



Moorfields
Eye Charity



Impact Report 2020

We believe people’s sight matters

At Moorfields Eye Charity, we want to make a difference to the lives of people with sight loss because we know how much people value their sight. Over two million people across the UK live with sight loss – with that number expected to double over the next 30 years[1]. That’s why we invest in life-changing eye research, the best patient care and innovative training.

Mission

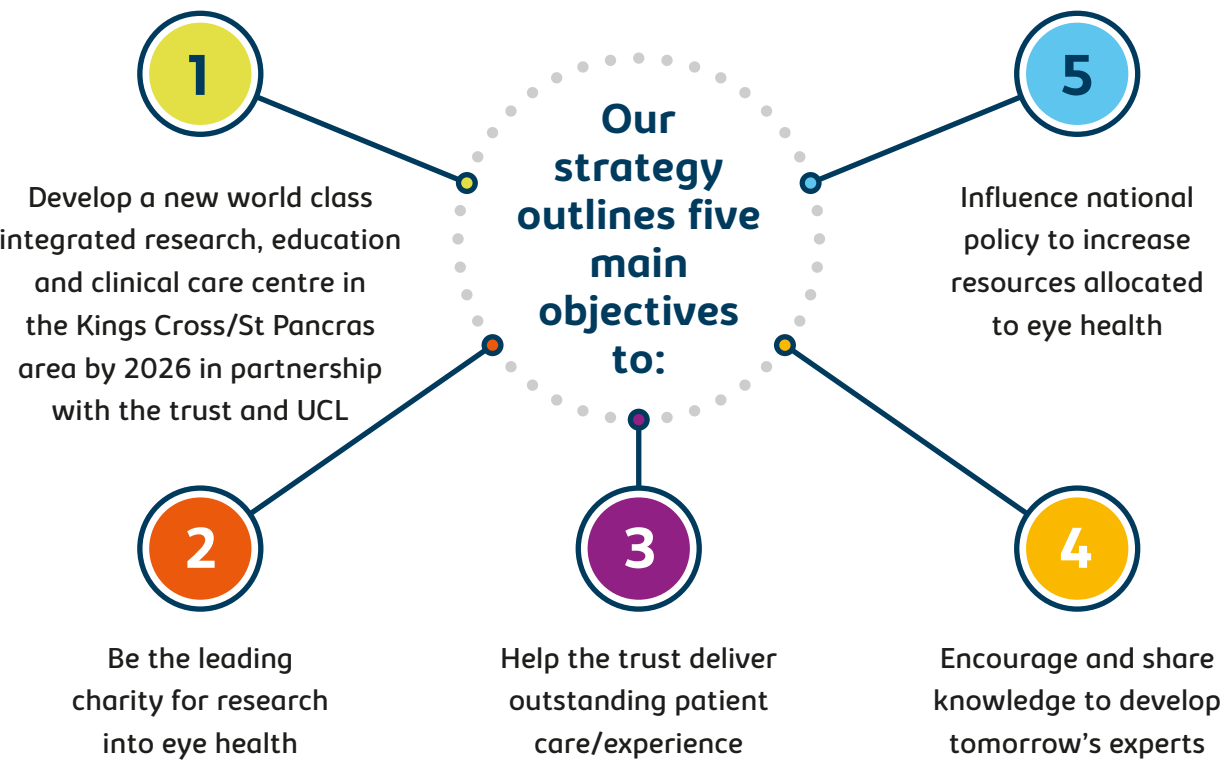
Supporting Moorfields Eye Hospital NHS Foundation Trust (the trust) to discover, develop and deliver the best eye care.

Vision

Supporting the trust in developing a new world class eye health facility for integrated clinical care, teaching and research, benefiting patients across London, the UK and around the world.

Our strategy 2018-2024

Moorfields Eye Charity’s strategy brings together all aspects of our work in supporting the trust and its academic partner, the University College London (UCL) Institute of Ophthalmology (the institute).



It was an extraordinary end to the last financial year and beginning of this one, with the Covid-19 pandemic. We’re supporting the trust and the institute – the NHS staff and patient care now and into the future, whilst continuing to invest in ground-breaking research and training.

This impact report represents our work in the financial year to 31 March 2020. We’re very proud of what we’ve achieved together over the last year to ensure the trust and UCL remain at the cutting edge of developments in eye health. We’ve awarded almost £5 million in grants including a professorship in advanced ocular imaging bringing together engineering and vision science. We’ve seen breakthroughs as a result of our springboard awards including proteins that help repair the cornea, and are

