

ANNUAL REVIEW 2021



Diabetes Research & Wellness Foundation

# Staying well until a cure is found





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# Message from the DRWF **Chairman** and **Chief Executive**



Following the challenges of 2020, we worked hard to maintain focus on returning to 'normal'. This was easier said than done of course, given the continuation of the Covid-19 crisis and the ebb and flow of lockdown restrictions which impacted our ability to run in-person and community engagement activities.

Notwithstanding the continuing challenges of the pandemic, the year gave us the wonderful opportunity to celebrate the centenary anniversary of the discovery of insulin and focus on what is one of the greatest medical breakthroughs in the treatment of diabetes; a treatment that transformed a fatal disease into a manageable condition and prolonger of life.

In celebration of #100YearsofInsulin, we ran a week-long programme of online activities which commenced on World Diabetes Day, 14th November. Professor Emeritus David Matthews, Oxford University and past Chairman of the DRWF Research Advisory Board, hosted a panel of diabetes experts who explored the advances of diabetes research past and present, and discussed hopes for the future.

The discovery remains one of the most important medical breakthroughs in history. To the present day, millions of people still rely on insulin. It ignited a century of development in diabetes care and treatment and has undoubtedly saved millions of lives.

At DRWF, we think it is time for the next big breakthrough; our goal is to find a cure for diabetes. In pursuit of this, we fund some of the best and brightest diabetes researchers in the UK and around the world, whose work improves our understanding of diabetes; explores new treatments; develops self-management strategies; and seeks out potential cure pathways.

Existing on voluntary income, the donations that we receive from our supporters are an investment in a brighter future for people with diabetes.

We have learned much throughout the pandemic. We have all seen how worldwide collaboration in the research community can achieve great things at pace. The dedication and commitment of our diabetes research community is second to none. Now is the time for the next big breakthrough!

I would like to thank everyone who has supported our work in the past year. Whilst we may have been more remote than we have ever been, our supporters and beneficiaries have been uppermost in our minds.

Our hope for the future is clear. We are more focused than ever on our goal of a cure for diabetes. You have our word.




**W. Michael Gretschel**  
Chairman

**Sarah Tutton**  
Chief Executive

# The impact of diabetes

**Diabetes is a chronic, progressive disease that can have a debilitating impact on almost every aspect of life.**

Type 1 diabetes cannot be prevented. It occurs when the pancreas doesn't produce any insulin and is considered to be an autoimmune response in the body.

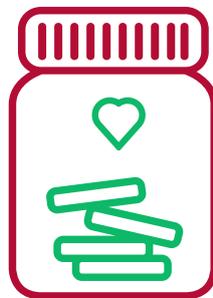
Type 2 diabetes is considered to be largely related to lifestyle factors. It can be prevented, or at least its onset delayed, in many cases by changing diet and exercise habits.



Diabetes, its care and treatment is reported to cost the NHS almost 10% of its annual budget which is approximately £10 billion.

It is thought that around 80% of these costs is attributed to treating the complications of diabetes - many of which can be avoided.

One in six people in a hospital bed has diabetes. People with diabetes are twice as likely to be admitted to hospital.



Self-management is the cornerstone of diabetes care and to be effective requires strong partnerships with healthcare providers and support networks.

We provide the information and tools to encourage and support a proactive approach to self-care.

# The scale of the problem

Latest figures indicate that around 4.9 million people in the UK have diabetes and it is thought that around 1 million adults have type 2 diabetes but are yet to be diagnosed



The number of people diagnosed with diabetes has more than doubled in the past 20 years and by 2030 it is estimated more than 5.5 million people will have diabetes in the UK



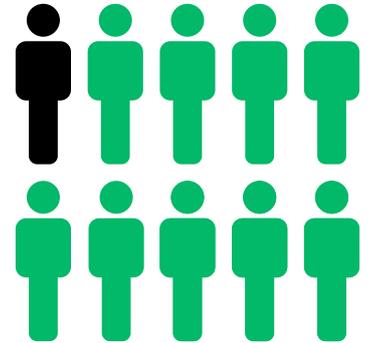
Diabetes is a global issue with more than 537 million adults living with the condition around the world in 2021. This is expected to reach 783 million by 2045

# There are two main types of diabetes



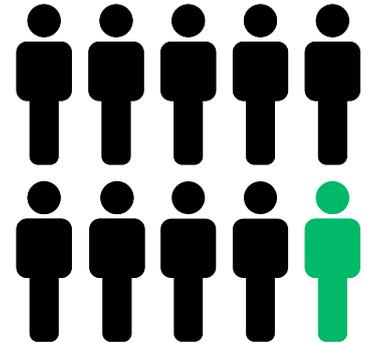
## Type 1 cannot be prevented

- Type 1 diabetes accounts for around 10% of those diagnosed with diabetes in the UK

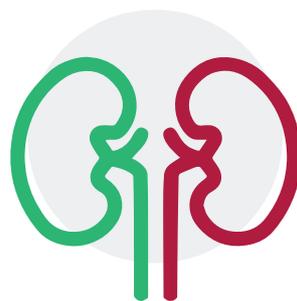


## Type 2 can be prevented

- Type 2 diabetes accounts for around 90% of all those diagnosed with diabetes in the UK



More than half of all cases of type 2 diabetes could be prevented or delayed



10,350 people in the UK have end-stage kidney failure because of their diabetes



More than 1,700 people have their sight seriously affected by their diabetes every year in the UK

# The objects of the charity are:

- To assist in the relief of persons with diabetes and any similar or related diseases or conditions
- To raise public awareness about diabetes and any similar or related diseases or conditions, their incidence, causes, treatment, avoidance and relief



## The focus of our work

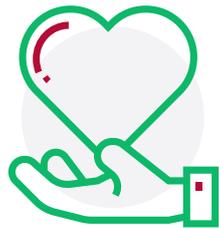
There are more than 4 million people diagnosed with diabetes in the UK. This figure has more than doubled in the last 20 years and it is anticipated that, if nothing changes, this will rise to 5 million in the next 4 years.

Around 90% of people with diabetes have type 2, which can often be prevented. There are a number of risk factors which increase the likelihood of a type 2 diagnosis, such as being overweight or obese, which puts people at greater risk of a range of chronic health conditions and ultimately increased risk of premature death.



Approximately 10% of people with diabetes have type 1 diabetes which is a chronic autoimmune condition where the body is unable to produce insulin which is required to regulate blood sugar levels. Type 1 diabetes cannot be prevented.

It is estimated that up to 5% of those diagnosed with diabetes have rare types such as MODY (maturity onset diabetes of the young), CFRD (cystic fibrosis-related diabetes), LADA (latent autoimmune diabetes in adults) and a small handful of other types.



It is estimated that the care and treatment of diabetes costs the NHS around 10% of its annual spend, which equates to approximately £10 billion per year. This is a staggering £1.1 million per hour.

Whilst all diabetes can lead to significant health challenges, such as increased risk of cardiovascular disease, blindness and amputation, it is important to remember that type 2 diabetes can be prevented or at least its onset delayed. There is also evidence of people with type 2 diabetes achieving 'remission' where they have had major weight loss through restrictive diets or bariatric surgery.

Self-management of diabetes is central to reducing the risks associated with complications and therefore much of our work is focused on providing information and educational support programmes that empower self-management and seek to encourage a proactive approach to good self-care. We consider that those with the greatest knowledge of their condition will have a better understanding of the disease and will be better equipped to have an impact on the progression of their diabetes and any associated complications. Our Diabetes Wellness activities in the community provide a great platform for meeting people sharing similar health concerns, making new friends and building peer support networks, all of which serve to enhance both the physical and psychosocial management of diabetes.

The research we fund spans all types of diabetes and related health, helping improve understanding of cause, treatment and management with our ultimate goal being to find a cure for what is considered to be one of the 21st century's leading health challenges, worldwide. With the commitment of a multidisciplinary Research Advisory Board, and a rigorous peer review process for applications, we invest in innovative Pump Priming projects and Fellowships which we believe will demonstrate impact for people with diabetes in the fastest timeframe. To date, we have committed almost £13 million to research since our first awards were made in 1999.

# Trustees

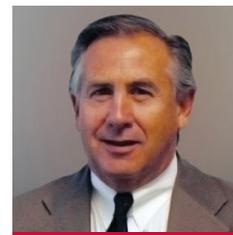
DRWF was born from a very personal connection with type 1 diabetes. Having two children diagnosed with the condition made for a commitment and dedication to the cause from Mike Gretschel and his business partner, John Alahouzos, that has never wavered and remains true to its original desire - to find a cure for diabetes.

The DRWF group was established in 1993 in the US and, in 1998, DRWF was incorporated and registered as a charity in the UK. Over the last 22 years we have become a recognised provider of awareness, educational support programmes and leading funder of diabetes research. The DRWF Board of Trustees are an engaged and committed group of individuals who bring a significant level of expertise to the governance of the charity in the fields of law, business strategy & management, international fundraising, psychology, healthcare and education.

## Michael Gretschel

### Co-Founder Chairman of the Board

Volunteer fundraiser for diabetes research for over 30 years. Mike has a very personal interest in diabetes, with two children having type 1. In 1993, Mike – along with others – founded the Diabetes Research & Wellness Foundation (DRWF). Since then, the DRWF International Network of charities has grown to include the DRWF in the UK; L' Association pour la Recherche sur le Diabète (ARD) in France; Diabetes Wellness Network Sverige (DWNS) in Sweden, and a new group just starting out in Finland. All groups work autonomously, but with the same objective, and work collaboratively on international awareness and research funding campaigns. Collectively, the groups have committed more than £55 million in awareness, education and research funding since inception.



## John Alahouzos

### Co-Founder Volunteer fundraiser for diabetes research since 1978

John Alahouzos is a marketing executive by profession and a volunteer for 'The Diabetes Cure' by choice. For almost 38 years he has worked alongside his friend Mike Gretschel to raise funds and awareness for the need to cure diabetes. After many years of volunteer fundraising for the Juvenile Diabetes Research Fund in the US, John, Mike and their wives founded the DRWF in 1993. John is the Chairman of the Board of Trustees of the DRWF in the US and serves as a trustee on the board of the DRWF in the UK, as well as their affiliates in France, Sweden, and Finland.



