THE OXFORD INSTITUTE OF DIGITAL HEALTH

Be part of the transformation of health care

Contact us

If you would like more information or are interested in supporting us please contact Professor Richard Hobbs:
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NUFFIELD DEPARTMENT OF
PRIMARY CARE
HEALTH SCIENCES

UNIVERSITY OF OXFORD

Oxford Institute of
Digital Health

OIDH

UNIVERSITY OF OXFORD

"Digital health must be an integral part of health priorities and benefit people in a way that is ethical, safe, reliable, equitable, and sustainable. It must be developed with accessibility, scalability, replicability, interoperability, and security in mind."

World Health Organisation Global Strategy on Digital Health, 2020–24

The rapid development of digital technologies is a catalyst for a fundamental shift in both how we live, and how we manage our health. The digital transformation of health systems has the potential to deliver leaner, greener, and more person-centred services, which can:
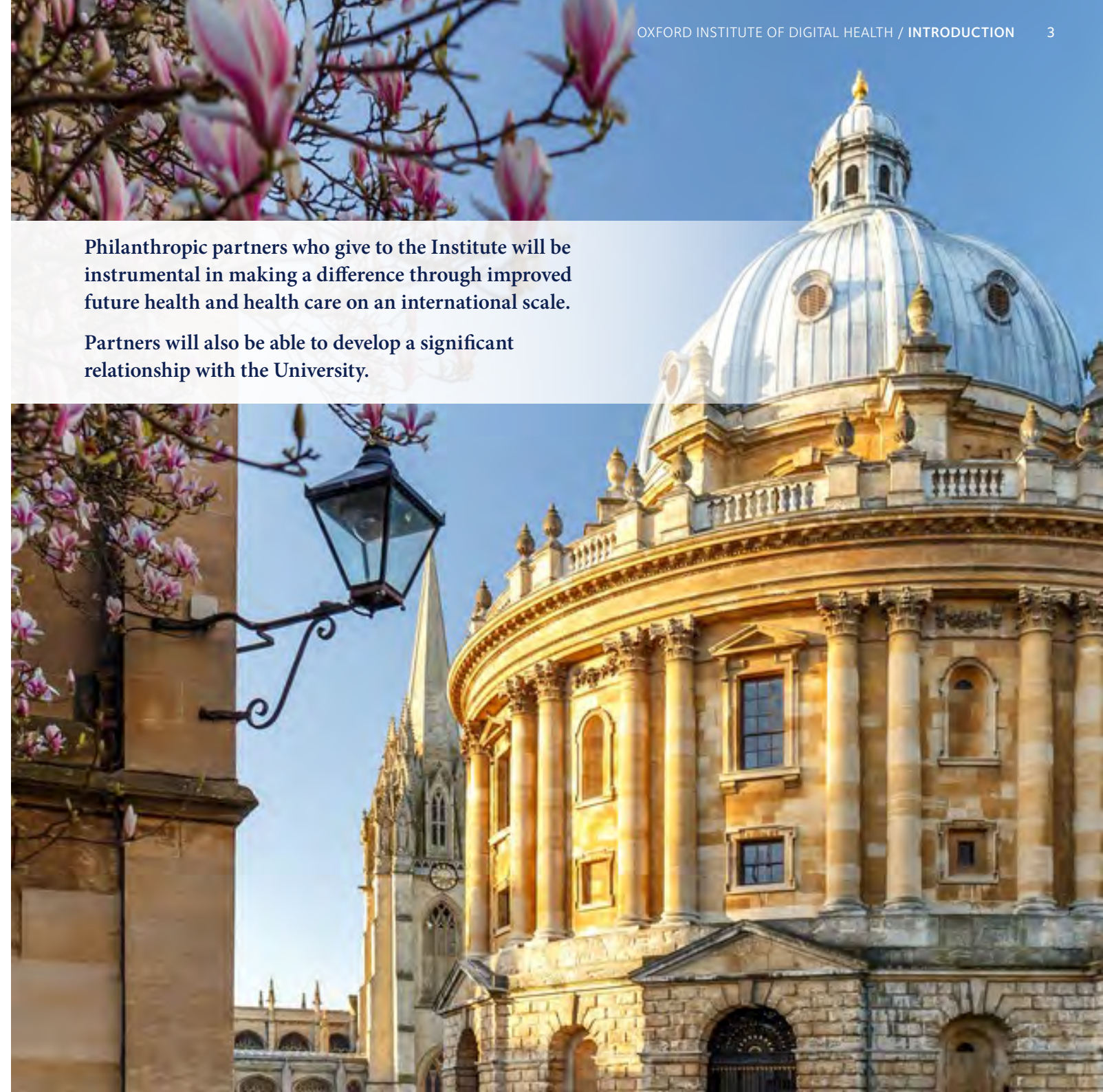
- improve access and choice;
- reduce inequalities;
- reduce harm and improve patient safety;
- empower the public to consider health at their pace;
- improve quality;
- reduce costs;
- increase value and reduce waste; and
- deliver personalised medicine using risk prediction driven by Artificial Intelligence (AI).