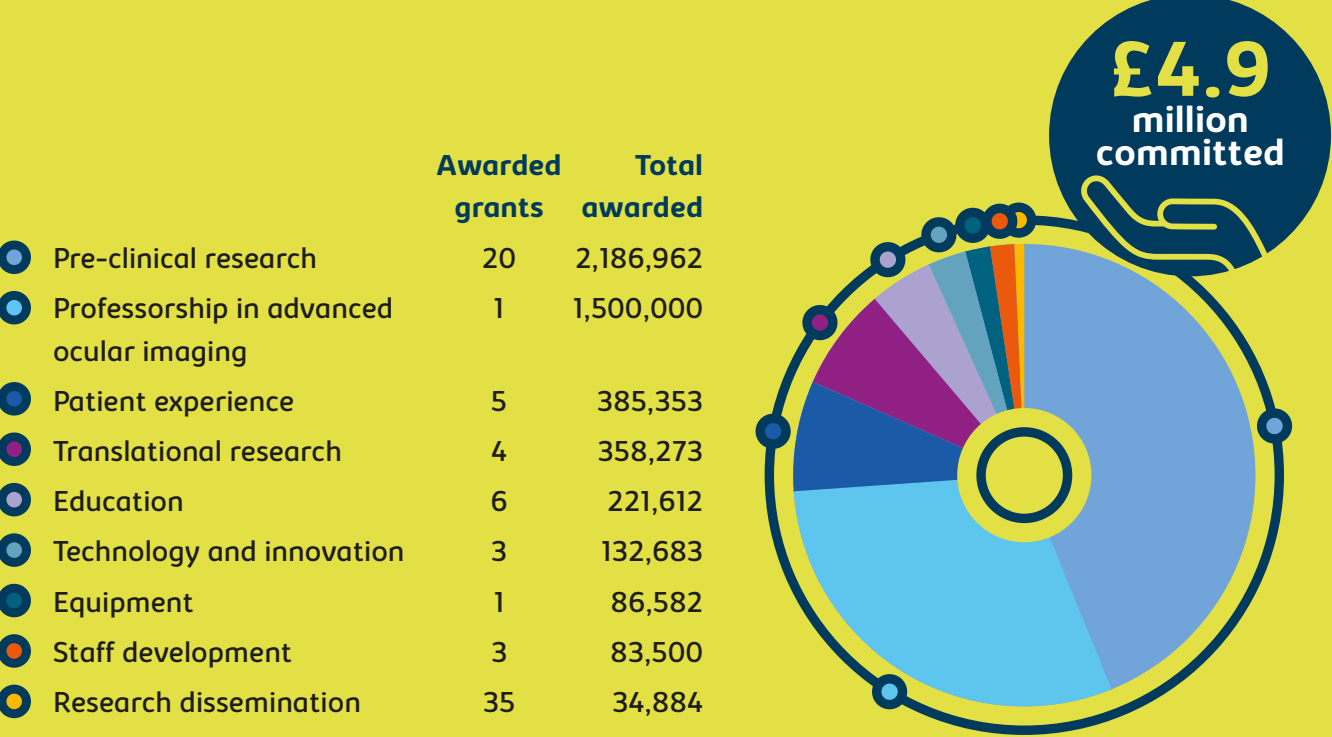
funding a new zebrafish facility at the institute. Our support of innovation and patient care includes play materials for the wonderful play specialists and young people’s advisory groups with an award through our new innovation grants programme. It’s very rewarding to see researchers we’ve supported, achieve fellowships and accolades for their work such as Dr Tessa Dekker and Dr Pearse Keane. We’re connected to wider networks of research funding charities. We are also a member of NHS Charities

Together, and I serve on its nationwide campaigns group. We’ve been part of their Covid-19 emergency appeal supporting NHS staff and patients. We’re very grateful for the support we receive throughout the year from patients and their families, staff, friends, charitable trusts and foundations, corporate partners and through legacies. Thank you for your support, none of this would be possible without it. **Robert Dufton** Chief executive, Moorfields Eye Charity

Our achievements

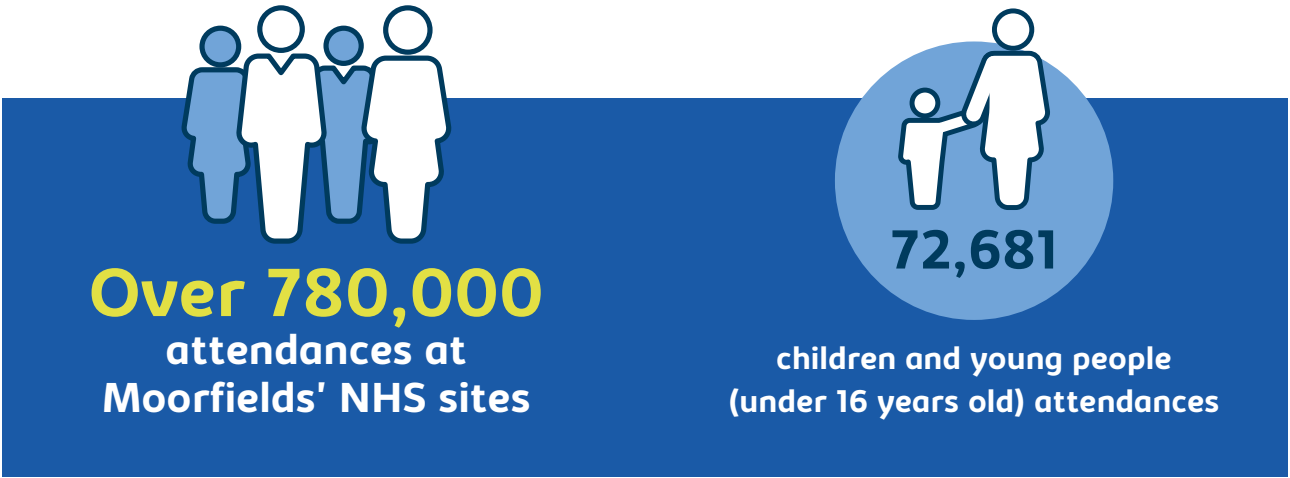
Moorfields Eye Hospital NHS Foundation Trust (the trust), in partnership with the UCL Institute of Ophthalmology (the institute) is the highest ranked site in the world for eye research and teaching[2]. Its long-standing successes are a result of a vast patient base, scientific and clinical expertise, a university setting and dialogue between scientists, clinicians and patients.

Moorfields Eye Charity supports this unique partnership raising funds for research, training and improving patient experience with quicker interventions, cutting-edge technology and new treatments to help save people’s sight.

