

1992

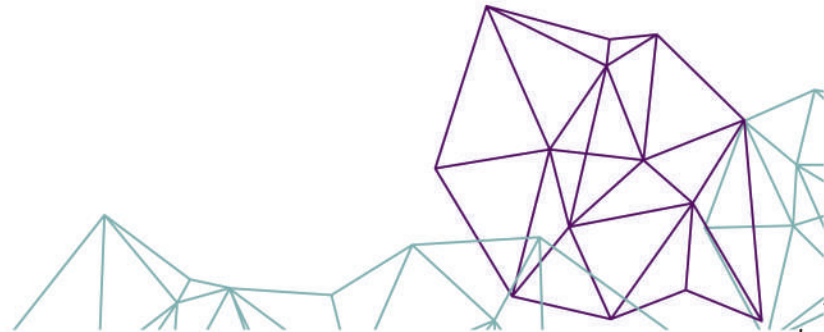
**30 years of**



**established 1992**

2007

2022







Dear TwinsUK members,

I am delighted to write to you on account of TwinsUK's 30th anniversary. When we founded TwinsUK back in 1992, we had no idea that it would become one of the most well-known and detailed twin registries in the world. It has now contributed to cutting-edge science across many health research areas, and we are recognised internationally.

On behalf of everyone at TwinsUK, I want to congratulate and thank you all. Your contributions over the years have enabled advancements in health research and the publication of over 1,000 scientific research papers. Whether through coming in for a visit, completing research questionnaires, or sending us biological samples, you have all made TwinsUK possible.

I would also like to thank each and every one of you on a personal level. I will forever be humbled by and grateful for your commitment to health research.

For 30 years, you have been at the forefront of science. Here's to another 30 years of discovery and innovation.

All the best,  
Tim

A handwritten signature in black ink, appearing to be the name 'Tim'.

Director, TwinsUK

# 1992

British Journal of Rheumatology 1992;31:763-766

SIBSHIP SIZE DOES NOT INCREASE THE RISK OF DEVELOPING RHEUMATOID ARTHRITIS

By T. D. SPECTOR\* AND A. J. SILMANT

This study was the precursor to all of the research we have done at TwinsUK. We studied whether individuals with rheumatoid arthritis came from larger families and whether the position relative to other siblings varied consistently.

In July 1992, TwinsUK was founded, beginning 30 years of world-leading research into ageing, genetics, and more. Originally, we were based in Barts Hospital, in Charterhouse Square.



total samples collected in our first year

8,161 blood samples



38 urine samples



200 twins on registry



**Twin fact:** In total, around 12,000 twins are born in the UK every year. Non-identical (or fraternal) twins are more common: about two-thirds of all twins are non-identical, and one-third are identical.



# 1993

Daily Mail



One in four women will have had at least one fracture by 65

## Brittle bone disease may be preventable

THE discovery of a 'brittle bones' gene by researchers last week could lead to a test to identify people destined to suffer fractures in later life.

Doctors hope those found to be at risk could then be helped build up their bone with vitamin D treatments, decades before they experience problems.

Such a test is much needed as experts believe the current epidemic of brittle bone disease — or osteoporosis — will affect increasing numbers as people live longer.

Women are particularly at risk after the menopause when they stop producing the female sex hormone oestrogen and start losing bone at the rate of two per cent a year.

**By Jenny Hope**

MEDICAL CORRESPONDENT

By the age of 65, one in four British women has had at least one fracture and the toll is doubled by the age of 80. One in four patients suffering a hip fracture dies within six months and half are unable to walk without help.

Latest research from Australia claims one gene may account for three-quarters of the total genetic effect on bone density — the thickness of bone which predicts who is at risk of bone thinning in old age.

The gene carries a receptor for vitamin D which affects the way the body incorporates calcium into bone. It acts like a thermostat regulating the amount of bone the body lays down.

Dr Ignace Fuchsman of Guy's Hospital, London, a leading osteoporosis specialist, said: 'This is exciting but preliminary data. It needs to be confirmed within a wider range of people, but it does

offer potential for optimising an individual's bone mass using vitamin D much earlier in life. Development of preventive treatment resulting from the discovery is years away, but new drugs being tested now could provide treatments for older women already at risk of fractures.

Volunteers are being sought for two new compounds about to undergo trials at Guy's Hospital. Women aged 70 and over are being asked to help test a drug which represents the latest generation of bisphosphonates — already successful in treating osteoporosis — in a bid to prevent hip fractures. The same drug will also be given to women aged 50 and over to find out whether it will prevent other kinds of fracture.

• Anyone wanting to take part in the research should telephone 071-855 5000, ext 532.

