# An introduction to HSST

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The bespoke nature of HSST

- **Flexible**

- **Negotiable**

- **Self-directed**

- **Independent learning**

- A programme that is adaptable and responsive to the individuals pathway through HSST

    (while still being mindful of good assessment practice and curriculum alignment)

- Innovative and engaged with stakeholders and community

- What is convincing and sufficient evidence of clinical/scientific competence at this level
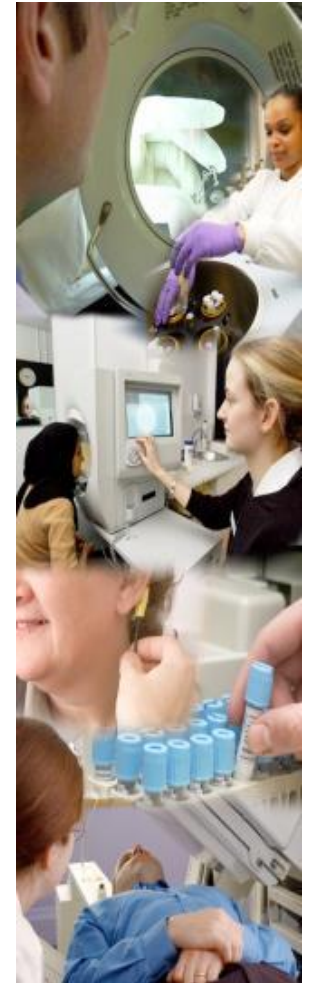
HSST: An overview

- **Bespoke**

- **Self-directed**

- **Experiential and Reflective**

- **£16K Educational allowance**

- **Collegiate delivery**

- **Programme Components**
  - **Workplace**
  - **Innovation and Research**
  - **FRCPath**
  - **Postgraduate Diploma**
  - **DClinSci**

- **Annual Review of Progression**

- **Higher Specialist Scientist**
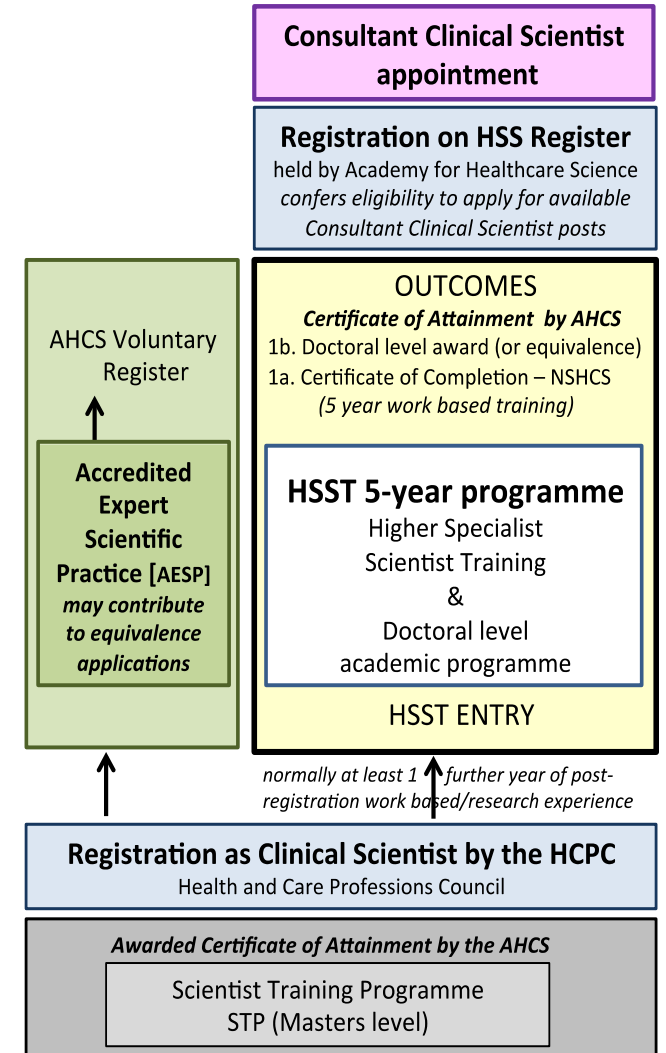
Key components of the HSST programme

- Mastery of higher scientific knowledge

- Mastery of higher clinical/scientific competence

- Personal and professional development:

    - leadership, management, teaching, values, attitudes and behaviours appropriate for higher professional practice

- Contribution to innovation or improvement:

    - service delivery, patient safety, care, public communication/outreach, quality management etc.

Consultant Clinical Scientist appointment

Registration on HSS Register
held by Academy for Healthcare Science
confers eligibility to apply for available Consultant Clinical Scientist posts

AHCS Voluntary Register

OUTCOMES
Certificate of Attainment by AHCS
1b. Doctoral level award (or equivalence)
1a. Certificate of Completion – NSHCS
(5 year work based training)

Accredited Expert Scientific Practice [AESP]
may contribute to equivalence applications

HSST 5-year programme
Higher Specialist Scientist Training
&
Doctoral level academic programme

HSST ENTRY

normally at least 1 further year of post-registration work based/research experience

Registration as Clinical Scientist by the HCPC
Health and Care Professions Council

Awarded Certificate of Attainment by the AHCS
Scientist Training Programme
STP (Masters level)

Unlike STP

There are

- No specified competencies
- No required numbers or types of work place based assessments
- No rotations
- No learning guides

What is there?