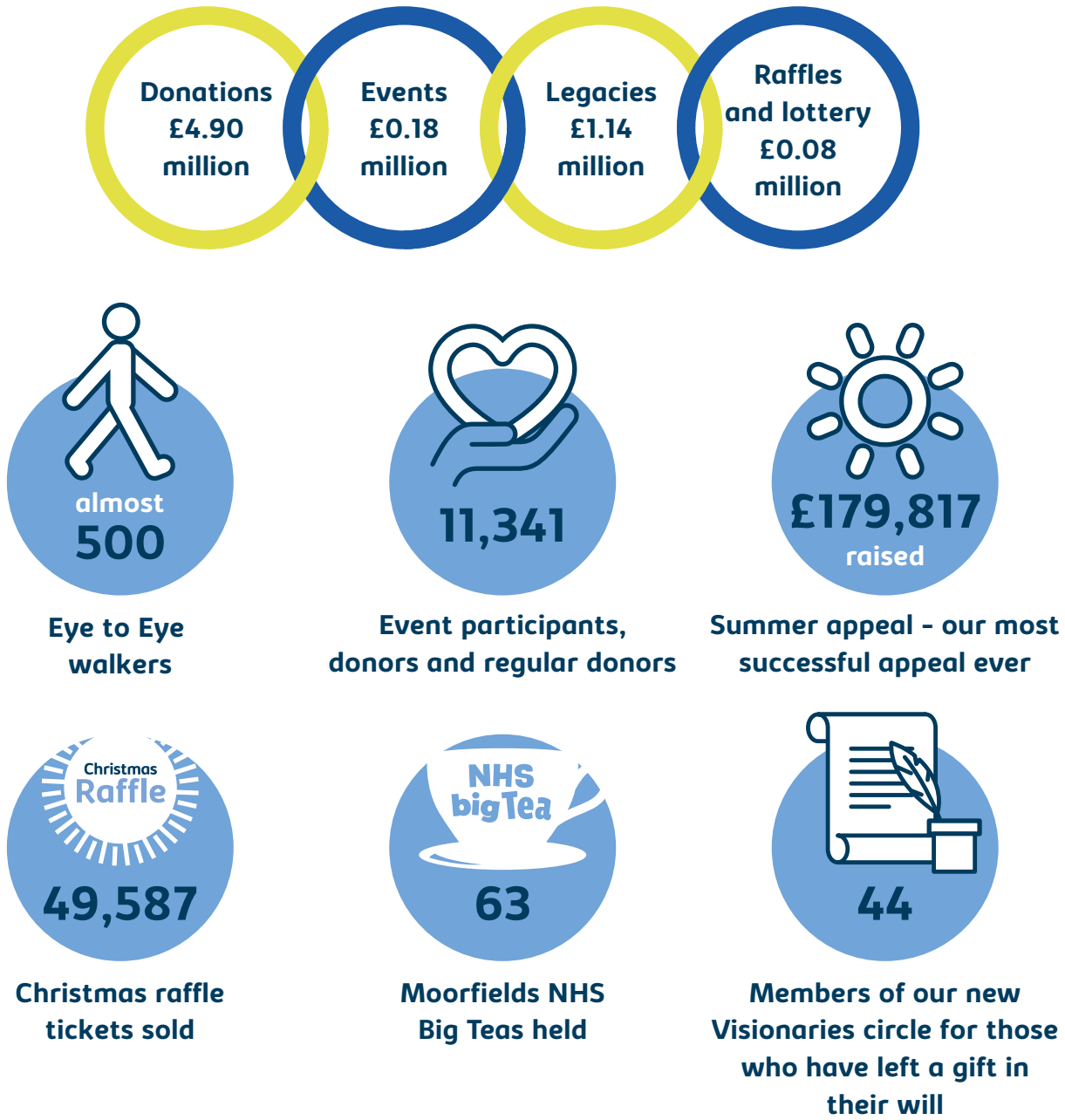


Awarded organisations

| | Number of grants |
|---|------------------|
| Moorfields Eye Hospital NHS Foundation Trust | 54 |
| UCL Institute of Ophthalmology | 19 |
| UCL Institute of Health Engineering and collaborating organisations | 5 |



*£6.30 million income raised in last financial year



*Subject to audit and approval

Creating a world class integrated facility



Image: architectural impression, courtesy of AECOM / Penoyre & Prasad / White Arkitekter

The proposal to build a new centre of excellence for eye care, research and education at a new site near King's Cross reached a major milestone this year, receiving the green light to progress to the next stage of project development, following the 2019 public consultation.

The proposal is a partnership between Moorfields Eye Hospital (the hospital), University College London (UCL) and Moorfields Eye Charity (the charity).

Oriel – the new centre for advancing eye health, will bring together excellent eye care, ground-breaking research and world-leading education in one integrated facility.

Philanthropy will be critical to the realisation of these ambitious plans and we are delighted with the level of interest so far.

Proceeding to next stage of project development

Following a public consultation, Oriel is now proceeding to the next stage of project planning.

Working in close collaboration with staff, patients and partners, the project team is now focusing on designing a fit-for-purpose, truly integrated new facility. It will enable the impact of new technologies and advances in research, bringing quicker diagnoses and new treatments to patients in the UK and around the world.

▲▲ We need spaces that will improve our lives, that build independence and confidence. This project provides an opportunity for innovation. ▼▼

▲▲ The new centre needs to be a place of hope and optimism, about getting the most out of life – showing people, this is what you CAN do. ▼▼

Participants in public consultation

Philanthropy

Philanthropy has a critical role to play in realising Oriel. The charity, in partnership with UCL, is committed to raising £100 million (£75 million capital and £25 million research and education) to achieve these ambitious plans.

The campaign has raised over £30 million in capital commitments to date. We're very grateful to donors who have committed their support and to those interested in hearing more.



