



**INTRODUCING PADDINGTON LIFE SCIENCES**

# **CONNECTING COMMUNITIES TO A FUTURE OF BETTER HEALTH**

**Paddington Life Sciences improves health and reduces inequalities by connecting communities, researchers and industry, centered around St Mary's Hospital, to bring health innovation to life.**

**PADDINGTON  
LIFE SCIENCES**

**NHS**  
Imperial College Healthcare  
NHS Trust



# FOREWORD



The value of life sciences came into sharp focus during the Covid-19 pandemic.

Our hospitals, including St Mary's in Paddington, played a key role in the response. We cared for thousands of patients and, with Imperial College London, rapidly increased our understanding

of the infection, including running the influential REACT study to track infection in the population and the UK arm of the REMAP-CAP clinical trials that identified several new treatments.

Research and innovation are fundamental to the clinical excellence our hospitals are renowned for, from the Nobel Prize-winning discoveries of penicillin and the chemical structure of antibodies and the invention of the electrocardiogram, to pioneering robotic surgery, HIV care and the clinical use of virtual reality technology.

We are now entering a new era of discovery, at an even more ambitious scale, by maximising the potential of our existing work areas and joining them up with new opportunities. With Imperial College London, we run the largest National Institute for Health and Care Research (NIHR)

biomedical research centre, undertaking hundreds of clinical trials and analysing data from well over a million patient contacts each year.

Through the pandemic, many more patients and staff have been encouraged to get involved in research and we are confident this trend will grow as we continue to deepen our relationships with local communities and organisations. We are working together to improve not just healthcare but also health and wellbeing, creating synergies that will boost local education, skills development and employment opportunities.

*Paddington Life Sciences will change the lives of people across the world – as well those just across the street.*

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The regeneration of Paddington is drawing more and more life sciences and technology businesses to the area, attracted by huge investment in transport infrastructure and excellent national and international travel connections. This also means strong links to other life sciences hubs, including Imperial College London's growing campus at White City (adjacent to another of our own campuses, Hammersmith Hospital) and the knowledge quarter in King's Cross and Euston.

On top of this, we have our investment and redevelopment plans for the St Mary's campus. This includes a number of current initiatives: a new digital collaboration space, an evolving life sciences partnership

programme and a new centre for clinical infection. A longer term commitment is the full redevelopment of the St Mary's estate as part of the government's new hospital programme, to create a new, state-of-the-art hospital by 2030 and, through much better use of the existing footprint, an additional 1.5 million square feet of cross-functional commercial and lab space for life sciences businesses.

**Professor Tim Orchard**  
Chief executive  
Imperial College Healthcare NHS Trust



# OUR VISION

In parallel with the redevelopment of the St Mary's Hospital site, we are helping to bring together industry, academia, the NHS and local communities for the creation of a new life sciences cluster in Paddington, driving improved health, wealth and wellbeing.

St Mary's Hospital has been a leading provider of healthcare, education and research for over 175 years. The new St Mary's will provide the clinical facilities we need to take us into the future as one of the most advanced, research-led, major trauma and acute hospitals in the world. Our plans, forming part of the government's new hospitals programme, are for an 840-bed, state-of-the-art clinical facility including dedicated spaces for research, education and innovation.

Spanning three million square feet alongside the Grand Union Canal in Paddington, the redeveloped St Mary's site will create a new kind of healthcare

and life sciences complex. Alongside the hospital will be an additional 1.5 million square feet of cross-functional commercial and lab space for life sciences businesses to start, develop or grow.

Co-locating the hospital with more commercial and academic teams, within new specialist life sciences facilities, will enable us to bring new diagnostics and treatments to patients faster as well as give more people the chance to get involved in clinical trials for local, national, and global benefit.

## OUR RESEARCH FOCUS

Making the most of the clinical specialties and strengths of St Mary's as well as the wider Imperial College Healthcare NHS Trust, we are focusing on expanding:



### PHASE 3 TRIALS

Leveraging opportunities to design and run phase 3 trials across a wide range of adult and paediatric specialties including infectious diseases, neurosciences, urgent, emergency and trauma care, intensive care and obstetrics and neonatology.



### RAPID DIAGNOSTICS

Developing new approaches to rapid diagnostics for infectious diseases in adults and children.



### REAL-TIME MONITORING SOLUTIONS

Prototyping real-time monitoring solutions in clinical environments, where researchers will have the opportunity to work directly with patients and clinical teams to test and adapt solutions.



### DIGITAL AND DATA INNOVATION

Digital and data innovation through access to high-volume, real-time data linked to the Trust's longitudinal care records, one of the largest and deepest electronic care records in the UK.