## Jeffrey Harab

### Bachelor of Arts, Juris Doctor, Attorney-at-Law, 1979

Jeff has been a member of the Board of Trustees of the DRWF since 2001. He is also a board member of the L' Association pour la Recherche sur le Diabète (ARD) and is an alternate board member for Insamlingsstiftelsen DWNS. Each of these groups, along with DRWF in the UK, form part of the International Diabetes Wellness Network, and collaborate on global diabetes awareness campaigns, educational programmes and research funding initiatives.



## Valerie Hussey

### Retired Nurse, Musgrove Park Hospital, Taunton

Val has been a member of the Board of Trustees of DRWF since 1999. She is also an alternate board member for Insamlingsstiftelsen DWNS. Having worked as a nurse within the NHS for many years, Val has a keen interest in ensuring that people with long-term conditions have the resources available to them to self-manage their condition as effectively as possible. She is a keen supporter of the charity's educational event programme.



## Steve Jones

### Business coach, public speaker, trainer and consultant

Steve is an expert in creating ideas and strategies that build businesses, drive revenue and improve business position and performance. He has a passion for making companies and their products the best in their product category. Steve's unique understanding of leadership and management, team building and motivation in business, coupled with his understanding, drive and enthusiasm, clearly set him aside as an expert.



## Dr Shivani Misra

### Consultant in Diabetes and Metabolic Medicine at Imperial College Healthcare NHS Trust and a diabetes researcher in Imperial College London.

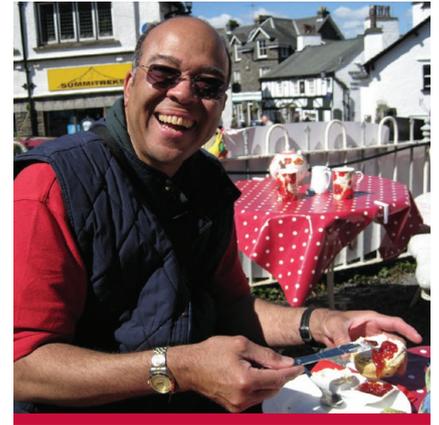
Dr Misra graduated from medical school in 2005 and has actively pursued a research career in diabetes over the last decade. She set up the MY DIABETES study as a PhD student, to examine types of diabetes in different ethnic groups, and received the Sutherland-Earl Clinical Research Fellowship from the DRWF to fund this. Her current clinical activity focuses on people with diabetes diagnosed at a young age with unusual types of diabetes and on young-onset type 2 diabetes. Dr Misra was a recipient of the prestigious European Federation for the Study of Diabetes Future Leaders Mentorship Award in 2017 and continues to balance clinical and research activity in diabetes.



# Farewell to Lynwood Newman AKA Captain Insulin

## DRWF VOLUNTEER AND SUPPORTER WHO PASSED AWAY IN MARCH 2021

The late great Stan Lee once said of his superhero creations 'with great power comes great responsibility'. That quote is never more meaningful than when thinking about Lynwood Newman, sometimes known as our very own diabetes superhero - Captain Insulin.



Lynwood was more than aware of the power that came with his dual roles within the diabetes arena and the responsibility he had to the many people living with diabetes that he helped to support, educate and inform, and of course the serious commitment he showed in everything he did with us here at DRWF.

It wasn't just at educational events that Lynwood supported DRWF. He would often don his red DRWF T-shirt and go off with his DRWF banner and literature to do a talk for us, whether that was to a diabetes support group, the fire brigade and police or even local companies and schools. Once he even did a talk at a prison to the inmates and staff.

Lynwood travelled with DRWF all over the country to professional diabetes conferences too and was always willing to talk about his experiences of living with diabetes with healthcare professionals, the public and other people living with the condition. During the pandemic this changed to live panel discussions via video calls; he was always ready for the challenge.

Lynwood always thought about DRWF and for that we will be eternally grateful. Volunteers and fundraisers like Lynwood are integral to the work we do to help us achieve our aims. We couldn't do it without them.

A native of Philadelphia, USA, the City of Brotherly Love as it is known, he embodied this completely to everyone he met. The UK became his home after being stationed here with the USAF. He later discovered that he had UK connections as his great-grandmother was originally from Manchester and had emigrated to New York where she met and married a farm boy from New Jersey. Despite being a committed Anglophile Lynwood never lost his strong Philly accent.

Lynwood was diagnosed with type 2 diabetes shortly after his 40th birthday in 1989. His mother, who had also had type 2 diabetes, died from complications associated with the condition. This profound loss prompted Lynwood to live an active and healthy lifestyle and he committed himself to staying fit for the rest of his life whilst managing his diabetes as best he could. Being in the military helped him keep this commitment to himself. It was during a joint force exercise in 1984 when he fell from an icy platform on a command post, somersaulting ten feet and landing badly; he suffered an injury that he always maintained was the catalyst for the onset and diagnosis of his diabetes.

Over the years Lynwood did everything he could to learn about and manage his diabetes. He served in the USAF Police for 17 years. Whilst stationed in the UK, he met and married his wife Lida who he leaves with his beloved cat Izzy. He worked as a hospice volunteer and became a fundraiser for several charities including DRWF, who he did a tandem skydive with to mark his 65th birthday.



In more recent years Lynwood would face the challenge of merging his diabetes management with cancer treatment, having been diagnosed with multiple myeloma (cancer of the blood and bone marrow,) something he typically faced head on. During multiple hospital stays, stem cell treatment, transplants and chemotherapy he remained active and did his best to contribute to DRWF.

We consider it a blessing and an honour to have called Lynwood our friend. He truly was one of the best people, a true hero in every sense of the word. For over 15 years he was a huge part of DRWF's journey. He will be missed more than words can say and leaves a huge hole in our team. Things will not be the same without him, but he will remain a part of our history and the DRWF family. We can't imagine doing our events without him, eagerly waiting with his clipboard, smiling and his desire to help. It will be difficult, but we will honour his memory and let him inspire us in whatever we do. Lynwood and the Captain will be with us every step of the way.

# Editorial Advisory Board

## Dr Sarah Brewer

### GP, Health Journalist and Specialist in Nutritional Medicine

Dr Sarah Brewer MSc (Nutr Med), MA (Cantab), MB, BChir, RNutr, MBANT qualified from Cambridge University with degrees in Natural Sciences, Medicine and Surgery. After working in general practice, she gained a master's degree in nutritional medicine from the University of Surrey. As well as being a licensed doctor, Sarah is now also a Registered Nutritionist, a Registered Nutritional Therapist and an award-winning health writer. Sarah is the author of over 50 popular self-help books, including *Overcoming Diabetes* (Duncan Baird) and *Natural Approaches to Diabetes* (Piatkus). Her latest books are *Live Longer Look Younger*, and *Eat Well, Stay Well*, published by Connections. Sarah is the editor of *YourWellness* magazine [www.yourwellness.com](http://www.yourwellness.com). Follow her occasional nutritional Tweets at [www.twitter.com/DrSarahB](http://www.twitter.com/DrSarahB).



## Dr Deborah Broadbent MRCOphth

### Ophthalmologist / Director of Liverpool Diabetes Eye Centre

Deborah Broadbent MB ChB (Liverpool), DRCOG (London), DO (London), MRCOphth graduated from Liverpool University in 1976 and has been working as an ophthalmologist since 1978. In conjunction with colleagues, she set up the Liverpool Diabetic Eye Study in 1991 and in 1996 she became the full-time Director of the Liverpool Diabetes Eye Centre.

Over the past 20 years she has developed an expertise in the epidemiology, diagnosis and management of diabetic eye disease. She has presented original papers and been an invited speaker at both national and international meetings. In September 2002 she was appointed as the Lead in Workforce, Training and Education to the English National Screening Programme for Diabetic Retinopathy, and has worked with Skills for Health, NHSU, the National Open College Network and City and Guilds to develop National Occupational Standards in retinopathy screening and a suite of mandatory national qualifications awarded by City and Guilds for all personnel involved in the identification of sight-threatening diabetic retinopathy across the UK. She was appointed as Honorary Associate Clinical Professor with Warwick University, advising on the Masters in Diabetic Retinopathy programme in 2010, and as Honorary Senior Lecturer in the Department of Eye and Vision Science at the University of Liverpool in 2013.

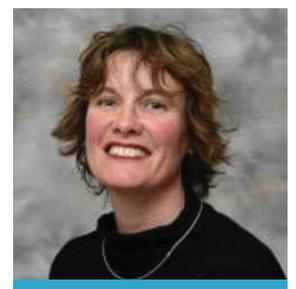
She acts as a peer reviewer for ophthalmic and diabetes journals and is the Section Editor for *Retinopathy in Diabetes Digest*. She is also on the Advisory Board for the DRWF and is a trustee for The Eye Fund, a charity providing counselling support for people coming to terms with untreatable visual impairment. She continues to be actively involved in research into the epidemiology of diabetic retinopathy, screening for diabetic retinopathy and new therapies.



## Andrea Cameron

### Head of the School of Social and Health Sciences, Abertay University

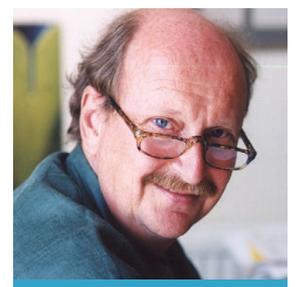
Andrea has worked in healthcare since 1982. After qualifying as a nurse she specialised in Coronary Care Nursing before becoming a Nurse Teacher. She then moved to teaching Sports Science, but remains a registered nurse and qualified exercise instructor. She has undertaken doctoral studies examining the information given to patients with diabetes by health professionals in the primary care sector and has published in the area of volunteering and employment skills. Andrea has also run for Scotland at international veteran events, and has been a contributor for DRWF since 2004.



## Professor Edzard Ernst

### Professor in Complementary Medicine, Exeter

Professor Edzard Ernst is Chair in Complementary Medicine and Director of Complementary Medicine at Peninsula Medical School in Exeter. His expertise lies in acupuncture, autogenic training, herbalism, homeopathy, massage and spinal manipulation. He has published more than 1,000 articles in peer-reviewed medical literature, 500 original research papers and has written, or been editor, of more than 40 books. Edzard is Editor-in-Chief and founder of two medical journals, and sits on the editorial board for 20 other journals, including DRWF's *Diabetes Wellness News*.



