



Fischer
Family
Foundation

Nurturing innovation. Changing lives.

Annual Report 2021



fischerfamilyfoundation.org.uk

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"Our approach is informed by the proven methodology of continuous improvement – identifying opportunities for a breakthrough in performance, engaging passionate frontline leaders to create a process and identifying what works, then refining a process that can be scaled."

Mike Fischer CBE
Chair, Fischer Family Foundation

Scaling the ideas that work to solve the problems that matter

Message from the Chair

At the Fischer Family Foundation, we like to tackle big, ubiquitous problems. 2021 saw us continue our long-term work in two of these: early literacy failure in education, and in health, poor diagnostics of UTIs and subsequent antibiotic misuse.



Mike Fischer CBE
Chair, Fischer Family Foundation

Our mission is to nurture disruptive innovation within health and education provision in the UK. This means identifying, testing and honing technological and institutional innovations, and then finding appropriate paths to scaling.

In education, our Apex project saw us work with 10 schools this year to fund pilots – exploring questions such as what happens when you provide sustained, high frequency reading tutoring for the youngest learners – and then measuring success. In health, our medical science partner, Systems Biology Lab (SBL) has used their expertise in genotyping to develop a diagnostic test for UTI that could transform the lives of countless people worldwide. The foundation then helps scale these innovations.

Our partner organisations are key to the delivery of our work. In education, we co-implement the Apex project with our sister organisation FFT Education – one of the largest and most renowned education suppliers in the UK. In health, we partner with SBL, including supporting them to gain a patent, and apply for ISO 15189 status that would allow them to refine their UTI diagnostic process and impact on actual patient outcomes.

Achieving system improvement in complex and large systems like health and education is a science and is achievable, but projects that support systemic change are actually quite rare. It's been our pleasure to support our partners to develop their ground-breaking work in 2021.

Smart innovation to tackle the biggest challenges

The Fischer Family Foundation has a distinctive – and highly effective – model of change that defines all of our work.

It's based on the insights gained by Mike Fischer and his study of Total Quality Management (TQM) that began over 40 years ago. Mike first encountered TQM when he was looking for a management approach that would ensure consistently high standards of quality as production as his technology business, Research Machines, scaled up.

What he discovered was a management methodology that institutionalised innovation and emphasised the vital importance of a data-driven approach to choosing key projects and to validate systematic changes that improve performance. Applying these principles to solve problems within education and health has since become a life mission for Mike.

A manufacturing challenge inspires a lifetime's mission

Mike's passion for improving the education system began in the early 1990s when Research Machines was providing IT support to Education 2000 – a major educational experiment at a school in Hertfordshire. He discovered that a staggering 30% of 11-year-olds did not have the reading and writing skills fully to join in with lessons. It was clear to him that the cost of not fixing this was huge.

Inspired to help address this critical issue, Mike set up the Fischer Family Foundation (then called the Fischer Family Trust) and arranged for a proven literacy teaching method – Success for All (SfA) – to be introduced in the UK. This was just the start of the foundation's work in education, which has since expanded to tackle issues within the health sector with the creation of Systems Biology Laboratory in the early 2000s.

Solving the critical issues in health and education

The foundation's use of high-impact, data-driven solutions to address the big issues within education and health continues to this day. Within education it means directly listening and talking with teachers and school leaders in primary school while creating tools and metrics for success and improvement of the system. In health, it means giving new solutions offered by genetic technology to innovative health care workers, learning from their successes and scaling what works.



Mike Fischer visiting Applegarth Academy.

Key points from W. Edwards Deming's framework

The principles behind Total Quality Management

1

Create constancy of purpose for improving products and services.

2

Improve, constantly and forever, every process.

3

Eliminate slogans and exhortations.

4

Institute a vigorous program of education and self-improvement for everyone.

5

Put everybody in the organisation to work accomplishing the transformation.

"Applying these principles to solve problems within education and health has since become a life mission for Mike."

A single-minded focus on the single most important issue

Early literacy – how well a child can read and write at Key Stage 1 – is the single biggest determinant of a child's success at Key Stage 4 and very often in life. That's why it is our single biggest focus as a foundation.

Not being able to read has a huge impact on a child's life and education. The data shows that children who are behind at the age of seven have a high probability of staying behind. In the last whole cohort dataset for England, 2019 SATS, 25% of the Y2 cohort (approximately 165,000 children) did not reach the expected standard for reading. Moreover, emerging evidence shows that younger children have been affected the most by school Covid closures, and that the gap between the better off and the disadvantaged may be increasing.

