

# The MRC's Translation Agenda

**John Jeans**

**Chief Operating Officer**

**Medical Research Council**

# MRC mission

---

- Encourage and support high-quality research with the aim of improving human health
- Produce skilled researchers
- Advance and disseminate knowledge and technology to improve the quality of life and economic competitiveness in the UK **and worldwide**
- Promote dialogue with the public about medical research



# MRC funding

---

MRC operating expenditure - £728.8m in 08/09

- 400 new grants to researchers
  - £334 million on grants and training awards in universities and medical schools
- £355 million for over 500 programmes in our research units and institutes
- Licensing income receipts of £66.4 million
  - £439 million total cash generated since 1998

People

- Over 4,000 people in our own units, institutes and centres
- £67.9 million on training and career development
  - Around 350 fellows and 1,400 post-graduate students

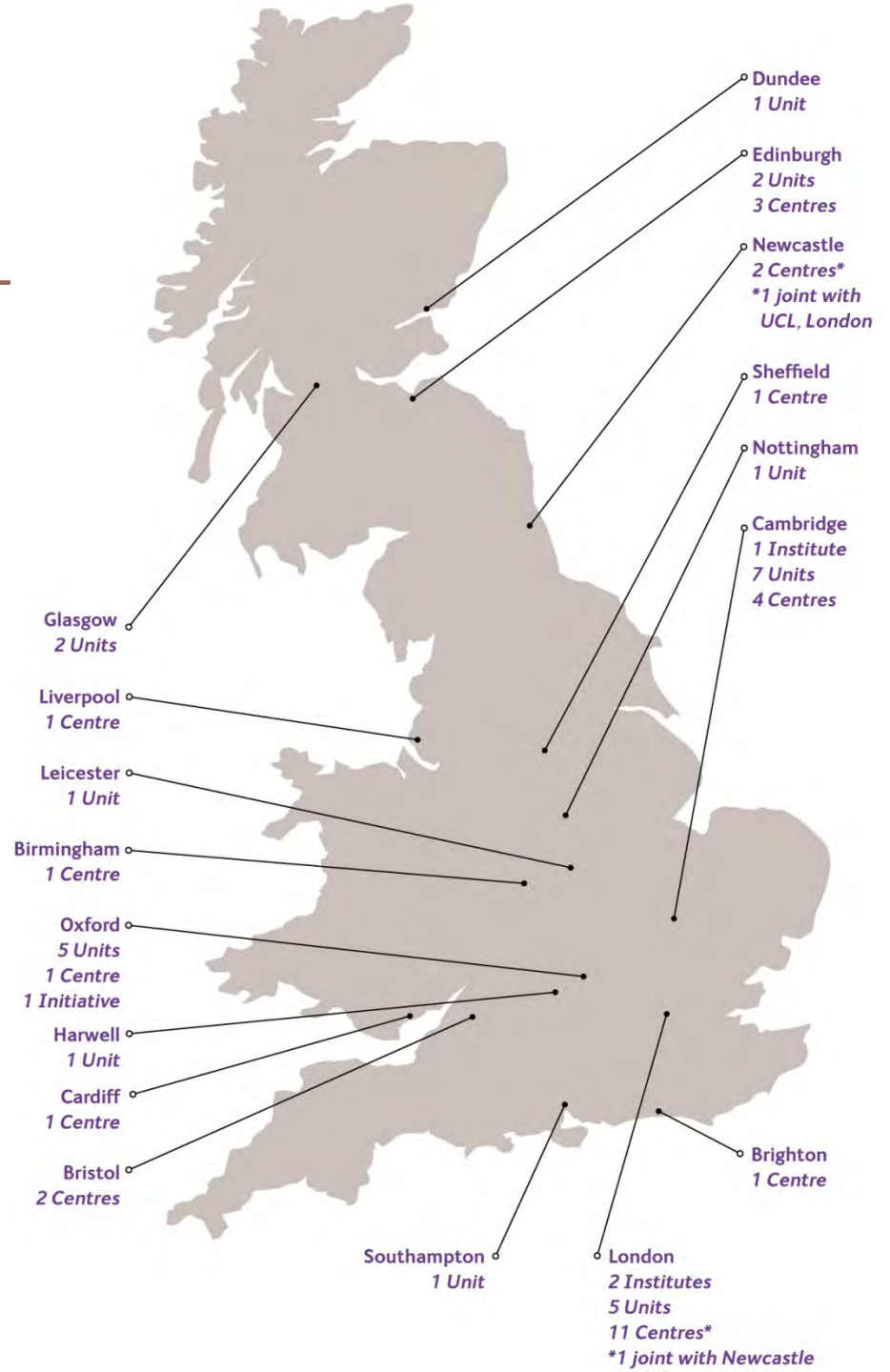
# MRC locations

In the UK:

- 3 institutes
- 26 units
- 27 centres

2 units overseas:

- The Gambia
- Uganda



# Research Changes Lives

---

## MRC Strategic Plan 2009-2014

The MRC aims to support medical research which increases the pace of the transition to better health. We will achieve this through:

- Strategic Aim One: **Picking research that delivers**
- Strategic Aim Two: **Research to people**
- Strategic Aim Three: **Going global**
- Strategic Aim Four: **Supporting scientists**



# Research Changes Lives

---

- 1. Picking research that delivers:** Setting research priorities which are most likely to deliver improved health outcomes
  - Research priority theme one: **Resilience, repair and replacement**
    - Natural protection
    - Tissue disease and degeneration
    - Mental health and wellbeing
    - Repair and replacement
  - Research priority theme two: **Living a long and healthy life**
    - Genetics and disease
    - Life course perspective
    - Lifestyles affecting health
    - Environment and health

# Research Changes Lives

---

- 2. Research to people:** Bringing the benefits of excellent research to all sections of society
  - Translation of research
  - Regulation, ethics, governance and working with decision-makers
  - Communication
  
- 3. Going global:** Accelerating progress in international health research
  - Partnerships and shaping the agenda
  - Global health
  
- 4. Supporting scientists:** Sustaining a robust and flourishing environment for world-class medical research
  - Capacity
  - Use of population-based data
  - Research environment

# Research Changes Lives

---

**2. Research to people:** Bringing the benefits of excellent research to all sections of society

- **Translation of research**
- Regulation, ethics, governance and working with decision-makers
- Communication

**3. Going global:** Accelerating progress in international health research

- Partnerships and shaping the agenda
- Global health

**4. Supporting scientists:** Sustaining a robust and flourishing environment for world-class medical research

- Capacity
- Use of population-based data
- Research environment

# Translational Research

---

- What is it? - turning discoveries into clinical benefits, while maintaining the basic research that drives it

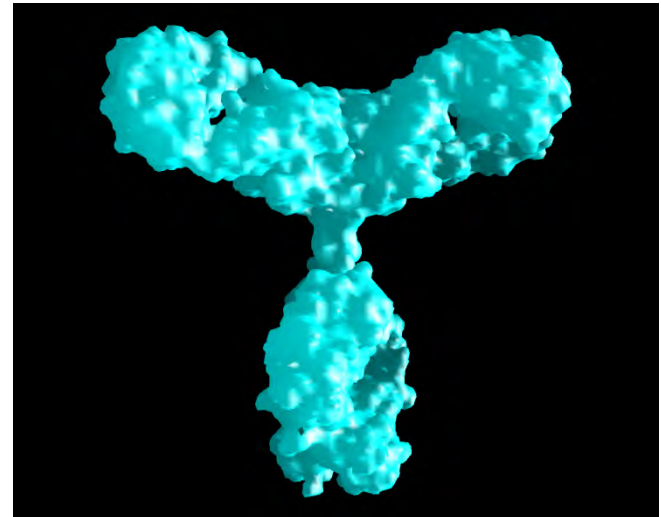


- MRC's translational strategy:
  - builds on the MRC's existing role in pushing forward basic knowledge to improve people's health and wealth
  - strengthens support and oversight of the translational processes

# Monoclonal antibodies


---

- MRC research from 1970s
- Humira® licensed in 2003
- Hundreds of monoclonal antibodies now in clinical use or in clinical trials