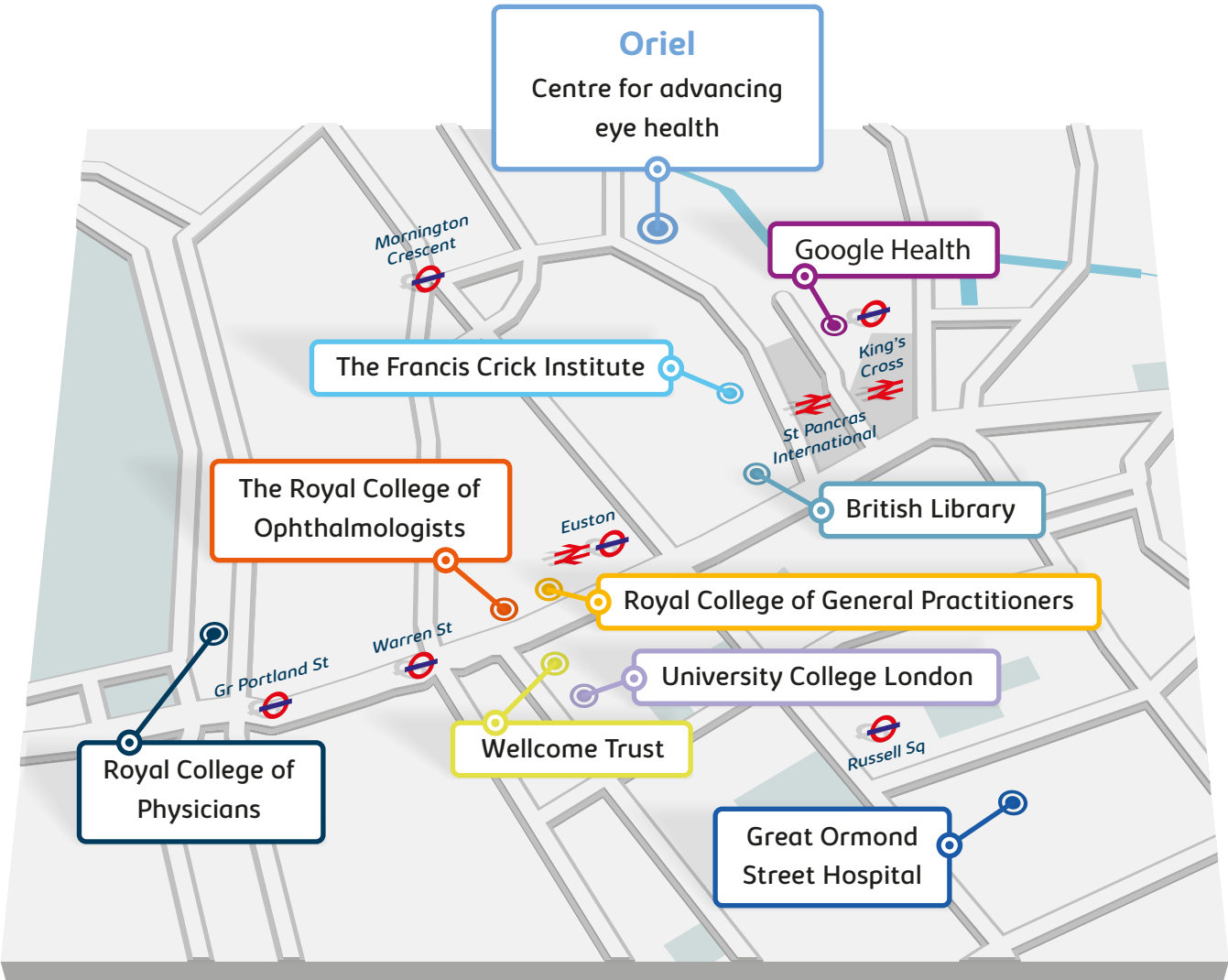
▲▲ The Institute of Ophthalmology and Moorfields have an excellent track record and strategy in collaborative interdisciplinary science and innovation, enterprise and rapid pull through into healthcare... The working partnership between UCL and Moorfields has already produced impressive collaborations, such as the work with Google's DeepMind Health to advance the field of AI diagnosis. Undoubtedly, Oriel will generate further breakthroughs such as this, all of which are of vital importance given the ageing population in the UK and the economic cost as a result of vision loss of over £15.8 billion per annum. ▼▼

Sir Paul Nurse FRS, Director, The Francis Crick Institute, and Nobel Laureate

The opening

The new state-of-the-art building is currently scheduled to open in 2026 in London's Knowledge Zone; a square mile which includes eight higher education institutes, 50 research centres and with technology collaborators in close proximity.

We have the opportunity to bring together research, patient care and training in a world-leading centre, changing the lives of more people with sight loss around the world.



London's Knowledge Zone

A leading charity for research into eye health

Moorfields Eye Charity (the charity) supports pioneering research, bringing new treatments and quicker diagnoses to patients in the UK and around the world.

Moorfields Eye Hospital NHS Foundation Trust (the trust) and its academic partner the UCL Institute of Ophthalmology (the institute) with the charity’s support, are improving the quality of life for people with sight loss.

An extended partnership with the National Institute of Health Research (NIHR) provides the charity with opportunities to develop future leaders in eye health research.

Recent support has seen a breakthrough in the benefits of a protein to repair the cornea after injury and enabled a high tech zebrafish facility to be installed at UCL.



New zebrafish facility helps study of eye diseases

Why are zebrafish so important for eye research?
Zebrafish are a highly valuable model for studying cell mechanisms in development or disease and are widely used in vision research. We’re funding a state-of-the-art facility at the institute.

Benefits – an excellent model of eye disease:

- the eye of a zebrafish is structurally similar to humans
- 80% of disease-causing genes are conserved in the zebrafish
- high resolution imaging and time lapse films can follow the eye develop and degenerate in real time.

