

Report preparation

Terms of reference

A short vision outlining the Academy of Medical Sciences' aspiration for enhancing the academia-NHS interface will be developed. The vision will explore the role both academia and the NHS can play in improving the interface between the two sectors. In particular, it will:

- Celebrate how research has contributed to the NHS and *vice versa* over the last 70 years.
- Outline the Academy's vision for a successful academia-NHS interface.
- Set out recommendations for both NHS organisations and academia, identifying key stakeholders and appropriate timelines for implementation, to achieve our vision for a successful interface. The vision may consider the following aspects:
 - Creating an environment that is conducive to research.
 - Enabling partnerships.
 - Supporting researchers.

Steering Group membership

This report was prepared by a Steering Group of the Academy of Medical Sciences. Members participated in a personal capacity, not as representatives of the organisations listed. A summary of the Steering Group members' interests is provided below.

Chair

Professor Sir Robert Lechler PMedSci is currently Provost and Senior Vice-President (Health) at King's College London, Executive Director of King's Health Partners and President of the Academy of Medical Sciences. He is a strong advocate of the Academic Health Science Centre model of university-healthcare partnerships. His clinical and research career have been focused on the pursuit of clinical transplantation tolerance. He worked in *in vitro* and *in vivo* rodent models and recently has helped to define biomarkers of clinical tolerance which have led to first in man trials of cell therapy to promote immune tolerance in recipients of kidney and liver organ transplants. He has published over 200 papers in this field and continues to co-direct a research group in transplantation immunology. In 2012, Sir Robert was awarded a Knighthood in the Queen's Birthday honours for Services to Academic Medicine and in 2015 was elected as the President of the UK Academy of Medical Sciences. He has held a series of programme grants from the Medical Research Council and the British Heart Foundation in support of this work. Sir Robert is also a Founding Board Member of MedCity, and a Board Member of the Crick Institute and London & Partners. He is a member of the Prime Minister's Council for Science and Technology and the HCA Healthcare Advisory Board.

Members

Dr Catherine Calderwood has been the Chief Medical Officer for Scotland since 2015. Dr Calderwood qualified from Cambridge and Glasgow Universities and continues to work as an obstetrician at a regular antenatal clinic at the Royal Infirmary of Edinburgh. Dr Calderwood has published four annual reports on Realistic Medicine. Realistic Medicine puts the person receiving health and care at the centre of decision-making and creates a personalised approach to their care. Her fourth report published in April 2019 will help to embed Realistic Medicine and allow the spread of good practice which is being developed throughout Scotland. All four reports have been universally well received and read by millions of people across the world. The reports also recognise the importance of valuing and supporting staff as vital to improving outcomes for the people in their care.

Professor Dame Jessica Corner FMedSci is Pro-Vice-Chancellor for Research and Knowledge Exchange at the University of Nottingham, leading a research portfolio of £600million and directing the research and knowledge exchange efforts of over 3,000 colleagues at the University's campuses in the UK, China and Malaysia. Dame Jessica is a registered nurse. Her research has focussed on improving care and support in cancer and long term health outcomes after a cancer diagnosis. In 2018, when the UK National Health Service turned 70, Dame Jessica was named as one of the most influential nurses in its history. She is a Fellow of the Academy of Medical Sciences, and in 2014 was made a Dame Commander of the British Empire for services to health care research and education. Dame Jessica is also Chair of the UK Health Education Advisory Committee, Movember Foundation Global Prostate Cancer Outcomes Committee and MacMillan HORIZONS Programme SAB at the University of Southampton. She is the Director of the University of Nottingham Innovation Park, a Member of Council at Research England and a Member of the NHS Scotland Strategic Advisory Board.

Mark Cubbon is Chief Executive of Portsmouth Hospitals NHS Trust. He began his career in the NHS in nursing 27 years ago. He worked in a variety of nursing roles before moving into general management. Prior to joining Portsmouth he held senior Director roles at a number of London Hospital Trusts and was Regional Chief Operating Officer for the Midlands and East region at NHS Improvement. Portsmouth Hospitals NHS Trust is the largest non-teaching hospital in England with an award winning clinical research department. He has a strong interest in academia and since joining Portsmouth has continued to strengthen the Trust's relationship with local Universities and higher education institutions who are key partners in helping to deliver the organisation's strategic objectives. He is a Member of NHS Employers Advisory Board, NHS Elect Advisory Board and Clinical Research Network Wessex Partnership Group.