### **Azmina Govindji**

#### **Registered Dietitian and TV Nutritionist**

Azmina is a registered dietitian, consultant nutritionist, broadcaster and best-selling author. She is director of Azmina Nutrition [www.azminanutrition.com](http://www.azminanutrition.com) and shares daily tips at <http://on.fb.me/AzNutrition>. Azmina has written 15 books including *the Gi Plan* with Nina Puddefoot and *The Diabetes Weight Loss Diet* with Antony Worrall Thompson. She was Chief Dietitian to Diabetes UK from 1987–1995 and is currently a media spokesperson for the British Dietetic Association.



### **Emma Howard**

#### **Community Diabetes Lead Podiatrist, Oxford Health NHS Foundation Trust**

Emma qualified with a BSc Hons Podiatry from the University of Brighton in 1997 and began working as a community podiatrist for the NHS in Shropshire. During this time she completed the Society of Chiropodists and Podiatrist Diabetic Foot Module and began working in acute diabetic foot clinics in Telford and Shrewsbury. After nearly ten years she moved to work at Knowsley PCT on Merseyside as a Diabetes Team Leader in a community trust.

In 2009 she accepted a position for Oxford Health NHS Foundation Trust where she works as a Community Diabetes Lead Podiatrist. She specialises in the care of the diabetic foot and high-risk wound care. The clinics run across community settings and within OCDEM (Oxford Centre for Diabetes, Endocrinology and Metabolism).

She has worked with DRWF since 2007 developing the foot care advice leaflet and has attended the walking holidays and Wellness Weekends to give presentations and informal advice on foot care in diabetes.



### **Dr Alison Kirk**

#### **Lecturer in Physical Activity for Health, University of Strathclyde, Glasgow**

Alison was appointed in January 2009 as a Lecturer in Physical Activity for Health at Strathclyde University, Glasgow. She completed a BSc in Physiology and Sports Science at the University of Glasgow (1998) before undertaking a PhD through the same university (completed 2003). She was then appointed as Lecturer at Dundee University before moving to Strathclyde University. Alison currently teaches on the BSc Sport and Physical Activity degree course. She teaches various aspects of physical activity and health and clinical exercise science.

Alison's specialist research area is in behaviour change of physical activity and sedentary behaviour with emphasis towards prevention and management of chronic disease. She has particular focus towards diabetes but with past and current funded research in breast and colon cancer, respiratory and cardiovascular disease. Alison has a drive towards implementation of research findings and knowledge exchange within community and clinical practice and has worked with a number of community and clinical groups on related projects and guidelines.



### **Dr Alastair Leckie**

#### **MBCbB DRCOG MRCGP FFOM, Consultant in Occupational Medicine, OHSAS**

Alastair is a Consultant in occupational medicine and director of OHSAS, an NHS-based service provider for occupational health. He graduated from Edinburgh University in 1986 and initially trained and worked as a general practitioner. He trained in occupational medicine at the Institute of Occupational Medicine before moving into his current role. Alastair is involved in postgraduate training for GPs, specialist trainees and occupational health colleagues. He is an honorary senior clinical lecturer at the University of Glasgow. He frequently sees people in his clinic with diabetes to advise them and their employer regarding any work issues or work-based assistance that may be required. Alastair is currently President of the Society of Occupational Medicine.



**Henrietta Mulnier****RGN MSc PhD RNT, Lead Diabetes Nurse, Royal Surrey County Hospital and Primary Care**

Henrietta Mulnier RGN MSc PhD is a Lecturer in Diabetes Nursing at the Florence Nightingale School of Nursing and Midwifery, King's College London. She also works clinically as an Honorary Diabetes Specialist Nurse at St Thomas' Hospital London. She has been nursing for nearly 30 years; specialising in diabetes since 1995. Having completed a Doctorate in 2008, her current focus is on research to benefit patient care for those with diabetes. Henri has published widely and is a reviewer for several journals. She is a member of the current National Institute for Health and Clinical Excellence Guidance Development Group for type 1 diabetes and is also on the editorial board for Diabetes & Primary Care.

**Dr Mayank Patel****Consultant Physician in Diabetes, University Hospital Southampton NHS Foundation Trust**

Dr Mayank Patel has worked as a Consultant Physician in Diabetes and Acute Medicine at University Hospital Southampton since 2008. Since starting as a Consultant, he has overhauled and developed the trust's adult inpatient diabetes service and worked with commissioners to bring new adult multidisciplinary insulin pump and diabetic foot services to the trust. He co-developed 'DiAppBetes', the smartphone application to help healthcare professionals manage inpatients with diabetes. He also contributes to medical undergraduate and postgraduate diabetes training, as well as regularly delivering diabetes education to patients, public and other healthcare professionals in primary and secondary care.

**Professor Philip Preshaw****Specialist in Periodontics, Visiting Professor, Newcastle University**

Philip Preshaw is Professor of Periodontology and Consultant in Restorative Dentistry at Newcastle University, UK. He received his Dental Degree from the University of Newcastle in 1991 and his PhD in 1997. He is a registered specialist in Periodontics and is a Fellow of the Royal College of Surgeons of Edinburgh. His main research interests are investigations of the pathogenesis of periodontal disease, and links between diabetes and periodontal disease. Professor Preshaw lectures frequently, and has numerous publications in peer-reviewed scientific journals. He has been awarded a UK NIHR National Clinician Scientist Fellowship, a Distinguished Scientist Award from the International Association of Dental Research, and a King James IV Professorship from the Royal College of Surgeons of Edinburgh for his contributions to research.

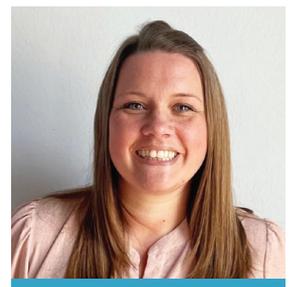
**Bethany Kelly****Development Clinical Lead Diabetes Specialist Nurse, Wiltshire Health and Care**

Bethany now works across Wiltshire as the Lead Diabetes Specialist Nurse. Bethany has been involved with diabetes care for the last 12 years of her career, working across primary and secondary care. She completed her MSc in Diabetes Practice with Swansea University, gaining a distinction in 2021.

Bethany became Co-Chair and Director of the Diabetes Specialist Nursing Forum UK and, as part of this team, received the 'Healthcare Professional of the Year 2018' at the Quality in Care Diabetes Awards. The team were also finalists for the Health Service Journal award for Diabetes Initiative of the Year in 2019.

Bethany was part of the multidisciplinary-focused Forum for Injection Technique (FIT) as a board member in October 2018 and went on to publish the 2020 5th Edition international FIT guidelines. She has also worked on multiple national projects with NHS England.

Her interests lay in working with younger adults, type 1 diabetes, hypoglycaemia, social media, pregnancy and technology.



# Awareness, information and support

Our Direct Mail programme played a key part in our communications strategy during 2021, enabling us to stay connected with key audiences who do not routinely engage with online channels. We distributed 400,114 campaign packs in 2021, an increase of around 55% on the previous year. The health information contained within each campaign is targeted at beneficiaries who could act on the information, either in a preventative way (type 2 diabetes) or to inform and support those living with diabetes (all types), in their self-management of the condition. Whilst maintaining relationships with existing supporters of our appeals, we also reached out to higher volumes of prospective beneficiaries and supporters of the charity during 2021. We had an average campaign response rate of 9.5% across across streams resulting in over 38,149 responses from across the country. We know from experience that it is likely that many more opened and read the appeal but chose not to make direct contact with us at that time. Historically, we have seen numbers of people respond to communications that have been distributed many months, or even years, before as they have held onto the information provided for future reference. These campaigns also act as a stewardship tool, helping us to stay connected with long-standing supporters of the charity.

Our awareness messages are reaching wider audiences than ever before, supported by our increased provision of news and articles on our website and social media channels and via our Health Unlocked community forum, the world's largest social network for health. The DRWF Diabetes HU forum has a total 6,011 all-time members an increase of 6% on 2020. Around 10% of all members, are very active in posting and joining discussions and average session time in the forum has increased by 14% to 4.5 minutes. The forum provides a 'safe space' for people with diabetes to share their experiences, gain support and make a difference to others too.

We continued to focus a lot of time and attention to online engagement during the year. This was essential in order to maintain our connection with the wider diabetes community when we couldn't engage through in-person activity. We doubled our efforts to generate regular reliable news items, with additional online self-management resources, such as our podcast series and pre-recorded video content. Our website received a total of 416,916 page views from 366,312 unique visitors. This continues the upward trajectory of engagement seen in 2020 by 12% in overall traffic, with a small decline of 1.5% in unique visits.

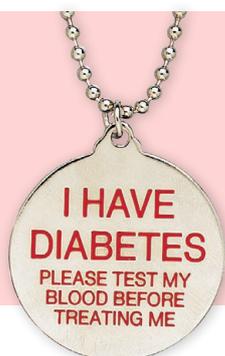
In 2020 we saw a massive three-fold increase in the volume of patient information resources downloaded from the website. This was as a result of our significant efforts to divert audiences to our site when Covid-19 hit. This had reduced in 2021 to what we would consider to be more 'normal' levels with a total of 5,124 PDF downloads; 240 audio downloads, in addition to the 8,100 hard-copy resources that were ordered via telephone/email. These resources, whilst still appropriate in content for people with diabetes, are currently under review as part of our Wellness Action Group activity to reconsider 'what good looks like' for the diabetes community going forward.

Whilst in 2020 we saw an increase in the number of visitors to our podcast series 'Living with Diabetes' which resulted in 549 downloads, this had reduced in line with the number of information resource downloads in general, in 2021.

There were 380 downloads in total, a reduction of around 30% on the previous year. The podcast programme is a work in progress and another channel through which we can offer support through the sharing of lived experience. We look forward to developing this avenue of our work in the future.

In 2021 we increased our efforts to raise awareness of our activities and services to more people through social media campaigns with most engagement being seen through our Facebook page. Our sponsored content reached almost 1.7 million people with 5,431,690 impressions. There are some fluctuations in our social activity at present, and it is very much a growing area of activity through a platform that enables us to engage in conversation with a diverse audience, often answering general diabetes-related self-management queries, addressing confusions about diabetes, and increasingly responding to questions and comments about diabetes research and recent advances. There was less reach in 2021 than in 2020 but we see this partly as a reflection of the knee-jerk reaction to high numbers of people turning to online methods of connection in 2020. By 2021, some of this had dwindled as people were keen to get back to 'real life' engagement.