A requirement to demonstrate the appropriate application of specialty knowledge and skills through the quality and types of evidence in an e-portfolio appropriately mapped to the domains of the Academy's Higher Specialist Scientist Standards of Proficiency and to the learning outcomes of the specialist curriculum.

and to consistently demonstrate the attitudes and behaviours necessary for the role of a consultant clinical scientist.

http://fiona-ipem-vp.blogspot.co.uk/2017/06/fionas-top-ten-tips-for-scientist.html
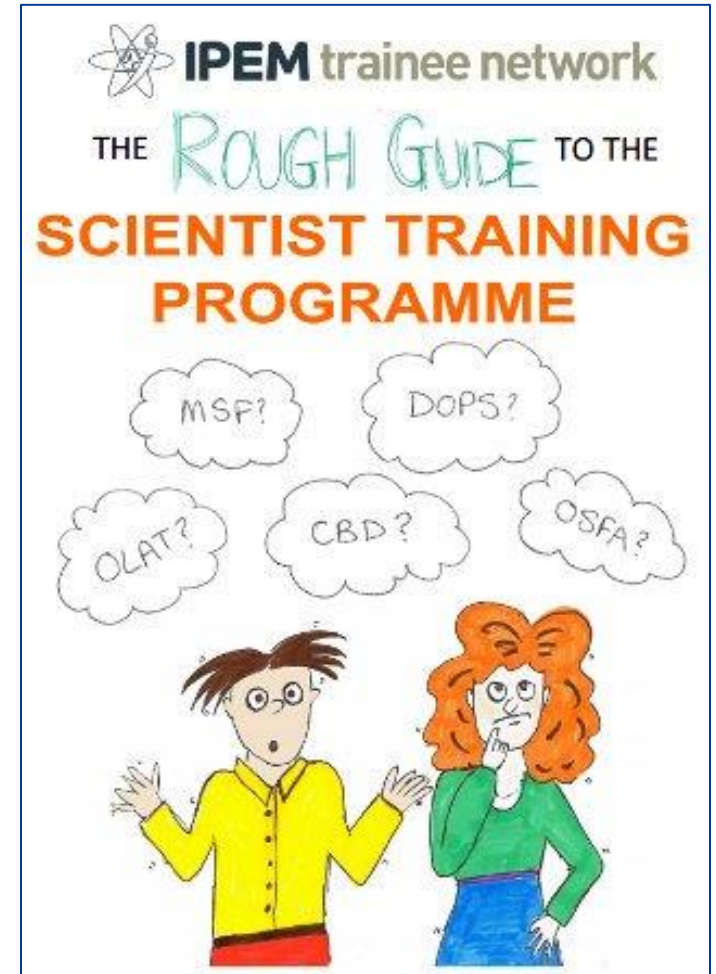
It's a doctoral level challenge

Professional doctorate degrees are equivalent in status and challenge to a PhD but, unlike a PhD, are intended to create knowledge that advances professional practice, rather than furthering academic pursuits and are more appropriate for those pursuing professional rather than academic careers.

- Designed for those who wish to advance their professional practice and further their career
- Aims to develop researching professionals
- Holder achieves the title 'doctor'
- QAA challenge is at Level 8

- Embarking on any doctoral degree programme involves a major commitment of energy, time and finances.