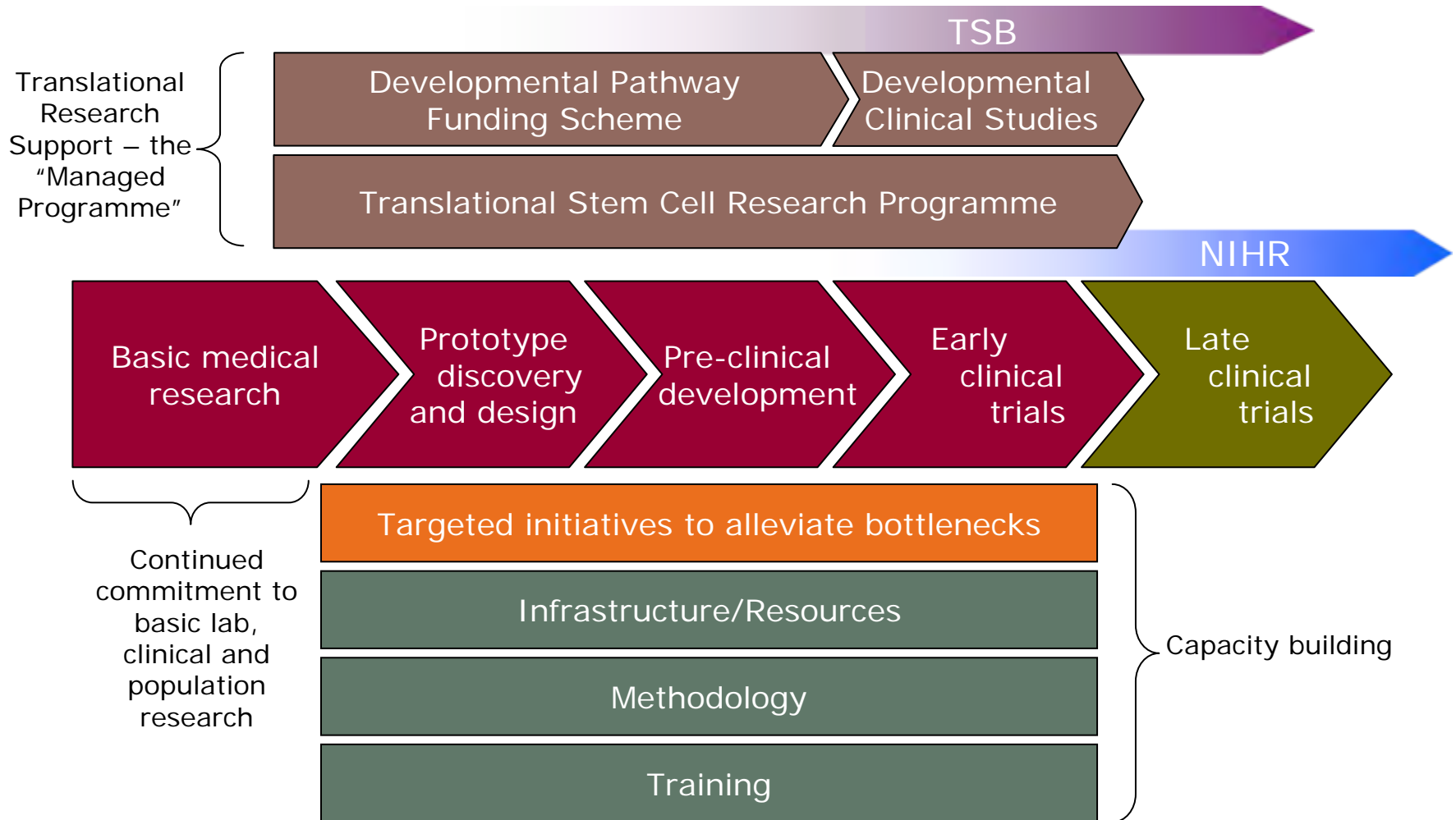


# Translation of basic research takes time

---

- **1973** Mouse antibodies isolated by César Milstein and George Köhler (MRC Laboratory of Molecular Biology)
  - **1986** Michael Neuberger and Sir Greg Winter 'humanise' mouse antibodies
  - Sir Greg develops and patents technology for producing antibodies in test-tube
  - **2003** MRC-developed Humira® - licensed to treat UK arthritis patients
  - **2005** Humira® sold by the MRC to Abbott
  - **2008** 21 monoclonal antibody drugs on market for treating breast cancer, leukaemia, asthma, arthritis, psoriasis and transplant rejection
- 

# MRC's Translational Research Funding



# Translational Strategy Aims

---

- Increase the scale and pace of discovery from discovery through to first human use or commercialisation
- Strengthen R&D in areas where there are currently translational bottlenecks
- Foster more flexible working with industry
- Enhance the quality and scale of infrastructure for translational research
- Develop a strong, internationally unique, programme in research methodology
- Accelerate innovative interventions into late phase II & phase III clinical trials
- Enhance skills and capacity underpinning these areas.

