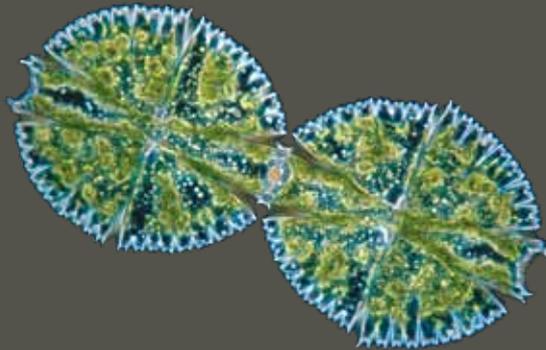


# Strategic Plan 2010–20: Two-year update

February 2012



# Strategic Plan Update 2012

## Overview

In February 2010, we published [Extraordinary Opportunities](#) – the ten-year Wellcome Trust Strategic Plan for 2010–20. It describes how we will work to further our vision of achieving extraordinary improvements in human and animal health, through supporting the brightest minds in biomedical sciences and the medical humanities.

The Plan identifies three focus areas which encapsulate the broad range of activities we support to achieve our vision and mission. The Plan also sets out our five key strategic challenges – areas in which we believe that we, as a global charitable foundation, can work with our research communities and other partners to make a difference in progressing biomedical research and its application to deliver transformative healthcare benefits for the global populace.

This update is intended to provide an overview of the progress we have made in taking forward our ten-year Plan in the two years since its publication. More detailed information on our activities and achievements is available in our [Annual Review](#) and [Assessment Framework Reports](#).

### Implementing our Strategic Plan – highlights

- Supporting outstanding researchers all at stages of their careers through our portfolio of fellowship schemes and Investigator Awards.
- Expanding our funding for major research and capacity-building activities in India and sub-Saharan Africa.
- Developing major new initiatives to accelerate the application of research findings to improve health – including the Health Innovation Challenge Fund, in partnership with the UK Department of Health.
- Agreeing a new five-year strategy for the Wellcome Trust Sanger Institute, which will enable it to build on its ground-breaking work as one of the world's leading genomics research centres.
- Working with a diverse range of partners to achieve added benefit in maximising the value of our funding and to build new world-leading research institutes, such as the Francis Crick Institute, the Sainsbury–Wellcome Centre and Stevenage Bioscience Catalyst.
- Delivering a broad range of activities to inform, excite and engage the public in biomedical science and the issues it raises for society.
- Working with the UK government to enhance the environment for life sciences research in relation to key issues – including government funding for science, innovation in the NHS and the regulation of health research.

## Focus areas

### 1. Supporting outstanding researchers

Our funding philosophy centres on supporting outstanding researchers throughout their careers – both in the UK and in low- and middle-income countries. In pursuit of this goal, we also build and sustain key research resources, and develop the environments needed to enable the best researchers to address the most important research questions.

#### Over the last two years we have:

- launched [New Investigator Awards](#) and [Senior Investigator Awards](#) to provide flexible, long-term support to enable the most talented early-career and more established researchers to pursue their research visions
- developed our portfolio of fellowship and career development schemes to support researchers in the UK and in low- and middle-income countries at all stages of their careers, including launching the new [Sir Henry Dale Fellowships](#) in partnership with Royal Society
- agreed a new five-year strategy for the [Wellcome Trust Sanger Institute](#), focused on characterising the role of genetic variation in health and disease
- supported the development of other existing and future research centres and institutes, including:
  - providing core funding to support world-class research at our [Wellcome Trust Centres](#) in the UK and our five [Major Overseas Programmes](#)
  - progressing construction of the [Francis Crick Institute](#) in partnership with the Medical Research Council, Cancer Research UK, University College London, King's College London and Imperial College London
  - developing the [Sainsbury–Wellcome Centre](#) in partnership with the Gatsby Charitable Foundation as a major new neuroscience research institute
- provided major support for research capacity building activities in India and sub-Saharan Africa, including through the [Wellcome–DBT India Alliance](#) and the [African Institutions Initiative](#)
- progressed [policy and advocacy](#) activities in the UK, Europe and internationally on a range of issues – including immigration, animals in research and data sharing – to ensure the funding and regulatory environment enables biomedical science to flourish
- developed a new [Institutional Strategic Support Fund](#) to enhance the value generated from the totality of funding provided by the Trust and other funders to UK research institutions.