It's an apprenticeship

The 70:20:10 model of learning

"It all boils down to learning, but not the sort of learning you experienced at school (or university). No, it's learning as a life skill. You're learning all the time, taking in new information and making sense of it.
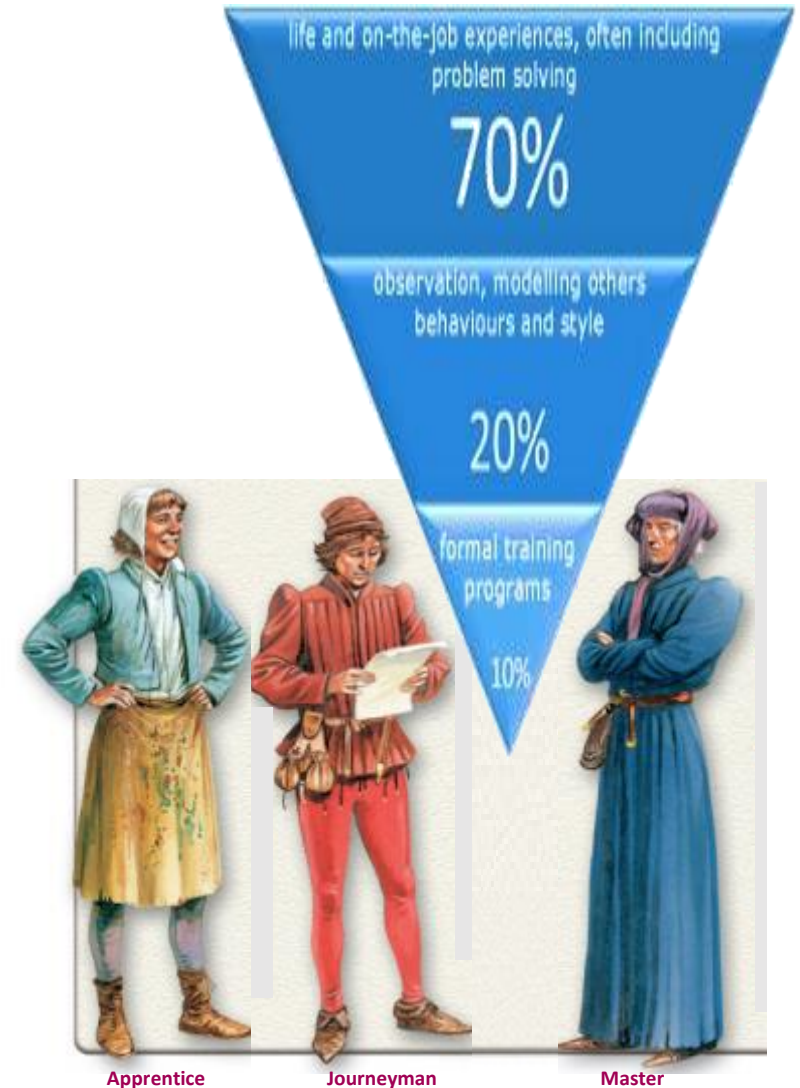
You learn from experience, from conversations with peers, and from the school of hard knocks.

You're in charge of it, not a teacher or institution."

(extract from the first draft of *Real Learning*, a book Jay Cross was working on when he died on Friday 6 November 2015)

The 70:20:10 isn't a 'rule'. The model simply describes learning as it naturally happens and then offers means to accelerate and support that learning:

- as part of the daily workflow;
- through working and sharing with colleagues and experts;
- through structured development activities.

life and on-the-job experiences, often including problem solving

70%

observation, modelling others behaviours and style

20%

formal training programs

10%

Apprentice   Journeyman   Master

Pathway options

Mandatory   **Optional**

for Life Sciences

    FRCPath   PostGradDip

    Extended innovation proposal   DClinSci

    (originally C1 innovation)

    Workplace Learning

for Bioinformatics, Physical and Physiological Sciences

    DClinSci

    (all Sections unless exempt Research Project due to a relevant PhD)

    Workplace Learning

    CEng (Clinical Biomedical Engineering only)

Establishing a Training Plan

"I don't even know where to start. It just seems so huge and daunting. I don't know how to define a plan, what steps to include, or when to raise criteria. It's just easier to go out and do something, muddle around. I know that's not efficient, but at least it's something."

Designing a training plan

- Establish training goals
  - Curriculum content
  - What is possible
  - What are the required outcomes

- Develop the content
  - Planning progression
  - Designing the outputs
  - Outlining the structure over the five years
  - Establishing a timeline
  - Making time for preparing for training

- Define specific items
  - For assessment
  - Tools for recording evidence
 - Using colleagues
  - Looking at possible gaps

Curriculum

HEI
RCPath

The Training Plan

Evidence

E-Portfolio

HSSR Standards of Proficiency

Workplace

Achieving the right balance

The Job Plan　　　**vs.**　　**The Training Plan**

- Meeting the needs of the department in service provision

- Assigned roles and responsibilities

- Working at a defined level

- Setting objectives

- Personal Development

- Time set aside for training

- Meeting the needs of the curriculum and HSSR standards

- Included in the individuals job plan

- Bespoke!

- Assessed

- Scrutinised
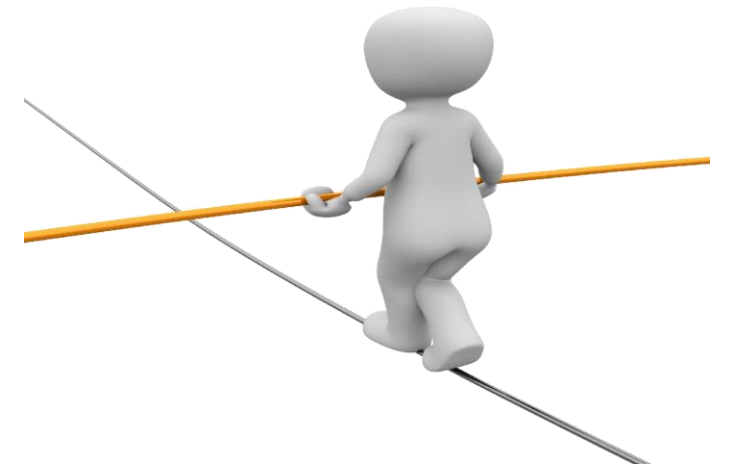
The e-Portfolio: OneFile®
Recording and assessing evidence