We studied bone mineral density in postmenopausal women with rheumatoid arthritis and the relative effects of disease activity, disability, and past and current use of anti-inflammatory drugs.



Visiting the American Rheumatology Conference to present the first research using TwinsUK data.



This year, we moved from our original home in Barts Hospital, to St Thomas' Hospital (where we are still based to this day). Originally, we were based in the Department of Rheumatology.

# 1994

In this study, we looked at almost 1,000 women in order to examine the hypothesis that osteoarthritis and osteoporosis are inversely related.



Did you know, the average twin pregnancy lasts only 37 weeks, while the average singleton pregnancy lasts 40 weeks.

Daily Mail, Tuesday, April 19, 1994 PAGE 12

### ANOTHER BRUSH WITH FAME FOR SISTERS FROM THE FIFTIES

Which Twin has the Toni--  
AND WHICH HAS THE EXPENSIVE FERM?

The way they wore: The twins in a Toni ad  
Permanently stylish: Elizabeth, left, and Patricia launching their 1994 campaign

## Toni Twins head health campaign

By RENE ROSE, Medical Correspondent

THEY were stars of advertising in the days before TV commercialism. Patricia and Elizabeth try to make their way back to the top of the fashion world and launch a health campaign.

It was their hair that made them famous. The Toni Twins, Elizabeth and Patricia, were the first to wear the Toni hair style, a short, wavy, and voluminous style that was popular in the 1950s. The twins have since become models and actresses. Elizabeth has appeared in several films, and Patricia has appeared in several television shows. The twins are now launching a health campaign, and are promoting a new hair product, Toni hair cream.

Now, they are back on the scene. The twins have launched a health campaign, and are promoting a new hair product, Toni hair cream. The twins are now promoting a new hair product, Toni hair cream. The twins are now promoting a new hair product, Toni hair cream.

It's so easy to build up a Sun Alliance Personal Pension. ...with the stroke of a pen. Simply complete the coupon and send it to us today. Alternatively phone FREE (weekdays 9am to 5pm) on: 0800 925573 Ext. No. 409





# 1995



Our study found an association between a genetic marker and rate of bone loss in older people which suggests that the effect of calcium intake on maintenance of bone mass could relate to Vitamin D receptor genes.



**Twin fact:** Did you know about the first twin study paper published? Francis Galton, a half-cousin of Charles Darwin, was one of the first people to recognise the value of twins for studying heritability of traits. In an 1875 paper titled, "The History of Twins", Galton used twins to estimate the relative effects of nature versus nurture (a term that Galton himself coined).



Statistically, the twins on our registry are most likely to have blue eyes.

# 1996



This study suggests that a combination of different genetic factors acting on the structure, dimensions and density of bone may explain the importance of family history as a risk factor for hip fracture.



This year, we ran a campaign with the Daily Mail to help us recruit new twins - we held a telethon and managed to onboard over 5,000 new twins!

Hundreds of twins came to celebrate at our first Twin Party.





# 1997

## Twins prove that fat or thin, it's all in the genes

■ This year we will spend £1 billion on diets, yet only four per cent of us will keep any weight off. Why do some of us find it so hard to stay slim, while friends seem able to eat all day and still retain their slender hips? Even if we manage to shed half a stone for summer, why are some of us destined to be fat at 40?

JODY BRETTKELLY reports

FOR SOME time doctors have suspected that diet is not the main reason for weight gain and statistics on calorie counting have confirmed this. Though slimming clubs encourage us to eat down as when on average we have much slimmer.

After the Second World War a person ate an average of 2,500 calories, now the average is 3,500. Yet, in 1990, six per cent of British men and eight per cent of women were obese — and by 1995 the figures had doubled. An ongoing search for the "fat gene" by the Twin Research Unit at St Thomas' Hospital has found that body fat is 40 per cent determined by genes and only 40 per cent by diet and exercise. Which is why some people seem able to eat as much and do the same amount of exercise as their friends but stay slimmer.

In Tim Spector, head of the unit, said they came to this conclusion after comparing 1,200 pairs of twins with a body composition scan. The people, diet, born large.



Central adiposity (the build-up of fat in the abdominal area) is a strong predictor of heart disease in women. We studied postmenopausal twins to explore the strength and the relationship between genetic influences on body fat and its distribution in a group where heart disease is the major cause of mortality.

total samples collected by this year

24,483 blood samples



7,621 urine samples



7,534 twins on registry





# 1998



Twin Party for Vitamin D

Tobacco smoking and oestrogen replacement are associated with body fat and its distribution in identical twins.



Did you know the term “twin” derives from the ancient German word “twine” meaning “two together”?



