Leading the Way: bringing your workforce with you

The 8th National Conference for Radiology Managers

Thursday 24th May 2018
The Pullman Hotel, London
Patient Safety in Healthcare; learning from Weatherspoon pubs and Chinese Takeaways and not just the pilots

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Human Factors – Learning from pubs and takeouts and not just pilots

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Is it just more knowledge we need?
"A long habit of not thinking a thing wrong gives it a superficial appearance of being right."

Thomas Paine (1737–1809)
So what exactly is Human Factors?
What Went Wrong: Traditional Analysis
“Insanity: doing the same thing over and over again and expecting different results.”

Albert Einstein
The Human Factors Diagnostic Lens

- Systems
- Processes
- Team Working, Culture (Values & Behaviours)
- Procedures
Should there be less of this learning?
And more learning from here?
Human Factors: A Definition

‘Enhancing clinical performance through an understanding of the effects of teamwork, tasks, equipment, workspace, culture, organisation on human behaviour and abilities, and application of that knowledge in clinical settings.’

Catchpole, 2010
Clinical Human Factors Group
Judgement & Decision Making
Leadership, Communication & Teamwork
Empathy & Compassion

A set of:
(i) behavioural and
(ii) cognitive skills
over and above technical competence

How **to behave** and
how **to think** at work
What it really means to us......

“learning how best to not bugger up at 2am despite being tired and overworked, working with people who you may not like in a hospital which is under-resourced and full of Hunt induced rota gaps.......”

Rob Galloway 2018
In addition……

“……..whilst working with junior Drs who think CT is a replacement for a history or examination…..”
Despite this human factors is key to reducing patient harm...by changing how we think and act.
THE EXTENT OF THE PROBLEM....
Rate of Adverse incidents

- Adverse incidents are not always preventable. But many are
  - Diagnostic errors – up to 15%
  - Treatment errors – up to 10%

- Adverse incidents don’t always lead to problems, but many do

- 3rd Biggest Killer.
Impact of adverse events

- To the patient
- To the NHS
- To the staff
But haven’t we changed already?
To an extent....

• In theaters change is happening
• But is it still a tick box culture?
But what about more challenging places?
Like an A&E @2018
Apologies .......... 

“Age? You mean now or when we first sat down?”
But every environment has their challenges especially so in imaging and interactions with others.....

Can Human Factors make a difference?
Aims of the Session

• Understand why medical errors happen
• Look at the 8 key cornerstones of traditional human factors
• Look at human factors in a wider context – importance of resilience and values and behaviours
• Look at simple things we can do to make a difference
Most of what we will discuss is obvious
And often very basic

IF THEY ARE ONLY BASICS

DO THEM WITH EXCELLENCE!
Why medical error occurs....
Swiss Cheese error model – and lines of defence; avoidance, trap, mitigate
Person
model

Sees errors as the product of wayward mental processes: forgetfulness, inattention, carelessness, etc.

System
model

Health carers are human. They will make errors.

Errors reflect predictable human failings in the context of poorly designed systems.
My case from a week ago......missed fracture......

My fault or ‘the system’
Preventing it…….

- Personal...I need to be more careful ????
- Use human Factors....checklist for looking at an X-ray ?????
- Flat hierarchy prevented problem
- Systems solution.....PACS could have in RED AND BOLD NOT TODAYS XRAY
From his book *Complications*:

“The important question isn't how to keep bad physicians from harming patient; it's how to keep good physicians from harming patients.”
How human factors can help...
Human Factors: Core Concepts

1. Maintain Situational Awareness
2. Understanding how we make decisions, cognitive errors and prevent fixation errors
3. Working as a team and leadership/followership
4. Know your environment and team
5. Communicate Effectively
6. Use cognitive aids – Checklists; anticipate and plan
7. Call for help
8. Debrief and learn from cases
Underpinning all this is....

- Values and Behaviors of the organisation
- Looking after the key diagnostic tool we know.....us
1: Situational Awareness
When we lose situational awareness........

1. We don’t notice things, which are obvious

2. We make assumptions which are not true

3. We can be deceived easily
1: Failure to notice
Asked to report this scan?
2: Making false assumptions

This is an Awareness Test
See how smart you really are...
PARIS
IN THE
THE SPRING
PARIS IN THE SPRING
3) Being deceived
- a simple magic trick. Pick one card.
I have removed one card – did I remove yours?
SO WHAT’S THE ANSWER.....?
Improving situation awareness

- Realise You Are fallible
- Use your team
- Flat Hierarchy
- Sterile Cockpit
2. Decision Making
Complex......

• Understand Cognitive limitations
• Type 1 and Type 2 thinking
• Understand biases
• Fixations errors
• Understanding how we make diagnosis/impact of treatments
Cognitive Limitations

- Unconscious incompetent
- Conscious incompetent
- Conscious competent
- Unconscious Competent
Dunning-Kruger Effect

Unskilled and Unaware of It: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-Assessment.

Nobel Prize Psychology 2000
Type 1 and type 2 thinking

Type 1 - jump to a conclusion
Type 2 – methodically work it out
Type 1 thinking....the problem of biases
Biases.....What’s going on?

• 60 year old
• Loin pain
• Previous kidney stones
• Some blood in urine

• Asked for BP.....
Example of conformation biases

- A number game
- 2,4,6,8,10,12
- What’s the rule?
Answer?
Answer?

Just Goes up.....
Multiple other biases....
Fixation bias
#Susananalbumparty
Clinical example

• - fixing on a cause of hypoxia after intubation, assuming it has to be due to the intubation
• - dismissing worrisome data
Type 2 thinking...how do we improve this
Therapeutic Decision making

• What does reduce risk of death by 1/3 mean?

• Need to understand, number needed to treat and number needed to harm
Diagnostic decision making....

• Understand Bayesian theorem of medicine.
• Understand how information and simple app technology can help us...each test result you give us should include a Likelihood ratio

• Clinicians need to get better at estimating pre test probabilities....
  – We need to know base rates of conditions
  – We need to practice medicine in the light...to improve our pre test probabilities

• Clinicians need to get better at discussing with a patient if a test is needed: Number needed to investigate....

• Clinicians need to be better at explaining results of test.....
Clinical Question

• A patient is reviewed and they think he has a low risk of HIV – 1% - but do they test anyway.