The Apex Project

In 2019, we began a longitudinal project – the Apex Project – to address early literacy failure. Working with 10 schools, the project looks at pupil data with school leaders to understand which children are behind in their reading and by how much. It then helps schools deliver and track the success of high quality, small group

reading tutoring to the children who are at risk of early literacy failure, with the intent to bring these children up to the expected track at as early a point as possible during key stage 1. This is delivered through our flagship Tutoring with the Lightning Squad programme. In the academic year 2021 – 2022, the Apex schools have tutored 285 children in Year 1 and Year 2.

The first year of results is exciting as we can see huge leaps in children who were behind due to lockdown and other factors. Three schools that have implemented tutoring in Year 1 have achieved their best ever phonics results, despite the pandemic.

"Our Apex project saw us work with 10 schools this year to fund pilots – exploring questions such as what happens when you provide sustained, high frequency reading tutoring for the youngest learners – and then measuring success."

Mike Fischer CBE
Chair, Fischer Family Foundation



Case study: Nathan's story

Nathan, age 6 has attended St. Mary's since nursery. He was chosen for tutoring because of gaps identified in his learning when he started Year 1. Nathan had very little confidence around reading and didn't have many reading strategies to support himself. In autumn of Y1, Nathan was assessed using the Salford Sentence Reading Test and had a reading age of 4 years and 2 months. He was re-assessed in spring, and had a reading age of 4 years and 9 months – an increase of 7 months. By June – after a full academic year of Tutoring with the Lightning Squad – Nathan scored the highest possible score in oral reading and comprehension.

"Lightning Squad helped me to do good learning and reading. I like reading now. I even take my books to my grandma's house!"



Case study: Sama's story

Sama, age 6, has attended St. Mary's since nursery. She had a good attendance record but had very little confidence around reading and didn't have many reading strategies to support herself. Sama is one of five children with Arabic as her first language and English as a second language. Sama was chosen for tutoring due to the gaps in her learning identified on entry to Year 1.

Sama started having daily tutoring sessions with Tutoring with Lightning Squad in January 2022. In spring 2022, Sama was assessed using the Salford Sentence Reading Test and had a reading age of 5 years and 7 months. She was re-assessed in summer and her reading age had risen significantly to 6 years and 11 months, an increase of 1 year and 4 months. She now enjoys reading independently and with her peers.



A visionary solution

Poor eyesight is an overlooked reason for a child's early literacy failure – and eye tests offer a surprisingly simple solution. The Apex project has worked with the same schools to conduct a simple eye-sight screening that highlights if a child needs an optician's appointment. Six schools (total of 910 pupils) have completed a vision screen. 165 (18%) were recommended eye tests at an optician as a result of the screen, and so far of those seen by an optician, the majority have required either glasses or a different prescription for existing glasses.

"I feel good and focused when using Lightning Squad. It helps me to concentrate. I feel happy because it helps me to be smart and read well."





Case study: Kyle's story

When Kyle started Y1, having only just turned four a few weeks before, he showed no interest in reading or writing. As he entered Year 2, he was reading books which were a year below the expectations for his age. Kyle began Tutoring with Lightning Squad TWLS) in Spring term of Year 1 and completed over 100 sessions.

He is now reading books at the level of Y3 and also enjoys reading. At a recent book fayre, Kyle chose and bought a book – something he wouldn't have normally done.

Kyle's teacher says

"It's clear to see that Kyle has now discovered a love of reading and books. He told me his parents took him and his brother to a bookshop and was very excited about it."

Kyle's mum has also seen a big shift in Kyle's attitude towards reading. She says:

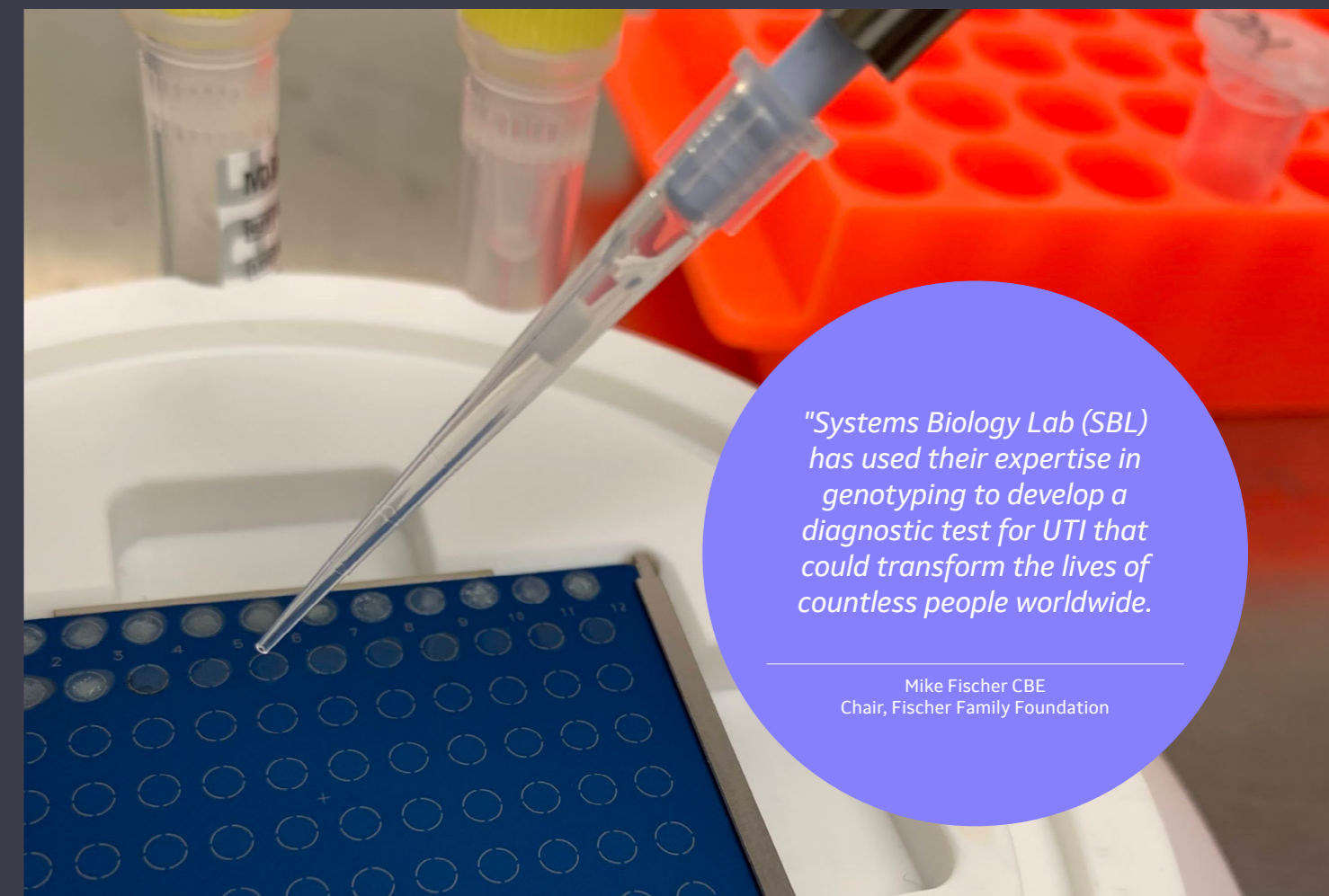
"Kyle likes to read to himself now. We even have to FaceTime nanny to read. He is more fluent, and his confidence has increased a lot."



"I like reading now because it's really interesting. I'm faster at reading now. I read lots of different books. My favourite is Charlie and the Chocolate Factory."