We distributed 114,860 copies of our newsletter, *Diabetes Wellness News*, to subscribers, healthcare professionals and regular givers. This is a 2% decrease in the circulation numbers of 2020. Much of this reduction is related to deceased notifications received from subscribers in the year. The newsletter is distributed to annual subscribers and on a complimentary basis to healthcare providers who share the information with their patient communities. On a quarterly basis the circulation is boosted as we focus on the research element of our work and send a copy to our regular givers. It is difficult to accurately predict the true readership of the newsletter but through anecdotal evidence, it is much wider than those who have specifically requested to receive it and is seen as a stewardship tool to maintain engagement with a variety of different supporter and beneficiary audiences.



Our Diabetes Awareness Necklace is distributed free of charge to people with diabetes and healthcare professionals for onward distribution. These necklaces provide emergency identification for those with diabetes should they be unable to alert the emergency services to their condition. They carry the wording 'I have diabetes, please test my blood before treating me'. They are distributed along with medical check-up cards that are used to record tests and results to inform self-management strategies. We responded to 1,437 specific requests for free necklaces during the year; however, a large percentage of these resources are distributed at face-to-face events.

# Quality in Care Diabetes - award-winning Diabetes Wellness educational events

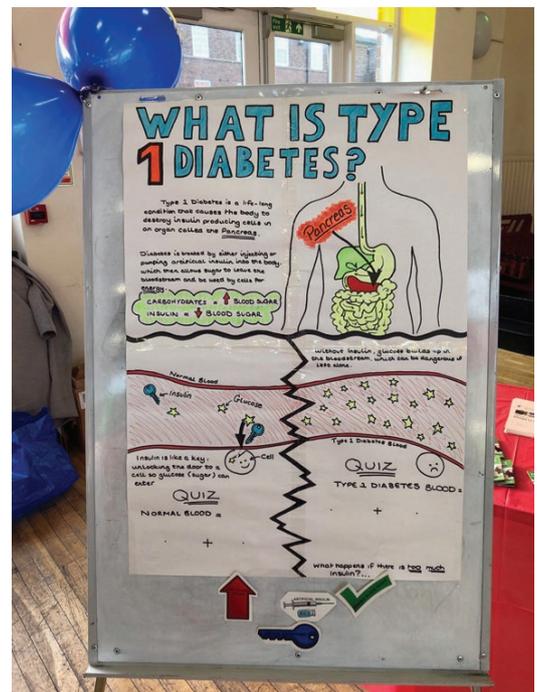
Diabetes-structured education aims to provide people with diabetes with the knowledge and confidence to self-manage a long-term condition effectively. The offer of structured education across the country has improved over more recent years. However, the rates of attendance are still very low and vary widely. Self-management is central to diabetes care. Yet, it is reported that high numbers of people with diabetes experience emotional or psychological problems, such as depression, anxiety and diabetes distress, all of which can impact the ability and motivation to self-manage effectively. This leads to poorer health outcomes, reduced quality of life and increased healthcare costs. Being able to access appropriate support is integral to good self-management.



We have been running an annual programme of Diabetes Wellness events since 2001. We work with diabetes, and related healthcare professionals to facilitate workshops that provide relevant, up-to-date, evidence-based information covering all aspects of diabetes and related health. Delegates choose the sessions and talks that they attend, meaning that they create their own agenda for the day, improving engagement and supporting better outcomes. These events bring together a wealth of information, expertise and peer support under one roof.

We know that managing diabetes is challenging and effective coping strategies are crucial to support optimal health. These coping strategies are important not just to people living with diabetes but their family, friends and carers. Peer support plays an important part in emotional wellbeing and this in turn can have an obvious impact on the ability to self-manage effectively. For this reason, we feel it is important to include family, friends and carers in workshops and discussions which facilitates discussion around managing diabetes, perceptions and expectations, in an environment where everyone has experienced or is experiencing something similar. These events are relaxed and welcoming in approach. They are inclusive and provide for diverse needs. They also provide an amazing opportunity to spend time with a whole host of healthcare professionals, asking the questions that really matter to the individual, in a relaxed and informal environment.

The continuation of Covid-19 restrictions in the first half of the year meant that we were unable to run our in-person Diabetes Wellness events. However, every effort was made to ensure that we were still able to connect with the wider diabetes community through offline and online activities. To that end, we hosted a number of digital events throughout the year to ensure that we remained in touch with beneficiaries and supporters of the charity.



# United Through Diabetes - #100YearsofInsulin

As 2021 was the centenary anniversary of the discovery of insulin, much of our awareness and promotional work was hinged on this historical breakthrough in the treatment of diabetes.

To that end, we worked collaboratively with Closer Still Media to run a series of activities which commenced on World Diabetes Day, 14th November.

Our activities began with a panel session, entitled '100 Years of Diabetes Research - Past, Present and Future' - a historic look back at the timeline of diabetes research since the discovery of insulin and key advances to date. Discussion also explored clinical outcomes and patient benefits, and our hopes for the future through the continuation of research.

Professor Emeritus David Matthews, Professor of Diabetic Medicine University of Oxford and past Chairman of the DRWF Research Advisory Board, hosted the panel of experts which included Dr Eleanor Kennedy DRWF Research Manager; Dr David Strain, Senior Clinical Lecturer University of Exeter; Professor John Wilding, Professor of Medicine Institute of Life Course and Medical Sciences, University of Liverpool; Dr Mark Evans, University Lecturer (Clinical) Department of Medicine, University of Cambridge; Dr Shivani Misra, Honorary Clinical Senior Lecturer Department of Metabolism, Digestion and Reproduction Imperial College London and DRWF Trustee; and Dr Chloe Rackham, DRWF Research Fellow, University of Exeter.

Throughout the following week, we hosted a series of live and pre-recorded one-hour evening workshops, which focused on several aspects of diabetes treatment, management and complications. These sessions were facilitated by numerous diabetes experts and attended by a wide mix of people with type 1 and type 2 diabetes, families, parents, carers and others. Additionally, we referred our audiences to a wealth of supporting resources including video and podcast content for further information.

In total, 530 people participated in the event which was run over a five-day period. Many of these people also revisited the pre-recorded content that was offered.

## Diabetes Professional Care 2021



For the past six years, DRWF has been a key supporter of Diabetes Professional Care (DPC), an event that provides free-to-access CPD-accredited education for healthcare professionals delivering diabetes care.

As the registration sponsor for this event, we are well positioned to engage with the diabetes specialist teams and industry partners that facilitate and support this event. In 2021, we were able to re-establish a face-to-face connection following the tumultuous year of 2020. A total of 4,984 healthcare professionals, from across the primary and secondary care spectrum, attended the event over the course of two days, benefitting from an educational programme facilitated by multidisciplinary teams. The event was opened with a keynote session from Professor Partha Kar OBE, National Specialist Advisor Diabetes, NHS England and Professor Jonathan Valabhji, National Clinical Director for Diabetes and Obesity, NHS England and Improvement.



# Diabetes Wellness Family 'Camp in the Cloud'



There are around 29,000 children and young people in the UK living with type 1 diabetes. For these young people, quality of life can be adversely affected by isolation and their inability to participate in many of the everyday activities enjoyed by their friends and peers. This often results in a growing lack of self-esteem and confidence, which can become a barrier to future growth and development.

Having provided a very successful residential Diabetes Wellness Family Camp in partnership with Over The Wall in 2019, we had planned to expand on this offering in 2020 and 2021. The pandemic had a significant impact on this programme but the OTW team, working with digital consultants, devised a unique online platform to enable a virtual Camp in the Cloud (CiTC) to take place.

This online platform meant that we were able to present a wonderful opportunity for families with children with type 1 diabetes to connect with others experiencing similar health issues, reducing the feeling of isolation during a particularly isolating period. We recognise that the online experience and associated benefits are somewhat different to an in-person event, but there is opportunity through this platform to reach those children who may not have been eligible to attend an in-person residential event, due to significant health challenges. This potentially widens our reach quite significantly and so we intend to explore the possibility of carrying out online and residential events of this sort, going forward.

*"I was delighted to be approached by the DRWF to support their virtual Diabetes Wellness Family Camp. To spend some time online, seeing and hearing from kids living with type 1 diabetes and their parents, whilst watching them create their own brilliant array of diabetes-related comic characters live was fantastic!" - Dr Mayank Patel, Consultant in Diabetes and Acute Medicine at University Hospital Southampton NHS Foundation Trust and member of the DRWF Editorial Advisory Board*



Camp in the Cloud enabled us to engage with 68 families in 2021, just over 200 participants in our activities, in total.

In the future, we hope to support families of children with type 1 diabetes through a mix of virtual and residential events allowing children to experience the mischief and magic of camp, regardless of the constraints of their illness.

Amy and Sophie along with their parents participated in Camp in the Cloud. They

thoroughly enjoyed the comic book workshop hosted by Dr Mayank Patel and Revolve Comic's Jim Lavery.

They were tasked with creating their own type 1 diabetes cartoon character. There were a whole host of amazing characters designed by the children with one design selected to be transformed into a fabulous piece of cartoon artwork. Amy and Sophie are pictured here with their winning design of Pancreas Power and Evil Keto.



As well as the fun element of Camp, all families were invited to participate in a Q&A session hosted by diabetes and related healthcare professionals. In 2021, Dr Shivani Misra, Diabetes Consultant Physician from Imperial College, London and DRWF Trustee, and Hayley Faulds, diabetes paediatric/transition nurse from University Hospital, Southampton, supported these events sharing their wealth of expertise and experience, answering questions and facilitating discussion amongst the families.



# 100 Years of Insulin

2021 marked the 100th-year anniversary of the discovery of insulin – a landmark moment for people living with diabetes worldwide.

The discovery is still considered to be one of the most significant medical developments in history, which transformed diabetes from a fatal disease to a manageable condition and prolonged life for decades. A century later, insulin remains the only available treatment for type 1 diabetes.

November was the centenary of the first successful test of insulin at the University of Toronto in Canada. The result marked the beginning of a wave of successful trials on people living with diabetes, all achieved by a group of researchers dedicated to treating the condition. Within months, mass-production of the life-saving drug began across North America and was soon made available elsewhere as it was shipped to the rest of the world.

## Pre-insulin

Prior to the discovery of insulin, life was incredibly difficult for people living with diabetes. The condition was first recorded as far back as 1550 BC in ancient Egypt, when physicians identified and noted the symptoms of an unknown illness that caused thirst, excessive urination and eventually death.