But there are challenges and health care has not yet undergone the radical transformation seen in other industries. Problems such as digital inequalities, digital harms, and the low adoption of some technologies persist and require solutions, alongside consideration of ethical, legal, and social issues.

The Oxford Institute of Digital Health will be a dynamic, interdisciplinary hub for digital health teaching and research which will address these critical challenges and identify how we can harness these innovations to improve health and health care.

Philanthropic partners who give to the Institute will be instrumental in making a difference through improved future health and health care on an international scale.

Partners will also be able to develop a significant relationship with the University.

"Our vision is for digital health to enable those at most risk of illness to be identified and treated earlier, and given the tools to manage their health and care better."

Professor Richard Hobbs, Head of Department,
Nuffield Department of Primary Care Health Sciences,
University of Oxford

OUR VISION

The Oxford Institute of Digital Health will be forward thinking, interdisciplinary, and collaborative across academia, industry, health systems, and government agencies to ensure maximum social impact by shaping the future of health and health care. We will harness digital technologies to provide solutions to some of the biggest health challenges for individuals and populations.

To create an enduring legacy, the Institute will:

- unite disciplines and sectors to harness digital technology to tackle the health challenges of the twenty-first century;
- provide international leadership in this vital area for the future of health systems;
- develop much needed global capacity through a training pipeline of Master's and Doctoral students; and
- undertake world-leading research using innovative methods with national and international collaborators.

In the first five years the Institute will focus on transforming primary care and public health in areas where health disparities are most pressing. We will leverage our considerable expertise in data science and artificial intelligence, our outstanding track record in the development and evaluation of digital health technology, and our leading work investigating the social and ethical aspects of health care to improve patient care and experience across areas such as cardiovascular diseases, mental health, and work with marginalised populations.

The WHO names "harnessing new technologies" and specifically the area of digital health technologies as a key issue for the next decade to meet the **urgent health challenges** of tackling inequalities and unfairness, reducing harm, and finding solutions for the emerging global threats of pandemics and climate change.

"Digital innovation offers a unique opportunity to improve human health and help people living in poverty."

Stephen Caddick, Director of Innovation, Wellcome Trust

GLOBAL IMPACT THROUGH EXCELLENCE

Through the Institute, Oxford will combine its expertise in digital health and health care with its extensive scientific capabilities across multiple disciplines, and its role in influencing national policies, to tackle the major health issues of our time.

Digital technologies can deliver efficient low-cost care to ageing populations living longer with chronic diseases, and can support the crucial shift to more community-based care through improved diagnostic and monitoring technology.

Our vision is supported by four key themes:

THE DIGITAL TRANSFORMATION OF CARE

- We will develop and evaluate technologies to ensure health systems globally get the most value from digital innovation.
- This will encompass new models of care, including more patient-centred and distributed care pathways harnessing mobile health, wearables, remote approaches to consultation, monitoring and consultation, diagnostics and stratified treatments, all of which shifts more power to health consumers.
- We will work with collaborators such as the **Centre for Health, Law and Emerging Technologies (HeLEX)**, and the **Oxford Internet Institute (OII)**, to address issues of usability, trust and fairness.

