

# Collaborate to Improve Care

**Fiona Carragher**  
**Deputy Chief Scientific Officer**  
**@DepCSOFiona**

**13<sup>th</sup> July 2016**



# The 'triple aim' for the future NHS

## Care and Quality Gap

- Improving identification and management of patient conditions, making the most of the opportunities available

## Health & wellbeing gap

- Preventing morbidity
- Reducing inequality between various communities



There is currently:

- inequitable access to diagnostics & scientific services
- variable quality in delivery
- commissioning fails to link to the value proposition

## Funding & efficiency gap

- Ensuring effective sustainable services given social and demographic change



# Requirements for the future NHS

- Improving **integration of services** – breaking down barriers between services and developing new integrated structures
- **New structures** for delivering care
- Improving the NHS's ability to undertake **research and innovation** & raising the game on health technology
- More investment in **primary care**
- **Patients have greater control** of their own care
- Radical upgrade in **prevention and public health**



# Healthcare Scientists

## Lab/Pathology Sciences

- Analytical Toxicology
- Anatomical pathology
- Blood transfusion science/transplantation
- Clinical biochemistry including paediatric metabolic biochemistry
- Clinical genetics/Genetic Science
- Clinical embryology & Reproductive Science
- Clinical immunology
- Cytopathology including cervical cytology
- Electron microscopy
- External quality assurance
- Haematology
- Haemostasis and thrombosis
- Clinical Immunology
- Histocompatibility & immunogenetics
- Histopathology
- Microbiology
- Molecular pathology of acquired disease
- Phlebotomy
- Tissue banking

## Physiological Sciences

- Audiology
- Autonomic neurovascular function
- Cardiac physiology
- Clinical perfusion science
- Critical care science
- Gastrointestinal physiology
- Neurophysiology
- Ophthalmic and vision science
- Respiratory physiology
- Urodynamic science
- **Vascular science**

## Bioinformatics including

- Clinical Bioinformatics and Genomics
- Computer science and modelling
- Specialist Health Informatics & analysis

## Physical Sciences and Biomedical Engineering

- Biomechanical engineering
- Clinical measurement & Development
- **Clinical Pharmaceutical Science**
- **Diagnostic radiology & MR physics**
- Equipment management & clinical engineering
- Medical electronics & instrumentation
- Medical engineering design
- Clinical photography
- **Nuclear medicine**
- Radiation protection & monitoring
- Radiotherapy physics
- **Reconstructive Science**
- **Rehabilitation engineering**
- Renal dialysis technology
- Ultrasound & non-ionising radiation

These specialisms are found across the health and social care system in the UK inclusive of the NHS, Public Health England and NHSBT and in the private & third sector delivering NHS services for patients

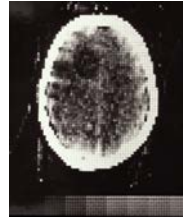
Many of these specialisms have important links with the other professional areas, with some staff having joint registration

# The NHS –a service built on science and technology

**1958:** First diagnostic ultrasound machine



**1962:** Successful total hip replacement

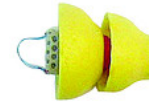


**1971:** First CT scan

**1978:** First IVF baby



**1987:** First digital hearing aid



**2002:** first successful gene therapy



1950

1960

1970

1980

1990

2000

2010

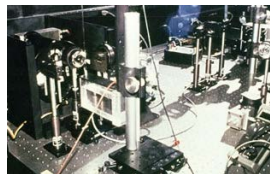


**1958:** Vaccination programme for polio & diphtheria

**1980:** First full body MR scan



**1985:** PCR and automated DNA sequencing



**1995:** introduction of medical lasers



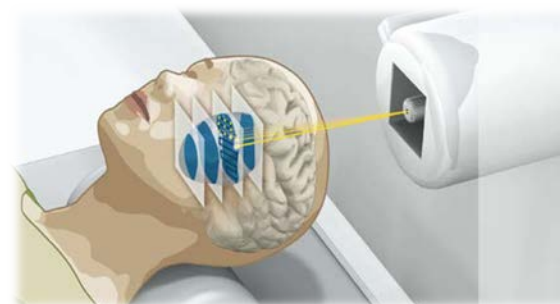
**2010:** First bilateral cochlear implant



*An indicative selection from the last 68 years*



# Science and technology- crucial for the future



## ...Be Innovative

- Bring your ideas to the table
- Think creatively
- Collaborate with clinical colleagues, industry, academia
- Who else can you learn from ?



...how you can make a difference to others?





# ...Take your place in the team



# And be fearless !



- Think about how you can make a difference
- Be confident so your voice is heard
- Say yes to opportunities
- Others may come with you

# Enthusiasm is contagious!



- Break the stereotype
- Have passion and commitment
- Think about how you can play your part in this challenge
- Bring your skill, expertise, creative minds to the problems raised