Before the introduction of insulin therapy, medical science failed to develop any effective treatment for the condition and a diagnosis of diabetes was fatal. Patients were expected to live only one or two years before entering diabetic ketoacidosis (DKA) and succumbing to the condition.

Over time, efforts were made by physicians to control the effects of diabetes. The understanding that carbohydrate and sugar intake was connected to the condition sparked a wave of dietary programmes intent on negating the effects of diabetes. Apollinaire Bouchardat (1806–1886), a French pharmacist and diabetologist, introduced popular sugar-free diets which often reduced the sugar discovered in patients' urine. Meanwhile, other physicians, such as Pierre Adolphe Piorry (1794–1879), believed that consuming excess calories would contradict the loss of calories in urine.



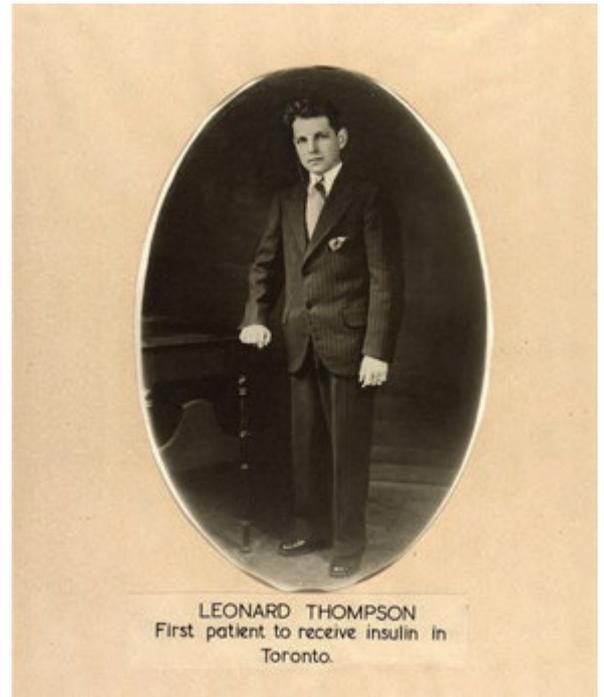
**Frederick Banting**

Such diets were commonly experimented with, most of which resulted in the rapid decay of their patient's health.

As late as 1915, new approaches with diets were being adopted by scientists intent on providing an effective treatment for diabetes. Two of the most prominent diabetes specialists in America, Frederick M. Allen and Elliott P. Joslin, introduced a severe restricted diet to prolong the life of those living with diabetes, commonly referred to as 'starvation diets'.

Allen and Joslin prescribed a daily intake of just 500 calories along with periods of intense fasting. Only in the final decades of the 19th century did a loose understanding of the science behind diabetes begin to emerge. In 1889, two German scientists correctly identified a link between the pancreas and diabetes. Three decades before this, one of the most significant discoveries of this period occurred in Germany, when scientist Paul Langerhans correctly identified in a study that the pancreas served two primary functions and secrete some sort of hormone. Langerhans' study of the pancreas led to the discovery of the islets of Langerhans, a group of insulin-producing cells in the pancreas, also known as islet cells.

This discovery would prove crucial in the later scientific breakthrough at the University of Toronto.



## Discovery

In November 1920, Canadian surgeon Frederick Banting began exploring how insulin could be extracted from islet cells in the pancreas. He started working at the University of Toronto, with support from Professor J. J. R. Macleod, a physiology professor and global expert in diabetes. Macleod provided Banting with a laboratory and assigned Charles Best, a promising research student, to assist Banting with his experiments. In May 1921, Banting and Best began removing the pancreas from research dogs and performed pancreatic duct ligation to separate insulin-producing cells from the rest of the pancreas. By November, they successfully extracted insulin from the pancreas and successfully treated a dog with diabetes for 70 days. The promising results allowed for human trials to be considered for the first time. Biochemistry professor James Collip was introduced to purify the insulin, allowing it to be safely administered to people living with diabetes.

On 11 January 1922, Leonard Thompson became the first person to be treated with insulin. Leonard was aged 14 and had been living with diabetes for two and a half years before being admitted to Toronto General Hospital. Like many diabetes patients, he was severely ill and weighed just 65 pounds. Leonard had been placed on a 'starvation diet' by his doctors, which restricted him to just 450 calories a day. The first dose of insulin administered to Leonard lowered his blood glucose levels by around a quarter and reduced the level of glucose in his urine. However, due to impurities present in the insulin, an abscess developed around the injection site and Leonard's ketone levels remained dangerously high. Collip continued his work on purifying the insulin and achieved success shortly thereafter. On 23rd January, Leonard received his second dose of insulin. Within 24 hours, his blood glucose levels dropped by around 77% and his physical appearance improved remarkably.

Just three months later, he 'looked better' and 'felt stronger' and was discharged from hospital. Leonard was not the only success story. Five-year-old Teddy Ryder was among the first group of patients treated by Banting and Best's insulin at Toronto General Hospital in 1922. One of the youngest patients to be treated with insulin, Teddy weighed only 26 pounds and could hardly move before the breakthrough in Toronto.

With access to insulin, Teddy made a remarkable recovery, and lived for a further 77 years.

## Worldwide Impact

The remarkable success of the first human trials led to rapid clinical deployment of insulin therapy across the globe. In 1923, the American pharmaceutical company Lilly began to ship the first commercial stock of insulin across North America. Just one month later, Nordisk Insulin Laboratory started producing insulin in Denmark and began shipping vials globally. The incredible work of Banting, Best, Macleod and Collip marked the end of diabetes as a terminal condition.

In recognition of their achievement, Banting and Macleod were awarded the Nobel Prize in Physiology or Medicine. They divided their prize money equally with Best and Collip, who had both been overlooked despite their significant contributions.

Finally, people with diabetes had access to a treatment which prolonged life by decades, whilst crucially enhancing their quality of life. However, the development of insulin had only just begun, and over the coming decades insulin therapy and delivery developed significantly.

## Present/Future

The production and delivery of insulin continued to be developed in the decades following the breakthrough at Toronto. The introduction of synthetic human insulin in 1982 was a significant milestone in the treatment of diabetes, as it allowed for insulin to be genetically engineered in laboratories across the world, ending the practice of extracting insulin from cattle and pigs.

The discovery of insulin remains one of the most important medical breakthroughs in history. To the present day, millions of people still rely on insulin every day. It ignited a century of development involving diabetes and has undoubtedly saved millions of lives. The medical industry continues to develop the technology behind treating diabetes and insulin.



**Charles Best and Frederick Banting**



**Charles Best and Frederick Banting**

# Research Strategy

We publish a research strategy which sets out the types of funding we offer; who is eligible to apply; the processes we have in place to monitor results; and how this information will be disseminated to our beneficiaries and stakeholders.

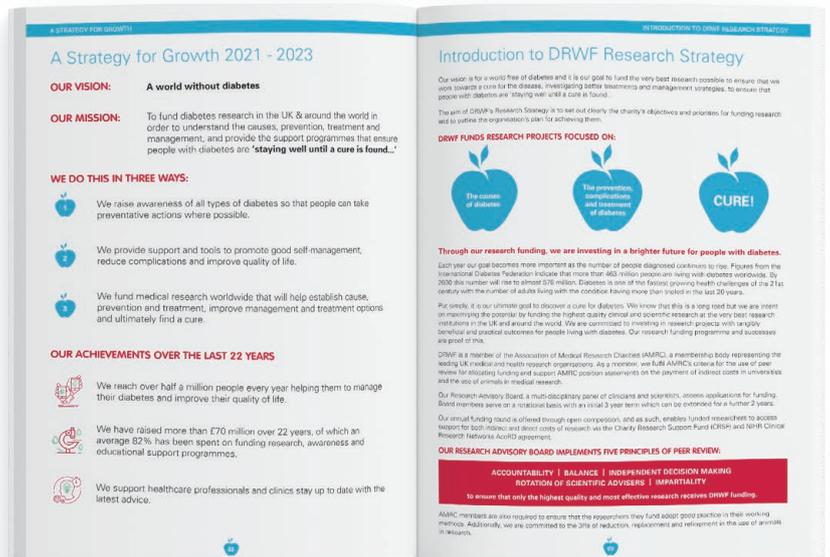
This strategy helps us to build on our mission and describes how we will use funding to meet our overarching aims over a defined period of time.

A clear strategy is important as it helps applicants assess whether their research falls within the remit of our funding availability. It provides the charity's Research Advisory Board and staff with a clear set of objectives to evaluate applications for funding and research impact. It also demonstrates, via lay involvement, our intention to fund research which best meets our beneficiary needs.

The research world is constantly evolving, as are the needs of people living with all forms of diabetes; therefore our published research strategy is a guideline which enables us to be both proactive and responsive. It is regularly reviewed and updated as necessary.

It also enables us to assess opportunities for collaboration and helps us to provide important feedback to the people we support and those who invest in our charitable activities.

[www.drwf.org.uk/media/xsphxmvf/drwf-strategic-report-brochure-2021.pdf](http://www.drwf.org.uk/media/xsphxmvf/drwf-strategic-report-brochure-2021.pdf)



# Research Funding

We provide research grants to researchers whose work we consider offers the best hope and most expedient path to improved understanding of all types of diabetes, new and improved treatments and management strategies, and ultimately a cure. Awards are offered as a three-year Clinical and Non-Clinical Fellowship and one-year Pump Priming project awards. Institutional and discretionary awards are available when funds allow. Contract funding of key personnel within the DRWF Human Islet Isolation Facility at the Churchill Hospital, Oxford is subject to proposal and review on a multi-year rolling contract basis.

DRWF is a member of the Association of Medical Research Charities (AMRC), a membership body representing the leading medical and health research charities who deliver high-quality research that saves and improves lives. Working with member charities and partners, AMRC aims to support voluntary sector effectiveness and advance medical research by developing best practice, providing information and guidance, improving public dialogue about research and science, and influencing government.

As a member, we subscribe to AMRC's criteria for the use of peer review for allocating funding and support AMRC position statements on the payment of indirect costs in universities and the use of animals in medical research which seeks to replace, refine and reduce the use of animals (3Rs) in research.

Our annual funding round is offered through open competition and, as such, enables funded researchers to access support for both indirect and direct costs of research via the Charity Research Support Fund (CRSF) and NIHR Clinical Research Networks AcoRD agreement.