DATA SCIENCE AND ARTIFICIAL INTELLIGENCE

- The Institute will partner with the new **Bennett Institute for Applied Data Science** to apply new technologies to data sets and the latest scientific evidence, and to develop practical tools for clinicians.
- The **Nuffield Department of Primary Care Health Sciences** is host to the world's longest established and largest electronic health records databases. AI and machine learning are being used to explore these data, and to develop prediction tools that can underpin a new era of precision medicine, leading to more effective prevention and treatment. This theme will generate powerful new evidence from electronic health records.

INNOVATIVE METHODS IN DIGITAL HEALTH

- We will not only lead the world in understanding how to digitally transform health care, and how to derive new knowledge from health datasets, but we will also pioneer new methodological approaches in this field.
- Our current work includes an innovative agile clinical trials platform built on routine electronic health records. This can radically improve current approaches to randomised trials and the evaluation of interventions, as well as long-term observational studies, at low cost, facilitating faster answers to deliver more rapid benefits to patients.
- Our work evaluating digital interventions considers new ways of assessing their usefulness, including the key issues of digital inclusion, and the green impact of digital approaches.

BUILDING A KNOWLEDGE POWERHOUSE

- With philanthropic support we will continue to build our multi-disciplinary teams of experts.
- We will continue to invest in our staff with key skills training and engage in knowledge transfer through partnerships with industry and health care providers around the world.
- The Institute will have a programme of visiting scholars, curating the exchange of expertise across disciplines and international settings.
- In 2022 we launch a flagship **Master's in Applied Digital Health** to build a knowledgeable and skilled workforce.
- Together with our international Diversity & Inclusion Panel, and organisations such as the **Institute of Biomedical Engineering**, the **Shuri Network**, and **One Health Tech**, we will ensure that underserved populations will have equal opportunities to work and study with us.

"Harnessing the power of digital technologies is essential for achieving universal health coverage. Ultimately, digital technologies are not ends in themselves; they are vital tools to promote health, keep the world safe, and serve the vulnerable."

Dr Tedros Adhanom Ghebreyesus, Director-General, WHO

Our Institute experts, leaders in the field of digital health and health care, are proactive and successful in winning research and teaching awards through individual and collaborative grant applications across a wide variety of funding platforms, including charities, UK Government, industry, and international organisations.

Philanthropic investment in developing the infrastructure of this Institute will enable us to expand into areas which have been neglected but are among the leading future health challenges, such as mental health and improving health systems to tackle health inequities.

EXAMPLES OF CURRENT RESEARCH

SAVING LIVES THROUGH EARLIER CANCER DETECTION

An innovative new computer algorithm which screens an individual's medical record to identify their risk of bowel cancer has been trialled successfully in 2.5 million patients. This was only made possible using routine electronic health records held in the **Clinical Practice Research Database** and made available to a team of University of Oxford researchers. Earlier detection of bowel cancer can save lives, and utilising big data analytics in this way can yield more advanced and effective treatments and diagnoses.

ORCHID

During the pandemic, we rapidly engineered a secure new Oxford Clinical Informatics Digital Hub (ORCHID) to support clinical research. ORCHID immediately supported two national COVID-19 community treatment trials – **PRINCIPLE** for repurposed drugs and **PANORAMIC** for novel antivirals; national flu and COVID-19 surveillance; COVID-19 community diagnostics (RAPTOR); and COVID-19 risk and service recovery. New clinical trials will utilise ORCHID to accelerate recruitment and reduce costs.

ADOLESCENT MENTAL HEALTH

Using creative arts and digital methods to collect experience data, the **ATTUNE collaborative** led by Professor Kamaldeep Bhui (Oxford) and Professor Ma (Falmouth) will build a digital public health resource and a serious game including elements of narrative exposure therapy, in order to support the mental health of young people who have experienced one or multiple adverse childhood experiences (ACES).