• Sensitivity is 99.9999%

• False positive rate is 2 %

• He tests positive.....what’s the chance of HIV?
3: Teamwork - Leadership and Followership
Must counteract natural tendencies

• Bystander Effect

• Ringelman affect

• People not wanting to speak up

• People going along with frankly bizarre things....
SOLUTION. FLAT HIERARCHY. GET EVERYONE TO FEEL COMFORTABLE. GIVE PERMISSION TO CHALLENGE
4: Know your environment and team
5. Communication skills

Between health care professionals
Communication

• Closed loop:
• SBAR SBAR
• Using standardised systems for raising concerns e.g. PACE system
  Probe
  Alert
  Challenge
  Emergency
• Checking if people are ready to receive information
• Know people’s name – using a PC name badge
6. Cognitive aids – checklists, prompt cards and SOPS
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**Anaesthetics and Resuscitation Guidance**

- Adult ALS
- Paediatric ALS
- Newborn Life Support
- Emergency Cardioversion
- Adult Tachycardia Algorithm
- External Pacing
- Adult Bradycardia Algorithm
- Anaphylaxis
- Anaphylaxis Algorithm
- Traumatic Cardiac Arrest Algorithm
- Post Resuscitation Care Algorithm
- Emergency RSI Checklist
- Difficult Airway Society (DAS) Guidance
- Sedation Checklist
- DAS Can’t Intubate/Can’t Oxygenate Guidance
- Code Red Haemorrhage

**Procedures**

- Central Venous Catheter Insertion
- BTS NIV Guidance
- BTS Pneumothorax Guidance
- Chest Drains/Injuries
- Organ Donation

**Medications**

- Naloxone Infusion
- Aminophylline Infusion
- Salbutamol Infusion
- Starting Vasoactive medication
- Labetalol Infusion

**Clinical Scores**

- Emergency RSI Checklist
- Difficult Airway Society (DAS) Guidance
- Sedation Checklist
- DAS Can’t Intubate/Can’t Oxygenate Guidance
- Code Red Haemorrhage
Trauma/ASHICE briefing and preparation

Think SPORT:

Staffing – Introductions, sign in, name stickers and personal protective equipment

Patient details – pre-hospital information relayed to team

Organise – roles assigned including team leader, primary survey + ultrasound, IV access + bloods, medications (pre-draw analgesia, anti-emetics, tranexamic acid), liaison with relatives, scribe. Equipment checking (by relevant team members) and consideration of code red and/or specialist teams if not already present

Reception of patient – lookout posted outside, logistics of transfer, immediate needs addressed, SECAmb/HEMS handover, prompt booking onto system by reception staff, blood forms printed, imaging requested

Treatments – identification of potential further procedures such as intubation/chest drain/catheter etc.

Box 1: Prepare Team members:
- Team Leader (ED Consultant)
- Anaesthetist & ODP
- Primary Assessment Doctor
- Nurse (2 if available)
- Procedures Doctor
- Scribe
- IV Access & Bloods
- Porter

Box 2: Prepare Equipment:
- Monitoring
- Intubation bag
- Ventilation bag
- Intubation drugs
- Difficult airway trolley
- Bag valve mask
- Oxygen
- Working suction
- Bougie
- IO gun
- USS Machine
- Yellow Scoop
- IV access and bloods tray
- Fluids
- LUCAS if required
Trauma Imaging and Interventional Radiology

Are there clinical signs or a mechanism of injury suggesting a possible solid organ or pelvic injury?

⚠️ Obtain full CT Traumogram and radiologist report (RSCH Bleep 8800/PRH Bleep 6157)

Is there CT evidence of:
- Hepatic, Renal or Splenic Injury with active arterial bleeding or significant haematoma?
- Pelvic Injury (without or without fractures) with active arterial bleeding or significant haematoma?
- Aortic Dissection or Transection?

⚠️ Contact consultant interventional radiologist on call via switchboard and ensure immediate surgical review has been requested

The decision to undertake embolisation will depend on:
- Grade and position of injury
- Patient stability and estimated blood loss
- Surgical opinion and potential alternative (especially in high grade injuries)

If a decision is made to embolise for haemorrhage control:

Refer to prompt cards 2 and 2a for preparation for transfer to the IR Suite (Theatre 6)

⚠️ Seek anaesthetic support in all cases
Pre-Transfer Checks – TO BE READ ALOUD TO TEAM:

1) **SAFE for Transfer?**
   - Based on A.B.C.D.E. assessment in the last **5 minutes**?
   - If intubated has patient had enough sedation +/- paralysis
   - Are appropriate airway management skills present?

2) Get **TRANSFER EQUIPMENT**
   - Green transfer bag, working suction, drugs, monitoring
   - Set alarm limits
   - Ventilator checked
   - Adequate battery life for portable equipment?

3) **ON OXYGEN?**
   - Do you have enough for transfer?
   - Once on cylinder $O_2$, **REPLACE** the **FLOW METER TO THE WALL**

4) **PLAN YOUR ROUTE** – does someone need to go ahead to clear corridors/hold lifts?

5) **DESTINATION** ready? – (Inform ITU/HDU 15 minutes in advance)
   - If for CT then contact Radiographer (bleep 8800) [PRH – 6157]
   - If for X-ray then contact Radiographer (RSCH X-Ray ext 4242)
   - Ensure you have enough staff to move/log roll patient
   - Ensure IV cannula is sited and flushed for contrast.

6) **If all team members are in agreement then commence transfer**

---

**PLEASE DO ARRIVAL CHECKS (P.T.O)**

**Document NOW!**

Prompt Card 2
Arrival Checks:

1) Arrival at destination:
   → Plug oxygen into the wall at the earliest opportunity
   → If at CT then plug equipment into the wall and ensure monitoring is visible
   → If at ITU/HDU then ensure team at bedside ready to receive; leave portable equipment on at first

2) Reassess Patient:
   → Re-assess A.B.C.D.E including observations and capnography on portable monitor
      → Ensure patient stable enough for scan
      → Allow anaesthetist and nurse to establish ICU ventilation if this is destination

3) Staff: Do you have enough staff to log roll the patient for scan?

4) Moment of silence: Team introductions, clarify lead, verbal handover, roles assigned for transfer

5) Transfer of patient: ITU/HDU nurse to establish monitoring and doctor to review

PLEASE DO PRE-TRANSFER CHECKS IF RETURNING TO RESUS (P.T.O)
**Prompt Card 23a**

**Emergency Prompt Cards**

**Adult Tachycardia (with pulse) Algorithm**

1. **Assess using the ABCDE approach**
   - Monitor SpO₂ and give oxygen if hypoxic
   - Monitor ECG and BP, and record 12-lead ECG
   - Obtain IV access
   - Identify and treat reversible causes (e.g., electrolyte abnormalities)

2. **Synchronised DC Shock**
   - Up to 3 attempts
   - Yes - Unstable
     - Seek expert help
     - Amiodarone 300 mg IV over 10-20 min
     - Repeat shock
     - Then give amiodarone 900 mg over 24 h