# Translational Investment

---

- Strategic investments
  - Models of Human Disease - £10.6m, 20 studies
  - Biomarkers - £10m, 18 studies
  - Patient Cohorts – 13 studies, more than 7,000 patients
  - Infrastructure - £30m, including  
MRCT Centre for Therapeutics Discovery
- Research Translators
- Skills Gap Awards
- Integrative toxicology training partnership
- Drug Safety Science Centre



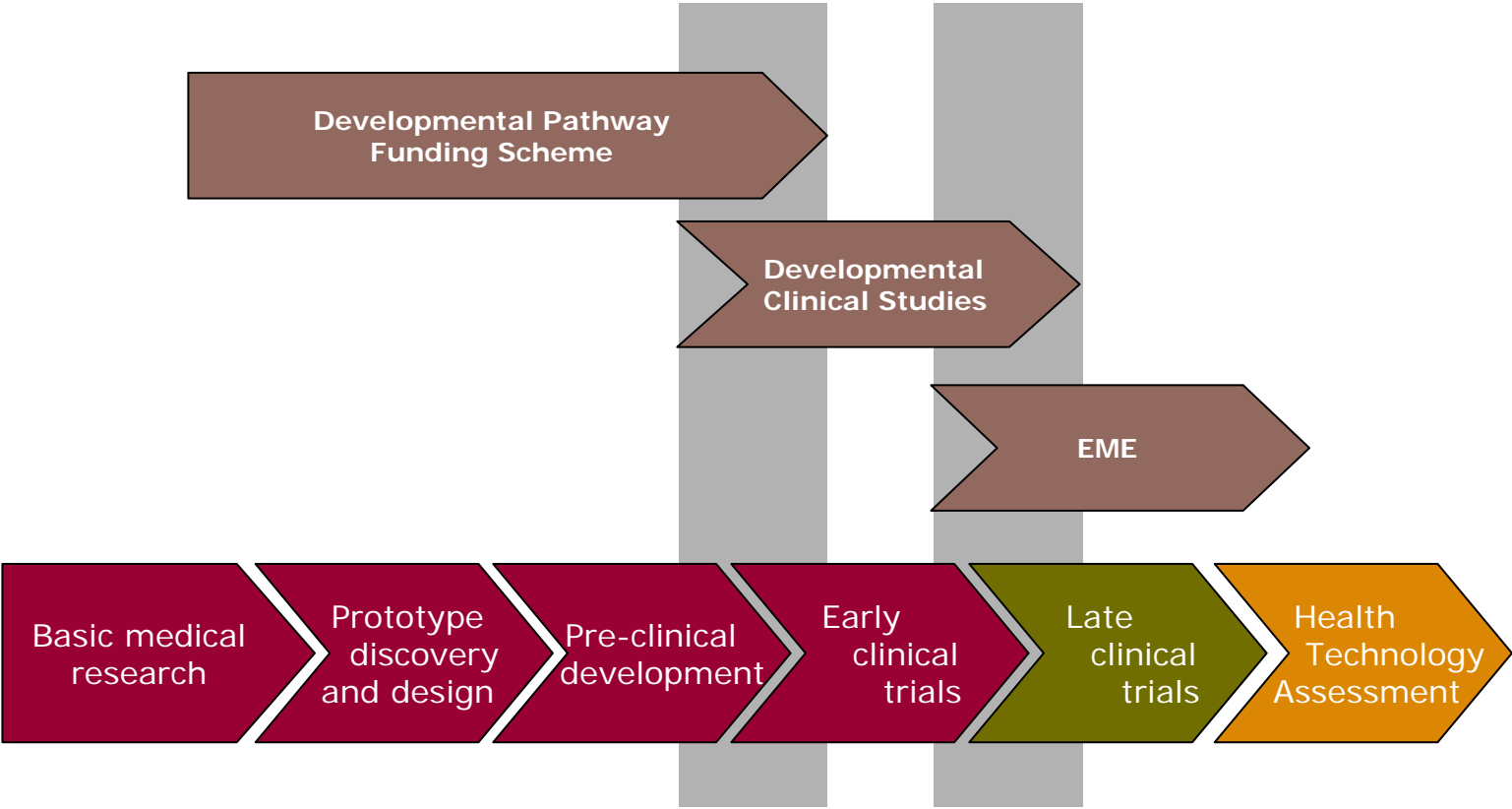
# MRC and Experimental Medicine

---

- EM1 (2006): 28 studies, 1,327 patients
- EM2 (2008): 22 studies, 1,157 patients
  
- Total of **50** studies, of which 37 are “proof of concept”, phase I or phase I/II (including three “first-in-man” compounds).
- Biologicals, vaccines and psychological interventions.
- Total number of patients: **2,484**.
  