DEVELOPING POPULATION-BASED SYSTEMS TO DELIVER BETTER VALUE HEALTH CARE

One of our teams is leading work on value-based health care, which aims to get improved outcomes for patients at no greater cost, with the new **G20 Hub for value based health care**, in Rome and in Sao Paulo for Latin America.
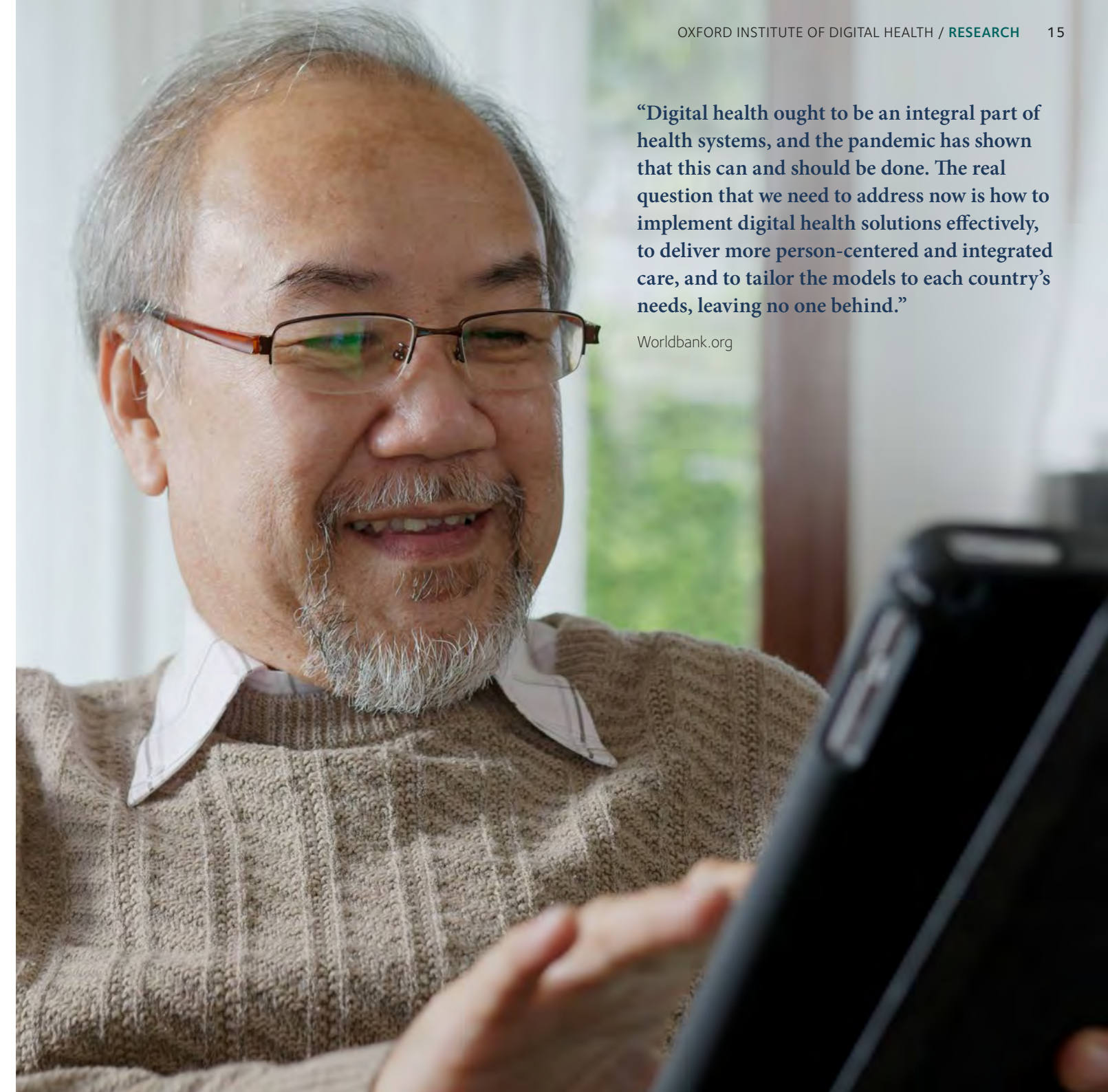
PATIENT SELF-MANAGEMENT

World leading research on digital interventions for patient self-management in diabetes and hypertension has changed clinical pathways internationally in low cost settings, such as Soweto, and many parts of Europe.