3. **Adverse features?**
   - Shock
   - Syncope
   - Myocardial ischaemia
   - Heart failure
   - No - Stable
     - Is QRS narrow (<0.12 s)?
     - Broad
       - Narrow
         - Is QRS regular?
           - Yes
             - Sinus rhythm achieved?
               - Yes
                 - Probable AF:
                   - Control rate with beta-blocker or diltiazem
                   - If in heart failure consider digoxin or amiodarone
                   - Assess thromboembolic risk and consider anticoagulation
               - No
                 - Probable re-entrant paroxysmal SVT:
                   - Record 12-lead ECG in sinus rhythm
                   - If SVT recurs treat again and consider anti-arrhythmic prophylaxis
                 - Seek expert help
                   - Possible atrial flutter:
                     - Control rate (e.g., with beta-blocker)
           - No
             - Probable VT:
               - Seek expert help
                 - Possible bundle branch block:
                   - Treat as for narrow complex tachycardia
                 - If VT (or uncertain rhythm):
                   - Seek expert help
                   - Amiodarone 300 mg IV over 20-60 min then 900 mg over 24 h
                   - If known to be SVT with bundle branch block:
                     - Treat as for regular narrow-complex tachycardia

4. **Procedures**
   - Conscious patients require sedation or general anaesthesia for cardioversion
EXTERNAL PACING
(See overleaf for algorithm)

1. Attach defibrillation pads and 3 lead monitoring

2. Press PACE

3. Press RATE ▼ to select desired rate

4. Press CURRENT ▼ to increase current until electrical capture

5. Palpate central pulse to confirm mechanical capture

6. If necessary, increase CURRENT ▼ until mechanical capture

7. To view intrinsic rhythm press and hold PAUSE (release to resume pacing)

8. Consider sedation or analgesia if patient uncomfortable
# RSI (Rapid Sequence Induction) Checklist

**1. Prepare Team and Patient**
- Pre-oxygenate
  - 100% O₂ applied
  - Good facemask seal with CO₂ trace
  - Consider high flow nasal oxygen (Optiflow in Theatres)
- Has airway been assessed?
  - **Do you need more help?**
- Is patient’s position optimised?
  - Consider ramped position
  - Consider loosening collar with MILS (Manual In-Line Stabilisation)
    - remove front of collar
- Is IV access patent with IV Fluids running?
- Roles allocated?
  - First Intubator
  - Second Intubator
  - Intubator’s assistant
  - Cricoid pressure
  - Drugs
  - MILS (if indicated)

**2. Prepare Equipment**
- Is all monitoring on?
  - Including capnography
  - Is the BP cycling every 3 minutes?
- Is all equipment available and checked?
  - Including:
    - Working suction
    - 2 Endo Tracheal tubes
    - 2 laryngoscopes
    - Self-inflating bag/Water’s Circuit/Guedel/NPA
    - Bougie
    - Supraglottic airway
    - Difficult airway trolley
    - CMAC/video-laryngoscope

**3. Prepare for difficulty**
- What is the plan for a difficult intubation?
  - DISCUSS:
    - Plan A: RSI with tracheal intubation
    - Plan B: Maintain O₂ – iGel insertion
    - Plan C: Facemask Ventilation
    - Plan D: Front of Neck – Scalpel Cricothyroidotomy
- Have you access to the relevant equipment, including alternative airway?
  - **YES**
  - **DO NOT START UNTIL AVAILABLE**
- Are there any specific complications anticipated?
  - **YES**
  - **DO YOU NEED MORE HELP?**
  - **SILENCE WHEN INTUBATING**

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**RECORD ANY RSI OR SEDATION IN THE EMERGENCY DEPARTMENT @ BAMBOO.BSUH.NHS.UK**

**IMPLEMENTED APR 2017 VERSION 3.0 REVIEW DUE APR 2018**
Beware....can cause problems If don’t improve the ‘culture’
We are what we repeatedly do. Excellence, then, is not an act, but a habit.

-Aristotle
For every free kick that matters, I have practiced 1000.
It's all about changing the culture
I do not want Prompt Cards. Are you really getting on this bullshit checklist bandwagon? – Anaesthetic SpR

I don’t use the sedation Prompt Card because I don’t need it. We are experienced and can cover everything on the card. – ED Consultant

I’ve never seen any bad practice so why do we need these cards – Anaesthetic SHO

The RSI checks aren’t needed – ITU Consultant

I’ve never had a problem yet so I don’t see why I need to use the RSI prompts – Anaesthetic Consultant
Prompt Cards in Action

• “I used the prompt card challenge a doctor to stop the incorrect rate and dosage of a naloxone infusion”
  ED Sister/Charge Nurse

• “The intubation Prompt Card creates a minute to communicate with the team and check everyone is clear on the plan. It helps me signify we about to begin and I find that helpful.”
  Anaesthetic SHO

• “I was able to rapidly look up the procedure for a drug infusion that is not often used.”
  ED Sister/Charge Nurse

• By me showing the prompt card the doctor went through the sedation checks and we identified equipment was missing before we started.
  ED Staff Nurse
7: Calling for help

The single biggest mistake will all make is not knowing what we don’t know and thinking we are better than we are.
8: Learning from our mistakes

How can we improve if we don’t know what we are doing wrong in the first place?
The importance of clinical governance
“No matter what measures are taken, doctors will sometimes falter, and it isn't reasonable to ask that we achieve perfection. What is reasonable is to ask that we never cease to aim for it.”

Atul Gawande, *Complications: A Surgeon's Notes on an Imperfect Science*
But does all this make a difference?
Yes.....Evidence from...

- Reduction in complications in clinical care
- Improved care during simulations
- Increased uptake in use of new ways of working
- Surveys of staff. staff want to be cared for by teams using a checklist.
- .......but hard to prove with RCTs
- Been proved with numerous clinical cases
Clinical Case

Paperboy in a critical condition after accident with van

First published Wednesday 17 December 2014 in News
Last updated 13:08 Wednesday 17 December 2014
Critical – should have done ok, if he got the standard of care required

• Difficult situations
  – Stressed department
  – Tired staff
  – no resuscitation beds available when we got the call

• Used human factors
  – Checklist prior to arrival, noted suction not working – replaced
  – Brief prior to arrival
  – All equipment ready prior to arrival
Clinical care

• Intubated pre–hospital with checklist
• On arrival low sats – need suctioning
• Coughing – needing muscle relaxants
• Safe transfer to CT showed intracranial injury
• Transferred safely to Kings
• Did very well, discharged 10 days later
Teen was in a critical condition

Injured paperboy back home in time for Christmas Day

A TEENAGE paperboy was able to celebrate Christmas at home as he recovers from a terrifying crash while out on his round.

Lewis Bowley was seriously injured after being knocked off his bike while on his morning round.

After a tense week where the 15-year-old was rushed to a London hospital in a critical condition, his family said he is now on the road to a full recovery.

He returned to Worthing Hospital last weekend and was finally able to go home on Monday in time for Christmas with his mother, father and three brothers.

The Worthing High pupil was knocked off his bicycle and suffered serious head, leg and pelvic injuries in the crash in Offington Lane, Worthing, at 7am on December 16.