- A place to record, review and renew the training plan

- A record of professional development and experience

- Specific to work practices and role

- Reflective and evaluative content, not just a record

- Confidential

- Useful as a historic, current and future learning tool

- Dynamic document which can be tailored to specific needs

Making experience count

Experiential Learning

- "Learning is the process whereby knowledge is created through the transformation of experience"

  (Kolb, 1984)

- Experience is achieved through workplace learning

- Evidence is constantly changing and evolving

The Experiential Learning Cycle

CONCRETE EXPERIENCE

REFLECTIVE OBSERVATION

ABSTRACT CONCEPTUALISATION

ACTIVE EXPERIMENTATION
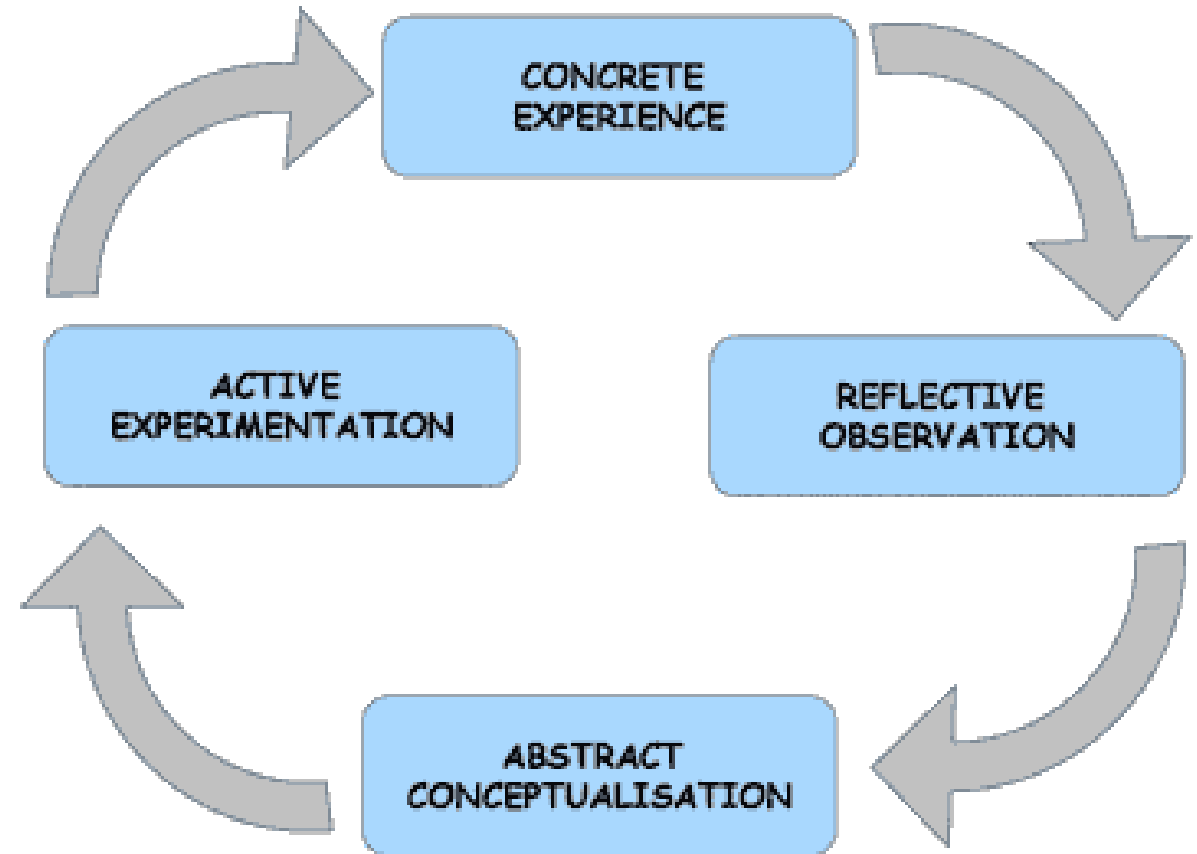
Making evidence count

Evidence should be:

- Sufficient
- Authentic
- Relevant
- Current

It should meet:

Specialist Curriculum Learning Outcomes§

and

Academy's Standards of Proficiency for Higher Specialist Scientists

§ The term Learning Outcomes is adopted in its widest sense and may not be explicit as such in programme documentation.

Evidence can be:

Direct:

Observed performance; Projects or work based assignments; Personal reports; Minutes of meetings, action plans, progress reports; Internal and external correspondence; Prior qualifications which relate directly to the curriculum; Product evidence e.g. examples, samples; responses to oral or written questions; Video or authenticated audio tapes

Indirect:

Witness testimonies from people within or outside the organisation; Achievement in related areas; Attendance at courses/training activities relevant to the curriculum or standards; Membership of related committees or outside organisations

Indirect evidence is normally used to support or confirm direct evidence.