## Which twin looks older?

**W**HAT really makes your skin age? Carol Deller and Mandy Cornish are identical twins, attractive 57-year-olds. In their childhood, only their parents could tell them apart. Now the difference is visible even to the casual observer. Researchers at the Twin Research Unit at St Thomas' Hospital in London have found that Mandy's skin has aged considerably more than her sister's. It is 40 per cent thinner all over her body, with visible deeper wrinkles and loose pores on the face.

Many factors were of the factors that might be involved. "I am very healthy and hardly ever wear make-up or tans," says Carol. "I am a vegetarian, but I am at that sort of level," Carol, married with two step-children, said.

and her sister's three sons might have something to do with it. "The boys were out there and I was up smoking. My friends were all smokers, so was my boyfriend. They persuaded me to have a go and I never stopped."

Carol never smoked. "My friends were a bit older and more sophisticated than Mandy's, so there wasn't the same kind of peer pressure."

So is it something that has damaged Mandy's skin? Studies have shown that smoking can lead to premature skin wrinkles around the eyes.

These could reach their cosmetic peak by the time you are 40.

Carol, married with two step-children, said.

They were born identical, but hospital tests have shown that one sister is ageing faster than the other. **Lydia Slater reports**

...of a mixture on small blood vessels in the skin. In addition, cholesterol is deposited and pressure on the body's metabolism and increase production of damaging waste products known as free radicals. With time, these speed up the ageing of cells. In the test results, the twins are seen that the difference has them remains hard to spot.

"I was very taken aback when the doctors told me about the difference between our skins," Mandy admits, "especially as I was never a heavy smoker."

"In my heyday, I smoked around 10 a day, but for years I've never been more than three or four."

Carol was so surprised as her sister by the unexpected results of the skin tests, which showed that her own skin, was 40 per cent thinner, compared Mandy's 57-year-old.

"I have been in quite a few in the hospital and gone out in the sun much more than Mandy," she says. "I was expecting my skin to be worse than hers." Dr Carol researchers measured the skin's age, which isn't supposed much less."

Nevertheless, clearly his remains as young as ever. In the test results, the twins are seen that the difference has them remains hard to spot.

©The Twin Research Unit, St Thomas' Hospital in London is to keep from adult twins, ages 50-60, to see just how a study. The test can be done on 100.

©Carol and Mandy's story is tonight on *Newsday*, Page 2, 1.30.

**Twin fact:** Did you know the number of twin births has increased since 1980? The global rate of twin births has risen by a third since the 1980s. Christiaan Monden at the University of Oxford and his colleagues generated the figures by gathering existing data from 165 countries from 1980 to 2015.

# 1999

**BBC NEWS**

You are in: **Health**  
Thursday, 11 February, 1999, 14:48 GMT

**Genetic link to back pain**

**WATCH/LISTEN ON THIS STORY**

- Audio**  
Dr Peter Skew: "Exor can help prevent back pain"
- Video**  
BBC Science Correspondent Pallab Ghosh: "Relieving back pain is now big business"
- Video**  
BBC Science Correspondent Pallab Ghosh: "It's thought that about half the population are affected by back pains"

**Internet links:**

- ▶ Twin research unit
- ▶ Back pain
- ▶ Medical Research Council

The BBC is not responsible for the content of external internet sites

**COMMONWEALTH GAMES**

**BBC SPORT**

**BBC Weather**

**SERVICES**  
Daily E-mail

Back pain is the most common cause of days off work

Faulty genes could be the cause of up to 60% of a major form of back pain, according to new research.

A study of 400 twins has found that identical twins with back problems often have similar symptoms and worn-out discs in exactly the same position of the spine.



We found that identical twins with back problems often have similar symptoms and worn-out discs in exactly the same position of the spine. 400 twins had an MRI scan as part of this research, which found that up to 60% of the risk of developing worn-out discs could be due to faulty genes.



Did you know we have had a number of staff members over the years who have also been TwinsUK members? They have a unique insight into both being a twin and working in the field of twin research.



# 2000

We discovered that genetic factors greatly influence how many freckles you develop with sun exposure and age, an important finding for melanoma skin cancer research.



> J Natl Cancer Inst. 2000 Mar 15;92(6):457-63. doi: 10.1093/jnci/92.6.457.  
**Genetics of risk factors for melanoma: an adult twin study of nevi and freckles**

The objective of this study was to estimate how much of an individual's appreciation of humour is influenced by genetic factors, the shared environment or the individual's unique environment.



Did you know William Shakespeare was a father of twins – Hamnet and Judith.

**Twin fact:** Did you know that about 15% of twins are left-handed, as opposed to 10% in the general public?

# 2001

*We found that the results of twin studies looking at disease and lifestyle factors can be applied to singletons, making TwinsUK health research relevant for the wider population.*

Comparative Study > Twin Res. 2001 Dec;4(6):464-77. doi: 10.1375/1369052012803.