He was transferred from the Royal Sussex County Hospital in Brighton to King's College Hospital in London in the hours following the crash because of the severity of his injuries.

The 50-year-old driver of the VW Transporter van involved in the incident has been interviewed by police in connection with alleged careless driving.

Lewis’s father Dan told The Argus: “Fortunately he is now on the mend. He is going through physio and occupational health at the moment.

I want to let people know he is on the road to recovery and we are told that he will make a full recovery.

“We have a lot of support from friends and family, family members have been up with us in London and friends have been looking after our children.

“I just want to express my gratitude to the paramedics, the staff at A&E at the Royal Sussex, all the hospital staff.

“Without them, I am not sure he would be here now.”

A Sussex Police spokesman said: “The 50-year-old driver has been interviewed and is being reported for consideration of his prosecution for alleged careless driving.

“Anyone who witnessed the collision is asked to call Sussex Police on 101, quoting Operation Rambha.”
• Case not ‘special’
• Standard care required
• No genius thinking
• ‘Just’ safe teamwork, human factors and making sure basics are done correctly
Putting it all together

How to provide optimal care
Technical & Knowledge
Compassion
Human Factors
Critical appraisal
Resources
Human Factors is key to providing safe care....
Long term....

• Work in an environment where everyone is treated well and so the team can perform to best of abilities

• Work in an environment where we look after ourselves so that we can perform optimally and are prepared to admit when we need help

• Look at systems to see if can iron out risk
As a patient arrives

• Brief before patient arrive

• Use prompt cards where appropriate

• Realise we are fallible and have a ‘sterile cockpit’ environment during stressful times, allowing people to challenge

• Think about how we are making decisions
• Know your environment and where equipment is

• Plan for problems, don’t just react to them

• Work as a team not a set of individuals.

• Communicate effectively
Embedding successes

• Key..... Debrief on all major events to learn from them

• Learn from success as well as failure
Changing the Culture is the Key
How can we change the culture?
And becoming interested in human factors

“The very first step towards success in any occupation is to become interested in it.”

• Sir William Osler 1849-1919
ANY QUESTIONS?
Conclusions

- Different way of thinking, You are the future
Summary – Human Factors are key. But its not easy to change

I MAY NOT BE THERE YET,

BUT I’M CLOSER THAN I WAS YESTERDAY
Further information

• Contact me  drrobgalloway@gmail.com

• Twitter: @drrobgalloway

• Resources: www.clinicalsafety.org

• Human Factors Courses: Amelia.Amon@bsuh.nhs.uk

• Info on critical appraisal and courses: www.criticalappraisalcourses.com
Apprenticeships: an update from the diagnostic radiography trailblazer group

Maria Reynolds
Imaging Practice & Education Lead
Heart of England NHS Trust
Apprenticeships: an update from the Diagnostic Radiography Trailblazer

Maria Reynolds
Imaging Practice & Education Lead HGS ~ TB Chair
maria.reynolds@heartofengland.nhs.uk

@UBHImaging
• What is an Apprenticeship?
• What is a Trailblazer?
• Where we are now…
• What’s next?
What is an Apprenticeship?

- Paid employment
- Contract of employment and Apprenticeship Agreement
- 20% off-the-job training, usually supported by training provider
- Minimum 12 months
- All age programme, minimum 16 years
- Levels 2-7, degree apprenticeships
- English and maths

www.gov.uk/government/publications/apprenticeships-guide-for-employers
Apprenticeship Reforms

• Employers designing **apprenticeship standards** to replace frameworks
• Apprenticeship levy of 0.5% for large wage bill employers (>£3m)
• Paid monthly to HMRC via PAYE
• Institute for Apprenticeships – employer led body to oversee quality

Apprenticeship standards

- Not qualification driven
- Short & concise
- End-point assessment
- Grading
- Alignment to professional registration

Focus on the knowledge, skills and behaviours needed
Providing a clear and attractive ‘shop window’ for parents, apprentices and businesses
Ensuring that apprentices are fully competent
Recognising excellence
Ensuring apprentices gain professional registration where applicable
**Employer group bid to become a Trailblazer/develop a new Standard**

**Gateway 1: Green light to develop a standard**

**Gateway 2: Approval of the standard and assignment of indicative funding cap**

**Trailblazer develops the standard, working with providers, professional bodies etc**

**Trailblazer develops assessment plan, working with providers and others on delivery**

**Gateway 3: Approval of the assessment plan and assignment of final funding cap**

**FINAL PREPARATIONS FOR DELIVERY**
Potential apprenticeship standard gap - Relationship Manager agrees

Develop and submit occupation proposal, using template

Institute agrees occupation meets requirements for an apprenticeship standard & initial funding band allocation made
Apprenticeship standard agreed for development

Develop and submit draft occupational standard, using template
Start work on funding evidence forms if you want to submit them. You can develop end-point assessment plan at the same time

Develop and submit end-point assessment plan, using template
Produce and submit funding evidence forms if required

Institute agrees occupational standard meets requirements
Occupational standard agreed & published

Institute agrees EPA meets requirements and makes final funding band recommendation
Secretary of State for Education sets funding band
Apprenticeship standard approved for delivery

Relationship manager support
Funding bands

- All apprenticeship standards and frameworks are assigned to a funding band.
- There are 15 funding bands which range from £1,500 to £27,000.
- The funding band limits the maximum amount of levy funds/money from government co-investment that can be used to fund an apprenticeship.
- Employers can pay for apprenticeship training above the funding band upper limit at their own expense.

<table>
<thead>
<tr>
<th>Band</th>
<th>Upper Limit</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>£1,500</td>
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<td>14</td>
<td>£24,000</td>
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<tr>
<td>15</td>
<td>£27,000</td>
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</tbody>
</table>
End-point assessment (EPA)

- Apprenticeship standards must have an end-point assessment (EPA) to test an apprentice’s competence against the occupational **standard** - knowledge, skills and behaviours (KSBs)
- EPA is taken at the end of the apprenticeship, after all **on-programme** learning has been completed and **gateway** requirements have been met
- Its duration should be proportional to the length of the apprenticeship
- Performance in the EPA determines the **apprenticeship grade**
End-point assessment (EPA)

- Intention to show that apprentices can do the whole of the job according to the standard requirements
- Independent assessor (not education & training provider)
- Detail is contained within the assessment plan approved with the standard
- Minimum of two different assessment methods: EPA as fully integrated vocational & academic assessment or Degree plus separate EPA of professional competence
What is a Trailblazer?

• Draft, Consult then Submit a Standard to the Institute of Apprenticeships

• Submit an EPA to the Institute of Apprenticeships

…that meet the requirements of HCPC & SoR
What’s been happening...