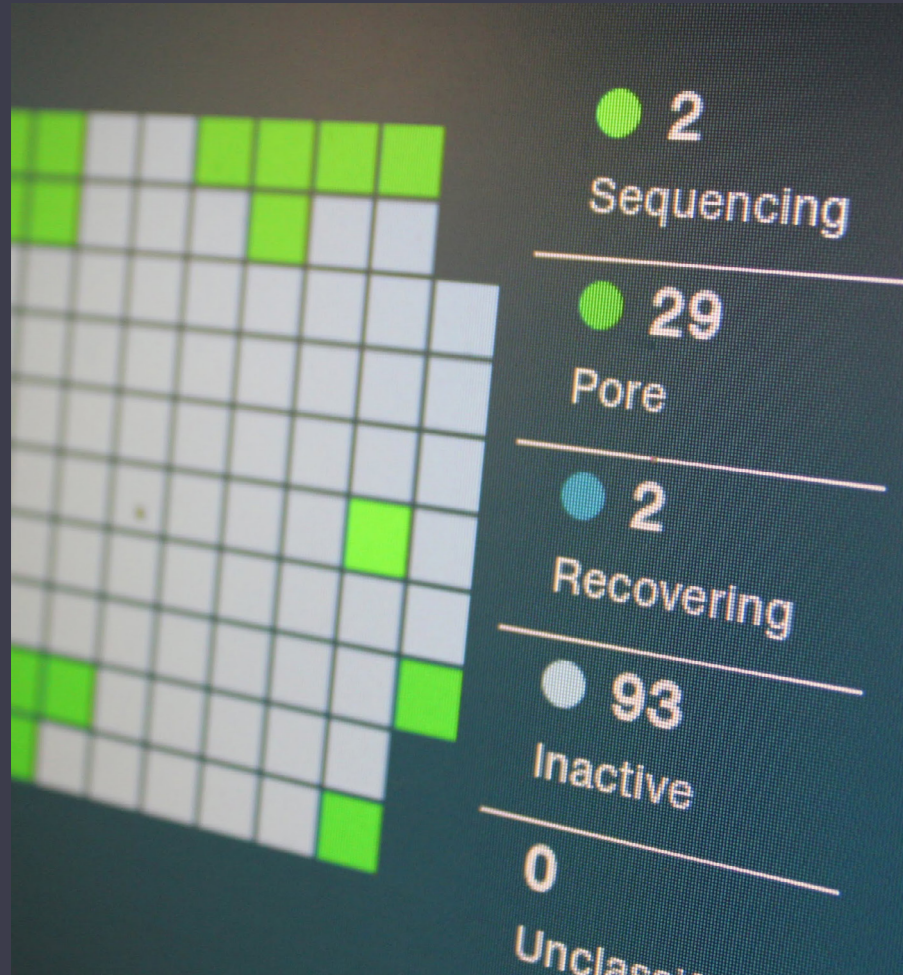
Using new technology to transform treatment of an age-old health condition

2021 saw our science partner Systems Biology Lab (SBL) return to its major research focus of improving diagnostic methods for UTI – a common but debilitating condition.



"Systems Biology Lab (SBL) has used their expertise in genotyping to develop a diagnostic test for UTI that could transform the lives of countless people worldwide."

Mike Fischer CBE
Chair, Fischer Family Foundation



“We’re excited by the possibilities of this new diagnostic technology – now we need to scale it.”

Urinary Tract Infection (UTI) is one of the most common conditions presenting in NHS primary care. A painful and debilitating condition, UTIs can lead to a significant reduction in life quality. Around 50% of all women experience a UTI over their lifetime and up to 10% of all women experience recurrent bouts of UTI – averaging over two infections every year.

A common condition – an inadequate diagnostic system

Despite their high prevalence, clinical diagnosis methods for UTI remain basic: urine dipstick tests allied to laboratory microbial culture. Both techniques have poor efficacy and frequently fail to identify underlying infections. As a result, clinicians treat patients ‘blindly’ with short courses of broad-spectrum antibiotics.

With no accurate tool to monitor bacterial levels, clinicians are also left unable to judge antibiotic potency so infection relapse and repeat treatment is highly likely. In short, the current diagnostic system is not-fit-for-purpose – leading to unnecessary suffering for countless people, particularly women, who are much more likely to experience a UTI than men are.

DNA sequencing for precision diagnosis and treatment

SBL has invented a cost-effective and fully quantitative technique that offers much more precise diagnosis of UTIs – and ultimately much more effective treatment. Using Nanopore DNA sequencing, supported by SBL’s in-house bioinformatics software, this new technique allows ‘biome’ profiling of entire bacterial communities.

The method is culture and amplification-free, so is not at risk of contamination, assumptions or bias associated with current diagnostic systems for UTIs. It can also be readily repeated to give sensitive profiling of bacterial levels before, during and after treatment to allow real-world assessment of antibiotics effects. This will, in turn, help to better ensure complete eradication of infection, reduce the chance of recurrence and antibiotics are used in a more focused and sparing way.



Spotlight: Nick Parkinson, Director SBL

It’s been an exciting three years for Systems Biology Lab (SBL) as we invented, tested and refined a potentially transformative approach to diagnosing and treating UTIs. We wanted to focus on this area as UTIs are not just a debilitating and painful condition that affect around 50% of women, but current diagnostics are simply not fit-for-purpose.

Funded by the foundation and working in collaboration with private and NHS specialist clinics, we carried out pilot studies on patients with recurrent and non-recurrent UTIs as well as healthy volunteers. As part of this, we installed MALDI-ToF and specialist culturing equipment in the lab, created a home testing UTI kit (with associated logistics) and processed and analysed over 300 samples.

The results from the pilots have been very promising. Where samples were tested in parallel to standard clinical culture, we identified the same pathogen more rapidly, with greater resolution and with full quantitation. Importantly, we were also able to identify bacteria in all samples that failed to provide a positive culture result through the NHS system.

