

The Consultant Clinical Scientist: Your Role in the Future NHS



Professor Berne Ferry, Head of School, NSHCS

Congratulations to all of you

The NHS is lucky to have you

Scale and impact of healthcare science



Approximately **60,000** healthcare staff work in the NHS across **50** different specialties

This is **5%** of the NHS workforce

Most staff work in the **Acute sector** with more than **90% in diagnostics**

HCS staff affect most patient pathways and inform more than **80% of all clinical decisions** in Primary, Secondary and Tertiary care



Healthcare science staff help to **prevent, diagnose and treat** illness using their knowledge of science



Healthcare science staff played vital role against **COVID-19**

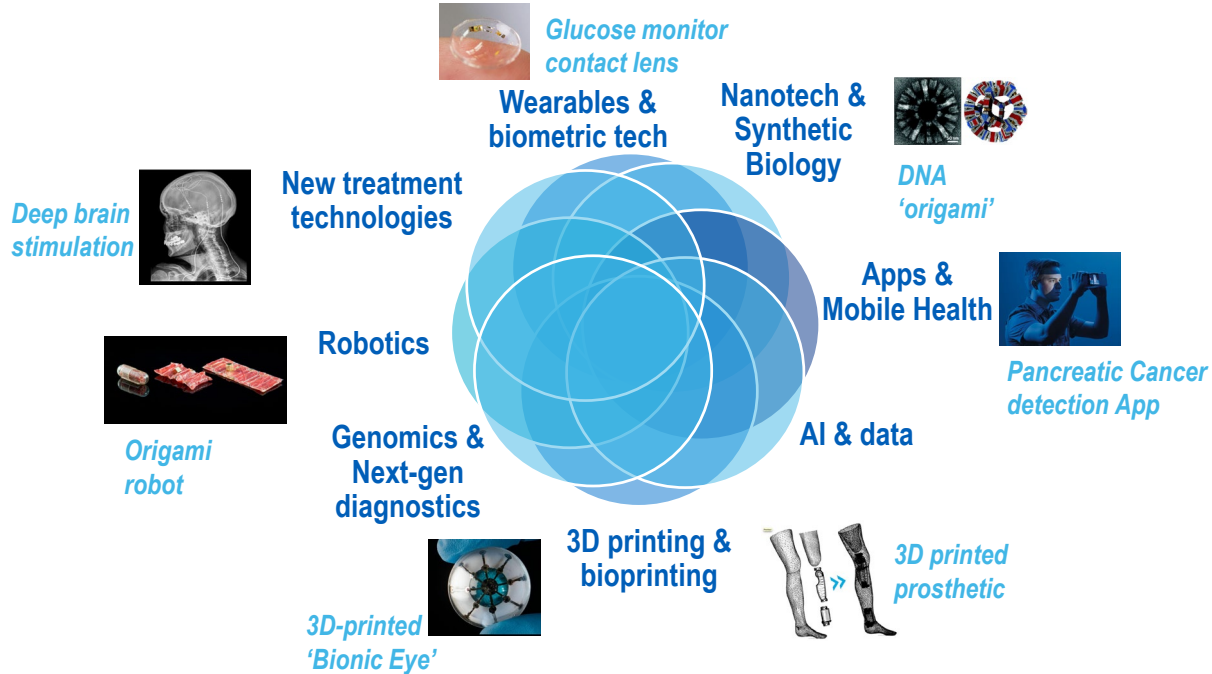
Received great media coverage for

- development of **vaccine**
- develop and deliver **PCR** and all **testing**
- the **ventilator** challenge
- scientists and science critical to **ICU** respiratory, cardiac and critical care



Scientific advance transforming healthcare

HSST will involve scientists in all these areas



Science at the forefront of care

HSST Scientists are involved in all these technologies

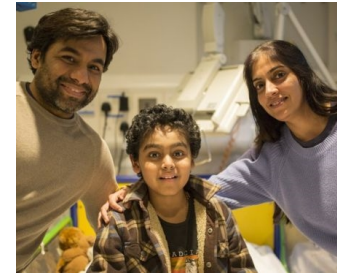
Science has been at the centre of major service developments in 2018

First high energy proton beam patients treated in NHS facility



First children treated using personalised CAR-T immunotherapy for leukaemia

NHS Genomic Medicine Service launches – for consistent & equitable care for 55m population



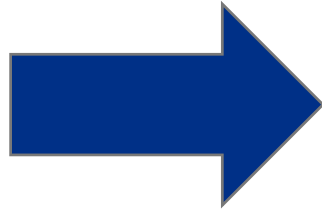
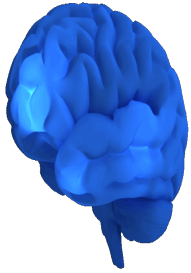
INVENTION