DIGITAL INTERVENTION TO REDUCE SUICIDAL IDEATION FOR SYRIAN REFUGEES

A PhD research project, supervised by Professor Kamaldeep Bhui. The project explores Syrian refugees' cultural conceptualisations of mental health and wellbeing, coping strategies and help-seeking behaviour and will co-design the digital intervention to reduce suicidal ideation. Central to this research is the importance of learning from refugees' lived experiences and the role of digital mental health in addressing unequal access to mental health care.

OPENSAFELY

During the peak of the first wave of COVID-19, Professor Ben Goldacre and colleagues developed the fully open-source, privacy-preserving software platform, **OpenSAFELY** to allow the open and reproducible analysis of 17 million electronic health records. Following this, the team published the preprint of their first study, examining risk factors for COVID-19 death which has been cited and used globally. This demonstrates the power of novel approaches to data science unlocking evidence from data.

"Digital health ought to be an integral part of health systems, and the pandemic has shown that this can and should be done. The real question that we need to address now is how to implement digital health solutions effectively, to deliver more person-centered and integrated care, and to tailor the models to each country's needs, leaving no one behind."
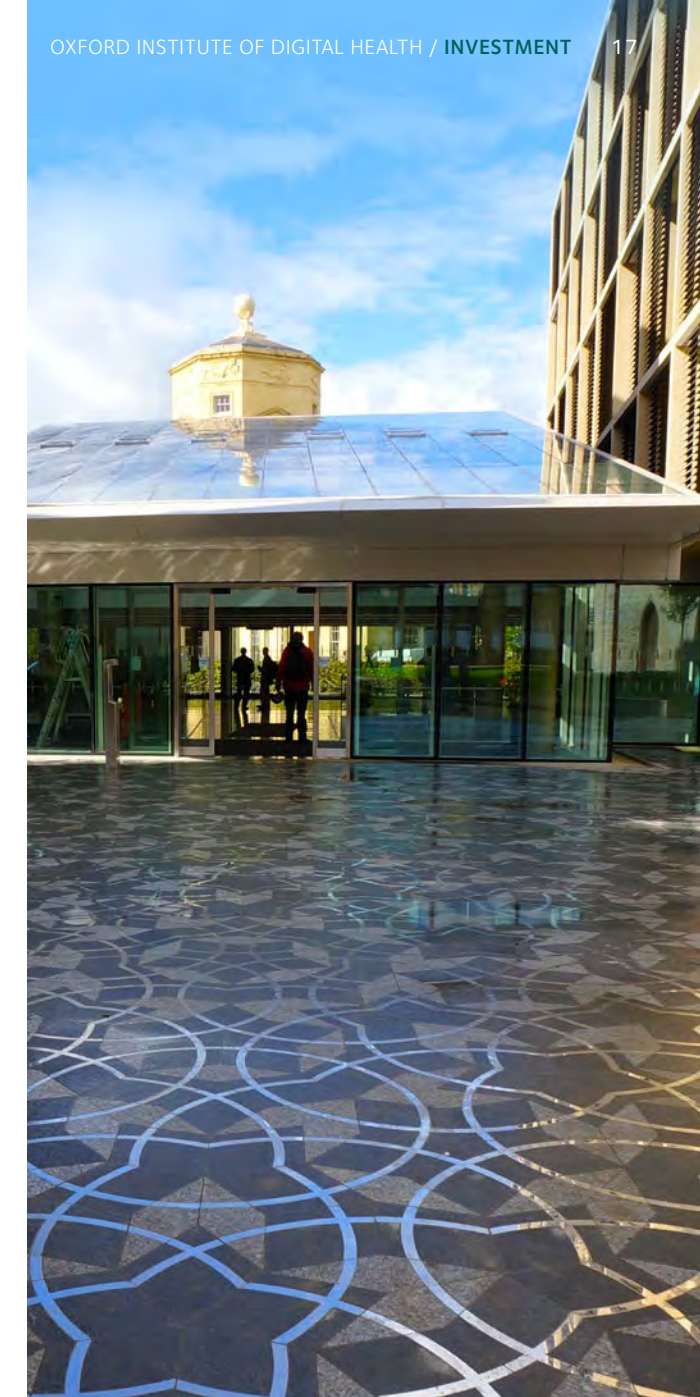
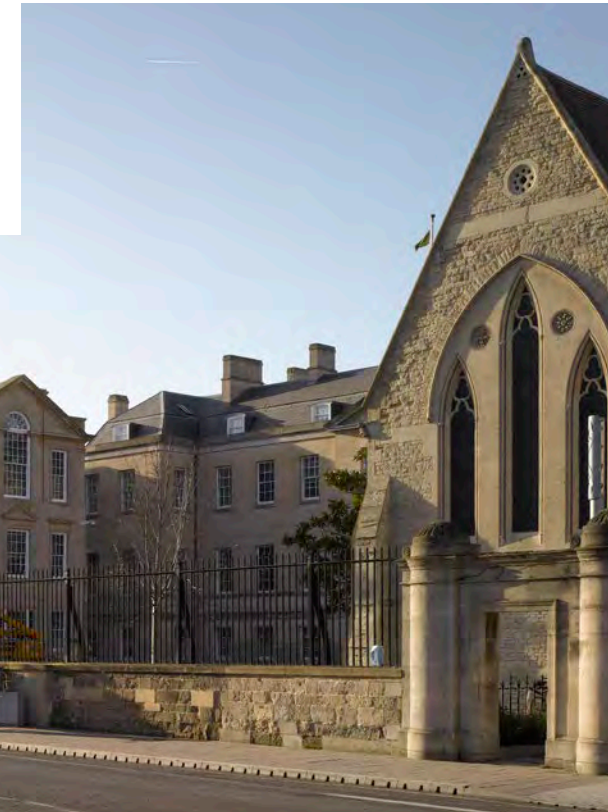Worldbank.org