Learning Outcomes as a surrogate

Learning/Module Objective

Offers evidence against the specialist curriculum that they can:

- analyse, synthesise, evaluate and apply knowledge

- perform a range of technical and clinical skills and procedures

- demonstrate the attitudes and behaviours necessary for professional practice as a consultant clinical scientist dealing with the complexities, uncertainties and tensions of professional practice at this level.
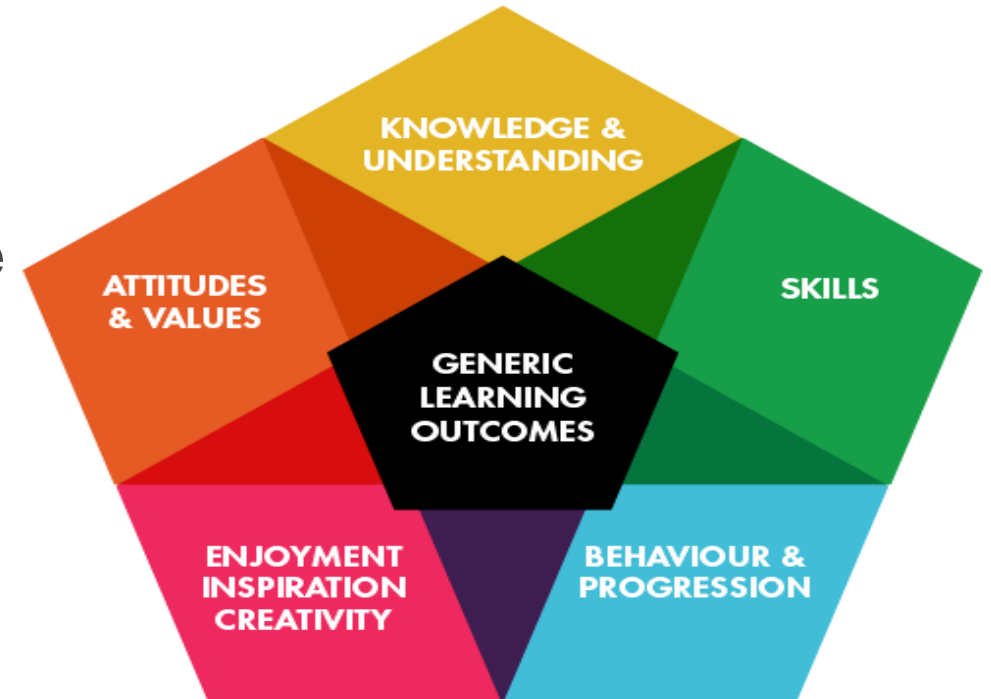
HSST Research modules

There are a number of research components to HSST

- Extended Innovation Proposal in Clinical Sciences

- DClinSci Research Project

- FRCPath part 2 written options (*some Life Sciences only*)

Integration, cohesion and overlap between these projects where possible is an agreed principle between NSHCS, MAHSE and RCPath

