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*

Dr Rob Galloway

A&E Consultant Brighton & Sussex University Hospitals NHS Trust





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?

Clinical Case Study



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



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



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



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 <u>will</u> 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 organistaion
- 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...





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



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



#Susanalbumparty

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 CHALLANGE

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





EMERGENCYPROMPT CARDS

Trauma, Transfers, Briefings	Medical Emergencies	Anaesthetics and Resuscitation	Procedures
1) Trauma/ASHICE Briefing	5) Sepsis	Guidance	32) Central Venous Catheter
1a) Trauma Imaging/Interventional radiology	5a) Not responding to initial	20) Adult ALS	Insertion
2) Bro Transfor Chocks		21) Paediatric ALS	
	6) Hyperkalaemia	22) Newborn Life Support	34) BTS Pneumothorax Guidance
2a) Arrival Checks	7) Massive Pulmonary Embolism	23) Emergency Cardioversion	35) Chest Drains/Injuries
 Initial Management of Severe Burns 	8) Diabetic Ketoacidosis (DKA)	23a) Adult Tachycardia Algorithm	36) Organ Donation
3a) Burns Chart and Considerations	9) Life threatening Asthma	24) External Pacing	
4) Thoracotomy in Trauma	10) Unexplained Hypotension		Medications
		24a) Adult Bradycardia Algorithm	37) Naloxone Infusion
	11) Prolonged Seizures/Status Epilepticus	25) Anaphylaxis	38) Aminophylline Infusion
	12) Adrenal Insufficiency	25a) Anaphylaxis Algorithm	39) Salbutamol Infusion
	13) Malignant Hypertension	26) Traumatic Cardiac Arrest Algorithm	40) Starting Vasoactive medication
	14) Severe Pre-eclampsia	27) Post Resuscitation Care Algorithm	41) Labetalol Infusion
	14a) Eclamptic Seizures	28) Rapid Sequence Intubation (RSI) Checklist	
	15) GI Bleed	28a) Emergency RSI Checklist	Clinical Scores
	16) Emergency Laparotomy Assessment	28b) Difficult Airway Society (DAS) Guidance	
	16a) Emergency Laparotomy Plan	29) Sedation Checklist	
	17) Management of Overdose	30) DAS Can't Intubate/Can't Oxygenate Guidance	
	17a) Toxidromes	31) Code Red Haemorrhage	
	18) End of Life Care		
	19) Post Exposure Prophylaxis		

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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

Prganise – roles assigned including team leader, primary survey +

ultrasound, IV access + bloods, medications (pre-draw analgesia, antiemetics, 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

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

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Prompt Card 1

EMERGENCY

Box 1: Prepare Team members: → Team Leader (ED Consultant)

→ Primary Assessment Doctor

→ Anaesthetist & ODP

→ Nurse (2 if available)
 → Procedures Doctor

→ IV Access & Bloods

Box 2: Prepare Equipment:

PROMPT CARDS

→ Oxygen

 \rightarrow Scribe

→ Porter

→ Monitoring
→ Intubation bag

 \rightarrow Ventilation bag

 \rightarrow Intubation drugs

 \rightarrow Bag valve mask

 \rightarrow Difficult airway trolley

- → Working suction
- → Bougie
- → IO gun
- → USS Machine
- → Yellow Scoop
- \rightarrow IV access and bloods tray
- → Fluids
- \rightarrow 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)



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

If a decision is made to embolise for

haemorrhage control:



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Prompt Card 1a

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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**?
- ightarrow If intubated has patient had enough sedation +/- paralysis
- \rightarrow Are appropriate airway management skills present?

2) Get TRANSFER EQUIPMENT

- ightarrow Green transfer bag, working suction, drugs, monitoring
- \rightarrow Set alarm limits
- \rightarrow Ventilator checked
- \rightarrow Adequate battery life for portable equipment?

3) ON OXYGEN?