INVESTING IN OUR VISION

Bringing the Oxford Institute of Digital Health to fruition requires philanthropic investment both in the people whose commitment and expertise will drive the breakthroughs and build the knowledge base for generations to come; and in the physical infrastructure to provide the best tools and resources for innovative research at the very highest level.

Infrastructure:

A physical hub for the Institute of Digital Health will be a vital step in bringing together the broad range of Oxford's expertise in one location, and in fostering the continued cross-discipline collaboration, innovation and agility that makes the University of Oxford world-leading. To enable us to realise this vision, and mindful of the green impact of construction, we are planning state-of the-art renovations to an existing building, the Gibson Building, which is situated on the **Radcliffe Observatory Quarter**. This will position applied digital health research right at the heart of one of Oxford's most vibrant academic communities.

DIAGRAM COURTESY OF FJMTSTUDIO.COM ARCHITECTURE

View of the new building renovation at the Radcliffe Observatory Quarter

The Radcliffe Observatory Quarter. Clockwise from top: Blavatnik School of Government; Aerial view; The Andrew Wiles Building, Mathematical Institute; View from Woodstock Road; Triton fountain.

People:

GLOBAL SCHOLARSHIPS

An individual's ability to study at Oxford University should not be dependent on their personal financial means, but on their academic potential. Philanthropic investment in fully funded scholarships for the brightest graduate students from around the world is crucial and will enable us to prepare future leaders in digital health for the benefit of countries and communities around the world.