FRCPath	DClinSci	Workplace

Section A
Leadership and Management

Exit →

Postgraduate Diploma

Part 1
Specialist Scientific Knowledge

Section B
Scientific Component

Section C
Research Component

Extended Innovation Proposal in Clinical Science

Research Project

Part 2
written option

Innovation in Clinical Science
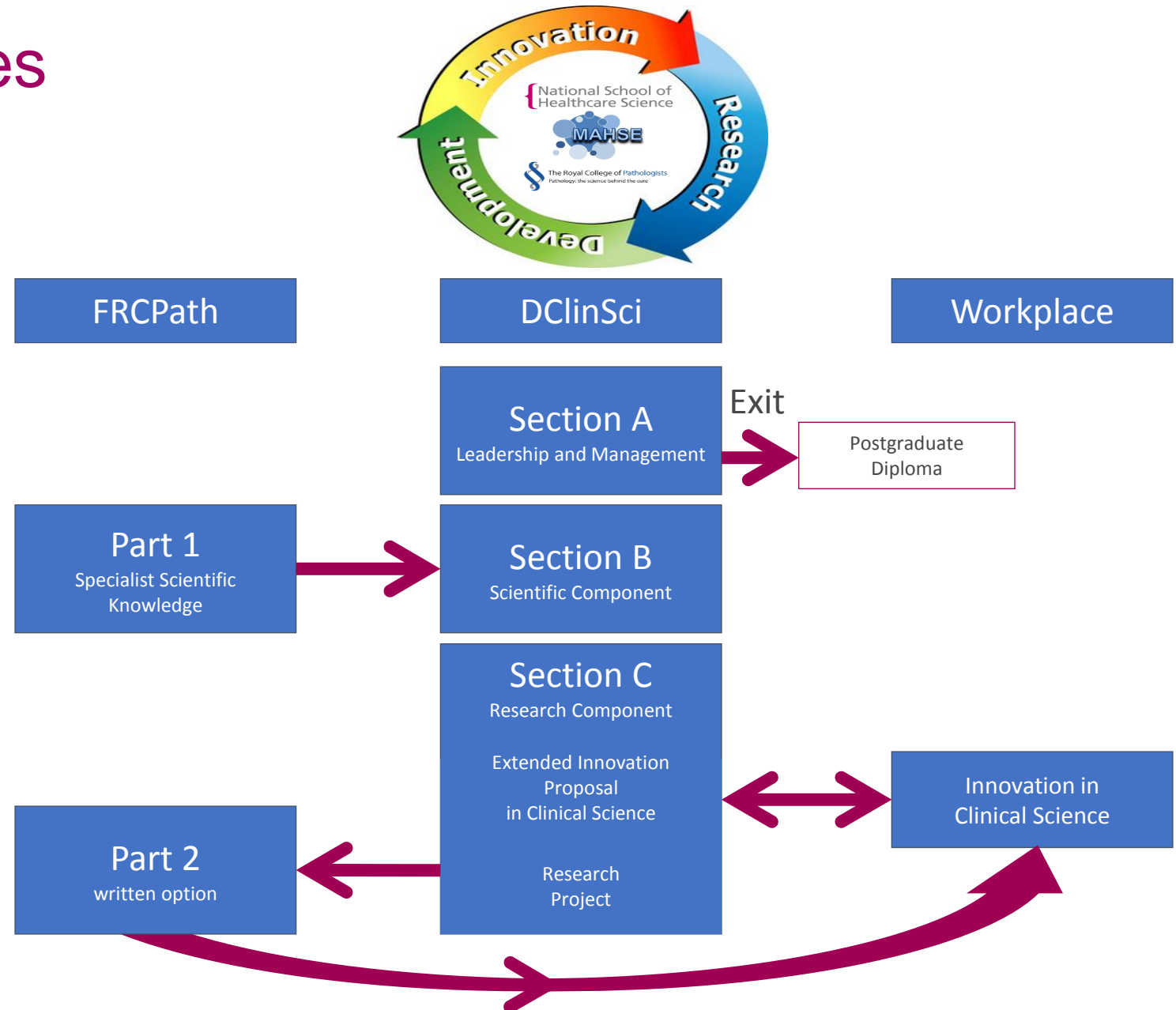
Innovation in Clinical Science

- HSST designed to develop as leaders and innovators in healthcare science.

- Need to show evidence of ability to conceive, plan and critically evaluate an idea for innovation.

- Evidence will make valid contribution to completion of HSST learning outcomes.

- Working in Partnership
  - in the Workplace: a workplace supervisor who may or may not be a project supervisor for one or both Section C components
  - at the University: an academic Supervisor

Employer responsibilities

- Delivery of the specific curriculum and assessment requirements

- Provide sufficient practical experience to allow achievement and maintenance of scientific, clinical and professional requirements required by the curriculum

- Provide an educational induction to make sure the trainee understands their curriculum and how their post fits within the workplace and the training programme requirements

- Provide opportunities and support for the trainee to develop clinical and practical skills and professional capabilities

- Offer opportunities to work and learn with other members of the team and to support inter-professional multidisciplinary working

- Facilitate regular, useful meetings with clinical and educational supervisors.

- Arrange placements long enough to allow integration as members of the multidisciplinary team, and to enable team members to make reliable judgements about their abilities, performance and progress

- Ensure a balance between providing services and accessing educational and training opportunities.

- Design assessments mapped to the requirements of the curriculum and appropriately sequenced to match the trainee's progression through the programme to meet the Academy's Standards of Proficiency for Higher Specialist Scientists

- Arrange that assessments are carried out by someone with the appropriate expertise.

Adapted from GMC Guidance. Promoting excellence: standards for medical education and training at
http://www.gmc-uk.org/education/standards.asp

The workplace supervisor

- Oversees the education of the trainee,

- Ensures that they make the necessary clinical, scientific and educational progress

- Provides pastoral care and career guidance

- Delivers the trainee's training plan plan to deliver on these responsibilities

Ideally will be:

➢ Consultant grade or equivalent

➢ A postgraduate qualification

➢ An enthusiasm for training and developing scientists

➢ A commitment to CPD, and to remaining up to date

➢ Good communication skills, approachability and interpersonal skills

➢ An understanding of equal opportunities

➢ Time and resource allocated in their job plan to deliver on these responsibilities
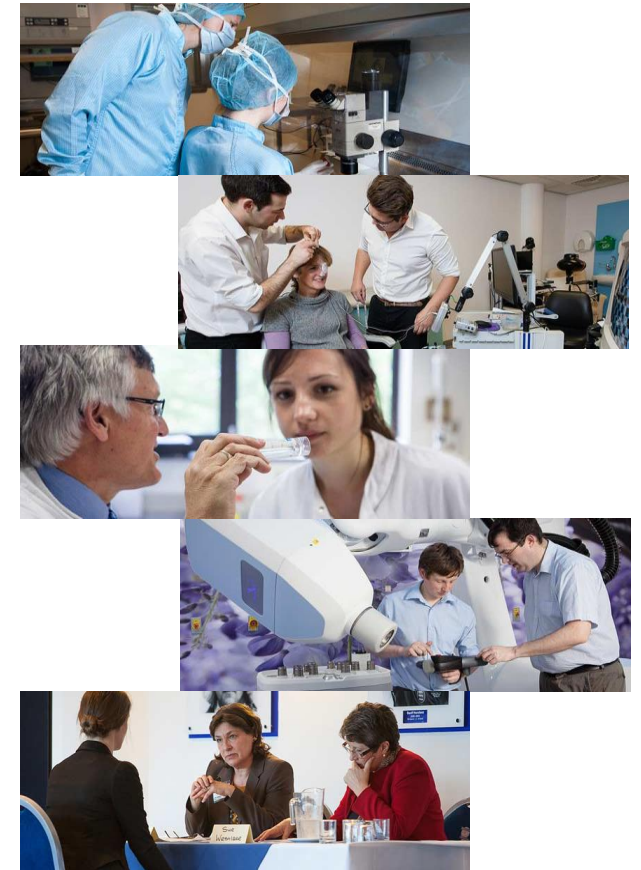
The training allowance

A training allowance of £13,000 per trainee per year, for 5 years of training to the employer.

This is in addition to tuition fees for the DClinSci academic programme held centrally by HEE WM LO to commission the Doctoral Award with MAHSE and applies to both "direct" posts and to 'in-service' posts.

- It can be used flexibly by the employing department to cover costs of programme access and opportunity costs of training. To include as a minimum;

  - Expenses, including travel and accommodation costs associated with required HEI attendance as part of the DClinSci;
  - Costs of any additional learning that may be needed outwith the DClinSci including travel and accommodation;
  - Research project costs;
  - Costs of cover to enable release of the individual undertaking HSST.

- The employing or host department commits to releasing the individual to access the formal academic learning and to support them with time to undertake the required workplace research and learning.

- Agreement between the Trainee and their workplace on the level of support available is to be reached prior to an individual commencing the programme.

Note that HEE reserves the right to audit the use of the training allowance to ensure it is being used solely to support and be of benefit to the individual trainee.

HEE Funding Guidance at:
http://www.nshcs.hee.nhs.uk/current-hsst/nhs-higher-specialist-scientific-training/hsst-funding-guidance

Successful Progression

Workplace Evidence

- Regular development and review of a training plan
- E-portfolio demonstrating the appropriate application of specialty knowledge and skills through the quality and types of evidence and appropriately mapped to the domains of the AHCS Standards of Proficiency for Higher Specialist Scientists and referenced to the learning outcomes of the specialist curriculum
- Extended Innovation Proposal (part of Section C DClinSci)
- IAPS (Bioinformatics, Physical and Physiological Sciences only)
- Annual Review of Progression
- A Final Sign Off by Workplace Supervisor

Professional Evidence

- Fellowship of the Royal College of Pathologists (by examination)
- CEng (Clinical Biomedical Engineering only)

Academic Evidence

- DClinSci or Postgrad Diploma
- A relevant PhD (as Section C Research Project exemption criteria)
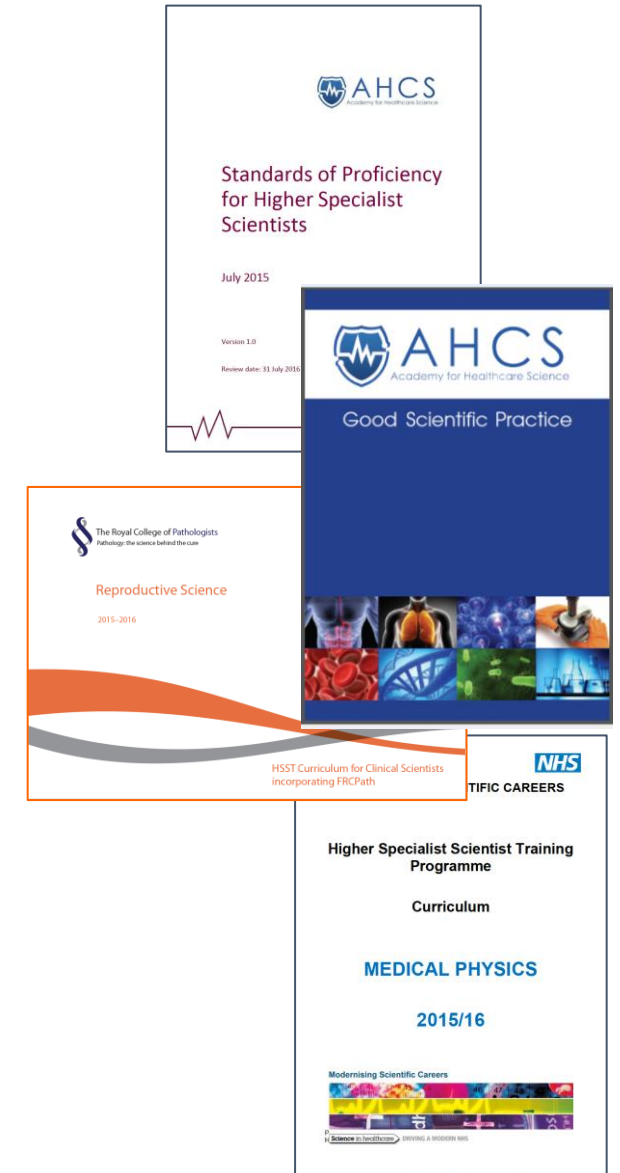
Final thoughts on HSST

