Dr Irina Grigorieva wins the prestigious Best Poster Prize at Hyaluronan 2021. The International Society for Hyaluronan Sciences aims to integrate basic, clinical and applied sciences and in 2021 attracted 240 registrants from around the world (from 21 countries), with 194 from an academic/clinical setting and 46 from the industrial/private sector. One third of these were research trainees. Irina's poster was ranked first amongst more than 60 others.

Irina began her research career at the Oxford Centre for Diabetes, Endocrinology and Metabolism, Oxford University, where she was awarded her PhD. Then followed 2 years as a Marie Curie Intra-European Fellowship at the Medical University of Vienna, before joining WKRU in 2018.

Instagram



Shrea Roy

B.Sc Biotechnology
Engineering India

M.Sc Molecular
Life Sciences
Germany

"I have potentially
identified exciting novel
mechanisms that drive
vascular calcification in
CKD / PD."

Internship
Austria

PhD Infection and
Immunity UK



Liked by milnescosta and 5 others

improve_pd Say Hi to Shrea :D

Coming from India, where she did her bachelors in Biotechnology Engineering. Shrea then moved to Germany for her Masters in Molecular Life Sciences, followed by a one-year internship in Austria. Now she is doing her PhD in Cardiff University.

Her project will study the determinants of Vascular Smooth Muscle Cell Phenotype and resultant matrix calcification and arterial stiffness.



IMPROVE PD is a European Action titled: 'Identification and Management of Patients at Risk – Outcome and Vascular Events in Peritoneal Dialysis'. Shrea started her PhD studying vascular disease in peritoneal dialysis at WKRU in October 2019 and is now in the final year of her research. Improve-PD students are encouraged to advertise their research and the Improve-PD programme on social media platforms as well as at network-wide training events and conferences.

FIGHTING INEQUALITY AND MISINFORMATION



New Year Honours - Congratulations to Dr Bnar Talabani

WKRU aims to improve communication and collaboration to best serve patients. Dr Bnar Talabani, a WKRU nephrologist, was recognised in the New Year Honours 2022 where she was awarded an MBE for services to the NHS and to the Ethnic Minority Communities in Wales, particularly during Covid-19. Bnar is a research-focussed clinician who has been coached and guided in external fellowship applications. She was awarded a Wellcome Clinical Research Primer award and a Wales Clinical Academic Track appointment followed by a Wellcome PhD Training Fellowship, which is currently ongoing. She has also been awarded an honorary lecturer position in Cardiff University.

Bnar has worked with Team Halo to dispel the misinformation surrounding the Covid19 vaccine, helping Public Health Wales understand the ethnic breakdown of vaccine uptake by conducting multiple surveys to generate good quality data from ethnic communities. She also helped support the vaccine programme in mosque vaccination pop up centres across South Wales.

She received the **Woman in Health and Care Award** as well as the overall title of Womenspire **Champion 2021**. With a few colleagues Bnar formed Muslim Doctors Cymru (MDC). They have delivered over 15 webinars in 8 languages. Bnar has run women-only groups dispelling myths about the vaccine and has linked up with Project Halo to target young people via TikTok videos.

Bnar conducted webinars as part of MDC to promote a 'Healthy Ramadan' discussing diabetes, dehydration, kidney disease and others. This was delivered in 4 different languages and posted on social media.

She has also been successful in being granted a Cardiff University "Innovation For All" award of £19K to help strengthening existing networks and developing new ones which will improve information, communication and interaction between people and communities with the goal of a positive impact on patients' health.

PROFESSOR JANE NOYES SELECTED TO BE INDUCTED AS A FELLOW OF THE AMERICAN ACADEMY OF NURSING

Jane is Professor in Health and Social Care Services Research and Child Health in the School of Medical and Health Sciences, University of Bangor. In 2014 she became WKRU Social Care Research Lead and is a member of the Senior Management Team.

The American Academy of Nursing is an honorific society that recognises nursing's most accomplished leaders in policy, research, practice, administration, and academia. Induction into the Academy is a significant milestone in a nurse leader's career in which their accomplishments are honoured by their colleagues within and outside the profession. Fellows are selected based on their contributions and impact to advance the public's health.



Jane trained to be a nurse at the Nightingale School of Nursing at St Thomas' Hospital, London. She completed post-registration training in children's nursing at Guys and the Royal Brompton Hospitals, London. Following a clinical career as a Sister in Children's Intensive Care at Great Ormond Street Hospital, and the National Heart and Lung Institute in London, she became one of the first nurses in the UK to be awarded a prestigious Medical Research Council Research Training Fellowship that enabled her to move to York University to undertake a Doctorate in Health Services Research. Jane joined Bangor University in 2005, where she has developed a global reputation in child health research. She is best

known as the longstanding leader of the Cochrane group of internationally renowned methodologists who have undertaken ground-breaking work to develop and clarify the methods for synthesizing qualitative and mixed-method evidence to inform clinical decision-making.

Jane said:

"I am honoured to be selected as a Fellow of the American Academy of Nursing. I am proud that my methodological work with Cochrane has been recognised and used globally by organisations such as the US Academies of Sciences, Engineering and Medicine as well as the World Health Organisation."

CONCLUSION

Thank you for giving this work your attention. I hope you've enjoyed reading about the varied work of the WKRU team. Please join us -we welcome all who are interested in kidney disease as members, and If you have ideas about our work, or work we should undertake, we'd love to hear about it.

We want everyone with an interest in making things better for people affected by kidney disease to join us -if there is an element of our work that you want to join in or to find out more about, please get in touch!

Professor Donald Fraser



Uned Ymchwil Arennol Cymru Wales Kidney Research Unit



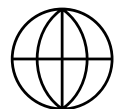
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