Our Research Strategy 2021-2026: Turning Science into Sight

SIGHT RESEARCH UK

FOREWORD

Sight Research UK started life as the National Eye Research Centre in 1986. It was founded thanks to the generosity of patients who wanted to support more research into eye conditions to find new and better treatments.

In the 1980s, there were still very few treatments that could prevent sight loss, including for some of the most prevalent blinding eye conditions such as age-related macular degeneration (AMD) and glaucoma. Thirty-five years ago, a diagnosis of AMD was equivalent to inevitable blindness. It wasn't until 2005 that anti-VGEF therapy was approved as a safe and effective way to decrease the progressive loss of vision in patients with the wet form of AMD. Today, millions of patients around the world benefit from it, and can keep their sight for longer.

Over the last 30-50 years, research progress has been translated into better solutions for patients affected by other conditions, too. Notably, surgical advancements have transformed cataract operations beyond recognition. They used to require general anaesthetic and a five-day hospital stay. Patients reported significant post-operative complications and ended up with very low vision at the end of the process. Today, they are slick and efficient interventions carried out in outpatient clinics with local anaesthetic. Patients report virtually no post-operative complications, and a visual acuity, thanks to the lens replacement, that vastly improves their lives. What's more, thanks to research Sight Research UK contributed to in the late 1990s, second-eye cataract operations are now standard procedure on the NHS. The patient benefit is enormous.

Thanks to research funded by Sight Research UK in the late 1980s to increase the preservation time of donated corneas (from 48 hours to over 20 days), 4,000 corneal transplants are now performed every year in the UK as scheduled outpatient surgeries. In total, over 85,000 patients have benefited from the advancements in corneal transplantation over the last three decades, and success rates are improving all the time, making visual rehabilitation faster – from a couple of years to a couple of months – and longer lasting, too.

In 2018, research supported by Sight Research UK successfully adapted the use of anti-TNF therapeutics, previously developed for auto-immune conditions such as rheumatoid arthritis, for the treatment of uveitis in both adults and children. This is now an important new line of treatment for the approximately 80% of patients who are unresponsive to steroidal therapy to control their eye inflammation.

While progress like this is exciting, and several conditions are now treatable, for the most part, the majority of eye conditions remain incurable and unpreventable. There is still no treatment for the dry form of AMD, for instance, just as there is no way of regenerating an optic nerve damaged by glaucoma, trauma, or other conditions. Patients living with inherited conditions still have limited hope for successful therapy.

Further investment in research is the only way forward.

Since our beginnings, we have awarded almost £18m in grant funding to researchers across the UK. We have funded over 130 projects, of which more than 40 were PhDs studentship which attracted and nurtured young talented researchers into the sector.

Our work has been entirely powered by donations and all our donors, whether they have supported the work of Sight Research UK for 35 years or 35 days, should feel proud of the achievements that they have enabled collectively.

We are moved by and grateful for every single gift, regardless of their size.

Today, we remain true to those patients whose first gifts established the organisation that has become Sight Research UK. We owe it to their vote of confidence in research to make every grant we award count for patients.

I hope our vision will inspire you to continue to support our work so that we can bring forward the day when all eye conditions can be prevented or cured. **Thank you.**

Charlotte Parkin
Chief Executive

OUR RESEARCH STRATEGY 2021-26

OBJECTIVES

Funding challenges for the eye research sector:

The severe underfunding of the sector is felt across the whole eye research spectrum – from fundamental science to pre-clinical research. Generally, the funding environment is both crowded and undistinguished meaning that eye researchers compete for statutory grants with much better resourced sectors such as neuroscience.

In addition, new generations of researchers are finding it difficult to establish themselves due to lack of funding for early career researchers.

Capacity building in the sector is important to ensure that talent is retained for further research advancements that can lead to better solutions for patients.

The objective of our research strategy is to turn scientific discoveries into tangible patient benefit. Over the next five years, we will do so by funding:

- **Laboratory based science research projects** that have already established a clear line of progression from the bench to the bedside and are strong candidates for early phase clinical trials.
- **Applied healthcare research projects** that can fast track tangible improvements in patient benefit.
- **Clinical research projects** which are eligible for National Institute for Health Research (NIHR) Clinical Research Network support (Sight Research UK is an NIHR non-commercial Partner).

Every patient matters

It is estimated that over 2 million people in the UK are living with varying degrees of sight loss, with an average of 250 new diagnoses of sight threatening disease being made every day. Unless new treatments are found, this is expected to double by 2050. While eye conditions account for some 20% of all hospital patients nationwide, eye research receives only 1.5% of national medical research funding.

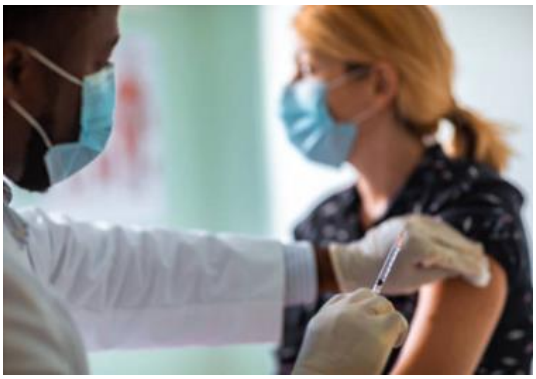
Despite decades of research, there are still many unanswered questions about the treatment, diagnosis, and prevention of sight loss and eye conditions, and the chronic under resourcing of the eye research sector means that progress towards more effective options is slower and narrower in scope than it needs to be.