**Are twins and singletons comparable? A study of disease-related and lifestyle characteristics in adult women**



*A landmark piece of research from this year investigated the genetic and environmental contributions to differences in musical pitch perception abilities in humans.*



*2001 marked the first ever World Twin Day*



This year we surpassed 10,000 twins on our registry!



# 2002



This study confirms that acne is a highly heritable disease with significant genetic effects.

## On the spot: Twin study reveals acne is all in the genes



Identical twins Karen and Ann Groom (right) and Ann Blanchard and Helen Schofield (left) who took part in the research study

A MAJOR new study carried out by doctors in the twin research unit at St Thomas' has revealed that genes, and not a diet of fatty foods and chocolate, are the main causes of the common skin condition acne.

The research - which received press coverage in *New Scientist*, *The Times* and *The Mirror* - is based on more than 1,500 pairs of identical and non-identical twins seen at St Thomas' over the last six years.

It shows that 80% of the susceptibility to acne is explained by genes while other factors including diet, smoking, obesity and the contraceptive

pill have no significant effect. Lead researcher Dr Veronique Bataille said: "As doctors we always suspected that acne could run in some families but we were still surprised to find such striking similarity in acne between identical twins."

"It is important for acne sufferers to know that their lifestyle and diet have little effect on their skin problem."

This is just the first step in understanding the role of DNA to help design better drugs to treat acne. As part of the study, researchers collected blood from the twins to detect the key genes in their DNA that trigger the condition.



total samples collected by this year

84,457 blood samples



22,193 urine samples



10,251 twins on registry





# 2003



...an itu, kata Sri, diambil  
...ntuk memastikan sosok yang  
...pilih bisa bekerja secara profesio-  
...sional dan tidak ada intervensi  
...lokal.  
...wali ke  
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Vol. 42, No. 2, 2003  
ISSN 0735-1097/03/\$30.00  
doi:10.1016/S0735-1097(03)00631-4


## Physical Activity Reduces Genetic Susceptibility to Increased Central Systolic Pressure Augmentation: A Study of Female Twins



Our researchers examined the links between arterial stiffness and metabolic, obesity, and lifestyle factors, independent of genetic influences. They found that smoking and belly fat are significant determinants of arterial stiffness in female twins, independent of lifestyle and genetics.



**Twin fact:** Did you know that one way to tell same sex twins apart at birth is by their belly buttons?



Did you know twin studies have shown that eyesight and long-term eye function are highly genetic?

# 2004



Twin Day 2004,  
St Thomas' Hospital

> *Arthritis Rheum.* 2004 Apr 15;51(2):160-7. doi: 10.1002/art.20236.

## Structural, psychological, and genetic influences on low back and neck pain: a study of adult female twins

Alexander J MacGregor<sup>1</sup>, Toby Andrew, Philip N Sambrook, Tim D Spector

Our research found that genetic factors have an important influence on back and neck pain.

We identified 4 regions in our DNA linked with blood pressure with the help of 1,109 pairs of our non-identical (dizygotic) twins.

### Hypertension

Volume 44, Issue 6, 1 December 2004; Pages 872-877  
<https://doi.org/10.1161/01.HYP.0000148994.89903.1a>

### SCIENTIFIC CONTRIBUTIONS

## Genome-Wide Scan for Blood Pressure Suggests Linkage to Chromosome 11, and Replication of Loci on 16, 17, and 22

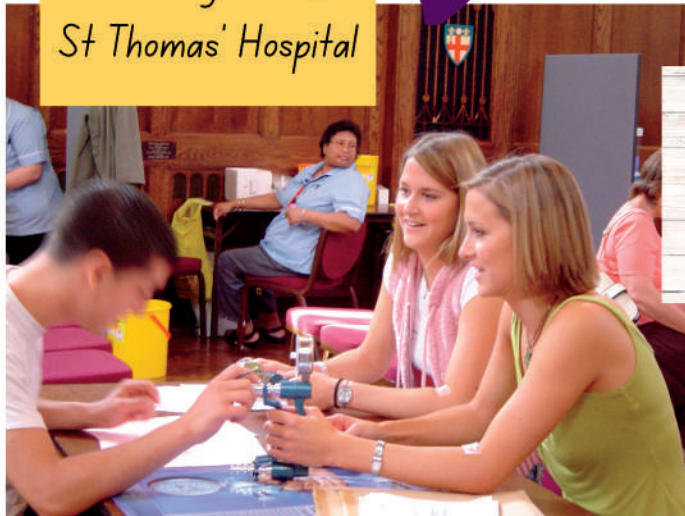
Marlies de Lange, Tim D. Spector, and Toby Andrew

Did you know, grip strength is an important marker of physical frailty and can predict future morbidity and mortality. It is a very useful measure to identify genetic factors important to the ageing process.