Professor Waljit Dhillon is a Professor in Endocrinology and Metabolism, and Consultant Endocrinologist at Imperial College London. He completed his medical training at St Bartholomew's Hospital Medical School, University of London, which included an Intercalated BSc in Biochemistry (awarded First Class Honours). He completed his PhD as a Wellcome Trust Clinical Training Fellow at Imperial College and was subsequently awarded an NIHR Clinician Scientist, NIHR Career Development Fellowship and currently an NIHR Research Professorship. He is Head of Division of Diabetes, Endocrinology and Metabolism at Imperial College, and Divisional Director of Research for the Division of Medicine and Integrated Care at Imperial College Healthcare NHS Trust. He is in receipt of grants from MRC and NIHR. He also provides consultancy work for Myovant Inc and KnDY Therapeutics.

Professor Sir Bruce Keogh KBE has had a distinguished career as a cardiac surgeon. He held the chair of Cardiac Surgery at University College London before being appointed Medical Director of the NHS in the Department of Health in 2007 and National Medical Director of NHS England between 2013-2018. For this decade he was the professional lead for doctors in the NHS and was responsible for national clinical policy and strategy, promoting quality, clinical leadership and innovation across the service. In the Department of Health he was the sponsor for NICE, the Healthcare Commission and the National Patient Safety Agency. With a longstanding interest in the measurement of clinical outcomes, he served on the boards of the Commission for Health Improvement and Healthcare Commission between 2002-2007. He has recently become Chair of the Birmingham Women's and Children's NHS Foundation Trust. He was knighted for services to medicine in 2003. Sir Bruce is Vice-Chair of the Birmingham Hospitals Alliance and a Board Member for both Birmingham Health Partners and the Birmingham and Solihull Sustainability and Transformation Partnership. He is a Director at the Cell & Gene Therapy Catapult, LumiraDx and Sensyne Health. He sits on Advisory Groups for HCA Healthcare, Wesleyan Assurance Society and Petrichor Healthcare Capital Management. He is also Chair of the Scarfree Foundation and the BHF Cardiovascular Research Collaborative, and a Trustee of the British Cardiovascular Society and the National Confidential Enquiry into Patient Outcome and Death.

Professor Marcel Levi is Professor of Medicine at University College London and Chief Executive of University College London Hospitals (UCLH). He is also a practicing consultant in Acute & Vascular Medicine and Haematology at UCLH. His previous position was Professor and Dean of the Faculty of Medicine of the University of Amsterdam and Chairman of the Executive Board of the Academic Medical Center in Amsterdam, The Netherlands. After his medical training and specialisation in Internal Medicine, he obtained his PhD with honours (1991) and was appointed as a Fellow by the Royal Netherlands Academy of Science. He worked at the University of Perugia, Italy, and the Center for Transgene Technology and Genetherapy of the University of Leuven, Belgium. He has published more than 700 articles in international scientific journals and has been awarded a number of international research awards. He was Chairman of the Netherlands Organization for Medical Research (ZON-MW) between 2008 and 2016 and is currently Chairman of the scientific board of several national charities, including the Dutch Heart Foundation and the AIDS fund. He is also on the Board of the National Cancer Institute. He was elected as a member of the Royal Netherlands Academy of Science (KNAW) and is a fellow of the Royal College of Physicians.

Professor Carrie MacEwen is Chair of the Academy of Medical Royal Colleges and immediate past President of the Royal

College of Ophthalmologists. She is a Consultant ophthalmologist at Ninewells Hospital, holding Honorary Professor status at the University of Dundee. She is Associate Post Graduate Dean for the East Region in Scotland for less than full time medical training. She is ophthalmology specialty adviser to the Chief Medical Officer and government in Scotland, and clinical lead of the NHS England/Improvement Getting It Right First Time (GIRFT) ophthalmology workstream. She co-Chairs the Genomic Clinical Leads Committee with Chief Scientific Officer, Professor Dame Sue Hill OBE DBE FMedSci. Professor MacEwen is a member of the NHS Assembly. She is a Fellow of the Royal College of Ophthalmologists and the Royal College of Surgeons (Ed). She is also an honorary Fellow of the Royal College of Physicians (Ed), Royal College of General Practitioners, the College of Optometrists and of the Faculty Sport and Exercise Medicine. She is an independent member of the University of Exeter Governing Council and a Trustee of the Moorfields Eye Charity. She holds shares in GlaxoSmithKline.