# ST MARY'S AT THE HEART

*Creating a new type of healthcare and life sciences complex, connecting communities, clinicians, research and industry.*



Part of the Government's new hospital programme, the redeveloped St Mary's will be an advanced, research-led hospital providing major trauma, acute and specialist healthcare, both for its local communities and for the wider population of London and southeast England. We are working on a phased redevelopment to be completed from 2030.

While firmly rooted in its local community, the new St Mary's will draw on a long-standing collaboration between one of the NHS's largest teaching hospital groups, Imperial College Healthcare NHS Trust; a world leading university, Imperial College London; and a range of committed industry partners.

Our experience of the pandemic has deepened relationships with patients and local communities, building mutual understanding to

help tackle the health inequalities highlighted so starkly over the past two years. We see the rebuilding of St Mary's as a key opportunity to further this collaboration and to play our full part in the regeneration of the local area.

The new St Mary's will provide state-of-the-art, clinical facilities for adults and children, with particular strengths in emergency, intensive and trauma care, obstetrics and neurosciences as well as infectious disease, with 840 beds in total. There will be a separation of planned and emergency care to improve operational efficiency and patient experience which, when combined, will increase our ability rapidly to expand critical care capacity.

The new St Mary's will be built to be net carbon zero, including using sustainable building materials and construction methods.

## PEOPLE FIRST

With over 14,500 staff, 1.3 million patient contacts per year and a local population of 2.8 million, plus another 100 million people visiting the area annually, Imperial College Healthcare has huge potential to generate richer connections, engagement and insight to improve health and healthcare.

The diversity of our local population and our highly skilled clinical and research staff presents us with outstanding opportunities to extend the reach and impact of our research programmes. We are committed to finding ways to help tackle the wide gaps in health equity in the UK, as well as to address global health challenges.

St Mary's is local to communities in north Westminster, north Kensington and south Brent which are amongst the 20 per cent most deprived areas in the country and where over half the population come from a Black, Asian or minority ethnic background. These communities have significant disparities in health outcomes and life expectancy. We are

working in partnership with Westminster City Council and communities in north Westminster on a specific initiative to halve the 18-year gap in life expectancy between those with highest and lowest life expectancy by 2035.

Paddington Life Sciences will be a critical part of our cross-sector, place-based strategy to improve health and healthcare, enabling us to come together with local businesses and organisations to help tackle inequalities. For example, increased better access to education and skills development will help support the development of a highly motivated, local workforce.

***Collaboration and innovation at scale through diversity and inclusion.***





# REAL WORLD IMPACT

## Research with local impact and global influence.

Paddington Life Sciences will have local, national and global impact by increasing our capacity for translational research at scale, supported by our track record of clinical excellence and academic partnerships.

In partnership with Imperial College London, we run the largest National Institute for Health and Care Research (NIHR) biomedical research centre. In 2021/22, we ran 898 active research projects across 29 disease areas, with the highest patient recruitment in our sector.