# 2005

Twin Day 2005,  
St Thomas' Hospital



The DNA in our cells have protective 'caps' called telomeres which get shorter as we age. In 2005, we showed that obesity and smoking are linked with shorter telomeres, highlighting their ageing effect.



Lancet. 2005 Aug 20;366(9486):662-4. doi: 10.1016/S0140-6736(05)66630-5.  
Obesity, cigarette smoking, and telomere length in women



**Twin fact:** Did you know, the Yoruba ethnic group in Nigeria has one of the highest rates of non-identical twin births in the world. A 1970s study found that about 50 sets of twins were born out of every 1,000 births in the country's southwest. In Yoruba culture, twins are traditionally given specific names. They are called either Taiwo or Kehinde, depending on whether they were born first or second.

Did you know, research has shown that food preferences are genetically determined? This may influence our health and well-being. The food we eat also influences the makeup of our gut flora, which in turn influences our health and how we age.

# 2006

We don't work alone! In 2006, we teamed up with twin cohorts from six other countries to study the genetic influence on exercise behaviour. The team analysed data from a whopping 37,051 twin pairs and found that genetic variation is important in individuals' exercise behaviour.

Celebrating World  
Twin Day 2006 with a  
Twin Party

> PLoS One. 2006 Dec 20;1(1):e22. doi: 10.1371/journal.pone.0000022.

## Genetic influences on exercise participation in 37,051 twin pairs from seven countries



Did you know, dogs can tell the difference between identical twins on the basis of their scent?

## Now that's what we call a twin set

By PAUL HARRIS, Daily Mail  
Last updated at 13:55 08 August 2006

[Comments \(0\)](#) < [Share](#)

This was one party where no one had to order a double.

Each set of guests wore the same clothes and spoke with identical accents.

They lined up in matching pairs outside the summit marquee and spent the day side by side. When one started to speak, the other usually finished the sentence. The only way you could tell most of them apart was by checking the sticky labels on their chests.

[• Gallery: See pictures from the gathering here](#)

For here, under one roof, was the largest gathering of twins the world has known. And when 700 of them came together in London yesterday, they had more than each other in common. Every set of siblings - identical and non-identical - had been taking part in genetic research to determine which traits and medical conditions are inherited and which are the result of our upbringing.

That study is enabling experts to catalogue a series of findings ranging from the amusingly trivial (twins drink an average 24 cups of tea a week and like Marmite and curry); to the seriously useful (that some diseases and afflictions, including acne and back pain, are inherited; that there is a link between diabetes and how quickly your blood clots; and that migraine, high blood pressure and coronary artery disease seem to involve the same gene).



Together, 700 siblings who changed the face of science





# 2007



Taking a trip to see our oldest twins in the registry - they celebrated their 100th birthday in 2007!

Daily Mail, Wednesday, July 11, 2007

## Could moles be the key to looking young?

DESPITE polite attempts to call them beauty spots, most moles are seen as unsightly blemishes.

By Fiona MacRae  
Science Reporter



Case in point: Cindy Crawford, looking youthful at 41

But anyone covered in them should apparently be mooting their beauty - blemish by blemish.

Scientists claim that those with lots of moles are twice younger biologically than those with near-free skin.

They may retain their youthful looks for longer and could be at lower risk of a host of age-related diseases such as heart disease or osteoporosis.

The findings might explain why supermodel Cindy Crawford, known for a mole above her lips, looks far younger than her 41 years. And they go some way to balancing out the link between moles and an increased risk of skin cancer.

Lead researcher Dr Vivianique Bataille, a consultant dermatologist, said: "Dermatologists have always said that sunburn doesn't give us anything for no reason. If the only reason for moles was to increase the risk of melanoma, it wouldn't be very clever."

Her team, from King's College London, made the link between moles and aging after studying the DNA of more than 500 sets of

female twins. In particular, they focused on telomeres, the bundles of DNA that cap the ends of chromosomes.

Thoughts of an biological clock, telomeres get shorter as our cells divide over time. Eventually, they become so short that the cells die. Previous studies have found that those with long telomeres tend to be biologically younger than those of the same age but with shorter telomeres.

This study, published in the journal *Cancer Epidemiology Biomarkers & Prevention*, found that those with more than 100 moles tended to have longer telomeres than those with fewer than 25. The difference in length equated to six or seven years of aging.

It is thought that having long telomeres allows the patented cells that form moles to divide for longer, increasing the number of moles on the body.

