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# Dr Elizabeth Robertson Diabetes UK, Director of Research and Clinical



## INTRODUCTION

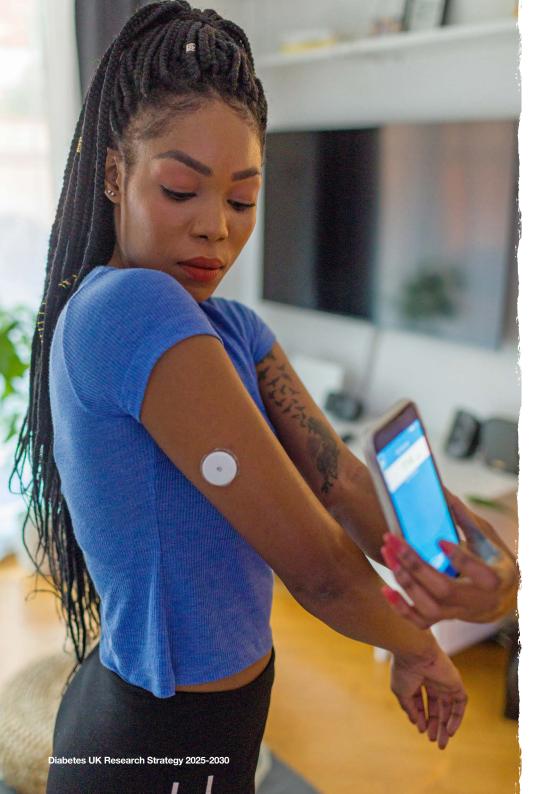
Diabetes UK is the largest charity funder of diabetes research in the UK. Since 2020, we've invested £45 million into new research and helped to secure millions more from our partners. This funding has powered the brightest minds to strive for the major advances needed in diabetes prevention and care and to deliver the treatments of tomorrow.

We're now in a golden era of scientific discovery. Recent advances in biomedicine, data and technology are opening the doors to breakthroughs that could completely transform the lives of people with diabetes.

## Huge progress and more to do

Our longstanding commitment to research has generated countless discoveries. Recent examples include those made by our landmark DiRECT study, which paved the way for the NHS Type 2 Diabetes Path to Remission programme. Now, the Type 1 Diabetes Grand Challenge – made possible by the generosity of Steve and Sally Morgan – is accelerating the quest for a cure for type 1 diabetes.

However, although more than 5 million people in the UK are currently living with diabetes – and millions more remain at risk – the condition continues to be underfunded and insufficiently prioritised. The relentless demands of round-the-clock self-management take a heavy toll on wellbeing, while far too many people still develop preventable complications and die prematurely. At the same time, inequities in diabetes care persist, and stigma and discrimination remain widespread.



## More focus on unmet needs

In this Diabetes UK 2025–2030 Research Strategy, we recognise the need to drive progress where it matters the most. We will continue to fund bold, high-quality research aiming to tackle the big questions to reduce the harm caused by diabetes. But we will do more to adapt and target our support to tackle unmet needs, including by involving more people living with diabetes from communities who are seldom heard in research decision-making.

We'll invest across priority areas spanning the course of the condition – from prevention and early detection to treatment and cure. And we'll give more focus to the psychological aspects of diabetes – from stigma to burnout – that can negatively impact people's mental and physical health at every stage.

Underpinning all of this are our ruling principles – the constants that will weave through everything we do in research. They are to ensure equity in the way we – and our researchers – do things, to always involve people with or at risk of diabetes, to invest in future research leaders, and to maximise our impact through partnership.