- A preliminary analysis of data submitted by researchers funded in the first EM Call shows that the following outcomes are already underway as a direct result of MRC funding:
  - **Preclinical studies** – animal proof-of-concept; preclinical toxicology package; assay development
  - Five **clinical trials** - one phase I; three phase II; one phase III

# The Funding Continuum

---



# Developmental Translational Research

---

- DPFS**
- Goal-oriented not hypothesis-led
  - Funding is milestone-based
    - Quarterly and milestones progress reports
    - Failure to meet milestone may result in funding being terminated
  - Review of applications by DPFS Panel
  - Partnerships with industry welcome
  - Alignment with TSB
  - Piloting “Devolved Portfolios” in 5 institutions
- DCS**
- Supports early-stage clinical studies up to proof-of-concept
  - Assessment process allows for guidance in designing studies
  - Run through MRC research boards, but with separate budget
  - Funding is milestone-based
  - Enables MRC to fund “high risk, high pay-off” projects

## Developmental Translational Research – Delivering **now**

---

- At steady state, the “Managed Programme” will have around 75 live projects.
- Since April 2008, **68** projects have been supported – at a total commitment of **over £22m**, many in partnership with industry:
  - 46 therapeutic interventions
  - 13 diagnostics
  - nine research tools

# MRC Industry Collaboration Awards (MICA)

---

- Support collaborative projects from public to private support
- Flexibility is key, especially the level and nature of the industry contribution
- MICA applications can be submitted to any of the MRC's research funding schemes for which the lead applicant, who must be an academic partner, is eligible
- Academic partners can seek support for costs allowed under the relevant MRC funding scheme
- Industrial party may contribute any amount. However, the MRC will expect the industrial party to meet its own costs
- Level of industrial party contribution will determine whether or not parties can pre-negotiate distribution of foreground IP

# Partnerships with industry

---

- **Inflammation and Immunology Initiative**

- Disease-focused workshops hosted by the MRC and ABPI to bring together academic and pharma researchers
  - » *COPD and rheumatoid arthritis will be the focus of the first two workshops*
  - » *Workshops to identify research priorities*
  - » *Ear-marked funds for excellent proposals*

- **Stratified Medicine**

- MRC in partnership with TSB are coordinating development of an environment in which stratified approaches to healthcare can flourish
- MRC and TSB are developing the case for an innovation platform in stratified medicine

- **DSTT**

- Consortium of leading global pharmaceutical companies and thirteen research teams at the University of Dundee, eight of which are based in the MRC Protein Phosphorylation Unit.

# Conclusions

---

- Time of unprecedented opportunity for medical research

- Strategic objectives:

*Deliverable*

*Require additional push to achieve true potential*

*Not restrictive*

- Essential to maintain response mode approach

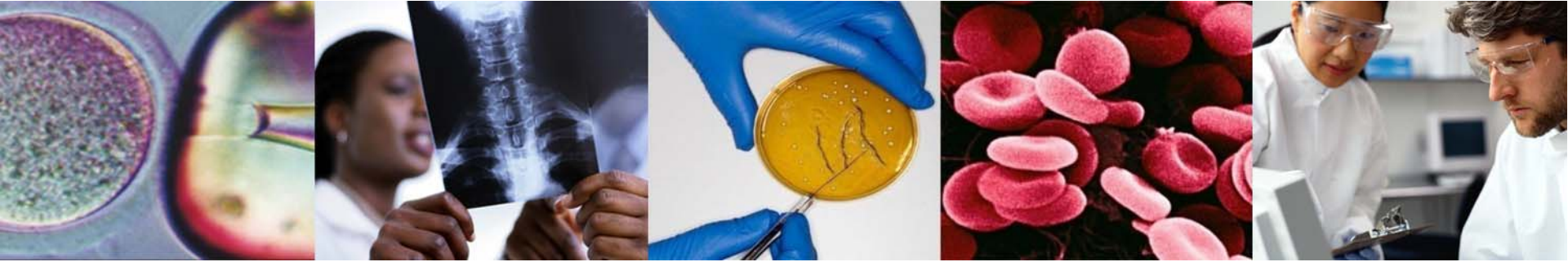
*impossible to predict where the next major advance will occur*

- Maintain a broad and change-responsive base

- Translation is an integral part of the research agenda

*'applied science and not yet applied science'*

- Engage with wider research priorities and partners



Thank you