• 2017 Campaign to separate Diagnostic & Therapeutic Radiography to separate standards

• Nov 2017 Institute for Apprentices agreed to separate 2 Trailblazers, working collaboratively
So the work began...

- 12th January 2018 Joint Diagnostic & Therapeutic TB Meeting
- Learning from US TB Lead
- Terms of Reference
- Clarity of objectives of TB
Launch of wider stakeholders

- Diagnostic Radiography TB launch event
  – 25th January 2018

- Therapeutic Radiography TB launch event
  – 21st February 2018
Diagnostic Radiography Stakeholders Meeting

- 25 Trusts
- 9 Higher Education Institutes
- 2 Private companies
- Skills for Health
- HCPC
- Society of Radiographers
- Health Education England
Purpose:
To engage Nationally with stakeholders to understand their vision of what a qualified apprentice diagnostic radiographer looks like…

…what can they do, what skills, knowledge & behaviours will they possess?
• Provide overview of Apprenticeships & roles
• Explain remit of TB
  – Submit a degree apprenticeship standard
  – Submit an End Point Assessment
• Workshop discussion on vision / EPA
• Detailed commitment required to participate in TB & asked to sign up to TB over the next year
Workshop discussions

- Excellent general Radiographers
- IV Cannulation competence
- Specialist Module
  - IV
  - Commenting
- CT / MRI
- Mammography
- Integrated Degree Apprenticeship
Implementation Concerns

• How, and how much apprentices are paid
• Concerns about trainee numbers in department
• Code of Conduct / fitness for practice – who’s responsible?
• Cost to HEIs – highest pay band, £27K
Trailblazer Team

- 15 Employers (2 private)
- 3 HEIs
- Skills for Health
- SoR Education Officer
- IfA Relationships Manager

https://haso.skillsforhealth.org.uk/standards/#standard-6001
February 2018 - TB

- Agreed ‘Duties’ (tasks you’d expect a qualified apprentice to be able to do) collated from stakeholders meeting

- Workshop on Knowledge, Skills & Behaviours for each duty
March 2018 – EPA Subgroup

• Overview of requirements for an EPA
  – At least 2 different methods of Assessment
  – Grading; Fail, Pass + 1
  – Independence

• Discussion on Methods of Assessment
  – OSCE & Professional Discussion
28th March 2018 - TB

- Agreed in principle EPA Subgroup outcome – more work to be done

- Discussion & agreement on draft standard ready for Public Consultation
The broad purpose of the occupation is: (Provide brief details of what an employee in this occupation does without going into the level of detail covered by the duties on the next page)

The purpose of the occupation is to provide excellent patient care by obtaining images of a high diagnostic quality using a range of high cost and complex imaging equipment. This will include x-ray imaging and cross-sectional imaging methods, Computed Tomography (CT), fluoroscopy and Interventional Radiology and will have a wide understanding of the use and applications of other imaging modalities such as Ultrasound, Magnetic Resonance Imaging (MRI), Breast Imaging and Radionuclide scanning. Diagnostic Radiographers are expected to independently assess, authorise, consent and undertake individual examination requests for radiography procedures and follow local protocols. It involves close patient contact, which can be of a personal nature.

In their daily work, an employee in this occupation interacts with: (Provide brief details of types of organisations and internal/external functions that the employee would need to interact with to successfully get their job done. Also include detail of the typical environment(s) in which the occupation is found (e.g. office-based, outside in all weathers etc.))

In their daily work, a diagnostic Radiographer interacts with patients, their carers, members of the public and other healthcare staff e.g. porters, nurses, other allied health professionals, doctors, external contractors, engineers and medical physicists. There are interactions with a broad range of patients e.g. patients who may have disabilities or be distressed, children and the terminally ill. They will primarily work in diagnostic imaging departments in hospitals, but also provide mobile imaging on Wards, including the Intensive Care Unit, Neonatal Unit, Emergency Department and Operating Theatres.

An employee in this occupation will be responsible for: (Provide brief details of the level of responsibility/autonomy that the individual will have including what resources they may manage, who they would report to and the extent to which they are supervised or acting alone (which is a key factor in determining the level of the occupation). Also include any factors that may lead to this varying (e.g. size of organisation).

A diagnostic radiographer will be responsible for the radiation protection for patients, themselves, staff and visitors, when producing diagnostic images. As autonomous practitioners they are accountable both professionally and legally for their own actions and for those operating under their supervision. Work may be undertaken independently or as part of a team. They may refer to a senior radiographer for advice; however this may not always be available at night in smaller organisations or in satellite departments. They are expected to contribute to a 24-hour, 7-day week imaging service with varying shift patterns and on occasion may be the sole provider of imaging services for the organisation.
<table>
<thead>
<tr>
<th>DUTY 1</th>
<th>D1 Work as an autonomous practitioner with the ability to make decisions in diagnostic radiography. Demonstrate flexibility, adaptability and the use of clinical judgement whilst reacting to patient needs and conflicting work streams, e.g. prioritising workloads in different settings both within the Imaging department and external to it. Provides shift cover and leadership for service provision over 24 hours, 7 days a week, including the Emergency department, wards and operating theatres.</th>
</tr>
</thead>
</table>
| Knowledge | K1 Knows and understands Imaging and organisational policies and procedures, e.g. complaints, duty of candour, incident reporting and safeguarding procedures, and current legislation  
K2 Knowledge of HCPC Standards of Proficiency and SCoR code of conduct and professional scope of practice. Knowledge of appropriate professional behaviour and what professionalism means.  
K3 Has a firm underpinning of relevant anatomy, physiology and pathology and understanding of normal and abnormal image appearances  
K4 Understands patient signs and symptoms and observation records in order to recognise a deteriorating patient and escalate accordingly |
| Skills | S1 Undertake basic patient observations and escalate findings appropriately  
S2 Time management and organisational skills  
S3 Work independently and in a multi-disciplinary team.  
S4 Create instant rapport with individuals, adapting communication styles for individual patients, circumstances and environments including patients who are confused, physically and verbally aggressive, have learning difficulties, visually or audibly impaired. Good listening and negotiation skills. |
| Behaviours | B1 Remain calm and emotionally resilient in unpredictable, emergency and distressing situations, from patient cardiac arrest to major incidents including road traffic incidents  
B2 Demonstrate confidence within own scope of practice. Recognises own limits and obtains help when appropriate |
| Criteria for measuring performance (eg speed, accuracy, legislation etc) | Adhere to HCPC Standards of Proficiency, performance conduct and ethics, Society and College of Radiographers guidance, national legislation and local policies and procedures |
Draft Standard Consultation


10th May – 21st June 2018 (noon)
What’s Next for TB?

- Continuing detailed work on EPA
- Review of consultation output; July
- Aim to submit Standard in September
- Aim to submit EPA in November
Considerations for Employers

• Engage with your organisation
  – Find out about Salaries, Contracts
  – No. attempts at EPA in contract
• Engage with your HEI
  – Influence creation of local apprenticeship delivery
• Apprentices – value for money
• ESFA
• HEE
Questions?