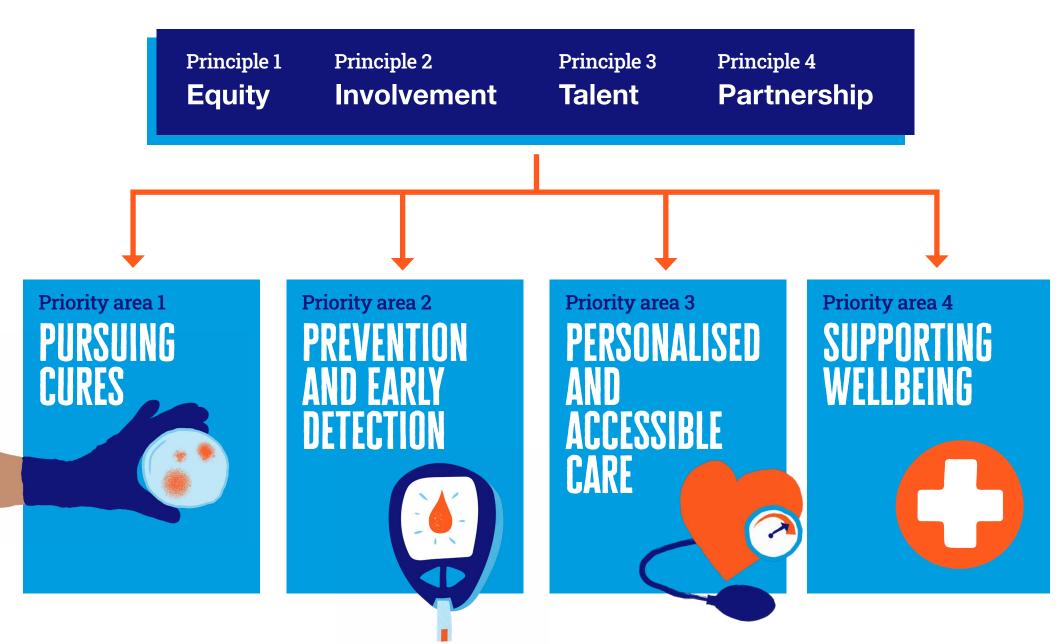
## We can't do it without you

Our pursuit of reducing the harm caused by diabetes is made possible by the people who stand with us: our world-class research community, people with lived experience and our extraordinary donors and funding partners.

It's not going to be easy, but together we can embrace this era of scientific opportunity to make major advances that benefit everyone at risk of and living with all types of diabetes, regardless of their background, identity, geography or income.

We know what needs to be done. We need your help to do it.

## **OUR STRATEGY AT A GLANCE**





## **PURSUING CURES**

Type 1 diabetes

## Where we are now

In 2022, we launched one of the most ambitious initiatives in our history: the Type 1 Diabetes Grand Challenge, with Breakthrough T1D and backed by £50 million from the Steve Morgan Foundation. Its aim is to develop cures for type 1 diabetes by restoring the body's ability to produce insulin.

Current methods to create an unlimited supply of insulin-producing beta cells from stem cells are showing promise. However, transplants in clinical trials require immune-suppressing treatments that have significant side effects. To release people from type 1 diabetes for the rest of their lives, we must find reliable and tolerable cell-based treatments to restore insulin production, alongside targeted immunotherapies that protect these cells from immune system attack.

Through the Type 1 Diabetes Grand Challenge we're funding cuttingedge and high-risk, high-reward research into beta cell therapies, involving a growing international community of scientists from diverse disciplines. We expect to begin to see outcomes from this funding during the course of this strategy, but must continue to drive more research into multiple cell replacement strategies.

Rapid advances in type 1 immunotherapy research offer opportunities to protect both transplanted and remaining healthy cells. The Type 1 Diabetes Grand Challenge is investing in research to speed the development of therapies that target the immune system's lines of attack. At the same time, our continued support for the Type 1 Diabetes Research Consortium is enabling key immunotherapy trials across the UK, helping to bring forward their real-world use.



## PURSUING CURES

Type 1 diabetes



## Through research we can

## Improve the supply of beta cells for research.

Research into cell therapies is being held back by a lack of stem cell-derived beta cells available for study. We will enable the development of a reliable supply of high-quality, pre-made cells for use by UK scientists.

## **Establish the Type 1 Diabetes Cell Therapy Network.**

• We will leverage expertise, infrastructure and data to position the UK as a global leader in advancing beta cell therapies from research to real-world treatment.

### Accelerate beta cell research.

We will strengthen links with the Advanced Regenerative Manufacturing Institute in the US, the National Institute of Health and Care Research in the UK and LifeArc to move faster together.

## Advance precision cures for type 1 diabetes.

• We will support research into the allied issues that are essential for a cure, including new and combination immunotherapies, improved immune profiling and modulation, better biomarkers to match treatments and smarter data integration.



## **PURSUING CURES**

## Type 2 and gestational diabetes

### Where we are now

The impact of our longstanding support for type 2 diabetes remission research and implementation has been profound and has challenged the belief that type 2 diabetes is a lifelong, progressive condition.