We operate a rigorous peer review process by which our Research Advisory Board, clinical and scientific experts in the field of diabetes and related health, assess applications and reports to ensure that only the highest-quality and most-effective research, carried out using good or best practice methodologies, receives DRWF funding.

AMRC membership is an indicator of quality. It also qualifies our grant funding for support from the government's Charity Research Support Fund which enables universities to increase the funds we award by around 20%. We also benefit from the AMRC training and development programme which supports continued use of best practice processes and procedures.

As an AMRC member we abide by the five principles of peer review:

- Accountability
- Balance
- Independence
- Rotation
- Impartiality

AMRC carry out an audit of member charities and their peer review processes every five years. The 2020 scheduled audit was delayed due to the pandemic and subsequently conducted during 2021. We were successful in achieving continued certification for best practice in peer review.



# Research Advisory Board

Our Research Advisory Board comprises experts in a wide variety of research disciplines to ensure that all applications are assessed knowledgeably and fairly.

As a member of the Association of Medical Research Charities, we are committed to maintaining a rigorous peer review process for the assessment of research applications, for which the Advisory Board are responsible. This process, carried out in a fair and transparent way, ensures that only the highest-quality research at the best institutions receives DRWF funding

We endeavour to maintain a fair balance of experience and scientific disciplines within our Research Advisory Board and draw upon additional external expertise, as necessary, to ensure robust review of applications for funding. Board members serve a rotational term of office for a three-year period which can be extended for a further two years.

Our processes operate within the parameters of a Conflict of Interest Policy. This policy relates to all Advisory Board members, the Board of Trustees, reviewers and anyone involved in the review of funding applications and/or the approval of funding recommendations. The purpose of this policy is to minimise the potential for conflicts of interest arising and to protect the charity and those who work for it from any perception, real or otherwise, that the external interests and affiliations of its Boards/ Committees might interfere with the independence of its decision-making in furtherance of carrying out the charity's activities. The policy identifies potential conflicts of interest and sets out how to record and manage them.

We seek the views of people living with diabetes through our Wellness Action focus groups and have lay representation on our Diabetes Wellness Editorial Advisory Board which secures user opinion and involvement across all of our charitable activities.

The following board members retired from the board in 2020 and we thank them for their hard work and tireless support over the years:

Dr Rob Andrews  
Professor James Shaw  
Dr Ian Salt

## Chairman - Professor Angela Shore

Professor Angela Shore is the inaugural Vice-Dean Research for the University of Exeter Medical School, and was previously Interim Vice-Dean Research for the Peninsula College of Medicine and Dentistry since 2009. She is the Scientific Director of the NIHR Exeter Clinical Research Facility for Experimental Medicine and Associate Director for Experimental Medicine for the UKCRN diabetes research network.

Professor Shore graduated in Physiology from the University of Newcastle and was awarded her PhD for an investigation of the vascular mechanisms underlying fluid homeostasis in patients with liver disease. Following postdoctoral positions at the University of London where she expanded her research into the vascular aspects of hypertension, Professor Shore moved to the Postgraduate Medical School Exeter in 1987 to establish the clinical microvascular research unit funded by the Wellcome Trust. Currently, Professor Shore's work, which is funded by the British Heart Foundation, Diabetes UK, European Union IMI JU and NIHR, investigates novel approaches to the identification of early vascular complications and patient stratification for cardiovascular risk.

She was appointed Professor of Cardiovascular Science in 2000.



## Dr Mark Evans

Dr Mark Evans is a University Lecturer in the Institute of Metabolic Science and Department of Medicine, University of Cambridge and an Honorary Consultant Physician in Medicine and diabetes at the Addenbrooke's teaching hospital in Cambridge (Cambridge University Hospitals NHS FT).

He qualified in Medicine at St Bartholomew's Hospital in 1988 and then subsequently worked and trained as a junior doctor at a number of hospitals in London and South East. He completed an MD at University of London and then spent three years at Yale University in USA (1999 to 2002) in the laboratory of Professor Robert Sherwin before returning to his current UK post in 2002.

His particular interests are in type 1 diabetes, structured education, devices and technology including insulin pumps, continuous glucose monitors and automated insulin delivery, hypoglycaemia and brain nutrient sensing.



### Professor Peter Jones

Peter Jones is Professor of Endocrine Biology in the Diabetes Research Group at the Guy's campus of King's College London. Peter obtained his PhD at the National Institute for Medical Research (London) studying peptide hormones in the central nervous system.

He started working on beta-cell function in diabetes as a postdoctoral fellow at Queen Elizabeth College in 1984. He was awarded an RD Lawrence Fellowship by the British Diabetic Association, followed by a Medical Research Council Senior Research Fellowship, after which he took up an academic position as Lecturer in Physiology at King's. He was awarded the British Diabetic Association R.D. Lawrence Lecture for 1997 and the Diabetes UK Dorothy Hodgkin Lecture for 2015 in recognition of his work on beta-cell function.

His research interests remain with the beta cell, with current focus on cell-cell interactions within islets of Langerhans, strategies for improving islet transplantation therapy for type 1 diabetes and novel therapeutic targets for type 2 diabetes.



### Dr Angus Jones

Dr Angus Jones is a NIHR Clinician Scientist at the University of Exeter and an Honorary Consultant Physician in the Royal Devon and Exeter Hospital. His research focuses on clinical questions directly relevant to the management of diabetes. Interests include developing a stratified (or personalised) approach to the management of type 2 diabetes, diabetes classification and the assessment of endogenous insulin secretion (C-peptide) in the clinical management of diabetes.

He trained in medicine in London and worked as a clinician in London, Southampton, Malawi and Southwest England before undertaking an NIHR Doctoral Research Fellowship with Professor Andrew Hattersley in Exeter from 2011 to 2014. He received an NIHR Clinician Scientist Fellowship in 2016 to investigate and integrate biomarkers and clinical features for diabetes classification in adults, research that is using a combination of existing datasets, electronic healthcare records and prospective studies to develop a fully validated prediction model (clinical calculator) for diabetes classification at diagnosis. He was awarded the Diabetes UK type 2 Diabetes Research Prize in both 2014 and 2015 and a European Foundation for the Study of Diabetes Rising Star Award in 2016.



### Professor Susan Ozanne

Susan Ozanne is Professor of Developmental Endocrinology at the University of Cambridge Institute of Metabolic Science Metabolic Research Laboratories and the MRC Metabolic Diseases Unit. She obtained a first class honours degree in Biochemistry from the University of Edinburgh, in 1990. She then obtained her PhD from the University of Cambridge in 1994.

Prior to her current appointment, she was a British Heart Foundation Senior Fellow. Previously, she also held a Diabetes UK RD Lawrence Fellowship and a Wellcome Trust Career Development Fellowship. Her research interests are focused on understanding the mechanistic basis of the relationship between suboptimal early nutrition and later risk of diseases such as type 2 diabetes, obesity and cardiovascular disease. Professor Ozanne is the author of over 250 papers on the early origins of health and disease and is an elected member of the council of the Society for the Developmental Origins of Health and Disease.



### Mr John Casey

Mr John Casey (MB ChB, PhD, FRCS(Glasg), FRCS(Ed), FRCS(Gen Surg), FRCP Edin) is a Consultant Transplant Surgeon at the Royal Infirmary of Edinburgh and Honorary Reader at the University of Edinburgh. He is Director of the Scottish National Islet Transplant Service and Lead Clinician for Organ Transplantation in Scotland. He is also Chair of the UK Islet Steering Group and Advisor to the Scottish Government on organ transplantation. Mr Casey co-chairs the Scottish Donation and Transplant Group and is Vice Chair of the European Pancreas and Islet Transplant Registry.

His research background is in transplant immunology, in particular immune modulation using monoclonal antibodies. His principal research focus is now on islet transplantation encompassing islet and beta cell regeneration, immune modulation and enhanced engraftment of human islets using both co-cellular transplantation and encapsulation techniques. He has a close collaboration with the bioengineering department at Strathclyde University into bioprinting/encapsulation and imaging of human islets and also bioprinting of other cell types, in particular hepatocytes and cholangiocytes (in collaboration with the Department of Surgery at Cambridge University and the Sanger Institute). In addition to abdominal organ transplantation, he has a clinical interest in advanced laparoscopic surgery.



### Dr Katharine Owen

Dr Katharine Owen is an Associate Professor and Consultant Physician at the Oxford Centre for Diabetes, Endocrinology and Metabolism (OCDEM). Her interests are in the areas of investigation of genetic aetiology of diabetes in young adults, identification, characterisation and clinical management of rare kinds of diabetes and building an assessment of aetiology into care pathways for newly diagnosed young adults with diabetes. She is also involved in clinical trials in OCDEM for newly diagnosed type 1 diabetes through the UK Type 1 Diabetes Immunotherapy Consortium.



### Professor Mirela Delibegovic

Professor Mirela Delibegovic is currently the Dean for Industrial Engagement in Research and Knowledge Transfer at the University of Aberdeen and the Director (Diabetes) of the Aberdeen Cardiovascular and Diabetes Centre.

She obtained her BSc Honours Pharmacology degree from the University of Edinburgh, in 1999, and PhD in Biochemistry at the University of Dundee, MRC Protein Phosphorylation Unit (MRC PPU), under the supervision of Professor Patricia Cohen in 2003. She then moved to the States to the Harvard Medical School for her postdoctoral research and received the American Heart Association fellowship for her work on protein tyrosine phosphatases in obesity and diabetes. In 2007, she returned to UK on the RCUK tenure-track fellowship at the University of Aberdeen. Professor Delibegovic sits on several national funding committees, including Diabetes UK and the British Heart Foundation and is passionate about career development of staff and students, public engagement in research, academia/industry collaborations and knowledge transfer.

Professor Delibegovic's research for the past 20 years has focused on the causes and consequences of development of diabetes and the complications associated with diabetes. Her laboratory is particularly interested in co-morbidities such as atherosclerosis and cardiovascular disease, diabetic nephropathy and retinopathy, diabetic foot ulcers as well as non-alcoholic fatty liver disease and NASH. In recent years, she has been investigating the molecular link between diabetes and Alzheimer's disease and how these may be affected by different nutritional interventions.



## Victoria Salem

Victoria is a Senior Clinical Lecturer in Bioengineering at Imperial College London and Honorary Consultant in Diabetes, Endocrinology and General Internal Medicine. Her research interests are in neuroendocrinology and the gut-brain axis as applied to the treatment of obesity and type 2 diabetes.