Dr Bataille added that even though a person is ten times more likely to develop skin cancer if they have more than 100 moles, the overall risk of the disease is still very low.

[/www.dailymail.co.uk](http://www.dailymail.co.uk)



In this study, we found that the size and number of moles is associated with telomere (which protect the ends of chromosomes) length and represent potential markers of a process by which cells age and permanently stop dividing.





# 2008

*The*  
**SUNDAY POST** A thoroughly decent read

News

## Twins could unravel disease mysteries

By Janet Boyle

**A PAIR** of Scots twins are helping doctors unlock the mystery of many of our major diseases.

Valerie Bowie and Janis Gardiner have been recruited by a leading international professor who's heading a study into why some diseases are inherited and some are genetic.



care at Hairmyres Hospital in East Kilbride, and  
near their homes in Glasgow's  
Glasgow street.



An episode of Spooks  
was filmed right outside  
the hospital

This TwinsUK study demonstrated that the decline of bone mineral density over 15 years is linear with age for the hip, but a curve for the lower spine. The study confirmed the protective role of hormone replacement therapy (HRT), increased weight and lean mass in long-term bone loss.



Did you know, sensory perception tests have led to the discovery of genes and pathways that are involved in pain. Twins with very different pain thresholds have revealed that important epigenetic factors play a role in pain perception.

Your regular visits to TwinsUK over the years allowed us to collect samples, measurements and data that made unique analyses like this possible.

# 2009



The BBC documentary 'The Secret Life of Twins' came out in 2009.



The Twin Summer Party 2009



Did you know, the scientific study of twins is known as "gemellology"?



# 2010



Myopia (short-sightedness) is the most common eye disorder in the world and is becoming more common. Our study identified a specific location on a gene (locus at 15q25) that can make an individual more susceptible to being short-sighted.



Page 6

By Fiona Maclean  
Science Reporter

## Found, the gene that causes short-sight

Now experts say condition could be halted by eye drops

Daily Mail, Monday, September 13, 2010



Eye test: Children may not have to have glasses

### LEGACY OF POOR VISION

Genes are largely to blame for short-sightedness. If one of your parents is short-sighted, there is a one in three chance you will be. If both your parents are short-sighted, there is a one in two chance you will be too.

Environmental factors such as close work and lack of sunlight also play a role, explaining why the condition is becoming more common in urban and computerised societies.

The main symptom of myopia is distant objects appearing blurred, while near objects are seen clearly. Other symptoms can include headaches and tired eyes.

In those who are short-sighted, light rays are focused in front of the retina's receptor cells (the inside of the back of the eye), rather than right on it. This is because the eye is over-enlarged and too long from front to back, or the cornea (the front of the eye) is too curved.

Although the eye drops would not help adults who are already short-sighted, they could be a huge benefit to their children.

However, today's youngsters can take some simple steps to try to slow down their eye

more than one in three Britons and is becoming more common as we spend more time indoors and in front of computer screens.

Caused by overgrowth of the eyeball, it usually starts developing in childhood. In some cases vision may rapidly deteriorate. There is no way of halting its progress and, in severe cases, it leads to blindness.

The latest research, by an international team led by experts at King's College London and led by the programme Genetic Vision Foundation, offers hope for millions.

To find the gene, the team led by Dr David Williams compared the DNA of more than 4,000 British twins. "We

offers of nature and nurture.

They then compared their results by studying the genomes of another 13,000 British, Dutch and Australian individuals.

None of our east-of-Britain have the focus gene and those who have two copies of it are about twice as likely to be short-sighted as those who are not.

Dr Chris Hammond, lead of BCL, said: "Myopia, or short-sightedness, is the most common eye problem, affecting over a third of adults in the UK."

They also found that many twins that the most important top factor for being short-sighted is having parents who are short-sighted and for the first time we are identifying genes that may be involved in protecting us from short-sightedness."

The gene, known as **SLC6A3P1**, is thought to play a key role in the development of the eye and the passing of visual signals to the brain for processing. When it is over-active, it causes the eye to grow, making distant objects seem blurry or hazy.

Dr Chris Hammond, lead of BCL, said: "Myopia, or short-sightedness, is the most common eye problem, affecting over a third of adults in the UK."

Final extension: 31 October

move qu

a home or look

problem has of




This year, we started collecting and analysing stool samples from twins, so that we could look at the gut microbiome.

# 2011



Some of our twins doing a fundraising walk for the CDRF.



Filming for the BBC

Our genetics research came into its own around this time, with our twin data leading to the publication of over 300 scientific papers identifying specific genes linked with health and disease. A later study in *Nature* found that between 2008-2018, TwinsUK data was the 7th most commonly used worldwide in the field of genome-wide association studies (GWAS), a key technique in genetics research.