The new facility will support a growing number of researchers at the institute and the trust. It houses zebrafish safely and securely in a temperature controlled environment.

▲▲ We lead in this area and continue to build on our knowledge. We hope to be able to translate our research to help people in the relatively near future. Our experiments often explore questions nobody has ever asked, or answered before. ▼▼

Dr Ryan MacDonald

Treating and reversing eye diseases

Zebrafish play a key role in the research of Dr Ryan MacDonald, a BBSRC David Phillips Fellow/ Lecturer at the institute, who is researching glial cells found in the retina. These cells are responsible for ensuring healthy retinal function throughout life.

Ryan believes if we can manipulate glial cells to hold their shape in damage or disease, or even re-establish them, this could be the key to treat or even reverse some eye diseases.



funding awarded for research



research featured across a broad range of journals



Understanding the role of proteins in eye injuries

Research discovery

Franziska Bucher’s research has seen a recent breakthrough – leading to a better understanding of the role of proteins to help treat eye injuries. Franziska was the first recipient of a charity springboard award.

While working at the institute, Franziska found that naturally produced proteins may help people to recover more easily from eye injuries that affect the cornea.

The cornea is the clear front of the eye. It allows us to see by letting in and focusing light. Damage or injury to the cornea can be very painful, as the cornea contains a large number of nerves, and can lead to sight loss.

Difference a protein can make to the cornea

A protein called vascular endothelial growth factor (VEGF) is naturally produced after an eye injury. There are three forms of VEGF and Franziska discovered that one of these forms, VEGF188,

supports the healthy regrowth of nerves in the cornea. The application of eye drops containing VEGF188 could improve the rate of nerve regeneration in the cornea following eye injury.

This research also has potential implications for the treatment of other eye conditions, in particular wet age-related macular degeneration (AMD).

▲▲ This opens the door to developing a new treatment for patients with serious corneal wounds, because healing corneal nerves is a key step to healing the entire cornea. ▼▼

Franziska Bucher, Clinical fellow



since launching the springboard awards in 2018, we have invested £838,415 in 12 awards

Emma Beasley – supporter story

▲▲ It’s vital that Moorfields Eye Charity fundraises for the hospital to provide funding for research, which is crucial in the fight against sight loss. This is hugely important for me personally, because of my particular eye condition. I want to support the development of alternative treatments as well as more understanding of eye diseases which may help future patients. ▼▼

Emma Beasley

Following her first retinal detachment, Emma developed the complication of PVR (Proliferative Vitreoretinopathy), a long-term sight threatening condition, which can cause a lot of anxiety. Regular appointments at Moorfields check that her vision is stable.

In supporting the charity, Emma has taken part in Eye to Eye three times, held Moorfields NHS Big Teas and has left a gift in her will.



Patrick O’Sullivan – supporter story

▲▲ It’s so important, every effort should be made to support the hospital and its work – the investment in research is what makes Moorfields the experts in eye health, along with excellent treatment and very efficient and considerate staff, we couldn’t ask for a better place to help us with our sight. ▼▼

Patrick O’Sullivan

Patrick and his wife were referred to a consultant at Moorfields Eye Hospital for treatment.

Patrick gives regularly to the charity and has also donated to appeals.





Supporting patient care

We support staff at Moorfields Eye Hospital NHS Foundation Trust (the trust) to deliver outstanding patient care and patient experience. The trust is recognised for excellence in clinical practices globally.

We fund innovative patient-led activities such as youth advisory groups influencing research and services. We support use of the latest technology, and enhance play services at the children's centre which helps communication and relieves stress for the child and whole family.

We're also proud that research we're funding has had an impact on NICE (National Institute for Health and Care Excellence) guidelines and how people are cared for across the country.

£216,183
funding

funding awarded
to develop staff
in the delivery of
outstanding and safe
patient care and
patient experience

£499,500
funding

funding to support
the patient experience
including the Friends
of Moorfields'
volunteer programme

NICE review guidelines on glaucoma care

New evidence from the LiGHT trial [3] has prompted an update of the NICE guidelines [4]. Results indicate that laser treatment is as effective as eye drops as a first-line treatment for glaucoma or ocular hypertension in relation to quality of life and clinical outcomes. The NICE report in late 2019 states that they have reviewed the trial outcomes and as a result will be amending the guidelines.

Our funding is supporting an extension of the LiGHT trial.

Digital access for medication

We're supporting a trial of digital keys for staff to have improved access to medicine cupboards.

▲▲ Receiving the funding from the charity will enable the trust to drive efficiencies and release time for staff to care for our patients. Patients will receive their medication in a more timely manner and staff won't have to walk around the department for considerable lengths of time looking for the keys! ▼▼

Sarah Needham, Deputy director of nursing

Sarah and her team will run the pilot project in the busy A&E and in a surgical ward at the City Road site. They will evaluate whether this can be rolled out across the trust. We have funded this through our new innovation grants programme.





Giving young people a voice



Children and young people want to have their say on issues that affect them.

We’re supporting two exciting projects to engage children and young people in research and services.

In early 2019 the trust set up a young people’s advisory group (eyeYPAG [5]). This group of 13 young people aged 8-17 works with researchers

exploring eye conditions and treatments. They meet around four times a year and it is the first such group in the UK for children with sight loss.

The trust is also setting up a new Youth Forum to inform service design and development. Plans for the group are being developed by a steering group of six young people and Dr Annegret Dahlmann-Noor and her team. This is funded through one of our new innovation grants.

Supporting children’s play

Play is an important part of the patient experience for children and young people. We give a regular grant to the trust’s Richard Desmond Children’s Eye Centre to fund play and craft materials, DVDs, and toys including farm animals, stickle bricks and toy food for the play kitchen.