She was the recipient of the first Diabetes UK Harry Keen fellowship. Her lab has established longitudinal imaging of pancreatic islets, which has led to groundbreaking insights into the coordinated behaviour of the islet as a functional unit. She has also studied the physiological effects of combination gut hormones and bariatric surgery on food reward processing (fMRI), glucose metabolism and energy expenditure in humans.

She has developed novel imaging techniques to investigate brown adipose tissue physiology and is working on complex vagal deafferentation models to investigate gut-brain signalling, with a view to discovering novel drug targets for obesity and diabetes. She is committed to making clinical academia more inclusive and has won the Julia Higgins award for her 'powerful advocacy for female academic staff, and her formal and informal mentorship of junior academics'.



## Professor Robert Semple

Professor Semple is a diabetologist and endocrinologist based at the Centre for Cardiovascular Science at the University of Edinburgh. He is a Wellcome Trust Senior Research Fellow in Clinical Science, and Dean of Postgraduate Research at the University of Edinburgh. He trained in Biochemistry and then Medicine in Cambridge, with clinical postgraduate training in London and Cambridge, including a PhD in the laboratory of Professor Sir Stephen O'Rahilly.

Over the past 15 years, his clinical and research interests have centred on severely insulin-resistant diabetes, lipodystrophy and hypoglycaemia, both genetic and acquired. Key interests are use of such rare human conditions to improve understanding of pandemic 'insulin resistance' and the mechanisms linking it to disease, and on translating findings from the research laboratory into clinical benefits for patients. Approaches in his group span clinical trials, experimental medicine, and disease modelling in cells and animals.



## Professor Ketan Dhatariya

Professor Ketan Dhatariya graduated from the University of London in 1991 and did his diabetes and endocrinology training in and around London. For two years during his training he was also a part-time General Practitioner in the evenings. He took some time out of his training to spend a year doing intensive care medicine and anaesthetics. After he finished his diabetes training in 2001 he went to do a two-year research fellowship in endocrinology at Mayo Clinic in Minnesota, USA. He was appointed as a Consultant in diabetes, endocrinology and general medicine at the Norfolk & Norwich University Hospital in 2004, and Honorary Professor of Medicine at the University of East Anglia in 2019.

He is a full-time NHS clinician and his predominant areas of interest are inpatient diabetes – in particular peri-operative diabetes care, the management of diabetes-related emergencies, and the 'diabetic foot'. He leads one of the largest foot clinics in the East of England.

He has several national roles in the UK. He is currently the Chair of the Joint British Diabetes Societies Inpatient Care Group where he has led or co-authored several national guidelines on the management of various aspects of inpatient diabetes care including the guideline on peri-operative diabetes care. He is the Chair of the Examining Board for the UK Specialist Clinical Exam in Diabetes and Endocrinology, as well as Chair of the newly developed European Board Examination in Endocrinology, Diabetes and Metabolism. He is the President of the Diabetes and Endocrine section of the Royal Society of Medicine. He is the Section Co-editor for diabetes for [www.endotext.org](http://www.endotext.org). He is an Associate Editor of Diabetic Medicine and BMJ Open Diabetes Research & Care.

Professor Dhatariya has over 150 peer-reviewed publications, and has published over a dozen book chapters on inpatient diabetes, peri-operative diabetes care or on the diabetic foot. You can find more by visiting [www.norfolkdiabetes.com](http://www.norfolkdiabetes.com).



# 2021 Research Grant Awards

Two fellowships were awarded in 2021, one clinical and one non-clinical totalling **£431,940**.

Our Pump Priming funding round was paused in 2021 due to the Covid-19 pandemic and will be resumed in 2022.



**Institution:** University of Cardiff, recipient of the Non-Clinical Fellowship 2020

**Recipient:** Dr Stephanie Hanna

**Project:** Identifying islet antigen-specific lymphocytes by recruitment to intradermally injected autoantigens, using single cell RNA sequencing: a route to novel cell-based therapies and immune monitoring

**Amount:** £194,933

**CARDIFF  
UNIVERSITY**

## Summary:

Immunotherapy in type 1 diabetes aims to reduce the body's immune attack on the insulin-producing beta cells. To develop these treatments, it is important to be able to identify and monitor the white blood cells that cause the damage. We cannot study these cells safely in the pancreas and numbers in the blood are very low.

However, I have observed that after injecting molecules derived from the beta cells into the skin, I can detect white blood cells multiplying in skin. I have also been able to detect cells multiplying in lymph glands that drain the skin using ultrasound-guided needle sampling. These are likely to be cells from the pancreas attracted to the skin by the injection of pancreas-derived protein. I will study these cells using state-of-the-art single cell analysis technology and use this information to develop highly targeted treatments for the immune response in type 1 diabetes.



**Institution:** Norwich Medical School, University of East Anglia, Norwich

**Recipient:** Dr Tara Lee

**Project:** Use of Diabetes technology on birthweight, labour, inpatient and postpartum glycaemia of pregnant women with type 1 diabetes

**Amount:** £237,007

**UEA University of  
East Anglia**

## Summary:

Despite increased use of continuous glucose monitoring (CGM) and insulin pumps, most pregnant women with type 1 diabetes struggle to achieve their glucose targets. Many deliver large birthweight babies and experience additional challenges managing their diabetes during hospital admissions and after birth. My project will examine how mother's glucose levels and insulin therapy relate to baby's growth patterns and birthweight. It will also examine which diabetes technologies help pregnant women to achieve their glucose targets during hospital admissions and after birth.

I will perform three studies within a trial; firstly, focusing on understanding baby's growth patterns, secondly on examining mother's glucose levels during hospital admissions, labour and delivery, and thirdly, during the six months after birth. My project addresses three top priority diabetes pregnancy research questions; (1) use of diabetes technology to improve pregnancy care; (2) women's experiences and choices surrounding labour and delivery; and (3) postnatal care and support.



## Islet Cell Research & Transplant

DRWF has made a considerable contribution to the funding of islet cell research and transplant in the UK and around the world. The DRWF Human Islet Isolation Facility at Churchill Hospital, Oxford plays a pivotal role in providing islets for research and transplant as part of a national treatment programme, the clinical element of which is funded by the NHS.

Three personnel are funded within the facility (around 30% of facility staff):

- Lab Manager
- Deputy Lab Manager (post-doc researcher)
- Islet Transplant Co-ordinator

During the year, we renewed our commitment to the Lab Manager post with a further three years funding totalling £228,752. Dr Stephen Hughes, long-standing Lab Manager, retired in October having been funded by DRWF since the facility was launched in 2006. Dr Rebecca Spiers takes up this position with the ongoing commitment of DRWF funding.

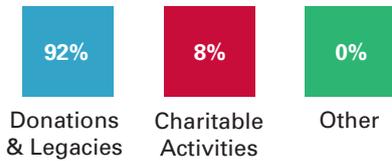
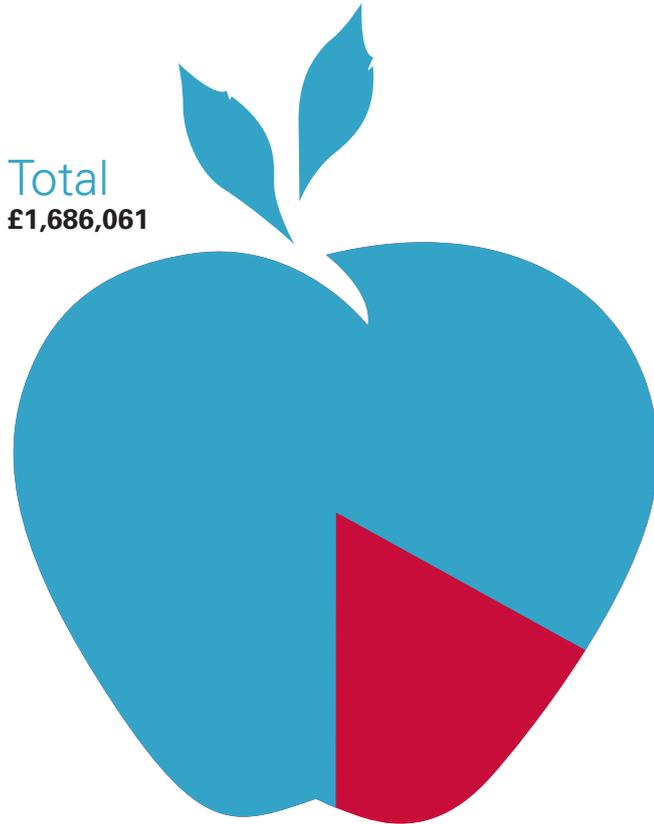
Additionally, we agreed a no-cost extension to funding in place for the Deputy Lab Manager post which remained vacant in 2021. We expect this post to be filled in early 2022. The funding for the Islet Transplant Co-ordinator position will be revisited when the current award terminates on 30th April 2022.



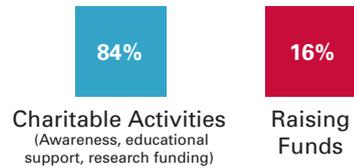
# Income Expenditure Profile 2021

The information presented here is not the full statutory accounts but a summary of the information which appears in the full accounts for financial year ending 2021. This summary information may not contain sufficient information to allow for a full understanding of the financial affairs of the DRWF. The full statutory accounts can be supplied on request or accessed via the Charity Commission website by entering the charity registration number 1070607 in the 'find a charity' search box.

## Income



## Expenditure



**84p in every £1 spent went on awareness, education, support and research funding.**

# Highlights from 2021

## London Marathon

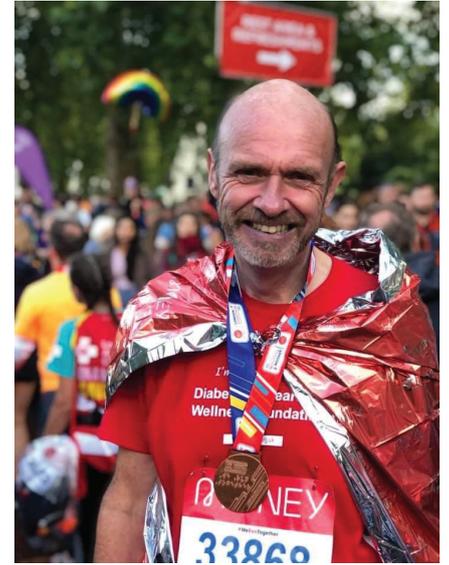
We formed a team of three passionate and energetic runners for our first ever entries into one of the world's most prestigious road-running events. Collectively, despite wearing our bright red vests through the capital in October 2021, they went on to raise £7,752.18 in sponsorship. A fantastic effort; thank you Dawn, Jack and Gavin. Kishore and Sivi raised an additional £1,298.75 by completing the newly formed Virtual London Marathon.