In 2013, the James Lind Alliance set up the Sight Loss and Vision Priority Setting Partnership to prioritise research funding in the most pressing areas. Patients, carers, and health professionals across the sector were asked to submit the questions they most wanted answered by eye research. 12 priority areas were identified and, for each one – from AMD to ocular trauma – what the responders wished for the most was for research to find new and better treatments.

With our funding, we will support that trajectory for every patient.

When science becomes sight

The COVID-19 pandemic has been a test like no other of the relevance of science to the health of nations. From politics to social and health care, science has informed decisions throughout – from the number of pupils allowed in a classroom, to where and how often we should exercise, and even whether we may hug our loved ones.



From the very start of the pandemic, scientists around the world have worked relentlessly, determined to find a way out as soon as possible. The resulting vaccines have shown just what impact can be achieved when enough funding and human resources are focused with such precision on a common goal: translating science into sight.

The fact that the world has been able to come through the pandemic as well as it has is thanks to the worldwide effort from scientists, patients, volunteers, clinicians, and funders who have come together to create the solution: the vaccines.

What's important here is that the vaccines, not the science, are the solution. The vaccines are science translated into the life-saving fluid that is injected into people's arms.

Without that crucial translation step, the science alone could not save lives any more than a car without fuel could take anyone anywhere.

Today, there is still too much science left untranslated because of lack of funding.

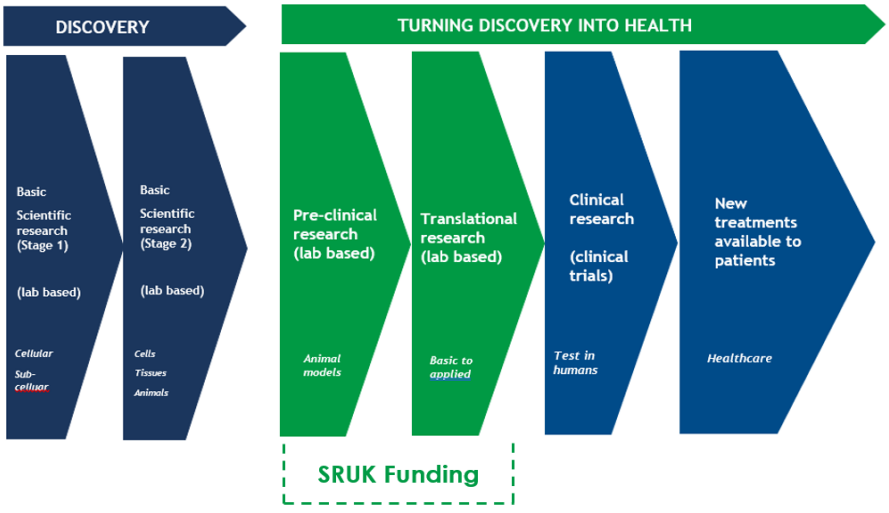
With our funding, we want to help to change that.

The funding challenge: bridging the gap between science and health

For over two decades now, translational research has been seen as the key to improving health. Translational research involves the effective transfer of scientific discoveries into new options to detect, diagnose, treat, or even prevent disease – just like the COVID-19 vaccines.

While almost countless interesting and promising discoveries are made every year in every field of medicine, for the most part, they remain just that: unfulfilled promises.

The reason is a systematic lack of funding at the translational research stage which creates a block to science progressing towards being turned into the lifesaving and life-changing therapies that are needed.



In the eye research sector, lack of funding is felt acutely at each stage of the research continuum – from basic scientific research (the earliest stage of testing of new hypotheses) all the way through to pre-clinical research.

While securing funding for clinical trials is relatively less difficult, funding for projects that bridge the gap between basic scientific research and clinical trials is in very short supply.

It is not hard to understand why: both statutory funders and pharmaceutical companies are typically unwilling to fund any research that may not result in a drug or device that can lead to clinical or commercial success. The risk, for both types of funders, is just too high.

The result is that researchers do not have easy access to the funding needed to carry out the necessary preclinical and early clinical development to demonstrate potential efficacy in humans, as well as safety.

There are other reasons why much valid research struggles to find a pathway to the clinic, including manging intellectual property, commercialisation, and regulation.

However, funding is, chronologically speaking, the first hurdle that researchers must overcome, and, as such, it will be at the core of our strategy approach to grant-making over the next five years.

EVERY PATIENT MATTERS

We will support advancements in all eye conditions.

TURNING SCIENCE INTO SIGHT

We will fund projects with the best chance of accelerating patient benefit.

Sight Research UK is proud to be a member of the Association of Medical Research Charities, and it is committed to funding the highest quality research delivered at the highest standards.

We make our funding choices in a fair and transparent way, relying on the independent advice of global experts.

We want to ease the pathway for excellent science from bench to bedside to have maximum impact.

We fund research through:

Annual grant rounds: Our funding schemes run annually and applications are reviewed by an independent Research Advisory Board or our Seed Panel and by external peer reviewers. The final funding decisions rest with our Board of Trustees, who consider the advice received from our expert advisors and allocate funding according to our financial capacity.

One-off strategic Awards: Depending on funds, we may occasionally open additional, time-limited grant rounds focused on specific eye conditions or sector needs.

Since 1986, our research successes have only been made possible by donations.

The only way to find new treatments is to invest in more research that can take promising science from the laboratory to the clinic. With your help, we can bring forward the day when sight loss and blindness are a thing of the past.

Please donate today so that we can fund more life-changing, sight-saving research.

sightresearchuk.org/donate

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