- \rightarrow Do you have enough for transfer?
- \rightarrow Once on cylinder O₂, **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)
 - \rightarrow If for CT then contact Radiographer (bleep 8800) [PRH 6157]
 - \rightarrow If for X-ray then contact Radiographer (RSCH X-Ray ext 4242)
 - ightarrow Ensure you have enough staff to move/log roll patient
 - ightarrow 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)

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Prompt Card 2

EMERGENCY
PROMPT CARDS

APR 2018

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Arrival Checks:

1) Arrival at destination:

ightarrow Plug oxygen into the wall at the earliest opportunity

ightarrow If at CT then plug equipment into the wall and ensure monitoring is visible

 \rightarrow If at ITU/HDU then ensure team at bedside ready to receive; leave portable equipment on at first

2) <u>Reassess Patient:</u>

 \rightarrow Re-assess A.B.C.D.E including observations and capnography on portable monitor

ightarrow Ensure patient stable enough for scan

ightarrow Allow anaesthetist and nurse to establish ICU ventilation if this is destination

- 3) <u>Staff</u>: 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) <u>Transfer of patient: ITU/HDU nurse to establish monitoring and doctor to review</u>

PLEASE DO PRE-TRANSFER CHECKS IF RETURNING TO RESUS (P.T.O)

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(See overleaf for algorithm)

1. Attach defibrillation pads and 3 lead monitoring



- 4. Press **CURRENT** to increase current until electrical capture
- 5. Palpate central pulse to confirm mechanical capture
- 6. If necessary, increase
- 7. To view intrinsic rhythm press **and hold PAUSE** (release to resume pacing)
- 8. Consider **sedation** or **analgesia** if patient uncomfortable



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EMERGENCYPROMPT CARDS

1. Prepare Team and Patient	2. Prepare Equipment	3. Prepare for difficulty
 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 	Is all monitoring on? Including <u>capnography</u> 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 Ventilator ready? Are all drugs available? Including: induction agent, NMJ blockers,	 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 AVAILABIN Are there any specific complications anticipated? YES NO DO YOU NEED MORE HELP?
 Intubator's assistant Cricoid pressure Drugs MILS (if indicated) 	vasopressors, long acting NMJ blocker, maintenance agent, infusion device for maintenance agent.	SILENCE WHEN INTUBATING

DEPARTMENT @ BAMBOO.BSUH.NHS.UK RECORD ANY KSI OK SEDAHON IN THE EMERGE

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Prompt Card 28

Beware....can cause problems If don't improve the 'culture'



For every free kick that matters, I have practiced 1000.



Its all about changing the culture



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

l'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"
- "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.

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."
- <u>Atul Gawande, Complications: A Surgeon's Notes on an</u>
 <u>Imperfect Science</u>

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



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

ike our page at www.facebook.com/brightonargus

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 by NEIL VOWLES recovers from a terrifying crash while neil.vowles@theargus.co.uk out on his round.

co.uk

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After a tense week where the 12-year-old was rushed to a London hospital in a criti-cal condition, his family said he is now on the road to a full recovery. I want to let people know he is on the "I want to let people know he is on the road to recovery and we are told that he 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 Offi-met 16. He was transferred from the Roval

ber 16. Without them, I am not sure no wonth 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 30-year-old driver of the VW Trans-porter van involved in the incident has been interviewed by police in connection been interviewed by police in connection

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 13-year-old After a tense week where the till a critic





- 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


Human Factors is key to providing safe care....

Long term....

- Work in an environment where everyone is treated well and so the team can preform 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



Further information

- Contact me <u>drrobgalloway@gmail.com</u>
- Twitter: @drrobgalloway
- Resources: <u>www.clinicalsafety.org</u>
- Human Factors Courses: <u>Amelia.Amon@bsuh.nhs.uk</u>
- Info on critical appraisal and courses: <u>www.criticalappraisalcourses.com</u>

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 <u>maria.reynolds@heartofengland.nhs.uk</u>

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@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 tphttps://www.gov.uk/government/publications/apprenticeships-guide-foremployers://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

w.gov.uk/government/publications/apprenticeships-guide-for-employers tphttps://www.gov.uk/government/publications/apprenticeships-guide-foremployers://www.gov.uk/government/publications/apprenticeships-guide-foremployers



Apprenticeship standards





University Hospitals Birmingham NHS Foundation Trust

Building healthier lives



Building healthier lives

University Hospitals Birmingham

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

	Band	Upper Limit
	1	£1,500
	2	£2,000
	3	£2,500
	4	£3,000
	5	£3,500
	6	£4,000
	7	£5,000
	8	£6,000
	9	£9,000
	10	£12,000
	11	£15,000
	12	£18,000
	13	£21,000
	14	£24,000

£27,000

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Building healthier lives

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 **onprogramme** 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

Building healthier lives

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



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Building healthier lives

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





Building healthier lives

Workshop discussions

- Excellent general Radiographers
- IV Cannulation competence
- Specialist Module
 - IV CT / MRI
 - Commenting 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/#stand ard-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.