This year, young identical twins discordant for breast cancer set up their own breast cancer awareness charity called Coppafeel. They were speakers at our TEDx King's College London event in 2013.



# 2012



TwinsUK moves into our new offices in St Thomas' Hospital.

Are identical twins in fact identical? We began our research into epigenetics, looking at how lifestyle and environmental factors can switch genes on and off without changing the DNA sequence.



Tim's book, *Identically Different*, is published.

Review > Trends Genet. 2011 Mar;27(3):116-25. doi: 10.1016/j.tig.2010.12.006. Epub 2011 Jan 21.

**A twin approach to unraveling epigenetics**

Jordana T Bell<sup>1</sup>, Tim D Spector

The Truth About Fat, a BBC documentary featuring our research, is released.

total samples collected by this year

176,921 blood samples



1,279 faecal samples



47,617 urine samples



13,172 twins on registry





# 2013

This year we also hosted the first TEDx KCL talk. We had 15 presenters, including Paralympian Mark Colbourne MBE.



Celebrating twenty years of TwinsUK (or should we say twin-ty one!)



**Twin fact:** In the UK, twins happen in about 1 in every 65 pregnancies (1.5%). This is a significant increase from 1984, when 1% of every birth was a multiple birth.

Did you know that around 80% of all twin births occur in Asia and Africa?

# 2014



> [Nat Genet.](#) 2014 May;46(5):492-7. doi: 10.1038/ng.2939. Epub 2014 Mar 30.

## Low copy number of the salivary amylase gene predisposes to obesity

Another study using our twin data that discovered a genetic component to obesity in the way carbohydrates are broken down.



This year, we started collecting and analysing saliva samples from twins.



The 1000 Power List launch at the Frances Crick Institute, attended by Tim and several of our twins!



# 2015

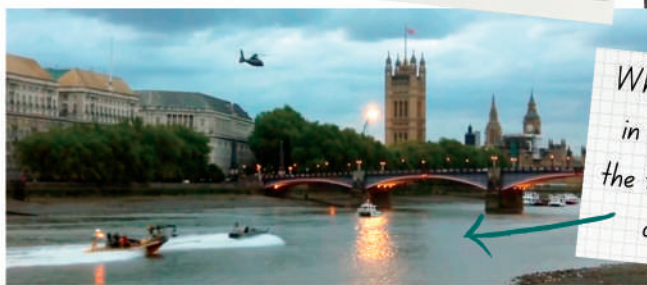


Tim's second book,  
The Diet Myth, is  
released.

Our oldest twins on the registry  
came in for a visit!



We unveiled our new  
van for home visits and  
recruitment.



When filming the speedboat chase  
in the James Bond film Spectre,  
the film crew climbed onto the roof  
of TwinsUK to get footage.

It's tricky to untangle how much genetics or the environment affect sense of humour.

"A man walks into a bar with a roll of tarmac under his arm and says: Pint please, and one for the road"

Did you find this joke funny?

# 2016



The Fit Executive Food & Drink

+ Add to myFT

## Are you prone to obesity? The clues are in your gut bacteria

A study delves into intestinal microbes to find why one person is fat and another lean



This study explored the links between stool and excess fat in the abdomen.



This year, 3% of all babies born in the UK were twins!

**Twin fact:** Did you know NASA conducted its own twin study from March 2015 to March 2016? Its results have helped make great strides in human space travel.



# 2017



Our clinic team demonstrating our research to passersby in the hospital during an open day.



We unveiled our new logo!



total samples collected by this year

237,334 blood samples



11,611 faecal samples



57,834 urine samples



7,869 saliva samples



14,519 twins on registry



# 2018



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Lifestyle > Health & Families > Features

We investigated the links between the gut microbiome, common diseases and prescription medications in a group of individuals taken from the general population who share common characteristics, such as age, sex, or health conditions.



Did you know, puzzles can help show how well we process and interpret visual information about where objects are in space. This is important information for ageing and cognitive well-being.

## What the microbes in your gut can tell you about your general health

Some microbes increase across a range of diseases, so detection of them could give an early heads up that something's not right

Claire Steves • Monday 16 July 2018 10:50 • [Comments](#)





# 2019

Health

## Why red wine could be good for your gut - in moderation

© 28 August 2019 · Comments



Research from our twin data suggested that the polyphenols found in red wine might be beneficial for the gut microbiome.



We carried out our personalised nutrition study, PREDICT, to understand how individuals uniquely respond to different foods.



This year, we collected the largest number of blood samples - a massive 34,763 samples in this year alone!