Maria Reynolds
Imaging Practice & Education
Lead HGS

Maria.reynolds@heartofengland.nhs.uk

@UHBIImaging

https://haso.skillsforhealth.org.uk/
Case Study: Transforming MR services by staff education and development

Nicola Kennedy
Diagnostic Pathway General Manager
Nottingham University Hospitals NHS
Case Study

Transforming MR services by staff education and development

Nicola Kennedy
Diagnostic Pathway General Manager
24th May 2018
MRI - Challenges

1. Old kit with lack of investment
   3+ sites, 7+ scanners
   Utilisation 85% +

2. Staff shortages,
   Est. 23.4wte (now 28.2wte)
   B7 Modality Manager; B7 Cardiac Lead
   Vacancies 24% Dec 15
3. Increasing demand

44% increase 13/14 to 17/18
We are here for you
Recruitment and retention

- Focussed meeting with right people
- HR support
- Advertisements
- International recruitment
- R&R payments
- Over recruitment
Investment in staff

• Post Grad Cert in MRI x2
• MSK Reporting course x2. MSK Con SIP – x2 more
• Bronze Award in Research and Silver Award in Research
• Management and Leadership skills course in-house x3
• BAMRR Introductory MR Physics course
• BAMRR Advanced MR Physics course
• Med Phys MRI Lead support
• iMRI project

....... Training for all, regardless of experience

We are here for you
Induction and competency packages

• Induction package - PDL 3 years ago
• Refresh annually, staff feedback
• Key to progression to B6
• Annex U attracted staff
• 9-12 mths competency package
• Perceptorship development
Structural changes

• OMT structure – Business Analyst/Clinical Lead
• B5 on rotation from PF
• Trainees on B6 annex U
• Cardiac Lead
• Shift patterns – 7.5 hrs vs 12hrs
• SOPS / ISAS
• Admin team development. New B3. Greater ownership e.g. Cancer booking
Capital investment

- 1st and 2nd NUH scanners at City
- Replacement scanner at QMC
- Reduction in van usage
- iMRI at QMC

<table>
<thead>
<tr>
<th>Campus</th>
<th>Room</th>
<th>Supplier</th>
<th>Age in 2018</th>
<th>End of life</th>
<th>Replace</th>
<th>Age @ replace</th>
<th>2018</th>
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</thead>
<tbody>
<tr>
<td>QMC</td>
<td>RAMRI1</td>
<td>GE</td>
<td>(12) 15</td>
<td>2023</td>
<td>2023</td>
<td>20</td>
<td>20</td>
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<td>QMC</td>
<td>RAMRI2</td>
<td>Philips</td>
<td>13</td>
<td>2015</td>
<td>2019</td>
<td>14</td>
<td>14</td>
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<tr>
<td>QMC</td>
<td>RAMRI3</td>
<td>Philips</td>
<td>16</td>
<td>2012</td>
<td>2018</td>
<td>16</td>
<td>R</td>
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<tr>
<td>City</td>
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<td>Siemens</td>
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<td>2027</td>
<td>2027</td>
<td>10</td>
<td>10</td>
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<tr>
<td>City</td>
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<td>Philips</td>
<td>0</td>
<td>2028</td>
<td>2028</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

- QMC InHealth GE 2
- City InHealth GE 3

- < 10 years old
- 11 - 15 years old
- > 15 years old
- R: Replace equipment

We are here for you
Impact on staffing

<table>
<thead>
<tr>
<th></th>
<th>Established WTE</th>
<th>Number of staff in post (headcount)</th>
<th>WTE</th>
<th>Vacancies WTE</th>
<th>Percentage vacancies</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRI Mar 2016</td>
<td>14.2</td>
<td>15</td>
<td>12.5</td>
<td>1.7</td>
<td>12%</td>
</tr>
<tr>
<td>MRI Mar 2017</td>
<td>23.4</td>
<td>21</td>
<td>18.5</td>
<td>4.9</td>
<td>21%</td>
</tr>
<tr>
<td>MRI Mar 2018</td>
<td>23.4</td>
<td>28</td>
<td>25.4</td>
<td>-2.0</td>
<td>-9%</td>
</tr>
<tr>
<td>MRI May 2018</td>
<td>28.2</td>
<td>29</td>
<td>28.4</td>
<td>-0.2</td>
<td>-1%</td>
</tr>
</tbody>
</table>

MRI staffing 2016/7/8

- Funded establishment
- In post
- Percentage vacancies
- Zero

We are here for you
Benefits

- Happy staff
- Happy pts
- Consistent internal waits performance
- No 6WW breaches for 18mths
- Reduced costs

(But with good induction, great training and a wide variety of scanning at a large teaching hospital, staff are now very employable elsewhere !)

We are here for you
The results!

We are here for you
The future

• More OOH scanning
• Further growing staff for iMRI
• Possibly growing staff even further for TC
• Developing perceptorship
• Appointing Cardiac Lead and training staff
• Ongoing staff training and development
• Replacing second and third QMC scanner

Further new scanner somewhere?!!

We are here for you
To summarise……..

People

Investment (Time/money)

Processes  Equipment

We are here for you
Keynote: Workforce transformation with a focus on Clinical Imaging Services.

Kevin Moore
A&E Consultant Head of Workforce Transformation North Health Education England
Meeting the Workforce Challenge

Kevin Moore – Head of Workforce Transformation (North)

Developing people for health and healthcare
www.hee.nhs.uk
The Workforce Challenge
Radiography posts in the period 2012 to 2017 show a 22% growth in Therapeutic Posts & 11% in Diagnostic Radiography

And whilst we have recruited more staff into posts, the NHS is not attracting sufficient numbers and we are facing a growing vacancy rate

Same is true in Radiology posts

Overall we need a significant growth in the health workforce by 2027
So tell us something we don’t know

Range of comments:
• It’s your all fault at HEE
• Didn’t train enough before, you still don’t, we have unfilled posts, can’t meet the demand for diagnostic services & seen a 35% growth in activity in 5 years
• The move to a self funded education system for health professionals will fail to deliver the training numbers we need
• These self funded students and their expectations on placement are unrealistic
• Sort the Supply and Demand Model out, how difficult can it be?
The Solution

• Sort supply by increasing the number in training

• But that’s not so easy – self funded places, placement challenges, many areas not training with service demands ever increasing.

• Recruit from overseas – not so easy with visa restrictions and Brexit.