SENIOR ACADEMICS IN LEADERSHIP ROLES

Excellent scientific leadership is essential for success. The Institute will be run by senior academics who have spent their careers becoming experts in their fields and excelled as leaders of ground-breaking research. Endowment of key academic posts will help us to attract and retain the very best talent globally, focus on increasing diversity, and integrate long-term succession planning and resilience from the outset.

ASSOCIATE PROFESSORS AND SENIOR RESEARCH FELLOWS

Mid-career academics are central to any thriving and productive research endeavour. As part of the new Institute, associate professorships and postdoctoral research fellowships will be used to reward, retain, and develop outstanding researchers.

PROFESSIONAL SERVICES AND ADMINISTRATIVE STAFF

The work of the new Institute will be underpinned by our highly skilled professional services and administrative staff who support the core academic purposes of teaching, learning and research. They ensure the University meet the requirements of government, funding bodies, and other external agencies, and facilitate the attainment of the objectives set out in the **University's Strategic Plan**.

HOW YOU CAN HELP – GIVING TO THE OXFORD INSTITUTE OF DIGITAL HEALTH

We are seeking partners who share our vision in shaping the future of global health care and who will support the work of this ground-breaking Institute.

Two of the principal areas for recognising philanthropy are:

Building development – we would welcome discussions about naming rights to the new building and workspaces, including lecture theatres and seminar rooms; and

Endowments and studentships – people are at the heart of our Institute and therefore we seek support to fund the team of people who will make our ground-breaking work possible.

For a breakdown of giving options and more information on how to give to the Oxford Institute of Digital Health please follow this link: Giving to the Oxford Institute of Digital Health

We offer a range of philanthropic opportunities – if you would like to discuss these, please contact Professor Richard Hobbs: richard.hobbs@phc.ox.ac.uk

The total combined cost of the building development, and endowments and studentships is estimated at

£70 million

RECOGNISING OUR BENEFACTORS

From its foundation, the University of Oxford's excellence has been sustained and advanced by visionary benefactors, many of whom have given their names to its colleges and facilities, creating living legacies that have carried the benefactor's values down through the centuries. It is our great privilege to recognise the indispensable contribution our funders make and to involve them in the life of the University – from academic ceremonies to sporting events, intellectual presentations, formal dinners, and meetings with our leaders and senior academics.

WORLD-LEADING INSTITUTION FOR HEALTH RESEARCH

The **University of Oxford**, the world's oldest English-speaking university, has been at the forefront of research, scholarship and innovation for over 850 years. Today it is a vibrant hub of research and innovation spanning all aspects of science, medicine, the social sciences, and humanities.

Since 2013 the University has worked in formal partnership with the **Oxford University Hospitals NHS Foundation Trust**, facilitating and formalising the intersection between the academic and the clinical. The University also has formal partnerships with the **Academic Health Science Network** and **Oxford Health NHS Foundation Trust,** both of which have considerable strengths in digital health.

Oxford University's **Nuffield Department of Primary Care Health Sciences** is a world-leading, multidisciplinary centre for academic primary care in the UK. It leads research and teaching to rethink the way health care is delivered in general practice and other community settings, both across the UK and globally. The department hosts the new Bennett Institute for Applied Data Science and a renowned **Clinical Trials Unit**.

Almost
6,000
academics, researchers, NHS clinicians, general practitioners and administrative staff, with over
4,000
students, contribute to Oxford's extensive and exemplary teaching, research and clinical programmes.

The Institute will bring together an international Diversity and Inclusion Panel that will help to ensure our work is relative, accessible, equitable, inclusive, and ethical.

We will also have a Patient and Public Involvement Advisory Group to provide invaluable guidance on meeting the needs and priorities of end users.

"Our extensive research partnerships and collaborations with universities, NHS trusts, and industry at home and abroad play a major part in enabling our research to deliver health benefits for millions of people here in the UK and worldwide, as well as helping us to attract and support some of the best scientists and clinicians to work with us."

Professor Gavin Screaton, Head of the Medical Sciences Division, University of Oxford