The play teams use toys to encourage role play and help children to communicate. They can assess their anxiety levels and knowledge of their condition. Play areas give children their own world beyond the hospital. Parents also find them reassuring, they relax when they see their children regaining a sense of control.

Services for children at the hospital are regularly inspected and have scored outstandingly well in recent reports with the play opportunities highlighted as being exemplary.



Maisie and her family – supporter story

▲▲ The patient care at Moorfields is outstanding. Our daughter Maisie has been supported as a patient and we’ve been supported as parents. The amazing work of the NHS staff has changed our lives and helped us so much. They talk to Maisie, make her feel relaxed, play with her and explain what they are going to do. Maisie now knows ‘the eye doctor’ is a fun and friendly place. We hope that the charity can continue to fund patient support and find the best treatment and technology to help Maisie - and others. ▼▼

Claudia Marr, Maisie’s mum

Maisie was born completely blind in one eye due to a congenital cataract. She was seen at Moorfields when she was 10 days old and operated on at five weeks. She has just turned four and has no natural lens so Maisie wears a contact lens every day. She is at risk of developing glaucoma in her unaffected eye and has regular checks at the children’s hospital.

The family wanted to give something back. They walk the four mile Eye to Eye route every year with extended family joining too - it reminds them how far they’ve come.



Support sharing of knowledge to inspire tomorrow's experts

We support researchers at different stages in their careers: as they're starting out, making new discoveries and sharing their learning with the next generation of researchers.

We're funding a joint professorship at the UCL Institute of Health Engineering and the UCL Institute of Ophthalmology (the institute) combining world leading engineering and vision science.

There are springboard awards for researchers to develop new ideas, PhD studentships supporting high quality research, and career development awards for future global leaders in eye research.

We've awarded a research training fellowship to a medical graduate for the first time. And we're proud that researchers we've supported have recently secured prestigious fellowships.



Primary research area for new awards

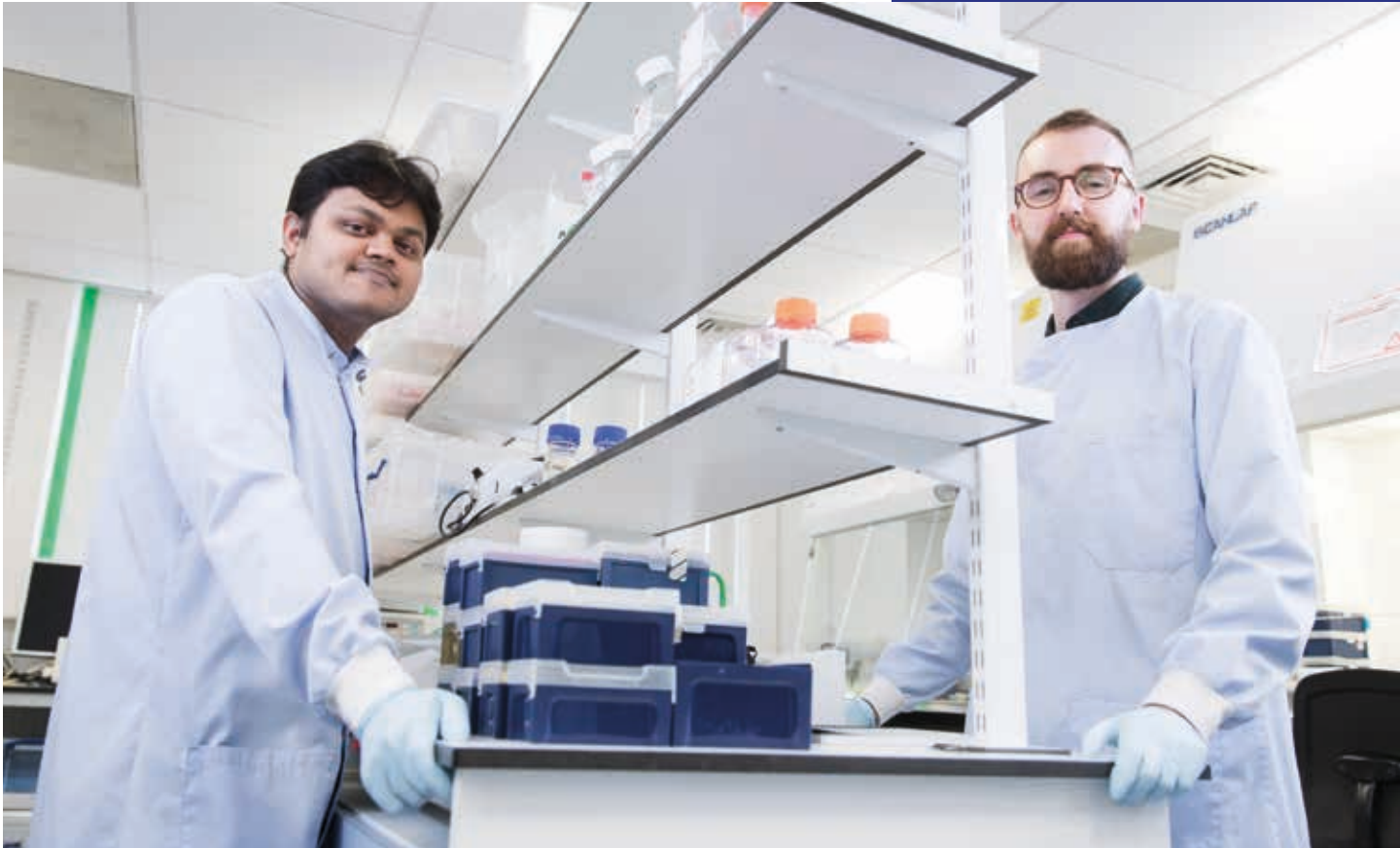
| | |
|--|----------|
| Genetics/inherited eye disorders | £609,992 |
| Age related macular degeneration | £577,918 |
| Diabetic retinopathy | £421,179 |
| Neuro-ophthalmology/optic neuropathies | £289,818 |
| Retinal/vitreo-retinal | £235,840 |
| Ocular cancer | £193,273 |
| Glaucoma | £173,958 |
| Lens/cataract | £152,000 |
| Corneal/ocular surface disease | £110,000 |
| Other | £226,371 |