The NHS has launched remission programmes nationwide, and over 25,000 people have been offered the NHS Type 2 Diabetes Path to Remission programme since it was first piloted in 2020. One in three people who complete the programme put their type 2 diabetes into remission<sup>1</sup>, and our DiRECT trial has shown that some can stay in remission for at least 5 years<sup>2</sup>, though sustaining remission remains difficult for many. Economic modelling suggests that, if rolled out to everyone eligible, the programme could save the NHS up to £1 billion<sup>3</sup>.

Other type 2 diabetes remission strategies have been shown to be effective for some. These include weight-loss surgery and medications such as GLP-1/GIP agonists, which mimic gut hormones to support weight loss, as well as lowering blood glucose levels.

Recent research has significantly advanced our understanding of the complex origins of type 2 and gestational diabetes. It's now recognised that they are influenced by an interplay of genetic, biological, behavioural, social and environmental factors. And that risk factors do not develop and progress the same for everyone.

Research is needed to understand more about the variations within type 2 and gestational diabetes to inform tailored or combination remission strategies for everyone, and to edge us closer to cures.

## Through research we can

## Improve the fundamental understanding of type 2 and gestational diabetes.

• We don't yet fully understand the drivers of these conditions or individual variations. We will support research to uncover more about the genetics, biology and physiology of type 2 and gestational diabetes to inform new strategies for treatment or cures.

## Widen the success of type 2 diabetes remission.

• We want to give more people the chance to go into and stay in remission, so we'll support research into the processes underlying it and how they vary between people.

## Improve psychological support around type 2 diabetes remission.

 We will fund research to inform effective emotional support before, during and following a person's remission journey.

## OVER 25,000 PEOPLE

have been offered the NHS Type 2 Diabetes Path to Remission programme since it was first piloted in 2020.

## PREVENTION AND EARLY DETECTION

## Type 1 diabetes

## Where we are now

In August 2025, the world's first type 1 diabetes immunotherapy, <u>teplizumab</u>, was licenced for use in the UK. Immunotherapy advances put us on the cusp of being able to delay the progress of type 1 diabetes and offer precious extra years free from insulin therapy. Eventually they may allow us to prevent it entirely.

A major research effort is still needed to make sure multiple immunotherapies are available for those at the condition's earliest stages and beyond. Gaps remain in our understanding of the long-term outcomes of immunotherapies and the genetic, autoimmune and environmental drivers of type 1 diabetes, as well as its variability across individuals.

This knowledge will be essential to develop more precise and personalised treatments. The UK is at the forefront of this work. Our investment into the <a href="Type 1 Diabetes Grand Challenge">Type 1 Diabetes Grand Challenge</a> and the <a href="UK Type 1 Diabetes Research">UK Type 1 Diabetes Research</a> <a href="Consortium">Consortium</a>, enabling world-class infrastructure to deliver clinical trials, will help to bring immunotherapies to people sooner.

As immunotherapies develop, widespread screening initiatives are needed to find people in the early, presymptomatic stages of type 1 diabetes when they could have the greatest benefit. We've been leading the way to make type 1 diabetes screening programmes a reality. This includes funding vital research like the <u>ELSA study</u> and <u>UK Islet Autoantibody Registry</u>, as well as working with the NHS to bring research advances into clinical practice.

These projects are also deepening our understanding of the psychological impact of early detection and treatment, and the kinds of support people need. Developing and embedding this support will be essential to ensure advances in this field translate into meaningful benefits.



## Through research we can

## Advance immunotherapies.

No individual therapy has been shown to stop type 1 diabetes entirely. We will support an active and diverse research pipeline, from discovery to trials and clinical practice, to advance a portfolio of potential therapies as rapidly as possible, recognising that personalised solutions may include combination treatments.

### Make screening for type 1 diabetes a reality.

• We will expand our collaborative funding for research that will advance screening and prevention of type 1 diabetes. We need to identify how to make screening and follow-up for autoantibody-positive individuals scalable, affordable, standardised and equitable.

## PREVENTION AND EARLY DETECTION

## Type 2 and gestational diabetes

### Where we are now

We've shown that prevention programmes work. Recent findings from the Healthier You NHS Diabetes Prevention Programme, a partnership with Diabetes UK, revealed that people referred were around 30% less likely to develop type 2 diabetes<sup>4</sup>.