EVALUATION

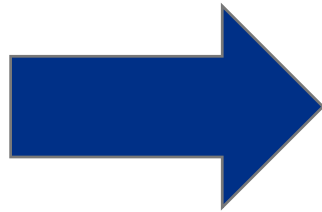
ADOPTION

DIFFUSION

Effective adoption and delivery of new technologies for patient benefit is both a hearts and minds exercise – it requires a rethinking of ways of working and can't just be layered on top of existing practice

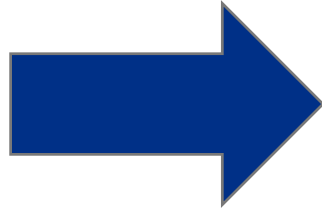
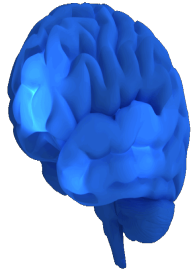


**Ensuring
the technology is
enabled**



**Ensuring existing
working practices
have been rethought
and respecified**

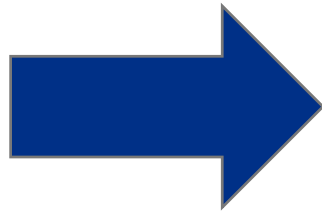
Effective adoption and delivery of new technologies for patient benefit is both a hearts and minds exercise – it requires a rethinking of ways of working and can't just be layered on top of existing practice



Ensuring
the technology is
enabled



**HSST
Scientists
will be
key**



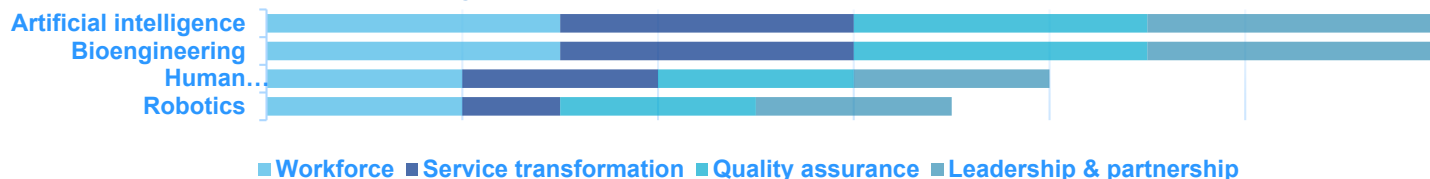
Ensuring existing
working practices
have been rethought
and respecified

Evaluating the consequences of technological change: HSST Scientists will lead on many

Clinical impact in next 10 years



Clinical impact in >10 years



The world of NHS & HEE change



Precision and Personal Medicine

Now

- 'One size fits all' treatment based on **symptoms**
- Organ/ **speciality** organisation of services and professions
- **Limited** use of genomic/molecular markers
- Diagnostic & other clinical **data not linked**

**'One size fits all'
treatments &
intervention**

2021

- New taxonomy of medicine based on underlying **cause** & personal **response**
- Comprehensive **linked** diagnostics to give full picture
- **Tailored therapies** for better outcomes
- **Integrated** clinical services taking a '**whole body**' approach

**Individually-tailored
approach**

Recognising the HCS impact across major health conditions

The Long Term Plan identifies a range of areas across major disease areas where healthcare science specialisms have an impact on improving outcomes

Cancer and Diagnostics

- Community Diagnostic Centres
- Increased physiological tests
- Extended use of genomics & molecular diagnostics
- Personalised screening
- More imaging capacity & Improved radiotherapy

Respiratory disease

- Earlier diagnosis & detection
- Improved spirometry testing & interpretation
- Supporting pneumonia care
- New training courses for respiratory scientists

Cardiovascular disease

- Early detection
- Targeted screening (inc FH testing)
- Multidisciplinary management in primary care
- Increasing the numbers of people able to perform ECHO
- New training courses for EP and Cardiac rhythm

Stroke care

- Further reconfiguration of services with cross-profession competencies, e.g. Mechanical Thrombectomy
- New tech e.g. CT perfusion scans & AI interpretation of imaging

**Senior Healthcare Scientists
are more and more becoming
custodians of vital healthcare
data for patients.**

HSST Training

```
graph LR; HSST[HSST Training] --- A[Working in a multidisciplinary team]; HSST --- B[Understanding the role of HSCs]; HSST --- C[Developing leadership skills]; HSST --- D[Developing transferrable clinical skills]; HSST --- E[Understanding the governance and regulation of our field]; HSST --- F[Learning scientific rationale behind our work]; HSST --- G[Broadening knowledge and awareness];
```