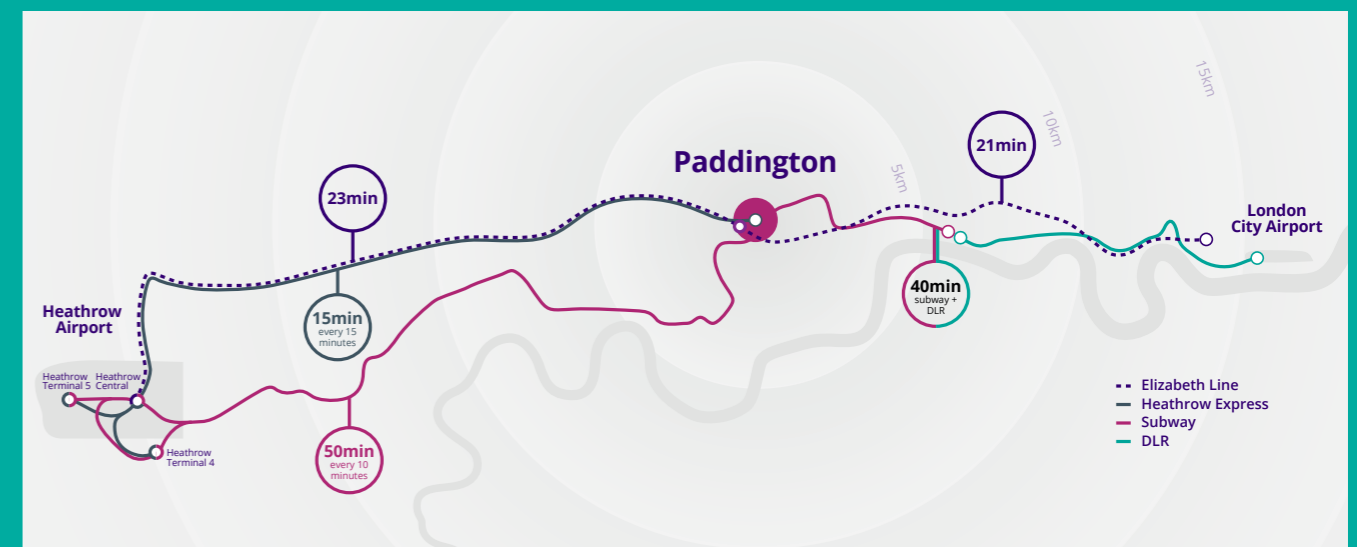


# CONNECTIONS THAT COUNT

The regeneration of Paddington is drawing global pharmaceutical, data and technology businesses to the area, joining major local land owners with significant life sciences interests. Establishing more structured collaboration with St Mary's is now creating a life sciences ecosystem and connections that will expand and accelerate innovation and improve health and wellbeing, locally and globally.

## Paddington Life Sciences creates connections between:

- Research and academic disciplines, clinicians, patients and local communities, all surrounded by leading life sciences businesses in a vibrant, canal side location.



### CASE STUDY

#### Developing new treatments for Covid-19

REMAP-CAP is an international, adaptive platform trial led in the UK by Professor Anthony Gordon, Professor of anaesthesia and critical care at Imperial

College London and critical care consultant at Imperial College Healthcare NHS Trust.

The ongoing trial has recruited nearly 7,000 patients in Europe with suspected or proven Covid-19 since March 2020. It has evaluated 28 interventions, involving 217 sites, including the intensive care units at Imperial College Healthcare. It has delivered some of the most important treatments of the pandemic. This includes, in January 2021, demonstrating the effectiveness of the interleukin-6 inhibitors tocilizumab and sarilumab for treating patients with severe Covid-19.



Our involvement in REMAP-CAP and many other Covid-19 trials helped our clinicians to reduce critical care mortality from Covid-19 in our hospitals by 27 per cent between the first and second waves of infections.

- Other life sciences hubs including Imperial College's White City Campus, adjacent to our Hammersmith Hospital campus, and King's Cross, strengthening the 'golden triangle' with Oxford and Cambridge.
- Laboratory bench and patient bedside through adoption of new diagnostics and treatments in our hospitals.
- Innovators and funders, and the professional services ecosystem in west and central London.
- National and international research and business centres via one of London's great transport hubs, serving millions and connecting to the rest of the UK via the Elizabeth Line and the world via Heathrow.

**Unparalleled connections between people, places, disciplines, services and industry.**





# STARTING NOW

While the new St Mary's will be a phased redevelopment, due for completion from 2030, work continues to maximise research and expand connections right now. This includes three initiatives to support the Paddington Life Sciences vision:

## DIGITAL COLLABORATION SPACE

The Trust has the most extensive integrated health data set in the UK and is investing in boosting its data capabilities with the first new initiative within Paddington Life Sciences – a dedicated Digital Collaboration Space.

The space, next to St Mary's Hospital, houses the digital health team from the NIHR Imperial BRC. They provide state-of-the-art

management and analysis of the huge amount of real-world health data routinely collected across Imperial College Healthcare's five hospitals and collaborate with the wider North West London Integrated Care System on a complementary data set from a highly diverse population of 2.8 million people.

“There is increasing demand for health data-enabled research but the challenge for researchers, clinicians and industry is how to navigate the NHS data sets available and at a speed that helps us rapidly to translate research into better care. Through our new Digital Collaboration Space, we want to build awareness and understanding of the power of data to improve health and healthcare, bringing in additional funds and ideas to create even more benefit for patients.

“Using real-world evidence from clinical settings ensures our research has direct relevance to the health needs of our communities. We can also tap into the extensive clinical research trial capacity of the North West London Clinical Research Alliance, within which Imperial College Healthcare has the highest patient recruitment to research trials. We are committed to increasing diversity and inclusion in clinical research, and in particular how digital tools can help facilitate this.”

### Dr Erik Mayer

NIHR Imperial BRC digital health team leader



The creation of a new **centre for clinical infection**, a specialist clinical and translational research facility to complement Imperial College London's new Institute of Infection. Together, they will be one of only a few resources in the world to offer 'end-to-end' innovation, from initial discovery to improved patient outcomes, for the diagnosis and management of infectious diseases as well as antimicrobial resistance.

**Paddington Life Sciences Partners** an influential partnership group - made up of NHS, industry, community and academic organisations - with a shared commitment to generating healthcare innovation, alongside health, economic and social value, through a new life sciences cluster centred around St Mary's Hospital in Paddington.

The Partners are working specifically on initiatives to increase access to healthcare and clinical research, skills and job creation, digital inclusion, improving care through data analytics and creating new space for life sciences businesses in Paddington.

## PADDINGTON LIFE SCIENCES PARTNERS



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The **Paddington** Partnership

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### IN ASSOCIATION WITH



**IF YOU WOULD LIKE TO GET INVOLVED WITH  
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