#### Looking ahead, we will:

- maintain our focus on supporting and developing talented researchers through Investigator Awards and fellowships
- continue to work with our communities to identify, develop and support [Strategic Awards](#) to further large-scale, strategically important opportunities in line with our five challenges
- maintain and develop our support for major research resources – including through new annual funding competitions for [biomedical resources](#) and [multi-user equipment](#)
- progress opportunities to develop our [research capacity building activities](#) overseas – maintaining our focus on India, sub-Saharan Africa and east Asia
- establish [eLife](#) – a new and transformative top-tier, open access life sciences journal – in partnership with the Howard Hughes Medical Institute and the Max Planck Society
- work with UK government departments and the NHS to ensure that life sciences research in the UK continues to flourish.

## 2. Accelerating the application of research

We are committed to maximising the uptake and application of research to improve health. We further this goal through our Technology Transfer funding, and through our support for clinical, population-based and public health research to advance our understanding of disease and to develop new healthcare interventions.

### Over the last two years we have:

- funded a broad range of projects to bridge the gap between discovery and application through our [Translation Awards](#) and [Strategic Translation Awards](#)
- worked with the UK Department of Health to deliver the [Health Innovation Challenge Fund](#), which supports the development of new healthcare innovations of relevance to the NHS
- provided major funding for early-stage drug discovery projects targeted at areas of unmet need through our [Seeding Drug Discovery initiative](#)
- supported outstanding clinical researchers in the UK and overseas, via our portfolio of [clinical fellowships](#) and training awards
- launched [Global Health Trials](#), a new £36 million funding initiative to support late-stage clinical trials in low- and middle-income countries in partnership with the UK Department for International Development and the Medical Research Council
- expanded significantly our technology transfer activities in India, through:
  - [the MSD–Wellcome Trust Hilleman Laboratories](#) – a joint initiative with Merck & Co. to develop a global vaccine research institute in India
  - [Affordable Healthcare Joint Venture](#) – a proposed partnership with the Indian Department of Biotechnology to support innovations with potential for significant health benefits in India
- progressed [Stevenage Bioscience Catalyst](#) in partnership with GlaxoSmithKline and government funders as a major UK campus to stimulate early-stage innovation in small biotechnology and life science companies.

### Looking ahead, we will:

- maintain our funding support for early-stage product development via our [Translation Awards](#) and [Seeding Drug Discovery](#) funding schemes
- develop new [Pathfinder Awards](#) to support product development research, in neglected or orphan areas, that will generate opportunities for follow-on Technology Transfer funding
- continue to support outstanding clinical and public health researchers in the UK and overseas through our Investigator Awards and [clinical fellowships](#) schemes
- work actively with the Department of Health and other partners to enhance capacity for innovation within the NHS, in the context of the government's health system reforms
- maximise the potential of electronic health records to enhance patient care and enable health research, including through a [joint call](#) with the UK Research Councils and other funders to support e-health informatics research centres
- investigate the potential to create a new investment vehicle, aligned with the Trust's broader investment activities, to support spin-out ventures from the Sanger Institute and other Trust-funded initiatives.

### 3. Exploring medicine in historical and cultural contexts

We are dedicated to embedding biomedical science within the broader cultural landscape, in a way that ensures that its value is recognised and that it maintains the public's trust and support. We support a diverse range of activities to develop understanding of the historical and cultural contexts of research and medicine, and to engage the public with biomedical science and its societal implications.