Working in a
multidisciplinary team

Understanding the role
of HSCs

Developing
leadership skills

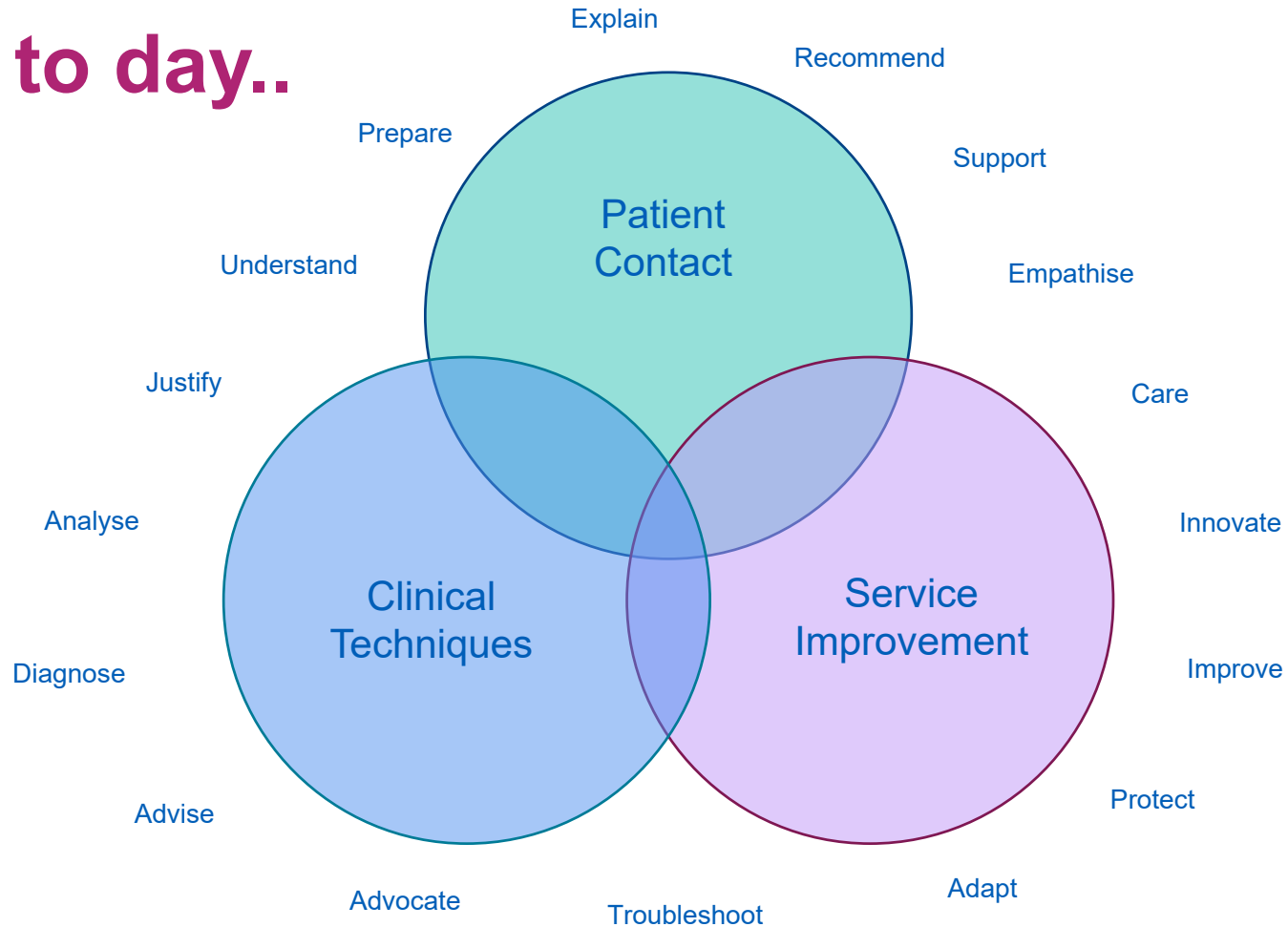
Developing
transferrable clinical
skills

Understanding the
governance and
regulation of our field

Broadening knowledge
and awareness

Learning scientific
rationale behind our work

Day to day..



Top Tips for Success

- Be collaborative
- Talk to one another: Social Media/Facebook **
- Talk to the School: Twitter /facebook
- Seek out Trust Lead Scientists, Departmental Educational Leads
- Seek out Alumni of the programme
- BE PREPARED: to be a pioneer!
- Contact University/ NSHCS for ideas, help, support
- EXPECT CHALLENGES !