Professor Richard McManus is Professor of Primary Care Research, and Dean of Welfare and Governing Body Fellow of Green Templeton College, at the University of Oxford. He is a part time General Practitioner and Partner at 27 Beaumont Street in Oxford. His research interests lie in cardiovascular disease. He has published work on the management of chest pain, blood pressure measurement and stroke management in primary care, and self-monitoring in hypertension. He supervises PhD/DPhil students undertaking projects in hypertension and blood pressure monitoring in pregnancy. He holds an NIHR Professorship and leads an NIHR Programme Grant around self-monitoring in hypertension, primary care management of hypertension and chronic kidney disease. He is also in receipt of a Programme Grant from the Stroke Association and British Heart Foundation. He chairs the Blood Pressure Monitoring Working Party of the British Hypertension Society and the NIHR Doctoral Fellowship Panel. He is an Expert Member of the European Society of Cardiology and the European Society of Hypertension, and is Guardian of the Royal College of General Practitioners Cardiovascular Curriculum. He provides expert advice to the National Institute for Health and Care Excellence, Department of Health and Social Care, and the European Society of Cardiology. He is a shareholder of a GP Practice in Birmingham and receives occasional honoraria, which are paid to Green Templeton College.

Professor Paul Stewart FMedSci is Executive Dean of the Faculty of Medicine and Health at the University of Leeds. He is also a Non-Executive Director and an Honorary Consultant Endocrinologist at the Leeds Teaching Hospitals NHS Trust. He is a member of the Executive Board of the Leeds Academic Health Partnership where he leads the Centre for Personalised Medicine & Health. He is the Vice President (Clinical) at Academy of Medical Sciences and an elected fellow of the Royal College of Physicians. He received his medical degree from Edinburgh Medical School and was awarded an MD from Edinburgh University with Honours and a Gold Medal. Funded by the MRC, he undertook postgraduate research and clinical training in Edinburgh, Charlottesville, Dallas, and Birmingham UK. He is a primary investigator within the NIHR Musculoskeletal Biomedical Research Centre in Leeds and an Emeritus NIHR Senior Clinical Investigator. Throughout his career he has received research support from the MRC, Wellcome Trust, NIHR, NIH, Australian NHMRC and industry sources. His clinical expertise includes the management of pituitary and adrenal disorders, endocrine hypertension and reproductive medicine. He has received many accolades including RCP London Goulstonian and Linacre Lecturer, the Dale medal from the Society for Endocrinology and the Clinical Investigator Medal/ Laureate Award for International Excellence in Endocrinology from The Endocrine Society. In 2019, he was appointed Editor-in-Chief for the Journal of Clinical Endocrinology and Metabolism. He is Chief Scientific Advisor to the Scar Free Foundation and a Member of the Dementias Platform UK Oversight Board and Association of Academic Health Centres International. He is serving or has recently served leadership roles for the British Heart Foundation, the Northern Health Science Alliance, Medical Schools Council and various patient support groups.

Project team

Dr Claire Cope (Lead Secretariat), Head of Policy, Academy of Medical Sciences

Dr Rachel Quinn, Director of Medical Science Policy, Academy of Medical Sciences

George Phillips, Policy Officer, Academy of Medical Sciences

Dr Amy Slater, Policy Officer (Careers), Academy of Medical Sciences

Angeliki Yiangou, Policy Manager, Academy of Medical Sciences

Mariana Wieske, Interim Policy Manager, Academy of Medical Sciences

Dr Naho Yamazaki, Head of Policy, Academy of Medical Sciences (until August 2019)

We are grateful for the contributions of the Academy's policy interns: **Joely Kellard** (July–September 2019; Wellcome Trust-funded PhD student), **Maria Paiva Pessoa** (October–December 2019; Medical Research Council-funded PhD student) and **Madina Wane** (October–December 2019; Wellcome Trust-funded PhD student).

Review Group membership

The report was reviewed by a group on behalf of the Academy's Council. Reviewers were asked to consider whether the report met the terms of reference and whether the evidence and arguments presented in the report were sound and supported the conclusions. Reviewers were not asked to endorse the report or its findings. Review Group members were:

Professor Dame Anne Johnson DBE FMedSci, Professor of Infectious Disease Epidemiology, University College London; Vice President (International), Academy of Medical Sciences

Professor Christopher Butler FMedSci, Professor of Primary Care, University of Oxford

Professor Christopher Day FMedSci, Vice Chancellor, Newcastle University

Professor Dame Amanda Fisher FRS FMedSci, Head of the Institute of Clinical Sciences, Imperial College London