#### Over the last two years we have:

- developed [Wellcome Collection](#) as a premier public venue exploring the relationship between medicine, life and art: it now attracts over 450 000 visitors per year, and has delivered hugely popular exhibitions and events – including the *High Society* and *Dirt* exhibitions in 2010/11
- enhanced [science education](#) – supporting the training of science teachers via the National Science Learning Centre and Project Enthuse, building education resources, and supporting research to inform education policy
- supported outstanding research to explore the historical, ethical and cultural context of research through our [Medical History and Humanities](#) and [Ethics and Society](#) funding programmes
- funded a diverse range of [public engagement](#) activities – supporting innovative public dialogue, arts and broadcast awards and announcing the first Wellcome Trust public engagement fellows
- developed the [Wellcome Library](#) through a major programme of digitisation to enhance access to its collections
- delivered a diverse range of public activities and events to mark the [75th anniversary](#) of the Wellcome Trust.

#### Looking ahead, we will:

- continue to develop [Wellcome Collection](#) and extend its international reach – delivering major exhibitions and events, and a new programme of activities to engage young people
- take a leadership role in [science education](#) – continuing our support for teachers, conducting reviews on priority areas, and providing contemporary resources – with a developing focus on primary school science and informal learning
- develop a major programme of public engagement activities around the [2012 Olympics](#) in London – including delivery of educational resources on science and sport to all UK schools
- fund the first [Investigator Awards in medical humanities](#), and continue to support outstanding research and public engagement activities through our grant funding schemes
- implement a strategy to maximise the use of [broadcast](#) and gaming to engage the public with science – building capacity and developing links between researchers and media professionals
- take forward the second Wellcome Trust Monitor survey to expand the evidence base on the attitudes of adults and young people to biomedical research
- provide [training and support](#) for our community of Trust-funded researchers to engage the public and to disseminate their work
- strengthen our international public engagement activities to support Trust-funded researchers in engaging with communities and with policy makers in low- and middle-income countries.

## Challenges

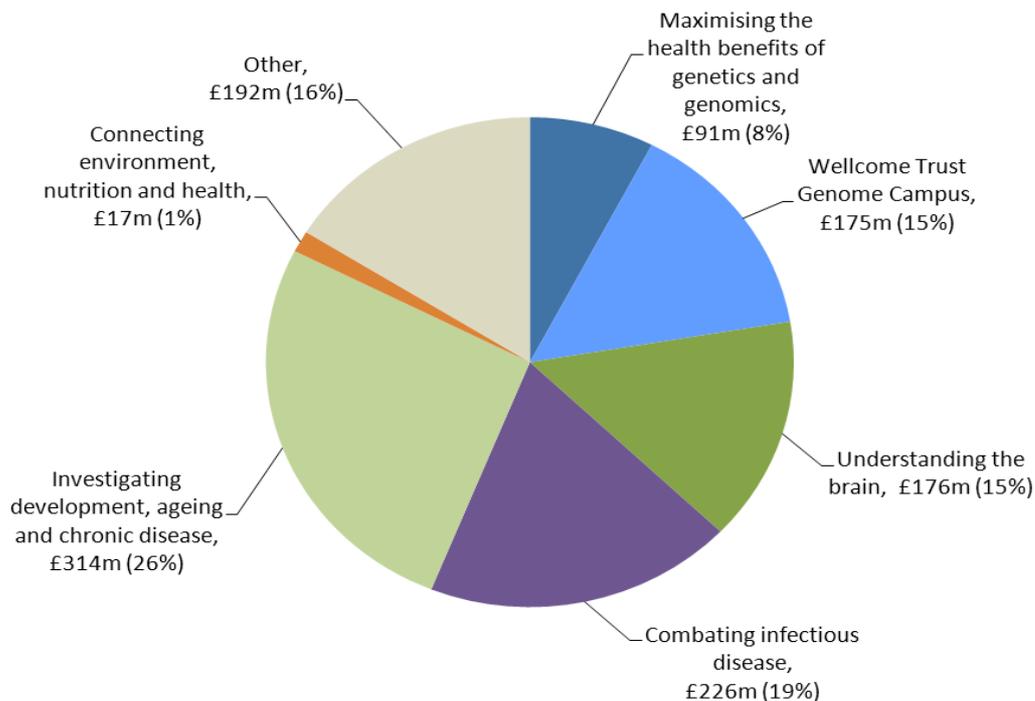
The Strategic Plan sets out the five major challenges that we are seeking to address:

1. maximising the health benefits of genetics and genomics
2. understanding the brain
3. combating infectious disease
4. investigating development, ageing and chronic disease
5. connecting environment, nutrition and health.