New weight management strategies, including GLP-1 agonists, have brought real hope for those living with obesity and at risk of type 2 diabetes. And our <u>Dietary intervention in Gestational diabetes (DiGest)</u> trial has shown that modest weight loss in late pregnancy for women with gestational diabetes and obesity may reduce the future risk of type 2 diabetes for mothers and their babies<sup>5</sup>.

There have been improvements in detecting gestational diabetes, but screening is inconsistent. Recent studies suggest that earlier screening could increase chances of identifying the condition early and improve how we manage it<sup>6</sup>. Making this shift could lead to better outcomes for mothers and babies.

An estimated 6.3 million people are at increased risk of type 2 diabetes in the UK<sup>7</sup>, and a further 1.3 million are living with it undiagnosed<sup>8</sup>. Research is needed to advance our understanding of risk and develop personalised and equitable interventions to reduce it. We further need more precise ways to diagnose type 2 and gestational diabetes in the early stages to reduce harm.



## PREVENTION AND EARLY DETECTION

## Type 2 and gestational diabetes

## Through research we can

## **Build a Type 2 Diabetes Grand Challenge.**

A major uplift in research investment and momentum is needed to create next-generation personalised prevention initiatives for type 2 diabetes. We will identify the most pressing research questions and secure partnership funding to launch a Grand Challenge.

## Detect and diagnose gestational and type 2 diabetes earlier.

We will support modern multi-omic analysis – studying different layers of biological data. This could reveal precision indicators and enable much earlier diagnosis and proactive personalised support, to reduce the risk of diabetes and its complications.

### Prevent type 2 diabetes in people at highest risk.

We will prioritise research to understand the cultural, social and practical barriers to current type 2 prevention initiatives and create new, inclusive, effective solutions for those at highest risk of poor outcomes.

## Enable high-quality follow-up care for gestational diabetes.

We will support research to find the best ways to care for women after pregnancy to reduce their future risk of type 2 diabetes.

## Identify weight management approaches that work, pre- and post-pregnancy.

• We will support research with long-term data could help to determine which preconception and postnatal weight loss interventions are most effective for women living with obesity at risk of gestational and future type 2 diabetes.





## PERSONALISED AND ACCESSIBLE CARE

### Where we are now

In recent years, enabled by our research and advocacy, diabetes technologies have become more advanced and widespread. This has transformed daily life for many people with diabetes, by making it easier to manage their condition. However, our UNBIASED study has shown that access to and effective use of continuous glucose monitoring and hybrid closed loop systems is still not equitable and must be addressed<sup>9</sup>.

There is a similar picture across other areas of diabetes care, with major disparities in access and health outcomes. A swell of action by us and our partners has begun to improve understanding of the mix of systemic, financial, social and environmental factors that affect outcomes. But ethnicity, socioeconomic status, and where people live continue to have a major impact on a person's risk of diabetes and the harm it causes. Research has a primary role to play in tackling these inequities, to make personalised, equitable care standard for all.

The fragmented nature of diabetes care – where it is provided across primary, secondary and community care settings – can be a major barrier to access. Healthcare research is needed to develop joined-up care for everyone.

Many people with diabetes also live with other chronic conditions, but we don't yet have a good understanding of their shared or interacting biological mechanisms. We must look at the 'big picture' of managing multiple long-term health conditions as we work towards new treatments and models of care.



There's a significant knowledge gap around issues faced by people living with diabetes at different life stages. We've called attention and funded studies into these historically neglected areas – such as diabetes in menopause, and in older adults – but there is much more to do.

Our investment in the <u>Diabetes Data Science Catalyst</u>, in partnership with the British Heart Foundation Data Science Centre and Health Data Research UK, is demonstrating the power of large-scale data to advance research. By strengthening data collection and analysis even further, we can help the diabetes research community make the most of health data and artificial intelligence to enhance understanding, drive new treatments, and shape fairer, more effective diabetes care.

# PERSONALISED AND ACCESSIBLE CARE



## Through research we can

## Create equitable, personalised models of care.

• We must drive a better understanding of diverse care needs, fund research into culturally appropriate interventions for those most at risk of poor outcomes and pave the way for NHS adoption by supporting implementation research.

## Reduce diabetes complications.

We will advance understanding into individual differences in the underlying causes of diabetes complications, and how to manage and prevent them.