DUTY 1	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.
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

https://www.surveygizmo.com/s3/4342807/D iagnostic-Radiographer-Apprenticeship-Standard-Survey

10th May – 21st June 2018 (noon)



University Hospitals Birmingham NHS Foundation Trust

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

twittery @UHBImaging

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



Nottingham University Hospitals

Nottingham University Hospitals







MRI - Challenges

- Old kit with lack of investment

 3+ sites, 7+ scanners
 Utilisation 85% +

 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











Recruitment and retention

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





Nottingham University Hospitals 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



NHS Trust



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

We are here for you



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





Updated 09.05.18





Capital investment

			Age in			Age @	
Campus	Room	Supplier	2018	End of life	Replace	replace	2018
QMC	RAMRI1	GE	(12) 15	2023	2023	20	
QMC	RAMRI2	Philips	13	2015	2019	14	
QMC	RAMRI3	Philips	16	2012	2018	16	R
City	1	Siemens	1	2027	2027	10	
City	2	Philips	0	2028	2028	10	

QMC	InHealth	GE	2
City	InHealth	GE	3



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







Impact on staffing

	Establishment WTE	Number of staff in post (headcount)	WTE	Vacancies WTE	Percentage vacancies
MRI Mar 2016	14.2	15	12.5	1.7	12%
MRI Mar 2017	23.4	21	18.5	4.9	21%
MRI Mar 2018	23.4	28	25.4	-2.0	-9%
MRI May 2018	28.2	29	28.4	-0.2	-1%



We are here for you





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 !)





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?!!





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)



NHS Health Education England



NHS Health Education England

NHS

Facing the Facts, Shaping the Future

A draft health and care workforce strategy for England to 2027



For consultation

Public Health England

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:

- Its 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

NHS Health Education England

New models of care can drive

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)



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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.





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

<u>Ten Headline Recommendations To Shape Our Approach to the Workforce Challenge</u> (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

Summary of Recommendation	STP/LWAB Actions	Place Based Actions	Organisation	Proposed Lead Group(s)
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.	Develop over-arching recruitment and retention strategy which promotes HC&V as a 'great place to work' and, which supports employers and 'places' to recruit and retain staff.	Support planned career moves between organisations and sectors to develop careers, skills, knowledge and encourage cross- sector working. Promote good employment practice.	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	HRD Manageme nt Group (Provider Trusts) / Primary Care Workforce Group



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



Image Interpretation

Content

- 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

Radiography	Ultrasound	Cross-sectional	Breast	GI/GU	Interventional
 Skeleton Chest Abdomen NG-tube placement SPA Accessory projections 	 Obstetrics Gynae Abdomen Vascular MSK Vascular Men's health 	 CT MRI Cardiac 	 Screening QA Pathology biopsy 	 VFSS Colorectal CTE MRE CTC HSG 	 Cardiac Neuro- intervention

Example 2 – student radiographers

General	Sessions linked to university modules	IRMER and radiation safety	Technology	Anatomy	Teaching
 CPD Dignity Paediatrics	ChestDental	RadiationSafetyProtection	 X-ray Ultrasound CT MR NM 	 Radiography CT MRI 	Any sessionInteractiveEvaluations

Further examples

- Support workers
- Nurses
- Administrative
- Managers
- Return to practice
- Induction

Replying to @WeAHPs @HEE_TEL

#WeAHPs Yes, was really useful when I was applying to start my CT head reporting training. Bitesize modules for revision in preparation. I have also recommended it to some colleagues for their CPD evidence in their appraisals.



e-LAH
e-Learning for Healthcare

CI	inical
	Protocols
	RGDs
	No Theatre Request Sheet
	Equipment Fault reporting
	RCR Guidelines
	Image Exchange Portal
	Intranet Page
	Suggestion Box

Room	Rota
Holida	ay Rota
On Ca	ll Rota
Lieu T	îme
CPD R	esources
Depar	tment Phone Directory
Trust	Phone Directory
Incida	nt Reporting

Miscellaneous					
	On Call Forms				
	LMP Forms				
	IVU Checklists				
	Self Cert Sickness Form				
	Return to Work Form				
	Local Policies & Procedures				
	CHS Policies & Procedures				

CHS Policies & Proc

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





University College London Hospitals



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

uclh



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 Al come in?
- Radiographers no bursary, so are apprenticeships the answer?
- Where and how do we develop, educate and sustain advanced practice?

University College London Hospitals



Thank you

uclh

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!


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