The diversity of our work enables us to take a broad and multidisciplinary view. We seek to adopt an integrated approach across our focus areas to address these complex challenges. The five challenge areas are at very different stages of development – in some, we have an extensive and well-established portfolio of activities. Others – particularly our work in the emerging area of environment, nutrition and health – are at a much earlier stage, and we are working with a range of partners to scope potential new opportunities.

The chart below gives an indicative picture of the balance of our recent funding across the challenges:

**Two-year Wellcome Trust grant and direct expenditure by primary challenge area (2009/10 and 2010/11)**



**Total two-year grant and direct expenditure: £1.2 billion**

The chart is based on the primary challenge to which a particular grant or activity was assigned. It provides only an approximate picture of the balance of activity – many funded activities will in reality span more than one of the challenge areas.

The Trust does not allocate a set proportion of its budget by challenge – spending allocation is determined primarily by the quality of applications that are received. The chart should in no way be considered as being indicative of future spending.

Funds awarded to the Wellcome Trust Genome Campus are primarily, but not exclusively, related to furthering our challenge on maximising the health benefits of genetics and genomics.

The 'other' category includes: grants for resources, facilities and activities that support a broad range of different research areas across the challenges; capacity building activities with no disciplinary focus; and medical history, education and public engagement activities which span the challenges.

## 1. Maximising the health benefits of genetics and genomics

The application of rapid advances in genetics and genomics will offer immense potential to enhance healthcare globally over the decade ahead. We are a leading funder of genetics and genomics research, and are committed to building on our considerable investment to ensure that these health benefits are realised.

Looking ahead, we will use the power of genomics technologies to develop a more complete understanding of the role of genetic variation in health and disease. We will develop opportunities to accelerate the translation and uptake of findings with clinical utility into healthcare practice. We will also work with others to address challenges in managing and interpreting complex genetic information – enabling researchers to manage the vast datasets being generated by genomics research, helping clinicians to identify and use information with clinical utility, and empowering the public to use their genetic information to make informed choices. We will hold a meeting to explore this topic with a range of stakeholders in summer 2012.

### Genetics and genomics: some highlights over the last two years

- Funding the [Wellcome Trust Sanger Institute](#), which played a key role in ground-breaking projects such as the International Cancer Genome Consortium, the 1000 Genomes Project and UK10K.
- Renewing core funding for the [Wellcome Trust Centre for Human Genetics](#) at Oxford and the [Diabetes and Inflammation Laboratory](#) at Cambridge as major centres of research excellence.
- Providing over £16 million to six major projects through the first themed call of the [Health Innovation Challenge Fund](#) on advancing genetic discoveries into clinical practice.
- Partnering with the US National Institutes of Health to launch [H3 Africa](#), a \$38m initiative to study how genetic factors underpin disease across African populations.
- Launching a £4m project to digitise the [Wellcome Library's](#) genetics collections, and providing £1m in funding to support genetics archives across the UK.
- Supporting a wide range of activities to engage the public on genetics research and its implications, including the Identity season.
- Publishing a major [Portfolio Review](#) in the area of human genetics, which described our significant contribution to this field over the last 20 years.

## 2. Understanding the brain

We are committed to pursuing a fully integrated approach to enhance our understanding of brain function and our ability to treat brain and mental health disorders. Our funding encompasses basic and clinical neuroscience and psychiatry research, and also draws on key inputs from the humanities, social sciences and arts.

Looking ahead, we will continue to support outstanding investigators working across the spectrum of neuroscience and mental health research. We are working with the research community to catalyse innovative approaches to the investigation of mental health issues, and to address the challenges in conducting imaging studies across large cohorts of individuals. We are undertaking work in partnership with the US National Institute of Mental Health to examine opportunities to stimulate research in the field of clinical neuroscience. We are also exploring opportunities for humanities and public engagement activities to help to shape neuroscience research.