## Understand diabetes, its complications and co-existing conditions.

Working with other charities, we will stimulate research into shared causes, biological interactions and integrated care to improve wellbeing among people living with diabetes and other health problems or longterm conditions.

### Individualise care for women at every stage of life.

We will address unmet needs in understanding how diabetes affects and is affected by life stages in girls and women, from puberty to pregnancy to menopause.

## Improve the transition from paediatric services.

• Many young people do not have a good experience of moving into adult services and this can negatively impact their future diabetes management. We will advance research into care models that support smooth and confident transition.

## SUPPORTING WELLBEING

## Where we are now

It is now widely recognised that diabetes can have a profound impact on emotional and psychological wellbeing. This can affect people's quality of life and their diabetes self-management – impacting physical health. And yet psychological support remains too limited and too hard to access.

Evidence shows that tailored emotional and psychological support and treatment improves emotional wellbeing and has a positive impact on blood sugar management, reducing the risk of diabetes complications. We must move towards mental health support being integrated into core diabetes care, with interventions tailored to people's individual needs and accessible to everyone.

In 2019, our Diabetes Research Steering Groups identified urgent research priorities in diabetes and mental wellbeing. As a result, we co-funded a major research project to spot, treat, and prevent type 1 diabetes distress, which underpinned world first clinical practice guidelines. While we also supported the development of interventions to reduce eating disorders in children and adults with diabetes.

Progress has also been made in understanding the impact of the stigma and misconceptions that cling to diabetes. We discovered that 50% of people report missing healthcare appointments due to stigma, and more among those from South Asian, Black African, and Black Caribbean communities.

We have <u>invested £500,000 in two projects</u> exploring the stigma faced by people with type 1 and gestational diabetes, but more is needed to develop and implement interventions that actively reduce stigma.

## Through research we can

## Reduce diabetes stigma.

It's not enough to understand stigma, we will support research that develops interventions to tackle it and ensure their translation into real-world settings.

### Prevent mental health issues after diabetes diagnosis.

Being diagnosed with diabetes can be hard to cope with. We will stimulate research into timely psychological support to prevent problems at this critical point.

### **Enable emotionally informed diabetes healthcare.**

• We will foster research into the psychological implications of screening for type 1 diabetes, diabetes technologies and type 2 remission attempts. We'll also work to better understand how people with severe mental illness or learning disabilities can be supported to reduce their risk of type 2 diabetes or to self-manage their diabetes effectively.

## 50% OF PEOPLE

report missing healthcare appointments due to stigma, and this is higher among those from South Asian, Black African, and Black Caribbean communities.





## **EQUITY**

Diabetes doesn't affect everyone equally. We see unfair and avoidable differences in diabetes risk, care and long-term health outcomes, particularly for people of Black and South Asian ethnicity, and people living in deprivation.

These inequities are reflected in diabetes research too. Far too often, underserved communities are underrepresented in clinical trials and research, meaning the end results may not be relevant to them.

The research sector is beginning to recognise the need for culturally sensitive research practices. We're still a long way from all studies using inclusive approaches, but Diabetes UK will be among those taking the lead, including through the work under our Involvement principle.

Efforts to address the lack of diversity among research leaders must also continue with urgency.

Without diverse representation, the research community risks losing unique perspectives and losing the trust of the communities that could benefit most from health research.



## We will

Launch a new equity, diversity and inclusion in research action plan, detailing a commitment to:

## Increase the diversity of people with diabetes involved in shaping our research.

• We set up our Diabetes Inclusive Community Engagement (DICE) group in 2020, to involve people from underrepresented groups in shaping our research priorities. We will build on this by nurturing and expanding our networks to involve more people seldom heard in research.

## Focus research efforts on tackling health inequities.

We will prioritise funding for research that actively addresses inequity and support stronger collaboration between researchers and underserved communities, ensuring the research agenda reflects the needs of all.

## Support researchers from the communities impacted most by diabetes.

We'll continue to monitor and address any barriers to applicant diversity, invest in initiatives to support the next generation of researchers from ethnic minority groups and encourage applications from regions disproportionately affected by diabetes disparities.

### Drive equity in our grant funding process.

We'll develop guidance for grant reviewers and panel members to mitigate and protect against biases, and ensure our scientific expert panels are representative – in ethnicity, gender and geography.