# 2020

## NEWS

Home Coronavirus US Election UK World Business Politics Tech Science

Health

### Coronavirus symptoms: UK adds loss of smell and taste to list

By Michelle Roberts  
Health editor, BBC News online

18 May 2020



Coronavirus pandemic



Data on Covid symptoms logged by our twins meant that loss of smell and taste was added as a key predictor of Covid.



The dedicated TwinsUK clinic team travelled all over the South East doing twin home visits to collect vital Covid data.



The ZOE app goes global! It helps collect the Covid data of over 4 million people daily.



Our admin team processed thousands of questionnaires and postal samples for more Covid research.



Did you know, twins living in Rochester turned 100 during lockdown? They're thought to be the oldest living twins in Britain.



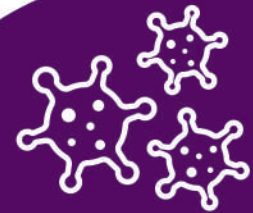
# 2021

We continued our Covid research - the lab were kept very busy processing thousands of your samples.



We moved into our new clinic space

Tim was awarded an OBE for his contribution to health services and Covid research.



We visited 512 twins at home to collect pandemic samples and nearly 5,000 of you sent us blood in the post for antibody testing.



*In 2022, we were able to start clinic visits again.*






CORONAVIRUS  
**Twins help solve long Covid mystery**  
Sisters have agreed to medical study to assess effects of the pandemic, report Tom Whipple and Arthi Nachiappan



Penny Rhodie Collins, left, is taking part in a long-term study with her twin sister Sarah. ©BBC/PA

*TwinsUK receives a landmark three-year grant to help look into the mysteries of long covid and how to improve diagnosis and treatment of it.*

**total samples collected by this year**

- 332,287** blood samples 
- 24,085** faecal samples 
- 63,534** urine samples 
- 15,607** saliva samples 
- 15,689** twins on registry 

In 30 years, the TwinsUK registry has collected almost **half a million** samples in total. All of this DNA and information that you have provided us with has allowed us to make world-leading discoveries in the field of ageing, genetics and the microbiome.



# ...and beyond

What does the future hold for twin research and TwinsUK members? We spoke to some of our researchers to see what they think:



Prof. Tim Spector

We will continue to work alongside industry in order to develop technologies and carry out research that will benefit as many people as possible, like the Covid Symptom App.



Dr. Kerrin Small

The next thing we are focusing on in our research is looking at how genes express themselves across different tissues, times and environments.



Prof. Claire Steves

Our next big research focus is looking at sustainable health and the ways in which we can stay healthy for longer.

# What do you like about being part of TwinsUK?

It's a great feeling to know that we are contributing to important health research that will improve knowledge of complex diseases and how to treat them, as well as getting a full health MOT!

We were delighted to sign up for the TwinsUK Biobank, as we were more than happy to help with the clinical studies. We both thoroughly enjoyed the experience and would not hesitate to do it again. It made a nice change for us to get the chance to do something together.

My twin and I participated in the Predict Food Study. We really enjoyed our trip to London to visit St Thomas's Hospital. We had a great time together in London but also learnt a lot from the research. The study was explained well on the day and all the staff/researchers were friendly and made us both feel at ease throughout the day. After the Study Day the information gained from the research for me, and my sister, was very useful.

Myself and my twin have loved being part of the TwinsUK family. Although we both have very busy lives it gave us some twin together time which was priceless.





The staff of TwinsUK would like to thank each and every one of you for your contribution to the work we do - without you, none of us would have such interesting jobs!



**wellcome**trust



**NIHR** | National Institute  
for Health Research



Thank you very much to all of our major research funders and sponsors, without whom none of the work we do would be possible.

An extra thank you to the CDRF, who generously gave us an engagement grant which allowed us to put together all of our 30th anniversary celebrations, including this booklet.



Dear TwinsUK members,

I hope you've enjoyed this 30-year journey and seeing all we have achieved together.

It has been such a privilege to work with you and we look forward to seeing what the next 30 years of research will bring. None of this would have been possible without your amazing contributions and your dedication to embrace the innovations science can offer now and in the future.

Since the start, TwinsUK members have been some of the earliest adopters of new technologies, whether that's taking part in new types of studies or samples collections, the move to completing questionnaires online, or most recently, embracing our data linkage programme. Your determination and enthusiasm to be a part of that change and scientific advancement is something that will always stay with me.

Do keep in touch with us through our website and social media channels, and if you know any twins, please invite them to join our registry - it's volunteers like you that make TwinsUK possible.

Best wishes,

Debbie



Executive Director, TwinsUK



Are you on social media? Give us a follow!



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[www.twinsuk.ac.uk](http://www.twinsuk.ac.uk)