### Understanding the brain – some highlights over the last two years

- Supporting the establishment of the [Sainsbury–Wellcome Centre](#) at University College London and the Oxford Centre for Neural Circuits and Behaviour in partnership with the Gatsby Charitable Foundation.
- Renewing our core support for the [Wellcome Trust Centre for Neuroimaging](#) at University College London as a major centre of research excellence.
- Providing long-term research support to world-leading neuroscience researchers, including new Principal Research Fellowship awards to Graeme Davis, Wolfram Schultz, Angus Silver, Michael Hausser, David Rubinsztein and Read Montague.
- Providing major [Strategic Awards](#) for the Behavioural and Clinical Neuroscience Institute, the Cambridge–UCL Mental Health and Neurosciences network, and a programme to support internet-based training in psychological treatment.
- Supporting a broad range of public engagement activities, including the Centre of Perception Research – a working neuroscience laboratory at the Science Museum.
- Conducting a [Portfolio Review](#) to examine the Trust's contribution to the field of functional brain imaging over the last 20 years.

### 3. Combating infectious disease

We support a broad portfolio of research to enhance understanding of the emergence, transmission and control of infectious diseases, and to explore the impact of historical, political and social contexts on these diseases.

Looking ahead, we will continue to support and nurture outstanding researchers, building on the greater strategic focus that Investigator Awards have brought to our infectious disease research portfolio. We will explore innovative approaches for the operation and management of pathogen sequence databases in partnership with other funders (including the US National Institutes of Health, the Gates Foundation and the Burroughs Wellcome Fund) – building on an exciting international meeting on this topic we hosted in November 2011. Following a Frontiers Meeting we held in September 2011, we will also explore opportunities to integrate infectious disease research on population cohorts with extensive pathogen genomics data on one hand, and host studies of immune repertoire sequencing on the other, in order to develop a multi-faceted picture of disease susceptibility and phenotype.

#### Combating infectious disease – some highlights over the last two years

- Supporting our [Major Overseas Programmes](#) (in Kenya, Malawi, South Africa, Thailand and Vietnam) and UK Centres for Clinical Tropical Medicine (at Oxford, Imperial, Liverpool and the London School of Hygiene and Tropical Medicine) as centres of excellence for research and capacity building on global infectious diseases.
- Progressing the establishment of the [Hilleman Laboratories](#) in partnership with Merck & Co. as a major new global vaccine research institute based in India.
- Providing Investigator Awards to support outstanding researchers working on a range of infectious disease projects – including dengue, hepatitis C, malaria, salmonella, and the influence of the microbiome on gut immunity.
- Supporting several major projects via the [Seeding Drug Discovery](#) initiative to develop new antibiotics and antimicrobials.
- Working with international funding partners, including the WHO and industry, to enhance research coordination and collaboration on severe acute respiratory infections, including influenza.
- Delivering the Dirt season of activities – which included a major exhibition at Wellcome Collection and a range of public events.
- Completing a Portfolio Review highlighting the Trust's significant contribution to the field of malaria research over the last 20 years.

#### 4. Investigating development, ageing and chronic disease

This challenge encompasses a broad spectrum of research to understand the cellular and physiological processes underlying normal development and ageing, and the mechanisms that underpin the onset of non-communicable diseases.

Looking ahead, we will continue to work with the research community to stimulate research applications in this challenge area, explore newly emerging areas of research and maximise synergies across our broad portfolio of activities. We will hold a Frontiers Meeting to examine the topic of healthy ageing, and we will also examine the topic of disease prevention as a potential future area of focus. We will take forward discussions to examine the potential to use human induced pluripotent stem cells for large-scale studies on how genomic variation affects cellular phenotype and disease mechanisms.

##### **Investigating development, ageing and chronic disease – some highlights over the last two years**

- Providing Investigator Awards to support the work of outstanding researchers, such as Fiona Powrie (a Senior Investigator examining how a breakdown in the relationship between the intestinal immune system and bacteria leads to inflammatory bowel disease) and Chris Thompson (a New Investigator studying the determination of cell fate, using the slime mould *Dictyostelium*).
- Supporting research leaders in the field, such as awarding Principal Research Fellowships to Randall Johnson for his work on hypoxia and hypoxic tissue damage and to Randolph Noelle for his research on the molecular and cellular basis for the impact of vitamin A on immunity.
- Funding translational research – including a [Health Innovation Challenge Fund](#) award to develop a system using gaming to monitor upper limb rehabilitation following stroke, and a major cancer drug development programme to develop inhibitors of the *BRAF* gene.
- Renewing our core support for the [Wellcome Trust–Cancer Research UK Gurdon Institute](#) in Cambridge and the [Wellcome Trust Centre for Cell Biology](#) in Edinburgh as world-class research centres.
- Supporting activities to engage the public on ageing and chronic disease – including an arts project that stimulated collaboration between scientists and artists to challenge negative perceptions of ageing and older people.