• We will send work overseas – reporting of images they have lots of capacity
But don’t worry others face similar challenges they are bound to come up with some workable solutions. After all consider this
PROBLEM:
By 2030, the world will need 80 million health workers, but the supply will be 65 million

HYPOTHESIS:
This 18.75% shortage can be largely met by radically transforming workforce capacity and capability
So what's Plan B

• Well its got to be about workforce and service transformation

• We have to innovate, embrace new technology, make major gains in productivity, and manage the demand side of the equation down to move into balance with the available supply

• After all others are already doing it
New models of care can drive productivity

All countries benefit from – and struggle with – professional planning
- Demarcations and silos aren’t suited to population health needs and workforce agility

The NHS spends £1.2 billion on R&D but just £50m to spread best practice
- The balance of spend between education and training is short-sighted
- As is the investment between innovation and adoption (spread)

New channels and models of care can drive 16% to 20% capacity release
- Telephone and internet channels close 70% of cases in Mexico and Bangladesh
- AI and robotic anticipation is strong

Matching operational practices of the highest performers can save up to 20% of spending
- Royal College of Ophthalmologists and British Orthopaedic Association report:
  - Potential to save up to 20% of spending on planned care by matching best performers

AMERICA AND ISRAEL:
60%+ outpatients handled
By phone. Remote monitoring
of elderly, admissions ↓30%

SINGAPORE, SPAIN, ISRAEL:
Technologically facilitated
integrated care,
10%-15% capacity release

FINLAND, GERMANY & INDIA:
Standardised elective treatment
plans yield productivity gains
of 30%
So how do we move this conversation forward?

• We have to focus on Capacity and Capability

• Productivity is the current big issue in the service – linked to long term investments in technology, skills training, leadership and innovation (adoption)
The Star is an interactive, online tool with two key functions:

1. To provide a **simple, coherent framework** to facilitate and guide local conversations with provider systems to better understand and define their workforce transformation requirements; and

2. To create a **single 'go to' directory** for providers and systems to access and explore the range of workforce transformation solutions available to help address the workforce requirements identified - including tools, training materials, case studies and other interventions, realising the potential of workforce transformation investments.
The five key enablers of workforce transformation in the Star

- Leadership
- Prevention
- Community
touched care
- Primary care
- Up-skilling
- Mental Health
- New Ideas
- New Ways of Working
- Leadership
- Prevention
- Community
touched care
- Primary care
- Up-skilling
- Mental Health
- New Ideas
- New Ways of Working

NHS

Health Education England
Use the STAR within a Healthcare System

• The STP/ACS & now ICS
• Each has an LWAB – Local Workforce Action Board
• Focus for local workforce discussions
• Developing local workforce development strategies
• In Yorkshire & Humber we have three emerging strategies one for each LWAB
• They have three levels of focus - System, Place and Organisation
• They define who is doing what and by when
Ten Headline Recommendations To Shape Our Approach to the Workforce Challenge

1. Developing the Current HC&V Workforce – Retention
2. Developing the Current HC&V Workforce – Skills
3. Increasing Future Supply to HC&V – Inc New Roles
4. Increasing Future Supply to HC&V – Increasing HEI Places
5. Developing the HC&V Workplace – Flexible Employment Models
6. Developing the HC&V Workplace – Good Employment Practice
Ten Headline Recommendations To Shape Our Approach to the Workforce Challenge (continued)

7. Developing the HC&V Workplace – Efficiency and Productivity

8. Building Workforce Infrastructure and Investment Decision Making for HC&V – System Leadership and Governance

9. Building Workforce Infrastructure and Investment Decision Making for HC&V – Workforce Planning and Management Intelligence

10. Building Workforce Infrastructure and Investment Decision Making for HC&V – Investment Decision Making
1. Developing the current workforce - Retention

<table>
<thead>
<tr>
<th>Summary of Recommendation</th>
<th>STP/LWAB Actions</th>
<th>Place Based Actions</th>
<th>Organisation</th>
<th>Proposed Lead Group(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Given the challenges of workforce supply greater attention to retaining (Retention) existing staff is critical. Recruiting new staff is difficult but is also costly and leaves gaps in service. Staff turnover results in lost experience, skills and organisationally effective staff.</td>
<td>Develop over-arching recruitment and retention strategy which promotes HC&amp;V as a ‘great place to work’ and, which supports employers and ‘places’ to recruit and retain staff.</td>
<td>Support planned career moves between organisations and sectors to develop careers, skills, knowledge and encourage cross-sector working. Promote good employment practice.</td>
<td>Good employment practice to aid retention, promote benefits such as flexible working, staff engagement, career advancement, training and Health and wellbeing initiatives to ‘look after’ staff</td>
<td>HRD Management Group (Provider Trusts) / Primary Care Workforce Group</td>
</tr>
</tbody>
</table>
The Transformation Challenge

• How connected are you to your local LWAB and ICS Plans

• How open is your department/service to change?

• What support do you need to make it happen?

• Do we have the leaders to make this happen

• And the change has got to be bottom up if we are to succeed
Applications to Imaging

• Cancer Plan – develop the local strategy to shape and guide investment

• Multi-Professional ACP Framework

• Reporting Radiographers Pilot

• Sonography New Career Framework with direct entry

• Training Capacity – need to innovate and work with the HEIs and LWABs
The Pipe & Glass
In
South Dalton
Thank you

Kevin Moore
Head of Workforce Transformation HEE North
Kevin.moore@hee.nhs.uk
Case study: Utilising e-LfH effectively to meet development needs

Dorothy Keane MBE
Programme lead e-LfH and Professional Officer
The Society and College of Radiographers
Using e-Learning for Healthcare (e-LfH) to meet development needs

Dorothy Keane, Professional Officer SCoR, e-LfH Clinical Lead
ILLUMINATED TRAM-CAR (page 16).
Describe your department...

- Not enough money
- Not enough time
- Not enough staff
- Not enough rooms
- No spare PCs
- Too much paperwork
- Too many patients!
Also ...

- Teams of highly skilled staff
- Strong support network

Developing staff will improve patient care
e-Learning for Healthcare (e-LfH)

- Part of Health Education England, works with professional bodies, including the College of Radiographers
- Develop and deliver e-learning free to NHS workforce
- Can be accessed on mobile, tablet or desktop 24/7
- Quality assured and written by subject matter experts
The e-LfH Hub

• An e-learning platform designed specifically for our users:
  • Easy to launch content
  • Easy to share content with peers/trainees
  • Easy to show evidence of learning

• Available via:
  • Electronic Staff Record
  • Open Athens
  • Some locally managed services
Image Interpretation

- Provides a structured syllabus
- Equip radiographers with skills and knowledge to provide preliminary clinical evaluations
- Enhance everyday working
- Support staff in specialisms and prepare radiographers prior to specialising
- Available for all health professionals, students and lecturers
• Introduction (5 sessions)
• Radiography - adults and paediatrics (123 sessions)
• Cross-sectional (43 sessions)
• Breast (12 sessions)
• Ultrasound (70 sessions)
• Nuclear Medicine (13 sessions)
• Technology (15 sessions)
• Forensic Radiography (7 sessions)
• GI/GU (15 sessions)
• Dental (3 sessions)
• Neurointervention (5 sessions)
• Cardiac (10 sessions)
• Accessory projections (3 sessions)
New content