## Set high standards for diverse research design and participation.

We'll develop and implement policies and guidance for researchers to ensure diverse participation in every study we fund.

## Collaborate for greater impact.

• We'll work with partner organisations to improve recruitment of diverse research participants, such as through Be Part of Research, and to support diverse and ethical Al training datasets to enhance innovation, risk prediction, and equity in research.



## INVOLVEMENT

Working with people affected by the issues being studied is now a well-established concept across the research community. That said, patient and public involvement can still sometimes be a box-ticking exercise rather than a meaningful part of the process.



We are passionate about the importance of working in partnership with people affected by diabetes to fundamentally influence what research we fund and how it is carried out. This work is also an essential part of our Equity principle.

However, our committees and panels still often draw expertise from an already engaged core group of people, who we then over-rely on. Financial and practical barriers can make it difficult for people from underserved communities to get involved in research. This is often compounded by a lack of trust in research institutions and low awareness of opportunities to get involved.

Breaking down these barriers is essential to ensuring that lived experience shapes our research so that it represents and benefits everyone.

## We will

## Strengthen the influence of lived experience in our research.

We'll expand the work of our Diabetes Research Steering Groups, which bring together people affected by the condition with researchers and healthcare professionals, and increase their role in shaping funding opportunities.

## Expand our engagement with underrepresented groups in research.

 We will seek input from underserved groups so their views influence the research agenda, starting with people with intellectual disabilities and severe mental illness.

## Be steadfastly guided by Priority Setting Partnerships (PSPs).

 PSPs are national groups that bring together organisations and individuals to agree the top 10 priorities for research in a condition. We will use these to guide our funding strategies.

## Make it easier for more people from diverse backgrounds to get involved in research.

 Create more accessible and flexible ways for people to get involved, including children and young people.

### Unite with underserved communities.

 We will forge partnerships between underserved communities and the research sector, to support inclusive, communitydriven research initiatives.



## TALENT

Lifesaving, transformative research breakthroughs are built on years or decades of hard graft and incremental progress by many researchers. That's why we need a continual pipeline of brilliant and diverse minds who are equipped, energised and committed to reducing the harm done by diabetes.

There is huge potential for more frontline diabetes healthcare professionals to join the research effort. However, in today's hard-pressed NHS it's difficult for clinicians to carve out time and secure support to get involved.

We need robust and sustained support for career development in diabetes research for clinicians, nurses, midwives, and allied health professionals such as dietitians and podiatrists, who all play a critical role in supporting people with diabetes.

Another barrier to building a strong pipeline of diabetes researchers is the lack of early-career funding. This makes it difficult for promising

scientists to stay in the field after their PhD. It is now the exception rather than the norm for junior diabetes researchers to stay in science. We must do more to attract, develop, and retain early-career researchers – both clinical and discovery scientists.



## We will

## **Expand access to funding.**

 We'll invest more in early-career research programmes, enabling researchers to access multi-source funding needed to deliver impactful projects.

## Forge creative partnerships with other funders.

We'll build on our established funding schemes with partners such as the National Institute for Health and Care Research and the Medical Research Council, and collaborate with other funders, to develop innovative support for the brightest minds. Including to attract talent in health data science, genomics and computational research, which have enormous potential for diabetes research.

## Support mid-career clinician researchers.

We'll relaunch our Harry Keen Intermediate Clinical Fellowship and advocate for more flexible, mid-career support that enables clinicians to grow their researcher careers alongside caring for people with diabetes.

## Champion research careers in primary care and public health.

 We'll advocate for greater opportunities for primary care and allied health professionals in diabetes to pursue research careers.

## Empower and nurture diverse emerging researchers.

By investing in inclusion programmes and promoting diversity in research leadership, mentoring and training, we'll help build a research culture that attracts and retains talent. We'll continue to support networking and skills building, for instance through our Innovator in Diabetes programme.



## **PARTNERSHIP**

Research is a team game. Collaboration between researchers advances knowledge faster, and no single funder can afford to power progress alone.

Since 2020, purposeful partnerships have enabled us to secure over £10 million more for diabetes research than we could raise alone. We've also joined forces with



organisations, including the Steve Morgan Foundation, to push research ambition and investment to new heights. And, by working with the National Institute for Health and Care Research (NIHR), we've developed the first <u>UK-wide strategy for clinical and applied diabetes research</u> – a roadmap to guide future work.