funding awarded to support tomorrow's experts



PhD studentships, awards and research presentation grants funded



Ensuring a pipeline of clinical academic researchers

Our research training fellowship scheme gives medical, nursing, optometry and allied health professionals support to complete vision-related research towards a PhD alongside their clinical duties. To undertake a PhD in parallel with clinical training can be daunting but supporting these ambitious researchers is critical for the future of medical research.

Dr Joshua Harvey, a specialist trainee (in neuro-ophthalmology), has been awarded a research training fellowship. He will further our understanding of dominant optic atrophy – the most common inherited disease of the optic nerve and a cause of progressive blindness in children and young adults.

▲▲ Against a background of reducing national investment in academic ophthalmology, we thank the charity for supporting research training fellowships. They enable promising young clinicians to launch their research careers and take the results of research into the clinic and beyond. ▼▼

Professor Miles Stanford, charity's scientific advisory panel chair



five career development awards



£510,017 invested in career development awards

Catapulting our future leaders to the next stage of their career

In 2018 we launched an ambitious grant programme – to support the future leaders of ophthalmic research and clinical practice. This shorter term funding is provided at a critical time in their careers as they embed and expand their independent research programmes in areas of vital clinical and research importance.

These individuals are of the calibre to be the next leaders in their fields but too often breaks in funding make it necessary for these talented academics to perhaps move to the private sector or other areas of research which attract greater levels of funding than ophthalmology. The impact of our investment is bearing remarkable fruits.

Of the five award holders to date, two – Dr Alice Davidson and Dr Pearse Keane - have since secured prestigious UKRI future leaders fellowships. Together, they secure over 10 years of funding. While Dr Tessa Dekker will take up a joint position at the UCL Institute of Ophthalmology and UCL Psychology and Language Sciences.

▲▲ To get to this point, I've had wonderful support from NIHR (National Institute for Health Research) and Moorfields Eye Charity. With support like this, I think the UK is the best place in the world to be a clinical academic. ▼▼

Dr Pearse Keane, Associate professor

▲▲ My Moorfields Eye Charity grant is probably one of the most important awards of my entire career. ▼▼

Dr Tessa Dekker, Research fellow



Future Leaders Fellowship

The Future Leaders Fellowship is a highly competitive initiative from UK Research and Innovation to grow a strong supply of talented individuals, ensuring a vibrant environment for research and innovation in the UK.

Shaping national policy

We use our knowledge and expertise to influence national policies, increase resources allocated to eye health and raise the profile of our work.

We collaborate with other NHS charities, charitable medical research funders and sight sector charities.

We're pleased to support the UK-wide Ophthalmology Clinical Research Strategy. This strategy will explore areas of unmet need and help facilitate and encourage a pipeline of research in the UK.

We're also supporting a Lancet Commission on Global Eye Health and we're one of the AMRC (Association of Medical Research Charities) charities in the recent UK Health Research Analysis report.

Lancet Commission on Global Eye Health

Over the next 30 years, in the UK and around the world, there will be a massive increase in the magnitude of eye disease and sight loss. The Lancet Commission on Global Eye Health [6] has drawn together an international, interdisciplinary group of more than 50 leaders in eye health to analyse the current situation and future direction.

Matthew Burton, Professor of International Health at the London School of Hygiene and

Tropical Medicine and an honorary consultant ophthalmologist at Moorfields is leading a team working to review research and economic evidence in the field.

Their work is already identifying focus areas and multiple 'Grand Challenges' in global eye health, as well as gaps in available data in key areas. If not addressed, this will continue to limit the scope of the impact of current data.

UK health and medical research report

This year, for the first time, we were one of 91 Association of Medical Research Charities

(AMRC) member charities who contributed to the UK Health Research Analysis 2018 report [7], creating a clearer picture of the UK's health and medical research landscape. This report is the fourth in a series that charts changes in health research over the last 14 years. Findings from the report show that the combined spend on eye research has grown from £17.7m (0.93% of the total spend) to £33m (1.3% of the total spend).

This increase is good news but it's still low - especially when you consider the burden of disease.



increase in spend on eye research from £17.7 million to £33 million

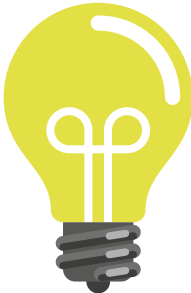


Highlights of our year



Moorfields Stars, supported by the charity, celebrating achievements of Moorfields & UCL staff
Launch of new Moorfields brand with partners

WAEH (The World Association of Eye Hospitals) conference hosted by Moorfields



Launch of our innovation grants scheme



Launch of Visionaries circle, for supporters leaving us a gift in their will

Charity carol service sponsored by Moorfields Private, reader Sir Michael Parkinson CBE
NICE guidelines updated on glaucoma care