- Nasogastric tube placement
- CT anatomy

Recent and current reviews:
- Suspected Physical Abuse
- Obstetric and general ultrasound
- CT
- Forensics
- Nuclear Medicine
- Breast
- Technology
### Example 1 – radiographers

**IRMER – General - Forensics**

<table>
<thead>
<tr>
<th>Radiography</th>
<th>Ultrasound</th>
<th>Cross-sectional</th>
<th>Breast</th>
<th>GI/GU</th>
<th>Interventional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skeleton</td>
<td>Obstetrics</td>
<td>CT</td>
<td>Screening</td>
<td>VFSS</td>
<td>Cardiac</td>
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<tr>
<td>Chest</td>
<td>Gynaecology</td>
<td>MRI</td>
<td>QA</td>
<td>Colorectal</td>
<td>Neuro-intervention</td>
</tr>
<tr>
<td>Abdomen</td>
<td>Abdomen</td>
<td>Cardiac</td>
<td>Pathology</td>
<td>CTE</td>
<td></td>
</tr>
<tr>
<td>NG-tube placement</td>
<td>Vascular</td>
<td>biopsy</td>
<td></td>
<td>MRE</td>
<td></td>
</tr>
<tr>
<td>SPA</td>
<td>MSK</td>
<td></td>
<td></td>
<td>CTC</td>
<td></td>
</tr>
<tr>
<td>Accessory projections</td>
<td>Vascular</td>
<td></td>
<td></td>
<td>HSG</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Men’s health</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **CT**
- **MRI**
- **Cardiac**
- **Screening**
- **QA**
- **Pathology**
- **biopsy**
- **VFSS**
- **Colorectal**
- **CTE**
- **MRE**
- **CTC**
- **HSG**
- **Cardiac**
- **Neuro-intervention**
Example 2 – student radiographers

<table>
<thead>
<tr>
<th>General</th>
<th>Sessions linked to university modules</th>
<th>IRMER and radiation safety</th>
<th>Technology</th>
<th>Anatomy</th>
<th>Teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>• CPD</td>
<td>• Chest</td>
<td>• Radiation</td>
<td>• X-ray</td>
<td>• Radiography</td>
<td>• Any session</td>
</tr>
<tr>
<td>• Dignity</td>
<td>• Dental</td>
<td>• Safety</td>
<td>• Ultrasound</td>
<td>• CT</td>
<td>• Interactive</td>
</tr>
<tr>
<td>• Paediatrics</td>
<td></td>
<td>• Protection</td>
<td>• CT</td>
<td>• MRI</td>
<td>• Evaluations</td>
</tr>
</tbody>
</table>
<pre><code>                                           |                                       |                          | • MR                |              |                |
                                           |                                       |                          | • NM                |              |                |
</code></pre>
Further examples

• Support workers
• Nurses
• Administrative
• Managers
• Return to practice
• Induction
Future developments

• Orthopaedic imaging
• Neonatal radiography
• How to write a comprehensive interpretation
• Reviews
• Learning pathways
Engaging with learners

“MRI Gadolinium Contrast Awareness. Please update your guidance on Gadolinium post EMA decision and retention notice.” - viaTwitter

We have inserted this into the technology session on MRI and added link to EMA advice to our Introductory MRI sessions.

“p.21 PA CXR is mentioned but a photo of an AP Supine Chest patient is shown when the hyperlink is clicked” – via session feedback

We replaced the photograph with the correct image.

“That is great. I didn’t think a comment from a Radiographer in a rural town in Australia would be acted on so quickly. Really impressive work.”
“This is a fantastic resource which we should all be using to integrate learning into our day to day care of patients. Whatever the modality you work in, grade you are or title you have - there is something in Image Interpretation for everyone!”
Advanced Practitioner Radiographer
Thank you
Questions ...
Panel Discussion: A workforce fit for the future, what is required of tomorrow’s radiographer practitioners?

Dr Tim Taylor, Medical Director, EMRAD
Karen Stalbow, Head of Policy, Knowledge and Impact, Prostate Cancer UK
Rebecca Steele, Radiology General Manager, UCLH
Clinton Heseltine, Chief Radiographer / Radiology Services Manager, NHS Lothian
Derek Stewart OBE, Patient Advocate, NIHR
A Radiology Workforce Fit For The Future

Maximising Potential

#hello my name is... Rebecca Steele
Radiology General Manager
Why change?

- Ever increasing demand
- Not enough people to acquire / report / treat
- Earlier diagnosis to improve outcomes
- Evolving nature of Radiology – more treatments / screening
- Patient expectations
Food for Thought?

Is there more potential in the multi-disciplinary team?

- What does the advanced practitioner / consultant radiographer of 2023 look like?

- What does the consultant radiologist of 2023 look like?

- How do we increase the non-medical research and academic output?

- Do we need to focus on a development strategy for our support staff?
Where do we find this future workforce?

- Radiologists – not enough trainee places / where does AI come in?
- Radiographers – no bursary, so are apprenticeships the answer?
- Where and how do we develop, educate and sustain advanced practice?
Thank you
A workforce fit for the future, what is required of tomorrow’s radiographer practitioners?

Clinton Heseltine
Chief Radiographer/Radiology Services Manager
NHS Lothian
We have come a long way!

**Notes**

Room 2.
Soft Tissue Neck 500 0.5 60
Ortho Sports, Hum-57/10
Ankle-(Filc plaster)
A.P. + LAT. GSKV .3 100 (Acta)
Forearm-(Solid 2"")
A.P. 65 .2 100.
LAT 65 .3 100.
(Plain)
Skull - 70 .4 200
Cub - 65 .2 200
Knee - SSKU (Gomé) (Reg)
Inclined 15.
Shoulder - SSKV .15 100. (Reg)
Hand - SSKV .15 100. (Oden)
The Scottish Perspective

- National Health and Social Care Workforce Plan (2017)
- Scottish Radiology Transformation Programme
- Scottish Clinical Imaging Network
- 3 Regions (14 Boards)
- Collaborative approach from Radiologists and Radiographers
What will Influence Radiographic Practice?

- Ongoing requirement for a high quality of patient care and compassion
- Radiographer age demographic – ageing workforce
- Radiographer/Radiologist/Sonographer shortages
- Increasing demand
- Technology – image acquisition/reporting
- Resistance to change!
Tomorrow’s Radiographer Practitioner

- Advanced Practice – Scottish Reporting Radiographer Framework
- Regional approach – cross border support
- Extended scope of advanced practice
- Expanding role of the Sonographer
- Innovation/Research/CPD opportunities
Thank You