## 5. Connecting environment, nutrition and health

The complex interlinked issues of access to nutrition, food security and climate change pose major challenges for global health. We are committed to stimulating multidisciplinary research at this interface.

This challenge represents a largely new area for us, one in which we believe there is a pressing unmet need. Our portfolio here is currently at an early stage of development. Over the last year, we have been exploring new opportunities with our research communities, funding partners and other key stakeholders.

We will continue this dialogue over the year ahead – including through a major international workshop in March 2012 that will bring together experts to consider how to address the research and capacity challenges of environmental change and health – focusing on the key themes of water, food security and nutrition.

### Connecting environment, nutrition and health – some highlights over the last two years

- Awarding a [New Investigator Award](#) to Pedro Hallal to examine the levels, trends, determinants and consequences of physical activity.
- Supporting a Strategic Award to Roy Head to evaluate whether comprehensive mass media campaigns can change behaviour to an extent that will measurably reduce child mortality.
- Funding the Sustainable Programme Incorporating Nutrition and Games – an innovative grant to Betty Kirkwood at the London School of Hygiene and Tropical Medicine to study the delivery of effective interventions to maximise child development, growth and survival.
- Supporting significant public engagement activities, including 'You Are What You Ate', which uses history to engage people with issues that affect health in the 21st century – including obesity, alcohol consumption and nutritional disorders.
- Commissioning work in partnership with the Gates Foundation to examine the potential for a global access-to-nutrition index to promote best practice in the commercial sector in terms of enhancing nutrition.

## **Monitoring our progress**

The Strategic Plan sets out six key outcomes, with associated indicators of progress, that encapsulate what we will measure to determine our success in implementing our Strategic Plan.

We have established an Assessment Framework, through which we gather a range of quantitative and qualitative information to determine our progress on these indicators. For further information, please see the *Assessment Framework Report*. We have also developed Portfolio Reviews as a new macro-level approach to review the impact of our funding over several years at a subject or portfolio level. Reviews conducted to date have looked at human genetics, malaria and functional brain imaging. A further review on population and public health research will be completed in 2012.

Over the year ahead, we will also be rolling out a new, flexible web-based system to capture the outputs and achievements associated with our funding – easing the reporting process for our grantees and enhancing our ability to track the outcomes of our activities.

## **Maximising our resources**

We are dedicated to excellence in our investment activities and in maximising the efficiency and effectiveness of our operations.

Over the last two years, we have:

- continued to adopt innovative approaches in our investment activities to maintain the value of our diversified portfolio of assets in the face of turbulent global economic conditions
- maintained rigorous financial planning processes to minimise the effects of short-term variations in our investments, and to control our internal operational costs
- continued to strengthen our staff recruitment and development activities – including through the launch of new graduate training and internship programmes
- developed a new five-year information technology strategy and more robust information management systems
- established internal cross-organisational groups aligned to our five challenges to help foster appropriate linkages among the diverse range of activities we support.

## Wellcome Trust

We are a global charitable foundation dedicated to achieving extraordinary improvements in human and animal health. We support the brightest minds in biomedical research and the medical humanities. Our breadth of support includes public engagement, education and the application of research to improve health. We are independent of both political and commercial interests.

Wellcome Trust  
Gibbs Building  
215 Euston Road  
London NW1 2BE, UK  
T +44 (0)20 7611 8888  
F +44 (0)20 7611 8545  
E [contact@wellcome.ac.uk](mailto:contact@wellcome.ac.uk)  
[www.wellcome.ac.uk](http://www.wellcome.ac.uk)

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