We've already achieved a great deal through collaboration, but there is so much more potential we can unlock through new and innovative partnerships. Now we must expand alliances with international funders and with charities working in interconnected health challenges, such as heart, kidney and metabolic health.

We also need to forge connections and gain insights from a wider circle of professionals involved in the complex mix of systemic, social and environmental factors that influence diabetes risk and outcomes.

## We will

## **Expand and diversify our partners.**

We will build new partnerships with industry, charities, and international funders who share our goals. We'll strengthen ties with the NIHR and Research Delivery Networks to promote broader, more equitable health research across care settings.

## Join forces to fund long, impactful research careers.

 We'll continue to partner with major UK funders to expand fellowship opportunities and provide lasting support for earlycareer researchers.

## Seek ambitious partners.

We'll leverage the excitement of the Type 1 Diabetes Grand Challenge to renew our efforts to attract major partnership support. At the same time, we will advance plans for a Type 2 Diabetes Grand Challenge to drive bold, translational research in precision prevention of type 2.

## Accelerate translation.

 Working with LifeArc, we will shorten the journey time from discovery to impact for people living with diabetes.



## **ACKNOWLEDGEMENTS**

We co-created this strategy with people living with diabetes, scientists and healthcare professionals, by working with our Science and Research Advisory Group (SRAG) and the Diabetes Research Steering Groups (DRSGs).

## We'd like to particularly thank:

Expert by experience members of the DRSGs

The Diabetes UK SRAG

Chair: Nick Wareham, University of Cambridge

Mark Duman, Expert by experience

Sanjay Mistry, Expert by experience

Paul Robb, Expert by experience

Sarah Parsons, Expert by experience

Sian Wood, Expert by experience

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lan Salt, University of Glasgow

Parth Narandran, University of Birmingham



## REFERENCES

- **1.** Valabhji, J. et al. (2024) 'Early findings from the NHS Type 2 Diabetes Path to Remission Programme: a prospective evaluation of realworld implementation', *The Lancet Diabetes & Endocrinology*, 12(9), pp. 653–663. doi:10.1016/S2213-8587(24)00129-4.
- **2.** Lean, M.E.J. et al. (2024) '5-year follow-up of the randomised Diabetes Remission Clinical Trial (DiRECT) of continued support for weight loss maintenance in the UK: an extension study', *The Lancet Diabetes & Endocrinology*, 12(4), pp. 233–246. doi:10.1016/S2213-8587(23)00385-6.
- **3.** Frontier Economics. (2025) Health and growth: How non-commercial clinical research benefits the UK. Report for the Association of Medical Research Charities (AMRC) & Wellcome. September.

- **4.** Parkinson, B. et al. (2024) 'Level of attendance at the English National Health Service Diabetes Prevention Programme and risk of progression to type 2 diabetes', *The International Journal of Behavioral Nutrition and Physical Activity*, 21(1), 6. doi.org/10.1186/s12966-023-01554-7.
- **5.** Kusinski, L.C. et al. (2025) 'Reduced-energy diet in women with gestational diabetes: the dietary intervention in gestational diabetes DiGest randomized clinical trial', *Nature Medicine*, 31(2), pp. 514-523. doi:10.1038/s41591-024-03356-1.
- **6.** Sweeting, A. et al. (2024) 'Epidemiology and management of gestational diabetes', *The Lancet*, 404(10448), pp. 175–192. doi:10.1016/S0140-6736(24)00825-0.
- 7. Based on Office for National Statistics (2024)
  Risk factors for pre-diabetes and undiagnosed type 2 diabetes in England: 2013 to 2019 applied to Office for National Statistics (2024) Population estimates for the UK, England, Wales, Scotland and Northern Ireland: mid-2023.

- 8. Based on Office for National Statistics (2024) Risk factors for pre-diabetes and undiagnosed type 2 diabetes in England: 2013 to 2019 applied to Office for National Statistics (2024) Population estimates for the UK, England, Wales, Scotland and Northern Ireland: mid-2023.
- **9.** Dlugatch, R., Rankin, D., Evans, M., Oliver, N., Ng, S.M. and Lawton, J. (2025) 'Understanding inequities in access to diabetes technologies in children and young people with type 1 diabetes: qualitative study of healthcare professionals' perspectives and views', *Diabetic Medicine*, 42(5), pp. 1–13. doi:10.1111/dme.15486.