**Dawn Boon**



**Jack Tutton**



**Gavin McMillan**



## Big Give Christmas Challenge

We once again took part in the annual Big Give Christmas Challenge. We partnered with Saturn, Holbrooks, Hicom, KSM, Rache Bowie Design and AgaMatrix who all gave financial pledges ranging from £1,500 to £50. This enabled us to hit our target pledge amount, allowing for the opportunity to progress through the challenge and collect donations from our supporters prior to being match-funded by a challenge philanthropist. The challenge raised over £14,000 for DRWF.



## The Southern Cooperative – Charity of the Year Partnership

Following a successful Charity of the Year partnership with seven Southern Cooperative stores, we were delighted to receive a year-ending donation totalling £3,388.53.

# Highlights from 2021

## Spinnaker Tower Abseil, Portsmouth

Our brave team of six courageously took on all 287ft of the Spinnaker Tower Abseil in May 2021. All bearing their own inspirational reasons, including Jane whose son has recently been diagnosed with type 1 diabetes to Sue Dixon who completed it to celebrate her 70th birthday with a couple of her supportive girlfriends. Our heroic team raised a collective £4,206.63.



*Isaac & Jane Warburton*



*Charlaine Pirie, Susan Dixon, Dot Jackson*

## Christmas Cards

We had a successful festive period selling our beautiful range of Christmas cards to our supporters, businesses and in the local community. We partnered with Zurich Community Trust who manned our stall as part of their Festive Challenge at the renowned Winchester Cathedral Christmas Market, raising £1,348.46 in donations and associated match-funding. Our supporters and other community events raised a further £6,729.81, bringing our festive income activities to £8,078.27.



# How to support us

## YOUR GENEROSITY CAN HELP OUR DREAMS BECOME A REALITY

We don't receive any government income and rely entirely on donations and fundraised income to support our work. The researchers we fund work tirelessly to improve our knowledge of diabetes, explore new treatments and management pathways, on the long road towards our ultimate goal of a CURE. Alarming, diabetes continues to grow in pandemic proportions around the world and with almost 5 million people living with diabetes in the UK, our work is increasingly important.

Your support enables us to fund the research that we believe will make diabetes a thing of the past. We are investing in a brighter future for people with diabetes; **WILL YOU?**

### Contact us and get involved

For Fundraising enquires, please contact Karen Scott, Community Fundraiser, on **02392 637808** or email **fundraising@drwf.org.uk**

For Volunteering enquiries, please contact Tim Green, Head of Community Fundraising, on **02392 637808** or email **volunteering@drwf.org.uk**



### ALTERNATIVELY, YOU CAN –

Make a one-off donation or set up a regular giving direct debit on our website **www.drwf.org.uk/get-involved/donate**



Play our lottery; a great way to be in with a chance to win a prize and make a donation at the same time **www.drwf.org.uk/lottery**



Talk to your employer about their Corporate Social Responsibility (CSR) policy; most have one. They may be encouraged to match-fund your fundraising sponsorship. This is a great way to double the money you raise!



It is sometimes hard to understand how making a donation today or getting involved in a fundraising event can make a difference in the future, but it is this combined effort that drives change forward.

You can visit our website for more inspiration on how you can help us find a cure and create a world without diabetes.

**We are investing in a brighter future for people with diabetes, and you help us to do that!**

# PLEASE DONATE!

## £10 A MONTH FUNDS TWO DAYS

of a yearly research grant, to find better ways to manage diabetes and ultimately a cure

## 2021 Charitable Trusts and Grants Received

We are very grateful to the charitable trusts and foundations who have so generously invested in the DRWF, facilitating the expansion and continued development of our education and research programmes.

- **The Tonge Family Trust Fund**
- **D S Cohen Charitable Trust**
- **The Potel Charitable Trust**
- **GC Gibson Charitable Trust**



## Legacy notifications received in 2021

Legacies are vital to every charity as they provide the bedrock financial support we rely upon to look ahead and progress effectively. Leaving a 'Legacy of Hope' enables DRWF to continue supporting leading researchers and those living with diabetes.

**Kenneth Kench**

**Mary Binns**

**Isabel Graham**

**Peter King**

**Mabel Dowson**

**Joyce Burdett**

**Edward Bayliss**

**Nancy Pickering**

**Mary Ash**

**Andrew Waters**

**Margery Eagle**

**Marlene Davie**

**Peter Keating**

**Beverley Wall**

**Zelda Statman**

**Edith Bennett**

**Kathleen Coleman**

**Mary Marshall**

**Derek Batty**

**Edith Burdett**

**Margaret Clarke**

**Roger Swain**

**Dorethy Hallsworth**

**Doris Horan**

**Judith Cocks**

**John Harrison**

**Mary Russell**

**Heather Rixon**

**Pamela Elwell**

**Sheila Staveley**

**Geraldine Cox**

**Lily Eperon**

**Thelma Bartlett**

**Lily Eperon**

**Albert White**

**Maureen Williams**

**Louis Woodward**

# Gifts given in memory of a loved one

Donations given in memoriam are a positive way of celebrating the life of someone special and help DRWF continue with their long-term mission - to find a cure for diabetes. Giving 'in memory' is a distinctive way to remember and honour family and friends.

The DRWF is always honoured to be nominated to benefit from donations after a person passes away.



In memory giving is a special way of remembering a loved one. Alongside receiving donations and the proceeds from funeral giving directly, DRWF has now also partnered with Much Loved - the memorial tribute charity. [www.muchloved.com](http://www.muchloved.com)



- |                  |                    |                      |
|------------------|--------------------|----------------------|
| Mr GL Adshed     | Danny Duffy        | Ernie Shepherdson    |
| Herbert Aldous   | Brenda Edmends     | Kathleen Shepherdson |
| Kashaf Ali       | Richard Fehr       | Mr Short             |
| Raymond Anderson | Bryan Green        | Philip Stone         |
| Steven Askew     | Brian Gwilliam     | Vera Tebbutt         |
| Benjamin Beecher | Garth Holmes       | David Thomas         |
| Carl Bell        | Pat Hopwood        | William Thomas       |
| Arthur Bishop    | Carey Jones        | Brenda Turner        |
| Maureen Blades   | Alan Kentell       | George Turner        |
| Kathleen Blamey  | Joan Laming        | Gurdav Uppal         |
| Robert Bonsall   | Maurice Lane       | Jack Waller          |
| Daniel Boon      | Michaela Li        | Craig Warren         |
| Joan Bouskill    | Susan Lockley      | Ivan Watts           |
| Motiram Chauhan  | Joseph Masterson   | Harry Wells          |
| Carole Conroy    | Margaret McDermott | Jessie Wheatley      |
| Graham Cowell    | Susan Metcalfe     | Trevor Whinham       |
| John Craker      | Ernest Mowatt      | Pamela Wilkins       |
| Hazel Curtis     | Lynwood Newman     | Derek Willett        |
| Mahesh Dahar     | Graham Parker      | Gillian Wilson       |
| Angelina David   | Kishorbhai Patel   | Margaret Wilson      |
| Jimmy Davidson   | Michael Pinto      | Flora Yip            |
| Vivienne Dingle  | Melanie Selman     |                      |
| Bernard Dixon    | Jessie Seward      |                      |



Our work is made possible only through our supporters' commitment and generosity, for which we say a heartfelt **THANK YOU!**

## Our focus in 2022 and beyond

The pandemic period of 2020/21 has shown us the need to be agile, integrated and adaptive in our approach. Whilst the past year has been incredibly challenging, we have been resourceful where possible and gained invaluable experience that will help us reconfigure our approach to 'what good looks like' for DRWF, our supporters and beneficiaries.

To this end, we have scoped out a three-year growth strategy which clearly defines our vision, mission and values and the direction that we will take to build a robust organisation that is wellpositioned for the future.

Through the work of our Core Fundraising Group, we have identified numerous ways in which to refine and develop existing fundraising activities to enable us to strengthen and diversify income streams.

Through our Wellness Action Group, we have engaged with a broad spread of beneficiaries to discuss current DRWF service/ support provision; the availability of support and resources in the wider diabetes community; opportunities and threats to current activities, and ways in which to develop and expand on our portfolio of programmes.

Whilst current reserves are in excess of the operating and direct charitable expenditures required to meet the stated three–six-month policy, it is expected that investment will be required to test and develop new income streams over time, whilst allowing us to navigate fluctuations in current activities and remain responsive to requests for discretionary research funding. The Trustees will consider designating a percentage of current reserves to support investment in our growth strategy in 2022.

Our focus is very much on ensuring that we have the necessary funds to build a resilient and sustainable organisation that can meet the ongoing, and ever-changing, needs of our beneficiaries.



**BECAUSE OF YOU**  
**THANK YOU FOR SUPPORTING DRWF**



Through our awareness raising, information provision and educational support programmes, we enable people with type 1 and type 2 diabetes to learn more about their condition. We provide the tools to motivate, empower and engage people to take a positive approach to their self-care. Through supported self-management they can reduce the risk of associated complications, improve quality of life and control their diabetes effectively.

Don't let diabetes control you!

We fund some of the best and brightest diabetes researchers in the UK and around the world. We support Fellowships, Open Funding Projects, Institutional grants and Studentships. We fund peer-reviewed work that we believe will help us to understand the causes; find new treatments; provide insight into effective therapies and management strategies, and ultimately, find a cure for diabetes.

You help us to achieve these objectives.

THANK YOU!

## to find out more...

Diabetes Research & Wellness Foundation,  
Building 6000, Langstone Technology Park,  
Havant, PO9 1SA



[www.drwf.org.uk](http://www.drwf.org.uk)

Registered Charity in England & Wales,  
Registration no: 1070607  
Company no: 03496304  
Company Limited by Guarantee

Statistics/Figures stated correct at FYE 2021



# Diabetes Research & Wellness Foundation