Our work with recurrent sufferers has led to the identification of high levels of a range of ‘hard-to-grow’ bacterial species that have not previously been identified or considered candidates for UTI in the NHS system. This brings some hope that this ‘invisible’ condition may soon be more fully understood and treated.

Our next steps are to patent the technology and get ISO:15189 accreditation, before introducing the technology to the wider clinical system. However, this new technology is highly disruptive and current diagnostic methods, although unsatisfactory, are heavily ingrained in healthcare. It will take time, continuous refinement and plenty of support before clinicians understand how to fully accept the potential of our new technology – for them and their patients. This will be our greatest challenge going forward.

Governance and finance

Governance and staff

The Fischer Family Foundation is primarily a funding organisation for core partners in health and education. Its Founder and Chair, Mike Fischer, is active in day-to-day direction and implementation of its activities. The foundation is governed by four trustees, who are longstanding colleagues and collaborators, and currently has three members of staff, plus a number of freelance staff.

Trustees of the charity



Michael Fischer

James West

Ken Brooks

James McMillan

Staff of the charity



Eliza Hilton
Policy and Advocacy Lead



Louise Parkinson
Monitoring, Evaluation
and Learning Officer

Emma Steward, Business1st
Accountancy and Compliance

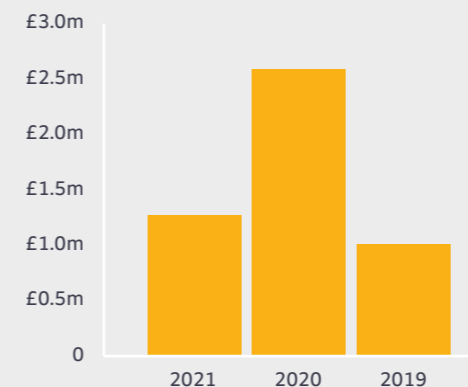
Financial overview

Total expenditure in 2021 was £1,273,216. This is a significantly lower amount than in 2020 due to a large reduction in costs of SBL as they withdrew from direct support to UK Covid testing for GP surgeries and Care homes which took place in the initial phase of the pandemic.

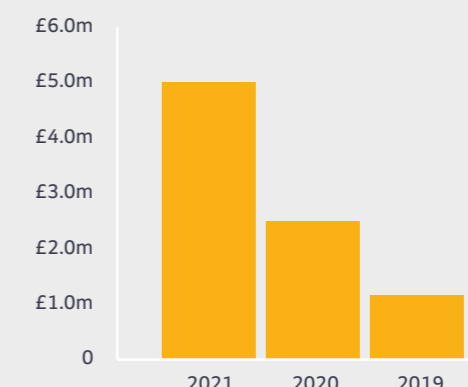
Staff costs increased as the Foundation now has 2 part-time employees who worked throughout 2021. Grants to education include direct grants to schools to support tutoring in Key Stage 1 and eye-sight screening, final wind-down costs of the school improvement charity Success For All UK which merged with FFT Education in August 2021, as well as support for FFT to develop and scale the Success for All programme.

Regular giving continued to a range of other charitable causes.

The vast majority of income in 2021 was from a charitable donation from Mike Fischer designed to fund activities in an investment phase over the next few years.



Expenditure



Income

Summary of expenditure

PROGRAMMES	2021	2020	2019
Health Programme: Systems Biology Lab, Covid Volunteer Testing	£826,996	£1,538,411	£668,735
Education Programme: Success for All, Tutoring, Direct School grants	£273,807	£685,965	£190,000
Health: Queen Mary's University, London: Vitamin D Study	£14,817	£227,500	£-
Education: Oxford University	£-	£20,000	£20,000
Other charitable expenditure	£68,000	£75,300	£108,675
Staff costs	£56,877	£19,626	£2,350
Professional fees	£26,710	£15,953	£9,061
Governance costs	£5,400	£6,554	£8,696
Other costs	£609	£692	£181
Total	£1,273,216	£2,590,001	£1,007,698

Summary of income

	2021	2020	2019
Michael Fischer Charitable Donation	£4,000,000	£1,900,000	£92,600
FFT Education	£-	£95,000	£405,000
Alamy Ltd	£-	£-	£496,682
Gift Aid receipts	£1,000,000	£476,000	£23,150
Interest received	£13,445	£16,057	£27,516
Other income sources	£-	£4,587	£116,260
Total	£5,013,445	£2,491,644	£1,161,208

Foundation for improvement

The Fischer Family Foundation, driven by the work and passion of its founder, Mike Fischer, supports longstanding partners to implement innovative projects that aim to drive down social and health inequality in the UK and worldwide.