- Aim is to build a rich, detailed portfolio of evidence of each individual's achievements and competence at a higher scientific level

- Be innovative and creative in development of learning plans and gathering evidence of competency

- Be efficient - don't duplicate efforts (make use of *naturally occurring evidence* and evidence for DClinSci or FRCPath)

Help us and help yourself

- Become active in your trainee network

- Join in the Webinars

- Become an OSFA Station Writer

- Train to become an OSFA Assessor

Further information

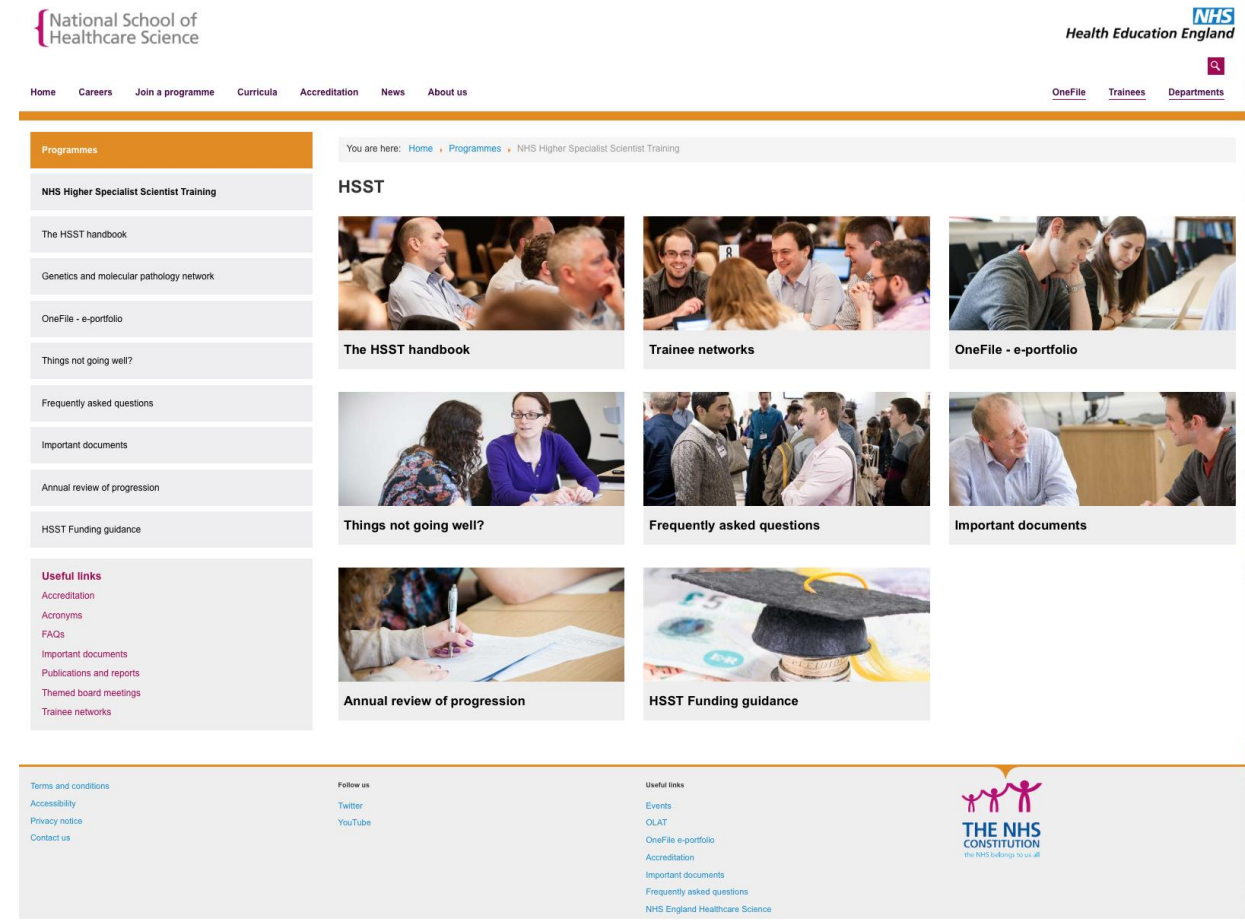National School of Healthcare Science

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