Don Redding, Director of Policy and Partnerships, National Voices

Dr David Rosser, Chief Executive, University Hospitals Birmingham NHS Foundation Trust

Evidence-gathering meetings

We hosted three meetings to inform the development of the report and explore key areas in further detail:

- A workshop on 'Clinical academia for the future: research careers, innovation and leadership', chaired by Professor Paul Stewart FMedSci, on 3 April 2019.¹
- A roundtable with senior stakeholders across the life sciences sector to discuss our emerging findings and refine our emerging recommendations, chaired by Professor Sir Robert Lechler PMedSci, on 29 April 2019.
- A roundtable with patient advocates and leaders on 'Enabling research in the NHS – patient perspectives', chaired by Professor Dame Jessica Corner FMedSci, on 12 June 2019.²

Reports of the 'Clinical academia for the future' workshop and 'Enabling research in the NHS' roundtable are available on the Academy's website.³

Economic analysis

To inform our recommendation around dedicated time for research, we commissioned York Health Economics Consortium to deliver an economic assessment of a potential three-year pilot where 20% of consultants in five large teaching NHS Trusts or Health Boards and five district general hospitals across the UK have 20% of their time dedicated to research. A report of the economic analysis is available on the Academy's website.⁴

Stakeholder meetings

Throughout the course of the project, the Chair (or a deputy where indicated) met with key decision-makers in Government, professional bodies, medical research charities, and the wider research funding community. These meetings focused on discussing and honing the report's conclusions and recommendations. A list of whom the Chair (or deputy) met with is provided below. Affiliations were correct at the time of meeting.

Professor Derek Alderson, President; **Professor Peter Hutchinson**, Clinical Director of Research; and **Martyn Coomer**, Head of Research, Royal College of Surgeons

¹ Academy of Medical Sciences (2019). *Clinical academia for the future: research leaders and innovators*. www.acmedsci.ac.uk/nhs-academia-interface/clinical-academic-careers

² Academy of Medical Sciences (2019). *From subjects to participants: putting patients at the heart of medical research*. www.acmedsci.ac.uk/nhs-academia-interface/PPI-in-medical-research

³ Academy of Medical Sciences (2019). *Enhancing the NHS-academia interface*. <https://acmedsci.ac.uk/policy/policy-projects/nhs-academia-interface>

⁴ York Health Economics Consortium (2019). *Estimate of the economic costs and literature review of the benefits of dedicated research time for Hospital Consultants in the NHS*. www.acmedsci.ac.uk/nhs-academia-interface/economic-assessment

Professor Julia Buckingham CBE FMedSci, President, Universities UK
 Professor Dame Sally Davies DBE FRS FMedSci, Chief Medical Officer for England
Dr Jennifer Dixon FMedSci, Chief Executive, Health Foundation
Professor Andrew Goddard, President, Royal College of Physicians
Baroness Dido Harding, Chair, NHS Improvement
Professor Dame Susan Hill OBE DBE FMedSci, Chief Scientific Officer for England, NHS England (deputy: Professor Paul Steward FMedSci)
Heather Hobson and **Edouard Aubry**, Health and Social Care Team, HM Treasury
The Rt Hon. the Lord Ajay Kakkar PC, Chair, University College London Partners
Dame Clare Marx, Chair, General Medical Council
Professor Stephen Powis, National Medical Director, NHS England
Lord David Prior, Chair, NHS England
Professor Wendy Reid, Director of Education and Quality, Health Education England; and **Professor Sheona MacLeod**, Chair, Conference of Postgraduate Medical Deans (deputy: Professor Paul Steward FMedSci)
Professor Helen Stokes-Lampard, Chair; and **Professor Martin Marshall**, Chair-Elect, Royal College of General Practitioners
Sir Patrick Vallance FRS FMedSci, Government Chief Scientific Adviser
Dr William van't Hoff, Clinical Director for NHS Engagement, National Institute for Health Research Clinical Research Network
Professor Sir Mark Walport FRS FMedSci, Chief Executive, UK Research and Innovation
Professor Christopher Whitty CB FMedSci, Chief Scientific Adviser, Department of Health
UK Healthcare Education Advisory Committee, Office for Students (deputy: Professor Dame Jessica Corner FMedSci)

The President also discussed the report at the annual meetings of the Heads of the UK Medical Schools hosted by the Medical Schools Council; and of the University Hospital Association Chief Executive Officers, R&D Directors, Medical Directors, Medical Schools Council members and Research leads, hosted by the University Hospital Association and the Medical Schools Council.