Launch of our new website
Public consultation findings support Oriel approval



National Volunteers' Week & planning our own volunteer programme

Moorfields NHS Big Tea



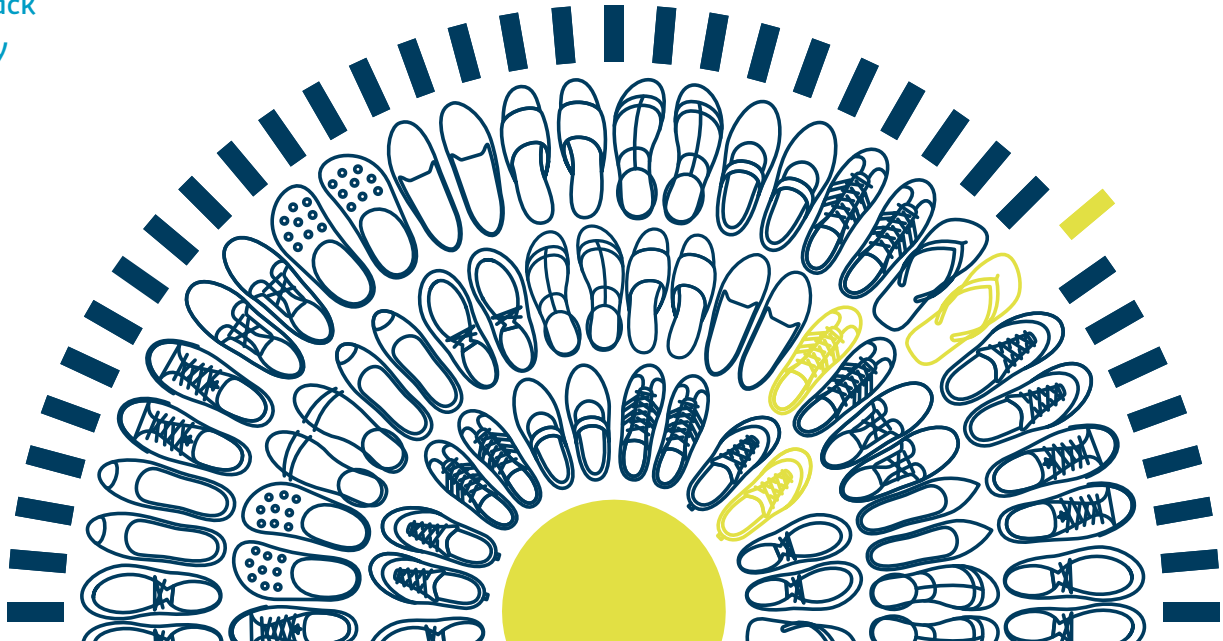
Summer appeal – most successful appeal ever
BBC Inside Out – stem cell treatment on acid attack survivor, led by charity funded consultant



The first Moorfields joint magazine is published

UK Health Research Analysis 2018 includes Moorfields Eye Charity

Eye to Eye event, our annual walk from Moorfields Eye Hospital to the London Eye
NHS Charities Together (NHSCT) emergency Covid-19 appeal launch



Acknowledgements

There are so many wonderful supporters that we would like to thank. Your support makes our work possible.

We are particularly thankful to the individuals and organisations named below:

- The 29th May 1961 Charitable Trust

Charlie Agg

The estate of the late Edna Ruby Barnett

Blue Water Energy

Helena Boas and Tom Sikorski

The estate of the late Mr Victor Davis

The Drayson Foundation

EBM Charitable Trust

The Friends of Moorfields Eye Hospital

In memory of Mr Abdulla Ali Gargash

Mr Gordon Gilby

The estate of the late Mr James Dundas Hamilton

The Helen Hamlyn Trust

The estate of the late Ellen Teresa Harrington

Mr Albert Hausammann

Drue Heinz Charitable Trust

Sir Joseph Hotung Charitable Settlement

The estate of the late Alan Lane
- Mr and Mrs Stefanos Lekanidis

Masonic Charitable Foundation

Marie-Louise von Motesiczky Charitable Trust

John and Margaret Nolan

The estate of the late Mr Mortimer Ramskill

Adam and Debbie Ripley

Eleanor Robbins

Rogers Stirk Harbour + Partners Charitable Foundation

The Basil Samuel Charitable Trust

The estate of the late Penny Sibson

The estate of the late Miss Helen Theresa Sweeney

The Michael Uren Foundation

Garfield Weston Foundation

Mrs Marian Williams

The Miss Barbara Mary Wilmot Deceased Discretionary Trust

We are also extremely grateful to those individuals and organisations who would prefer to remain anonymous and individuals who have generously supported the charity by remembering it in their will. Much of our work is supported through gifts in wills, and they are vital for the impact of our long-term support on research and patient wellbeing.

We would like to thank all the Moorfields and UCL staff who have contributed to the charity's continuing success. We would also like to thank our charity engagement volunteers, trustees, committee members and panel members. With your support, we are able to ensure that Moorfields Eye Hospital NHS Foundation Trust and the UCL Institute of Ophthalmology remain at the forefront of eye care, research and education worldwide and have the greatest possible impact on the global eye health agenda.



References:

[1] Statistics sourced from RNIB, www.rnib.org.uk/professionals/knowledge-and-research-hub/key-information-and-statistics

[2] Centre for World University Rankings (CWUR) (2017)

[3] Selective laser trabeculoplasty versus eye drops for first-line treatment of ocular hypertension and glaucoma (LiGHT): a multicentre randomised controlled trial. (2019) The Lancet, 393; 1505-16

[4] 2019 exceptional surveillance of glaucoma: diagnosis and management (NICE guideline NG81), National Institute for Health and Care Excellence (December 2019)

[5] eyeYPAG, Generation R www.generationr.org.uk/eye-ypag

[6] Announcing The Lancet Global Health Commission on Global Eye Health (2019) Burton, MJ et al, The Lancet. Global health, ISSN: 2214-109X, Vol: 7, Issue: 12, Page: e1612-e1613

[7] UK Health Research Analysis 2018, Health Research Classification System (HRCS) (January 2020)

Find out more about our work investing in life-changing eye health

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