Other input

In addition to the Review Group, informal input was provided to inform the development of the report and case studies by the following individuals. They were not asked to endorse the report or its findings. Affiliations were correct at the time of meeting.

Dr Chris Bray, Head of R&D Operations and Trust Lead for the Joint Research Office, Oxford University Hospitals NHS Foundation Trust
Professor Keith Channon FMedSci, Field Marshal Earl Alexander Professor of Cardiovascular Medicine, Director of the NIHR Oxford Biomedical Research Centre and Associate Head of Medical Sciences Division (Clinical Research), University of Oxford
Dr Carol Clugston, Chief Operating Officer and Director of Professional Services, College of Medical, Veterinary & Life Sciences, University of Glasgow
Professor David Crossman, Chief Scientist (Health), Scottish Government; Dean and Head of School of Medicine, University of St Andrew's
Professor Dame Anna Dominiczak DBE FRSE FMedSci, Regius Professor of Medicine, Vice Principal and Head of College of Medical, Veterinary and Life Sciences, University of Glasgow
Jon Elliott, Associate Director – UK Science Policy and Relations, AstraZeneca
Professor Saul Faust, Professor of Paediatric Immunology and Infectious Diseases; Director, Southampton NIHR Wellcome Trust Clinical Research Facility
Professor Bryony Franklin, Professor of Medication Safety, University College London
Dr Tanya Graham, Research Fellow, King's College London
Professor Patricia Grocott, Professor of Nursing Technology Innovation, King's College London
Professor Mary Herbert FMedSci, Professor of Reproductive Biology, Newcastle University
Sam Illingworth, Director of Education Quality & Reform, Health Education England
Dr Katerina Kolyva, Executive Director; **Dorothea Baltruks**, Senior Policy and Research Officer; and **Nadia Butt**, Project and Events Officer, Council of Deans of Health
Professor Graham Lord FMedSci, Vice President and Dean of the Faculty of Biology, Medicine and Health, The University

of Manchester

Christine McGrath, Chair, UK Research and Development and Director of Research & Development, University Hospital Southampton

Professor Hugh McKenna, Professor of Nursing in School of Nursing, Ulster University

Dr Séamus O'Neill, Chair, AHSN Network

Joanne Plumb, Deputy Director of Research Development and Innovation, Queen Elizabeth Hospital Birmingham

Dr Sheuli Porkess, Executive Director, Research, Medical and Innovation; and **Andrew Croydon**, Skills & Education Policy and Examinations Director, The Association of the British Pharmaceutical Industry

Dr Nick McNally, Director of Research Support; **Dr Rajinder Sidhu**, Deputy Director of Research Support; and **Professor Bryan Williams**, Director of Research, University College London Joint Research Office

Professor Anne Marie Rafferty CBE FMedSci, President, Royal College of Nursing; Professor of Nursing Policy, King's College London

Professor Reza Razavi, Vice President and Vice-Principal (Research & Innovation), King's College London; Director of Research, King's Health Partners

Dr Katie Petty Saphon, Chief Executive; **Andrew Collier**, Policy Officer; and **Peter Tang**, Data Analyst, Medical Schools Council

Dr Eva Sharpe, Head of Policy and Engagement, The Institute of Cancer Research

Carys Thomas and **Michael Bowdery**, joint Head of R&D Division, Welsh Government; Co-Director of Health and Care Research Wales

Dr Nicholas Thomas, GP Partner, Windrush Medical Practice; Clinical Research Specialty Lead - Primary Care (NIHR Clinical Research Network Thames Valley and South Midlands)

Professor Cheng-Hock Toh, Academic Vice-President; and **Jordan Marshall**, Policy Manager, Royal College of Physicians

Professor Sir John Tooke FMedSci, Executive Chairman, Academic Health Solutions

Angela Topping, Head of Newcastle Joint Research Office, Newcastle University/The Newcastle upon Tyne Hospitals NHS Foundation Trust

Professor Julie Williams CBE FMedSci FLSW, Associate Director UKDRI Cardiff Centre, Cardiff University

Professor Allan Young, Director of the Centre for Affective Disorders, King's College London

Professor Ian Young, Chief Scientific Advisor to the Department of Health Northern Ireland; Director of Research and Development for Health and Social Care

Dr Anna Zecharia, Director, Policy & Public Affairs, British Pharmacological Society

We are very grateful to all those who have contributed information to the report and apologise to anyone that we have inadvertently omitted from this list.